Green Protectionism in the Eyes of the Beholder

A Survey experiment on public support for protectionism in climate change legislation

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Abstract

Can protectionism increase public support for climate change policies? Many national governments, including the US, are introducing climate policies that favor domestic producers in their pursuit of mitigating climate change. While proponents argue that protectionist measures on climate policies help garner political support for climate legislation, this claim has not been empirically tested. Using a survey experiment, I examine which aspect of protectionism can increase public support for climate change policy. I compare various frames (i.e. economic and security frames) and party cues used to promote protectionist climate policies and examine heterogeneous effects by one's prior nationalistic values and environmental concerns. I find that neither an economic frame nor a security frame increases the overall support for the climate policy. In particular, those with a high level of environmental concern decrease their overall support for the policy when they see that the climate policy is protectionist, regardless of the frame or the party cue. In short, my results imply that emphasizing non-environmental aspects of a climate policy can backfire, decreasing support for the policy among those who would otherwise be the strongest supporters of a climate policy.

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1 Introduction

Climate change mitigation requires efforts from all actors, including the public. Although some question the public's role in policy-making (Gilens and Page 2014; Bawn et al. 2012), public support is essential for the green transition (Gazmararian, Mildenberger, Tingley, 2024). A wide public participation is necessary to effectively mitigate and adapt to climate change (Bumann 2021: p.214). A high level of public awareness and concern can push for more and stronger environmental protection, as they did in the 1970's, leading to the creation of the Environmental Protection Agency (EPA) in the US. Public opinion, although not unique, is an important factor in determining environmental policies (Fowler 2016; Kachi, Bernauer, and Gampfer 2015). They need to support the climate policies so that the politicians will enact and implement them. In addition, the public has substantial political and economic power as consumers (Lewis 1938), and they can indirectly exercise their influence by pressuring big firms to pursue sustainability (Dauvergne and Lister 2012).

Given public sensitivity to the costs of climate policies (Bechtel and Scheve 2013; Drews and van den Bergh 2016; Bergquist, Konisky, and Kotcher 2020; Beiser-McGrath and Bernauer 2023), some governments seek to transfer these costs abroad through protectionist measures. Previous studies have found that attaching social programs and subsidizing rebates increase public support for environmental policies (Stokes, Beiser-McGrath and Bernauer 2019; Jagers et al. 2021). However, whether protectionism increases public support for climate change policy has not yet been empirically tested. Attaching protectionism is different from attaching other socio-economic measures to a climate policy: Protectionism creates inefficiencies, slowing down the green transition, which is against what environmentalists – who would otherwise be the strongest supporters – want in a climate policy. Thus, the policy-makers need to accurately understand whether, and if so, which aspect of protectionism appeals to the public in relation to environmental policies, to minimize the backlash effects of limiting the environmental impacts with protectionism.

Can protectionism increase public support for climate change policy? This study investigates under which conditions attaching protectionism increases support for climate change policy. Using a survey-experiment, I test whether, and if so, which aspect of protectionism contributes to an increase in public support for climate policy. I model my vignette based on the electric vehicle (EV) subsidy included the Inflation Reduction Act in the United States (US). I first test whether simply making the subsidy conditional to American-manufactured vehicles, which is an often used form of protectionism, increases public support for the policy. I then examine the effects of two of most frequently used frames to present protectionism – economic frame and security frame. The economic frame highlights that favoring domestic manufacturing can lead to more quality jobs, contributing to the national economy. The security frame emphasizes importance of securing domestic source of energy and other critical components for the national security. In addition to each frame, I add a party cue – indicating that all Democrat legislators voted in favor, and all Republicans voted against the bill – to explore party cue effects. Note that I carefully layer on treatments to see which

aspect of protectionism changes the public attitude on climate change policy. I expect Democrats exposed to the party cue with any frame treatments will show the highest support for the policy.

Because the politicization of climate change and extreme polarization along party lines in the US, partisanship requires a close attention. The asymmetric party cue was deliberately chosen to maximize the external validity. Thus, I compare the baseline support for a policy among Democrats and Republicans, as well as their different reactions to the frames and party cues. I expect party cue effects to be stronger than framing effects given that climate change is a highly polarized topic in the US. I also consider heterogeneous effects by one's prior beliefs and attitudes of nationalism and environmental concerns. Previous studies have emphasized the importance of normative values for support of climate policies (e.g., Blondeel, Colgan, and Van De Graaf 2019). In addition, a high level of nationalism is known to be positively associated with support for protectionism (Honeker 2022). Therefore, it is reasonable to expect that an increase in environmental concerns will lead to a decrease in support for attaching protectionism, which limits environmental impacts of the climate policy.

I find that simply attaching protectionism does not increase support for the overall policy, neither with an economic frame nor a security frame. Nevertheless, I find that each frame is able to increase the perceived benefits of the policy for the respective issue areas (i.e., economy and security). The economic frame also increases the perceived security benefits. Meanwhile, I find that making the climate policy protectionist decreases support among Democrats, and among those with a high level of environmental concern. Moreover, the overall support for the policy do not always follow the same pattern for the perceived benefits of the policy in terms of the environment, economy, and security. Although the Democrats perceive the benefits of the policy in each of the individual aspects more than the Republicans, their overall support for the policy is indistinguishable from that of the Republicans, except for those in the control group. These results show that attaching protectionism to climate policies can backfire, reducing support among otherwise supportive groups.

Existing research has mainly focused on the positive effects of combining socio-economic policies to environmental policies to enhance public support for the environmental protection (e.g. Bergquist, Mildenberger, and Stokes 2020), but I highlight the potential for a backlash effect. My findings show that those with a high level of environmental concern and Democrats actually decrease their support for a climate policy that is overtly publicized as an protectionist economic policy. To the author's knowledge, there has not yet been a study on how attaching a protectionist measure to climate change legislation affects the public support for the climate change legislation as a whole. This study provides a nuanced understanding on the effect of combining protectionism to climate change legislation to gain public support. In addition, this study builds on the rich literature on the effects of framing (e.g., Blondeel, Colgan, and Van De Graaf 2019; Chong and Druckman 2007; McCright, Charters, Dentzman, and Dietz 2016) and party cues (e.g., Bullock 2011, 2019; Lupia and McCubbins 1998) on public support for a policy. Compared to a security frame, I find that an economic frame has a wider effect of changing public perception of a policy. Furthermore, my

findings challenges the conventional view that a positive party cue – that one's associated party elites supported a policy – reinforces support for the policy. I find that Democrats decrease their support for the policy when they are given an economic frame with the party cue, which stated that the Democrat legislators supported the policy while the Republican legislators opposed it. In other words, it seems that a divisive party cue indicating a partisan divide can have unexpected effects, depending on the context.

The rest of the paper is organized as follows. First, I give a brief literature review on the linkage between the environment and trade. Second, I provide a theoretical discussion on how attaching a protectionist measure can affect public support for climate change legislation. Third, I describe my research design. Fourth, I give a summary of my findings from the survey experiment. I conclude with some discussion points acknowledging the limitations of my study and suggesting future studies to address them.

2 Climate Change and Return of Protectionism

Many climate change policies now include protectionist characteristics in the form of 'green industrial policies' (Fischer 2017). Green industrial policies aim to foster domestic green industries (Allan, Lewis, and Oatley 2021), and often employ protectionist measures, such as conditional subsidies and quotas. The reason is that in the absence of an effective international regime on climate change, many governments are opting to take unilateral actions that minimize the costs of restructuring their economy by transferring them to foreign entities. Since the WTO has successfully reduced most tariffs as trade barriers, many countries, especially democratic ones, have relied on non-tariff barriers (NTBs) to satiate demands from interests groups. NTBs benefit from less visibility from public scrutiny (Kono 2006), and especially NTBs related to environmental protection enjoy political support from environmentalists (Vogel 1995). The number of environment-related measures reported at the WTO in 2021 reached 2,250, which is almost the double the number in 2011 (1,143).[1]

One type of NTBs that is often used in the renewable energy sector is 'local content requirements' (LCRs), which is essentially a quota for domestic manufacturing. Many national governments, including the US, are including LCRs in their climate change legislation to foster the domestic renewable energy manufacturing sector (Batra and Bafna 2018: p.404). Because LCRs are designated quotas for local or domestic production, they are inherently protectionist. As a result, despite their popularity among national governments, LCRs have been already subject to many trade disputes: As of December 2022, six out of seven trade disputes raised at the WTO concerning renewable energy involve some form of LCRs. However, for an average voter, LCRs and their international norms violations are difficult to detect or comprehend.

LCRs provide a new lens to understand the interaction between protectionism and climate change.

[1]WTO Environmental Database. Available at `https://edb.wto.org/charts`.

As climate change policies and trade policies both create winners and losers within a country, linking the two areas can create an unusual coalition of convenience (Vogel 1995). Trade policies can incentivize government and non-government actors to pursue more environmentally friendly production and consumption patterns. Both domestic manufacturers and environmentalists ave an incentive to support trade protectionism (Vogel 1995). It is not a coincidence that the first Republican-led climate bill in the US was in the form of a carbon tariff - In November of 2023, Republican Senator Bill Casidy proposed a carbon adjustment fee bill, imposing a fee on products with high greenhouse gas emissions, which effectively is aimed at Chinese imports.[2]

Although the economics literature is uncertain on the economic effects of LCRs (Hufbauer, Schott, Cimino, Vieiro, and Wada 2013; Kuntze and Moerenhout 2013; Lewis and Wiser 2007: p.10), LCRs are often justified by their alleged political benefits. Some argue that combining social and economic policies with environmental policies is the key to winning the hearts of the public for successful climate change legislation (Bergquist, Mildenberger, and Stokes 2020). For instance, in the US, climate change legislation is facing a political gridlock, because attitudes on environmental issues have been highly polarized by party lines (Kim and Urpelainen 2017). It is argued that to make a breakthrough, politicians need to combine environmental policies with social and economic policies, which seems to enhance public support for climate change legislation (Bergquist, Mildenberger, and Stokes 2020).

In recent years, since the Trump administration, Republicans have generally opposed climate change policies but supported protectionist measures. This creates a window of opportunity for Democrats seeking to pass climate change legislation: they can offer Republicans (or Democrat legislators who are worried about the economic consequences of green transition in their districts, such as Senator Joe Manchin) to prioritize domestic manufacturers in green industries, limiting subsidies to American manufactured products, for example. In other words, given that protectionism appeals to those who tend to de-prioritize the environment (e.g., Republicans, those with a low level of environmental concern, and those with a high sense of nationalism), attaching protectionism may increase support for climate change legislation among such audiences.

A rise of climate policies with industrial policy objectives of protecting and fostering domestic green industries reflects this political thinking. When the Inflation Reduction Act (IRA)[3] passed the 117^{th} United States (US) Congress, it raised a lot of concerns for other countries, including some of the closest allies of the US such as the European Union (EU), and South Korea.[4] They argued that the

[2]Politico. 2023. "Senate Republicans introduce a climate bill — aimed at China" (November 2).

[3]H.R.5376 - 117^{th} Congress (2021-2022): Inflation Reduction Act of 2022. Congress.gov, Library of Congress (August 16, 2022).

[4]For a more detailed discussion on the disagreement between the US and its allies over the IRA, *see e.g., Chicago NBC*. 2022. EU Says It Has Serious Concerns About Biden's Inflation Reduction Act." (November 7); *Financial Times*. 2022. EU Accuses US of Breaking WTO Rules with Green Energy Incentives." (November 6); Kim, Ellen. 2022.Inflation Reduction Act comes into Focus at UNGA." Center for Strategic & International Studies (September 22).

IRA was highly protectionist, discriminating against foreign goods and manufacturers. The IRA includes tax credits for electric vehicles (EVs) manufactured in North America, as well as funding for domestic manufacturing of clean energy. This puts EVs manufactured outside North America at a disadvantage. The US is not alone in embedding protectionist measures inside climate change legislation. South Korea, in its rushed pursuit of increasing renewable energy, has implemented a number of subsidies for its domestic producers, distorting the free international market (Park and Koo 2018). The EU, in response to the IRA of the US, also soon came up with their own policies similar to the IRA, the Green Deal Industrial Plan.[5] As the needs for stricter environmental regulations become direr, more countries are going to fall for the temptation of transferring the cost of a green energy transition to foreign entities by linking environmental and trade policies together.

Yet, the alleged positive effects of protectionism on the political support of climate change legislation have not been empirically tested rigorously. Attaching a protectionist measure is different from linking social policies with climate change legislation. Unlike other socio-economic policies that are attached to climate change bills (e.g., relocation fees or training), protectionism is mainly aimed at helping domestic producer. As a result, domestic consumers have less to gain from, which makes it is unclear which aspect of protectionism appeals to the public, if any. For example, since renewable energy still takes up only a small percentage of energy composition, the public may not be concerned about relying on foreign sources of renewable energy manufacturing.

3 Does Protectionism Increase Public Support for Climate Change Legislation?

In this paper, I address three empirical questions to investigate how attaching protectionism can increase public support for climate policy. First, which aspect of protectionism appeals to the public? Prioritizing domestic manufacturers is often justified with economic (e.g., job creation), or security benefits (e.g., a decrease in security vulnerability caused by reliance on imports). I test the extent to which an economic frame and a security frame can increase the public support for a climate policy. Second, I examine how partisanship plays a role. I not only examine how Republicans and Democrats react differently but also compare the effects of frames and a party cue. Third, I ask how one's prior normative values, such as nationalism and environmental concerns, moderate one's response to attaching protectionism to climate change policies. In the following subsections, I discuss my hypotheses for each of the question in more detail.

[5] *See*, Think Tank European Parliament. 2023. EU's response to the US Inflation Reduction Act (IRA).".

3.1 Framing Effects

Framing of a policy is an important determinant for the public's support for the policy (Chong and Druckman 2007: p.651). Blondeel, Colgan, and Van De Graaf (2019) point out that normative frames could be an important factor for success of climate change policies. While McCright et al. (2016) have found that none of the four frames – economic opportunity, national security, Christian stewardship, and public health – has an effect on the respondents' views on human-caused climate change, this study focuses on the framing effect on *policy* support.

One prominent frame that is often used in support of protectionism is that it creates economic benefits. It is fairly easy to hide the costs of protectionism under short-term economic benefits. For instance, when there is a tax credit offered only for electric vehicles manufactured mostly in the US, most people will think of it as a subsidy without realizing the economic inefficiencies caused by its protectionist aspects. Given the low level of public knowledge when it comes to trade policies (Guisinger 2009) and the short-sightedness of people in general, the public can think of protectionist measures as economically beneficial for them. In addition, the domestic public may oppose situations when foreign entities become the main beneficiaries of a government subsidy. For instance, when South Korea had abolished LCRs for their subsidy programs for solar energy, Chinese manufacturers gained most benefits, which resulted in massive criticisms in the country (Park and Koo 2018).

Positive economic frames for protectionism also tend to emphasize the value of fostering domestic industry, following the arguments of the infant industry theory. The argument goes that it is in a government's interest to protect its domestic infant industry that lacks comparative advantage for the moment so that it can grow to be competitive in the future (Melitz 2005). Although lacking international competitiveness, the green industries have a big potential for the future. Thus, they argue that a little help from the government can help to foster domestic industries, which then creates jobs and boosts the local economy. This frame also appeals to those with a sociotropic views – or those who tend to consider the national level impact of a policy, going beyond just one's narrow self-interests – as protectionism is presented as contributing to the overall national economy.

As many people are concerned about the economic impacts of environmental protection, they will be more supportive of environmental policies when they are told that there are some economic benefits as mentioned above. Therefore, I propose the following hypothesis:

> **Hypothesis 1:** *[Economy Frame] An economic frame for the protectionist measure will increase support for climate change legislation.*

Another positive frame that can be used to promote protectionism embedded in climate change legislation is that the protectionist aspect helps to address negative security externalities (of trade). The reason is that protectionism can help to reduce reliance on foreign sources. While economic interdependence contributes to international peace and cooperation (e.g., Gartzke, Li, and Boehmer

2001; Polachek and Xiang 2010: p.133), economic dependence is considered as a potential sign of weakness and vulnerability. Being dependent on an enemy state for a nation's crucial resources is risky. For instance, as the Russia-Europe conflict over natural gas has shown, relying on foreign imports as sources of energy is risky. Many governments have have started to subsidize the renewable energy sector, emphasizing the importance of having a cost-competitive renewable energy sector, since having a strong renewable energy sector is expected to be crucial for energy security in the climate change era (e.g., Bang 2010).[6]

Even outside the energy sector, some advocate protectionism for negative security externality reasons. Trade is generally thought to enhance economic growth and economic growth is usually associated with stronger military capabilities. AS a result, trade with a rival state can be a risk-factor. Carnegie and Gaikwad (2022) find that people oppose trade with rival states when they have been primed with security externality logic. According to this logic, international competition between the US and China in the green industries (i.e., EVs) is also subject to such negative security externalities. In fact, the negative security frame is already prevalent discussing international trade in EVs. In January 2024, *The Economist* published a leaders piece on the West's fear regarding the influx of EVs from China: "Another worry is national security. Depending entirely on China for batteries, whose importance to electrified economies will go far beyond cars, would be risky. It is also possible that EVs, which are filled with chips, sensors and cameras could be used for surveillance."[7]

Previous studies that have looked at the effect of national security frame on climate change have found mixed results. Myers, Nisbet, Maibach, and Leiserowitz (2012), for instance, find that a national security frame arouses anger among those who are already skeptical about climate change. However, results from Feldman and Hart (2018) and Gainous and Merry (2022) suggest that a national security frame – especially on energy dependence – can elicit better understanding of climate change from the conservatives and Republican respondents. This study differs from other studies, because the subject of the frame is not on the climate change itself, but on the protectionism. Nevertheless, I expect that a security frame on protectionism will increase support for climate change legislation.

> **Hypothesis 2:** *[Security Frame] A security frame for the protectionism will increase support for climate change legislation.*

[6] *Also see e.g.,* Grantham Research Institute on Climate Change and the Environment. 2018. "Do Renewable Energy Technologies Need Government Subsidies?" (May 14).

[7] *The Economist*. 2024. "An influx of Chinese cars is terrifying the West" (January 11).

3.2 Partisanship and Political Cue Effects

Since the early 2010's Democrats have become known advocates of free trade and climate change, whereas Republicans, known opponents. Conventionally, international trade and foreign policy in general have been thought as a non-partisan issue. However, with the recent backlash against globalization and rise of populism, foreign policy has not been an exception to polarization along the political party line (Smeltz 2022). Environment, too, is a highly politicized and polarized issue in the contemporary US politics. For example, Kim and Urpelainen (2018) find that compared to other issues, environment sees a bigger divergence in opinions between the two parties in the US. According to a public survey done by Pew Research in 2020, Democrats are more concerned with climate change and believe that environmental policies also benefit the US economy, compared to Republicans, who are more inclined to think that environmental policies harm the US economy.[8] In such a highly polarized political setting, bipartisan agreements on either trade or climate change are uncommon. In fact, the congressional roll call vote on the IRA was also divided strictly by the partisan line.[9]

Against this backdrop, elite cues work as an important source of information for public opinion formation (Bullock 2019; Lupia and McCubbins 1998). In particular, since the public's knowledge on international trade is limited, cues from political elite can have greater effects in determining the public opinion (Bullock 2011). Given the complexity of the issue, most average voters will not understand the pros and cons of attaching protectionist measure to a climate policy: Salience of international trade policies tend to be low (Guisinger 2009) and the protectionist nature of non-tariff barriers is difficult to be detected by the public (Kono 2006). Thus, party cues can be an effective determinant of public opinion on complex climate policies with protectionist characteristics. Existing research has emphasized that cues from members of Congress are a significant predictor of public's concern for climate change (Brulle, Carmichael, and Jenkins 2012). Furthermore, party cues affect the persuasiveness of information regarding climate change (e.g., Benegal and Scruggs 2018). Thus, I expect the public to be more supportive of a policy when their own party leaders express positive attitudes towards that policy. Meanwhile, if their party leaders oppose a policy, the public support will decrease.

Hypothesis 3 (Party Cues)**:**

(a) A positive party cue will increase support for climate change legislation.

(b) A negative party cue will decrease support for climate change legislation.

(c) A negative party cue will cancel out the positive effects from framing.

[8]Kennedy, Brian, and Courtney Johnson. 2020. "More Americans See Climate Change a Priority, but Democrats are Much More Concerned than Republicans." *Pew Research Center* (February 28).

[9]See Roll Call Vote On Passage of the Bill (H.R. 5376, As Amended), available at `https://www.senate.gov/legislative/LIS/roll_call_votes/vote1172/vote_117_2_00325.htm`.

To best represent the current polarized political setting of the US, I only present a positive party cue for the Democrat respondents and a negative party cue for the Republican respondents. While I remain agnostic about whether the size of cueing effect is conditional on the type of frames (security versus economy), I expect that the cueing effect to be bigger than framing effects for both of the frames (*Hypothesis 3(c)*. The reason is that party cues are more direct and easy to understand than frames about economic benefits or negative security externalities. Cues are often thought as 'cognitive short-cuts' (e.g., Downs 1957). Previous studies have found that when two conflicting frames are given, the strength of the frames is the decisive factor in determining which framing effect dominates (Druckman 2009: p.104). Party cues, a simpler and more direct signal, can be seen as 'stronger'. Moreover, when there is a party cue, people will be more subject to motivated reasoning – to believe information that their party supports and to discredit information that their party opposes (Slothuus and de Vreese 2010).

3.3 Nationalism, Environmental Concerns, and Protectionist Climate Policy

I expect to see heterogeneous effects by by individuals' prior attitudes and normative values. Previous studies have found that protectionism appeals to a certain group of people over others for normative reasons, rather than material reasons. Normative values are important predictors of one's foreign policy dispositions (Kertzer, Powers, Rathbun, and Iyer 2014). Given that international trade is a subset of foreign affairs, it is not surprising that non-material values also affect one's trade preferences.

Nationalism is one such a normative value that can drive people's support for climate change when protectionism is attached. Honeker (2022) finds that one's patriotism and xenophobia are important predictors of trade preferences. Combined with concerns for taking a lead in green economy transition, nationalism can fuel support for sheltering domestic green producers. People's national pride can be heightened when their country is in the lead of climate change mitigation and adaptation efforts, even at the costs of free trade principle. In addition, nationalism is also highly related to partisanship – Nationalism has become a key element for the Republican identity after Trump,[10] insofar as Republicans and Democrats have a different understanding of what it means to be nationalist (Bonikowski, Feinstein, and Bock 2021). Given that the Republicans on average are more nationalistic and are more favorable towards protectionism, I suspect that those with a high level of nationalism will be more likely to support support a climate policy if it is protectionist. Thus, I derive the following hypothesis:

> **Hypothesis 4:** *[Nationalism] Attaching a protectionist measure will increase support for climate change legislation more among those with* ***a high sense of nationalism*** *than those with a low sense of nationalism.*

[10] CNN. 2023. "'Nationalism' redefines the American right." (May 6).

On the contrary, concerns for the environment and climate change can dampen support protectionist measures. Protectionism creates economic inefficiencies and slows down the decarbonization process.[11] For example, fostering the domestic EV industry takes longer time than relying on imports for a transition to clean air vehicles. Thus, those with a high level of environmental concern may oppose giving conditional subsidies to domestic producers. Moreover, because those with a high level of environmental concern should already have a high level of support for climate change legislation, there can be a ceiling effect. As mentioned earlier, those with higher environmental concerns are more likely to be Democrats, and since Democrats tend to be more supportive of climate policies, their overall support for a climate policy will be higher than those with a lower level of environmental concern. In other words, because on average, those with a high level of environmental concern support for climate change legislation should be already high insofar as there will not be enough room for attaching protectionism to increase the support.

> **Hypothesis 5:** *[Environmental concern] Attaching a protectionist measure will increase support for climate change legislation more among the* ***low environmental concern*** *group than among high environmental concern group.*

4 Research Design

The survey experiment consists of the traditional three components: pre-treatment questions, vignette treatments, and post-treatment questions, including attention checks and manipulation checks. In the pre-treatment stage, I asked standard demographic questions, such as gender, age, political ideology, and partisanship. In addition, I asked about respondents' attitude towards certain policies (i.e., electric vehicle subsidies, tariffs, carbon pricing, and industrial policies), likelihood of buying an electric vehicle (or whether they already owned one), foreign policy priorities, and nationalism.[12]

One thing to note is that I use factor analysis to reduce the dimension of respondents' prior policy preferences.[13] For instance, nationalism is a complex concept (e.g., Honeker 2022; Huddy and Khatib 2007), I included three questions to accurately capture its multi-facets. However, including too many variables in a statistical model can lead to problems such as multicollinearity and overfitting. To address this, I conduct a factor analysis on these nationalism-related questions to create a single, one-dimensional factor. Similarly, I use factor analysis to create one measure for level of environmental concern, measured with four questions.[14] Using single question responses does not

[11] *The Economist*. 2023. "Green Protectionism Comes with Big Risks." (October 2).

[12] See Appendix for the exact wordings of the questions.

[13] See D for more details.

[14] All the four questions were measured using a five point scale: (1) How important is combating climate change for the foreign policy in the US?; (2)How much of a problem do you think environment is in the country today?; (3) How much do you support introducing carbon pricing to reduce carbon emission?; (4) How much do you support

change results significantly.[15]

For the treatment, the subjects were given a vignette about a recent bill that passed US Congress, granting subsidies for electric vehicle purchase, in the form of tax credits. Those in control group were only informed of the subsidy, while all the others were given additional information that the subsidy is conditional to having a significant percentage of the vehicle made in the US. Below shows the main passage, and the text in bold was not shown to the control group:

> The US Congress recently passed a bill to subsidize clean-air electric vehicle (EV) purchases. The bill promises $5,000 tax credit for qualifying EV purchases. It aims to increase air quality, decrease greenhouse gas emissions, and combat climate change. To qualify for the tax credit, EVs have to cost less than $60,000 **and have at least 45% of components made in the US.**
>
> Eligibility criteria for the EV subsidy (tax credit):
> - Price of the EV (MSRP) $<$ $60,000
> **- EVs with at least 45% components that are manufactured in the US**

The *protectionism* treatment group received the texts in bold, but no further explanation (i.e., frames or a party cue). The reason for including this bare treatment is to capture the pure effect of attaching protectionism, although it is highly unlikely to occur in a natural setting. For the other treatment groups, I varied frames and availability of a party cue, as shown in Table 1.

Table 1: Treatment Groups

		Frame	
		Security	Economy
Cue	No Cue	S_0	E_0
	Party Cue	S_C	E_C

Two groups were each given a single frame – *security* (S_0) and *economy* (E_0) –, but without any party cue. The economy frame points out that prioritizing US manufacturing helps to promote the growth of green industry, leading to more jobs and higher wages.

> Prioritizing US manufactured EVs further contributes to boost the national economy. Encouraging buying American products supports domestic manufacturers, which in turn, promotes the growth of green industry. When more vehicles are made in the country, we can expect more jobs with higher wages. Therefore, promoting domestic manufacturing of EVs is expected to have positive economic effects to the US economy.

The security frame highlights the dangers of relying on foreign sources of energy and supplies as a

providing consumer subsidies on clean air vehicles to promote clean energy?

[15] See appendix E.

national security vulnerability. The reason for which I mention reliance on foreign sources of energy is that previous studies have shown energy dependence is one of the biggest security concerns related to climate change (Gainous and Merry 2022: p.202).

> Prioritizing US manufactured EVs further contributes to the national security of the US. Relying on foreign sources of energy and supplies can be a national security vulnerability. Foreign trade partners can threaten to ban exports of critical components, such as batteries. When more vehicles are made in the country, we can expect more reliable supply of EVs. Therefore, encouraging buying American products helps to strengthen the national security.

The other two treatment groups (S_C and E_C) were given a party cue in addition to each of the respective frame.

> The votes were clearly divided by the party lines: All Democrats voted *for* the bill, while all Republicans voted *against*.

The divided party cue was chosen to closely reflect the environmental politics in the US these days, as the bill in vignettes, while fictional, was modeled after a part of the IRA that promises electric vehicle subsidies with some local content requirements.

After reading the short vignettes, the subjects were asked to evaluate the policy in four ways. First, I asked "Given everything, how much do you support the electric vehicle subsidy?" to measure an overall assessment of the policy support (*Overall).* Then, I asked respondents to evaluate the following statements on a five point scale to measure perceived benefits of the policy in specific issue areas (i.e., on the US the environment, economy, and the US security).

- **Environmental Benefit:** The electric vehicle subsidy will contribute to cleaner air quality and decrease carbon emission.
- **Economic Benefit:** The electric vehicle subsidy will contribute to the overall US economy (e.g., create more jobs in the green sector).
- **Security Benefit:** The electric vehicle subsidy will contribute to the overall US security (e.g., decrease reliance on foreign sources of energy).

I collected 2,614 responses from May 6^{th} to May 16^{th}, 2024, using the Lucid Theorem (Cint).[16] Although some have raised caution against inattentive survey takers on Lucid (Ternovski and Orr 2022), others have noted that the convenience samples are adequate to address many social science research questions (Coppock and McClellan 2019). Furthermore, only those that passed the attention check question and took more than three minutes to take the survey were included in the analysis. Removing all the responses with any NA values leaves me with 2,062 responses. The responses are evenly distributed across the party lines and follow the same regional distribution of

[16]For Lucid's method, see their website available at `https://luc.id/quality/`.

the US population.[17] For descriptive statistics of the responses, see Table A1 in the appendix.

The subject pool was limited to US citizens above 18. The reason for which I focus on the US is that it is a key player in the international climate change politics. The US has the highest carbon emission as a democracy (Tingley and Tomz 2022: p.446), and its leadership is crucial for a successful international climate change regime (Parker and Karlsson 2018). Moreover, the US is alarmed about China's dominance in renewable energy manufacturing. Although the US has been a net exporter of energy since 2019, its effort on green transition was severely slowed down during the Trump administration, while China was busy investing in green technology, becoming the top producer of renewable energy products.[18] Thus, the US now feels the pressure to significantly enhance its renewable energy capacity in order to keep its dominance during and after the transition to a greener economy.[19]

5 Results

5.1 Framing and Party Cue Effects

I examine the framing and party cue effects with ordinary least squared (OLS) regressions. I use the four questions on the evaluation of the climate policy (overall evaluation (*Overall*), expected environmental benefits (*Environment*), expected economic benefits (*Economy*), and expected security benefits (*Security*), each treated as numeric variables, as my dependent variables. The baseline category for treatment dummies (*Protectionism, Economic Frame, Economic Frame + Party Cue, Security Frame, Security Frame + Party Cue*) is the pure control without any mention of protectionism. Each treatment dummy is mutually exclusive and represents the group that a respondent belonged.[20] Table 2 reports the results.

Including a protectionist measure without any frame or cue (*Protectionism*) does not increase the overall support for the policy. This is in line with previous research that the public's understanding in trade policy is low (Guisinger 2009). Nevertheless, the perceived economic and security benefits of the policy increase when protectionism is attached to the policy, which indicates that the respondents understood the treatment.

Regarding the framing effects, while the economic frame increases the perceived benefits of both

[17]Given the 2022 census data, the US population is distributed as the following: Northeast 17%, Midwest 20.6%, West 23.6%, South 38.6%. I tried to match the same regional distribution for my sample.

[18]Liu, Chuyu and Johannes Urpelainen. 2021. "Why the United States Should Compete with China on Global Clean Energy Finance." *Brookings* (January 7).

[19]For example, *see* Sarkissian, Holly and Emily Kachinski. 2021."The U.S. Must Counterbalance China in the Renewable Energy Market" *American Security Project* (July 27).

[20]I report an alternative way of analyzing the data with marginal effects of the frames and party cue in the Appendix Section E.3.

Table 2: Regression Analysis on All Responses

Dependent Variables:	Overall	Environment	Economy	Security
Model:	(1)	(2)	(3)	(4)
Env. Concern	0.1835***	0.7360***	0.6849***	0.6409***
	(0.0364)	(0.0299)	(0.0290)	(0.0303)
Nationalism	0.0458	0.0460*	0.0533**	0.0590**
	(0.0303)	(0.0249)	(0.0242)	(0.0253)
Republican	-0.1329**	-0.2342***	-0.1830***	-0.1698***
	(0.0651)	(0.0534)	(0.0520)	(0.0543)
Protectionism	0.0108	0.0325	0.1598**	0.1334*
	(0.0955)	(0.0784)	(0.0763)	(0.0797)
Economic Frame	0.0188	0.0559	0.2616***	0.1793**
	(0.0962)	(0.0790)	(0.0769)	(0.0803)
Economic Frame + Party Cue	-0.0046	0.0775	0.2379***	0.2156***
	(0.0961)	(0.0789)	(0.0768)	(0.0802)
Security Frame	-0.0209	0.0051	0.1216	0.2183***
	(0.0952)	(0.0782)	(0.0761)	(0.0795)
Security Frame + Party Cue	-0.0579	0.0233	0.1072	0.1504*
	(0.0956)	(0.0785)	(0.0764)	(0.0798)
Fit statistics				
Observations	2,064	2,064	2,064	2,064
R^2	0.03010	0.32567	0.30324	0.25820
Adjusted R^2	0.02348	0.32107	0.29848	0.25313

IID standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Although not shown due to space constraints, all models include controls: education, income, male dummy, and regional dummies.

the economy and security, the security frame only increases the perceived security benefits. These results suggest that the economic frame has a wider effect, and thus may be considered as 'stronger'. However, in terms of the overall support for the policy, neither frame shows a significant effect. Thus, my hypotheses 1 and 2, which expected an increase in overall support for the policy after positive frames, are only partially supported.

Turing to the party cue effects, I find that the party cue, which contained a positive cue for the Democrats and a negative cue for the Republicans, seems to have a dampening effect overall. When a party cue is added to the frames, the overall support for the policy tends to decrease, but not to a statistically significant effect. Meanwhile, Model (3) in 2 shows that when the party cue is attached to the *economic frame*, the perceived economic benefits is lower than when only the frame was presented: the positive effect on the perceived economic benefits decreases from 0.2616 to 0.2379 after the party cue is added to the economic frame. Similarly, the perceived security benefits is lower for the *security frame + party cue* group than for the *security frame* group (Model (4)): the positive effect on the perceived security benefits decreases from 0.2183 to 0.1504 when the party cue is added to a security frame. The only exception to this pattern is that the *economic frame +*

party cue group shows a bigger increase in the perceived security benefits than the *economic frame* group.

Because the party cue had a different directional effect for the Democrats and Republicans, I further unpack this using subgroup analysis. I disaggregate my sample by their self-reported partisanship to run sub-group analysis. For those who responded that they are independent or other for their party ID, I asked them whether they feel closer to Democrats or Republicans, and classified them accordingly. Table 3 shows the results of sub-group analysis by party lines. As seen in the aggregate analysis, attaching protectionism without any frame or party cue still does not show any statistical effect on increasing public support for the climate policy. In addition, neither the economic frame nor the security frame increases the overall support for policy for both the Democrats and Republicans.

Table 3: Treatment Effects by Partisanship

Dependent Variables:	Overall		Environment		Economy		Security	
Party	DEM	GOP	DEM	GOP	DEM	GOP	DEM	GOP
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Env. Concern	-0.4239***	0.5277***	0.5351***	0.8434***	0.5536***	0.7658***	0.4610***	0.7429***
	(0.0621)	(0.0410)	(0.0474)	(0.0394)	(0.0466)	(0.0383)	(0.0499)	(0.0389)
Nationalism	0.0255	0.0590	0.0930***	-0.0065	0.0901***	0.0094	0.0596*	0.0561
	(0.0419)	(0.0401)	(0.0321)	(0.0386)	(0.0315)	(0.0374)	(0.0337)	(0.0381)
Protectionism	-0.1600	0.1986	0.1149	-0.0761	0.2045**	0.0977	0.1602	0.0820
	(0.1290)	(0.1294)	(0.0986)	(0.1246)	(0.0968)	(0.1209)	(0.1038)	(0.1229)
Economic Frame	-0.1957	0.2063	0.0400	0.0580	0.2505**	0.2488**	0.1498	0.1791
	(0.1329)	(0.1274)	(0.1016)	(0.1226)	(0.0997)	(0.1190)	(0.1069)	(0.1210)
Economic Frame + Party Cue	-0.3080**	0.2224*	0.1974*	-0.0595	0.3754***	0.0830	0.2355**	0.1668
	(0.1365)	(0.1240)	(0.1043)	(0.1194)	(0.1024)	(0.1159)	(0.1097)	(0.1178)
Security Frame	-0.1624	0.0323	0.0520	-0.0783	0.1422	0.0623	0.2162**	0.1853
	(0.1307)	(0.1274)	(0.0999)	(0.1226)	(0.0980)	(0.1190)	(0.1051)	(0.1210)
Security Frame + Party Cue	-0.1949	0.0702	0.0940	-0.0698	0.2031**	-0.0196	0.1090	0.1699
	(0.1330)	(0.1259)	(0.1016)	(0.1212)	(0.0998)	(0.1176)	(0.1069)	(0.1196)
Fit statistics								
Observations	1,091	973	1,091	973	1,091	973	1,091	973
R^2	0.05602	0.15983	0.12263	0.32763	0.13875	0.29944	0.09154	0.28039
Adjusted R^2	0.04463	0.14844	0.11204	0.31852	0.12836	0.28994	0.08058	0.27063

IID standard-errors in parentheses *Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Although not shown due to space constraints, all models include controls: education, income, male dummy, and regional dummies.

The *economic frame* does not have an effect on overall evaluation of the policy, but increases the perceived economic benefits, regardless of one's party ID. In other words, although the respondents seem to be correctly understanding the implications of the economic frame, their overall support for the policy does not increase. Adding the party cue to the economic frame (*economic frame + party cue*) increases the perceived benefits in terms of the environment, economy, and security, only for the Democrat respondents. This is not surprising given that the Democrats were told that

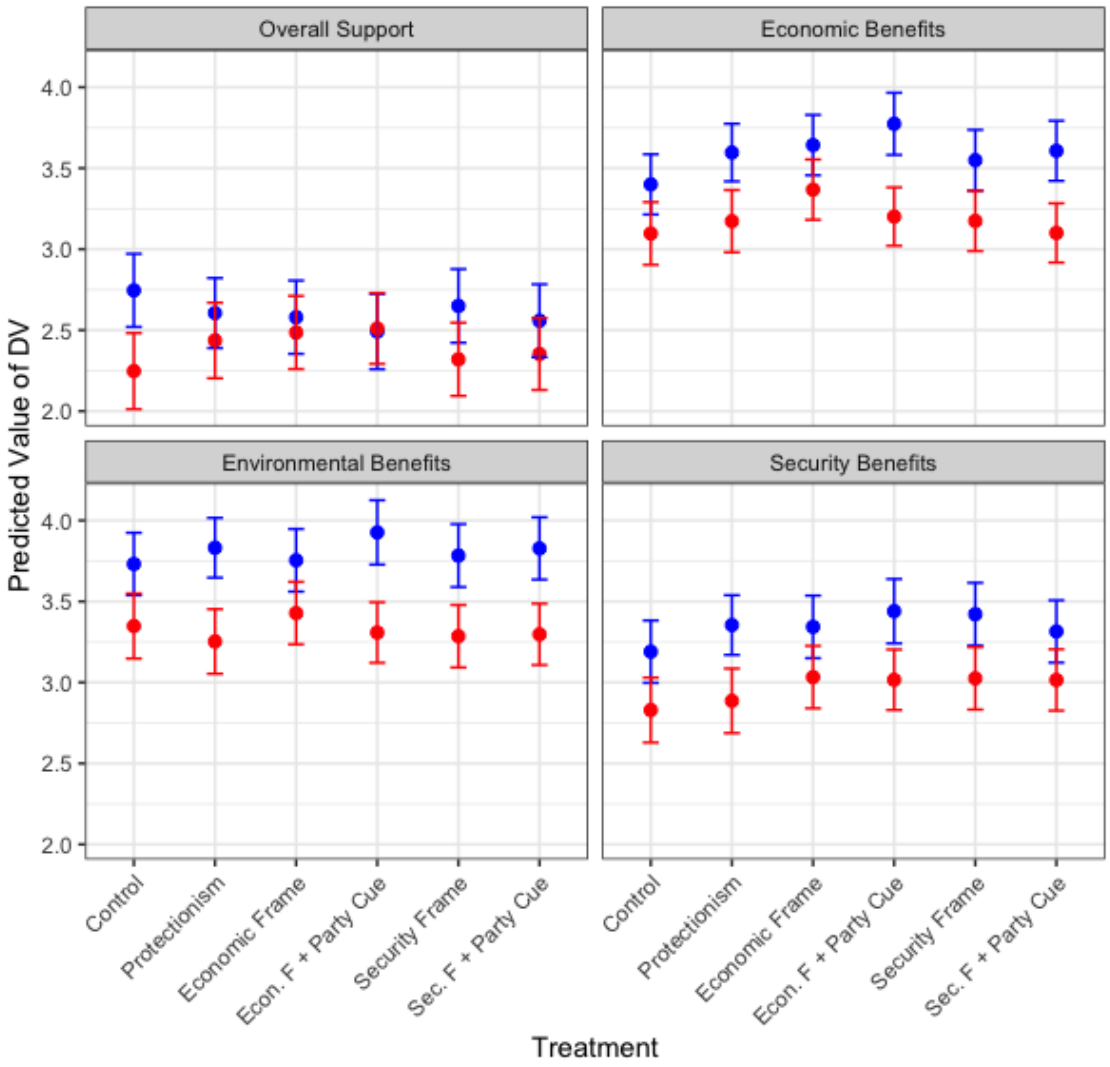
their party elites supported the policy, while the Republicans were told that their party opposed the policy.

More difficult to explain is that the coefficient of *economic frame + party cue* on the overall policy support for the Democrats is negative and that for the Republicans is positive. In other words, the party cue seems to have the opposite of expected effects, contradicting my hypotheses 3. One explanation is that the combination of the economic frame and a partisan cue assuages the worries that Republicans have about climate policies. Although the framing and cueing does not change the specific perception of the policy among the Republicans, they may think it is a viable climate policy. On the other hand, Democrats, whose perceived benefits of the policy increase – not only for the economic aspects but also the environment and security aspects –, lower their overall support for the policy given the economic frame and party cue. While it is possible that the Democrats are worried about the potential 'green-washing' of the policy, their perceived environmental benefits increase. These explanations are all in line with the conventional perception that the voting public does not form a coherent opinion on specific policies. Another explanation is that the partisan divide affects the overall support for the policy, and in a different way for Democrats and Republicans. Since the lack of bipartisan agreement often delays and obstructs adequate implementation of a policy, Democrats could be critical of their own party's lack of flexibility. On the contrary, the Republicans may think that since the policy passed Congress despite some disagreement, the policy must hold some value.

On the other hand, the *security frame* only seems to mildly increase the perceived security benefits for Democrats. This positive effect becomes even weaker insofar as it is statistically non-significant when a party cue is added to the security frame (*security frame + party cue*). Again, this is in conflict with my hypothesis 3. Meanwhile, Democrats in the *security frame + party cue* group shows a higher level of perceived economic benefits than the *control* group, but not as much as any of those who received the economic frames. One possibility is that since security is usually a Republican-led issue area, Democrats become suspicious of the positive security benefits presented in the vignette when they see that Republicans have all opposed the policy.

To better illustrate the conditional effects of treatments on party ID, I present the predicted dependent variables by treatment groups and party ID, using the above interaction models (Figure 1). In the left top quadrant, we see that Democrats on average show a higher level of support for the climate policy than Republicans, without any treatments. Any mention of protectionism makes this difference statistically insignificant. However, when it comes to economic and environmental benefits (top right and bottom left quadrants in Figure 1), we see that Democrats view the policy more positively than Republicans with the treatments, except for those in the *economic frame* treatment. Meanwhile, Democrats also see more of security benefits than Republicans, except when they are given the *economic frame* and *security frame with the party cue*.

Figure 1: Conditional Effect of Treatments on Party ID



Note: Blue represents Democrats, and Red, Republicans. The error bars indicate 95% confidence intervals for each predicted dependent variables.

5.2 Heterogeneous Effects

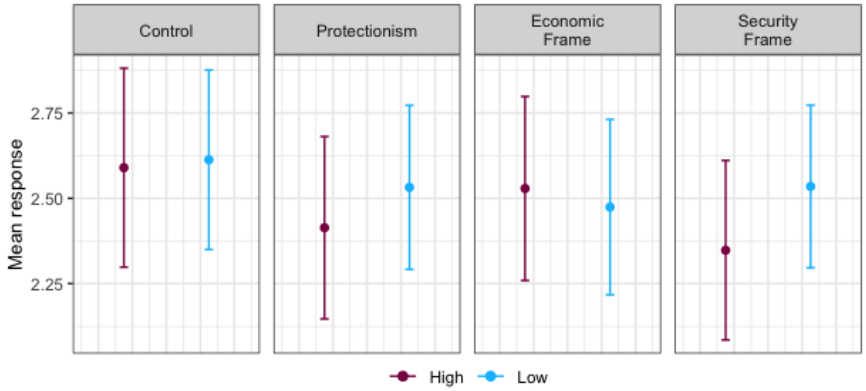
Next, I turn to how one's prior attitudes and normative values, namely nationalism and environmental concerns, affect one's support for climate policies. While there are strong theoretical reasons to expect the respondents' prior normative values to be important predictors of their support for the protectionist climate policy, I only find the level of environmental concern to be statistically significant predictor of the policy support across treatment groups and party ID (See Table 2 and 3). As environmental concerns increase, not only the overall support for the policy but also perceived environmental, economic, and security benefits of the policy tend to increase for all respondents. Nationalism, on the other hand, does not seem to be strongly associated with the overall sup-

port for the climate policy. I further investigate the potential moderating role of nationalism and environmental concern below.

Nationalism

First, I compare the bare mean values of the overall support for the policy between those who scored high in nationalism and those who scored low. I created the *nationalism* variable using factor analysis, and the minimum value for the variable is -1.86 and the maximum 1.24.[21] I coded those in the first quartile of nationalism factor as *low* in nationalism (400 respondents) and in the fourth quartile (344 respondents) as *high*. Figure 2 shows the mean values of overall support for the policy and 95% confidence intervals by the nationalism groups. The two groups do not show any statistically meaningful difference in means.

Figure 2: Overall Support for the Policy by Nationalism Level



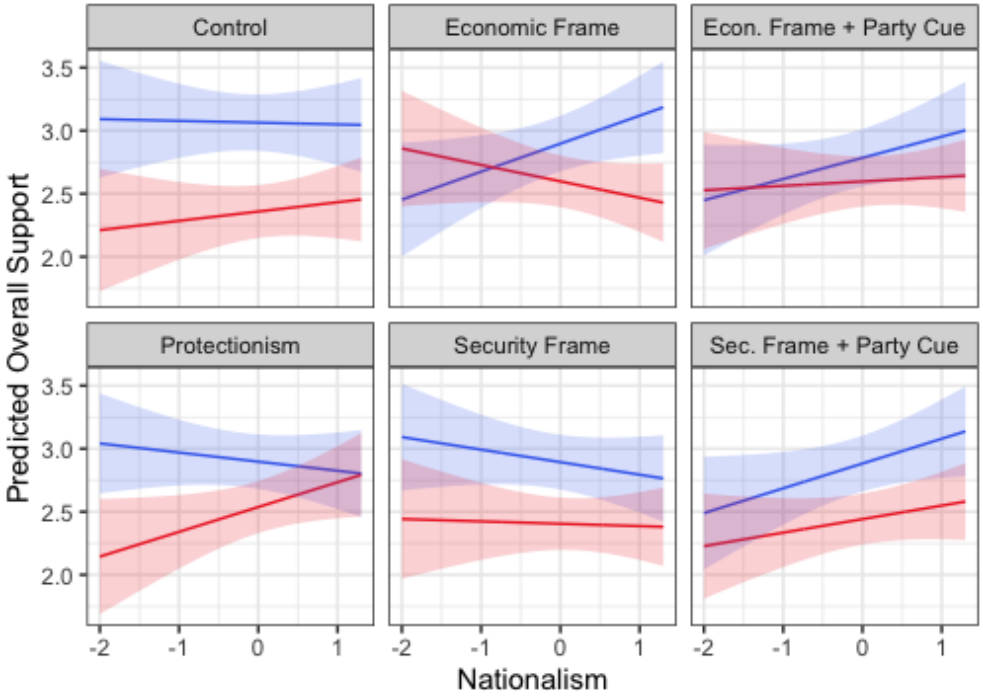
Second, to test the conditional effect of treatments on the level of nationalism, I ran interaction analyses by interacting *nationalism* and the treatment dummies. Because treatments with a party cue have opposite directional effects for Democrats and Republicans, I simplify the analysis by excluding respondents that received any party cue treatments from this part of the analysis, which leaves me with 1,376 responses. The results are reported in Figure A9 in the Appendix Section E.5. None of the interaction terms appears to be statistically significant. To better examine the conditional effect of treatments including the party cues, I divided the sample by party ID.[22] I ran the same interaction analysis using the sub samples, and Figure 3 shows the predicted overall support for the policy by nationalism levels, across the treatment groups and party ID.

Without any treatment, Democrats slightly decrease their support for the policy while Republicans increase their support, as nationalism increases (*Control*). This opposing effect of nationalism by party ID becomes more salient with *Protectionism* treatment. However, this relationship flips with

[21] See Appendix D for more detail on factor analysis.

[22] See Appendix E.5 for a similar analysis on the perceived benefits.

Figure 3: Conditional Effect of Treatment on Env. Concern by Partisanship (Overall Support)



Economic Frame treatment: Given the *Economic frame*, Democrats increase their support as the level of nationalism increases, while Republicans decrease their support. However, the difference across treatment groups within a party is not statistically significant.[23]

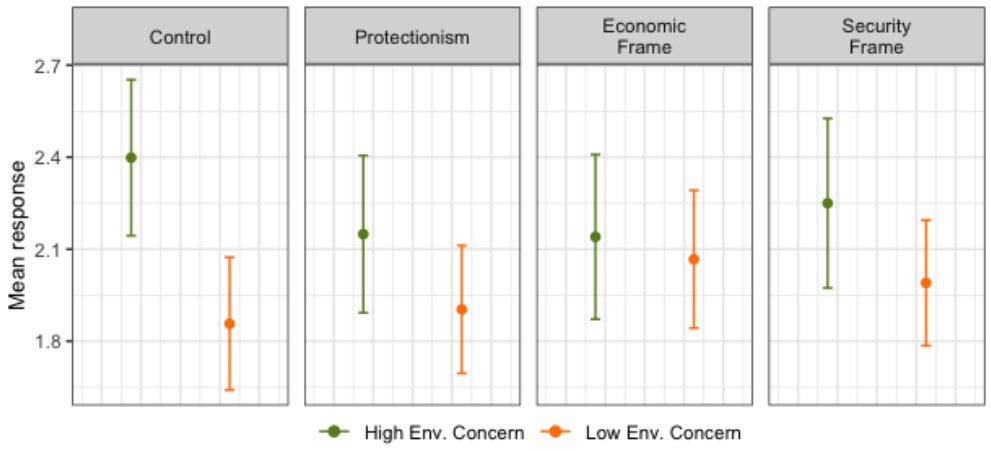
In my hypothesis 4, I predicted that a high sense of nationalism will lead to a more favorable view of the climate change when a protectionism measure is attached. My findings only provide partial support to my hypothesis. Nationalism, at the aggregate level, does not seem to affect the support for the policy (nor perceived benefits) in a systematic way. Only Democrats with the economic frame – regardless of the presence of a party cue – and the security frame with the party cue responded in the way I predicted. It is possible that the protectionist measure in my treatment vignette, a domestic production quota, is not strong enough to appeal to those with a high sense of nationalism, who tend to support protectionist measures.

Environmental Concern

In contrast, there appears to be some heterogeneous effects by level of environmental concerns. Figure 4 shows the difference in means of the overall policy evaluation between those with a *high* level of environmental concern (i.e., in the fourth quartile) and those with a *low* level of environmental concern (i.e., in the first quartile).

[23]See Figure A14 in Appendix Section E.5.

Figure 4: Mean Responses of Overall Policy Evaluation by Environmental Concern Levels



In the control setting, the *high* environmental concern group shows more support for the climate policy than the *low* environmental concern group. However, such difference becomes statistically insignificant with treatments. It seems that attaching protectionism to the climate policy increases support among the *low* environmental concern respondents, while decreasing support among the *high* environmental concern group. On the other hand, when it comes to perceived benefits of specific issues (i.e, environment, economy, and security), the differences between the *high* and *low* environmental concern groups persist after treatments.[24]

To further investigate the moderating effects of environmental concern on the treatments, I ran an interaction analysis, interacting *environmental concern* with the treatment group dummies. Similar to the interaction analysis with *nationalism*, none of the interaction terms for the overall support of the policy is statistically significant. Independently, environmental concerns tend to increase support for the policy, as well as perceived benefits in each of the issue areas. The interaction terms, on the other hand, are negative, but are not statistically significant. The results are reported in Figure A17 in the Appendix Section E.6.

This trend – decreasing support for the climate policy as the environmental concerns increase – becomes more salient when I divide the sample by party ID. First, it should be noted that being a Democrat is highly correlated with having environmental concerns. Democrats, on average, tend to be more concerned about the environment, as previous research has shown. In my sample, the average level of environmental concern for the Democrat respondents is 0.330, while it is -0.332 for the Republicans.[25] Republicans make up 81% of the *low environmental concern* group, while

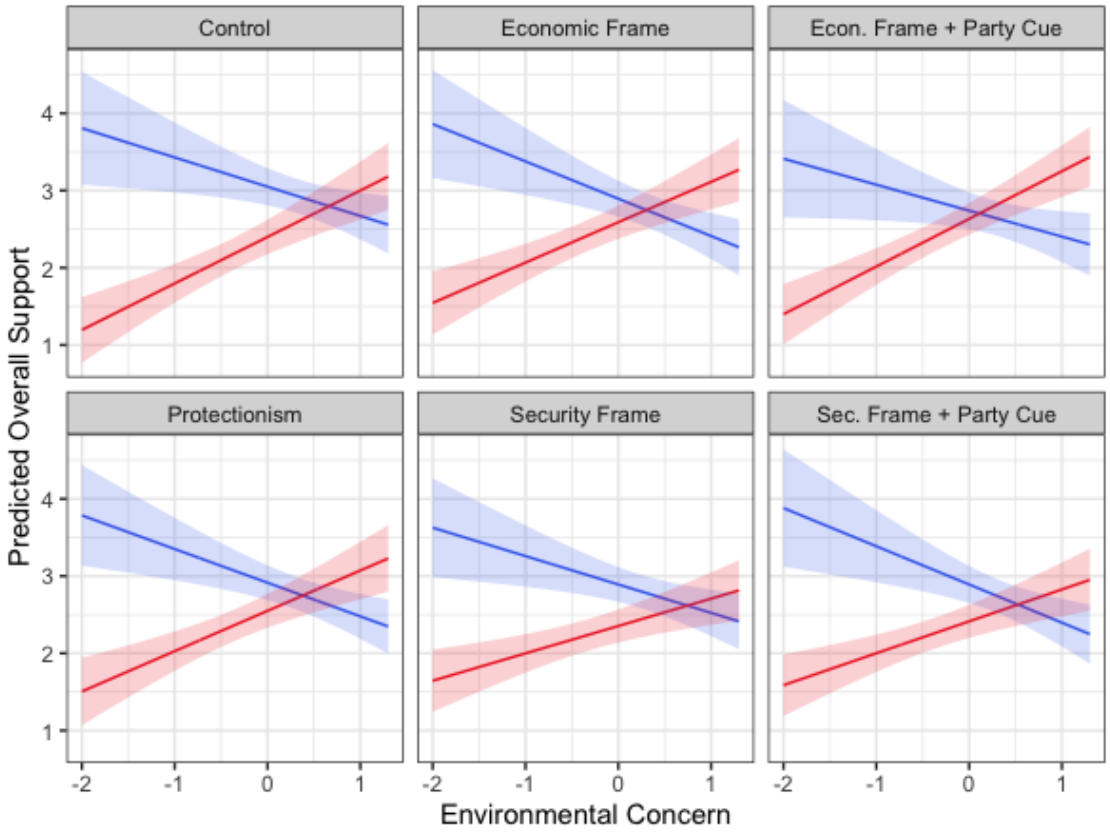
[24]See Figure A15 in Appendix E.6.

[25]This difference is also evident with single question responses. When asked to evaluate on a five-point scale how much of a problem they think environment is in the country today, Democrats rated it 4.036 on average, while Republicans rated it 3.19. This mean difference is statistically significant with the t-statistic of 19.65 and 2493 degree of freedom. Similarly, when asked to evaluate climate change in terms of its importance for the foreign policy of the US, Democrats on average rated it 4.11, while Republicans rated it 2.89. This is also statistically significant with the

Democrats make up 73% of the *high environmental concern group*.

Figure 5 shows that only for Democrats (in blue), the overall support for the policy decreases as the level of environmental concern increases, regardless of treatment groups. On the contrary, for Republicans (in red), the overall support for the policy increases, as the environmental concerns increase, across all treatment groups. Meanwhile, this negative effect of environmental concerns for Democrats does not appear for the perceived benefits of specific issue areas.[26] In other words, as environmental concerns increase, Democrats also see more environmental, economic, and security benefits associated with the policy, but still show a lower level of overall support for the policy. There seems to be no significant treatment effects within a party group.[27]

Figure 5: Conditional Effect of Treatment on Env. Concern by Partisanship (Overall Support)



Note: Blue lines represent Democrats, and red lines represent Republicans, with 95% confidence levels represented by the shaded area.

The downward slopes for the treatment groups in Democrats are not surprising. In my hypothesis 5, I predicted that attaching protectionism will increase support among those with a low level of

t-statistic of 25.423 and 2403 degree of freedom.

[26] See Appendix E.6.

[27] See Appendix A22.

environmental concerns more than among those with a high level of environmental concerns. This means that given any kind of protectionist treatment, as one's environmental concerns increase, the support for the policy will decrease. The puzzling part is the *control* group. Because the vignette showed a climate policy with explicit pro-environmental aims, I expected the respondents to increase their support as their environmental concern increases without any treatment. One explanation for this unexpected baseline is that the Democrat respondents with a high level of environmental concern, were not convinced of the pro-environmental impacts of the policy. Even though they rated the perceived environmental impacts to be high, it is possible that they want more from a climate policy. In addition, because my vignettes were modelled after the IRA, the respondents could have expressed their support for the existing policy. It is reasonable to expect those with a high level of environmental concern to be most knowledgeable in climate policies, and to have ex-ante opinions.

6 Discussion

This study shows that attaching protectionism does not guarantee a higher public support for climate policies. Neither the economy nor the security frame was enough to increase the overall support for the policy. When presented the economic frame with a party cue, which stated that Democrat legislators supported the policy while Republican legislators opposed, Democrat respondents *decreased* their overall support for the policy, while Republican respondents *increased* their overall support. This result is contradictory to what we would expect from public following their party cues, and adds a layer of nuance to the importance of party identity in the US environmental politics. Given the same treatment, however, the respondents' perceived environment, economy, and security benefits all significantly increase for the Democrats. Thus, it appears that the respondents' overall policy evaluation is separate from the perceived benefits of the policy.

Moreover, I find that those with a high level of environmental concerns think less favorably of the policy when a protectionist measure is presented with either an economic or a security frame. In particular, for Democrats, as the level of environmental concern increases, the support for policy decreases regardless of the treatment groups. Thus, my results show that emphasizing non-environmental aspects of a climate policy does not guarantee an increase in public support. On the contrary, it poses a risk of losing the main support group of climate policies – those with a high level of environmental concerns.

On the other hand, nationalism does not appear to be a statistically significant moderator for the support of climate policy. This is also against previous research that has shown that nationalistic people tend to favor protectionist measures (Honeker 2022). It may be that the embedded protectionism in the climate policy is not salient enough to appeal to the nationalistic group of people.

These unexpected findings may be due to the respondents' pre-existing attitude towards the IRA, which my vignettes were modelled after. Although the close connection with an existing policy contributes to the external validity of my research design, it is possible that the salience of the IRA may have interfered with treatment effects. An alternative design would involve a conjoint experiment using different issues (i.e. EVs, solar panels, and heat pumps), and types of policies (i.e. subsidies and taxes).

Another concern is the generalizability of the study. Lim, Dolsak, Prakash, and Tanaka (2022) points out that the general perception of EV subsidies are different in Japan and in the US. While the American public is primarily concerned about the subsidies disproportionately favoring high-income class, the Japanese public is more worried about foreign companies taking the benefits. The US is also unique in its highly polarized political setting, with Republicans being one of the rare major political parties in the world to deny climate change. Thus, some of the findings, such as the effects of conflicting party cues, may not be applicable to broader contexts. Nevertheless, as many more national governments are pursuing green industrial policies, effects of attaching protectionism to climate policies are of interests hold important policy implications. Thus, a future study can re-run the experiment in different political contexts, such as multi-party systems or where there is a stronger public consensus on the threats of climate change.

There are also inherent limitations that all survey experiments have. The vignettes were carefully worded and designed to maximize external validity, but it is rare for anyone to read only one vignette about a policy in real world. For example, I decided to include conflicting party cues for all respondents, instead of giving only a positive (or a negative) cue to reflect the realities of the US environmental politics. However, real world information setting is inevitably much more complex. Furthermore, the respondents' expressed support (or opposition) for the policy may not be an accurate measure for their behaviors. For example, policy preference may not be directly relate to consumer choices. To address this issue, I have embedded a conjoint experiment after my survey experiment, and did not find any statistically significant effect of the treatments (See Appendix for a more detailed description). More attention could be dedicated to disentangle the relationship between one's policy support and tangible actions.

Despite these limitations, this study has important and broad implications. This study contributes to a better understanding of the odd coalition between protectionists and environmentalists, and its limitations. We are already witnessing many protectionist measures attached to climate change legislation, but we do not yet know the consequences of such political decisions. The demand side of the 'domestic green goods' has been under-studied. Recalling that a backlash to globalization arose from discontent public, policymakers need to be careful when promoting climate legislation. While the current political climate seems to favor prioritizing domestic economy, the findings of this study shows that there is a real trade-off when promoting protectionist aspects of a climate policy. Selling climate policies as protectionism may backfire one day. Thus, it is important to find the right balance for a feasible and sustainable political compromises on climate policies.

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APPENDIX

A Survey Instruments

A.1 Vignettes

Protectionism

Below is the common passage that was given to all groups except for the C1. The C1 group received a vignette without the bold text

> The US Congress recently passed a bill to subsidize clean-air electric vehicle (EV) purchases. The bill promises $5,000 tax credit for qualifying EV purchases. It aims to increase air quality, decrease greenhouse gas emissions, and combat climate change. To qualify for the tax credit, EVs have to cost less than $60,000 **and have at least 45% of components made in the US.**
>
> Eligibility criteria for the EV subsidy (tax credit):
> - Price of the EV (MSRP) $<$ $60,000
> **- EVs with at least 45% components that are manufactured in the US**

Framing Treatments

> **Economy Frame (T2, T4)**
>
> Prioritizing US manufactured EVs further contributes to boost the national economy. Encouraging buying American products supports domestic manufacturers, which in turn, promotes the growth of green industry. When more vehicles are made in the country, we can expect more jobs with higher wages. Therefore, promoting domestic manufacturing of EVs is expected to have positive economic effects to the US economy.
>
> **Security Frame (T1, T3)**
>
> Prioritizing US manufactured EVs further contributes to the national security of the US. Relying on foreign sources of energy and supplies can be a national security vulnerability. Foreign trade partners can threaten to ban exports of critical components, such as batteries. When more vehicles are made in the country, we can expect more reliable supply of EVs. Therefore, encouraging buying American products helps to strengthen the national security.

Party Cue (T3, T4)

> The votes were clearly divided by the party lines: All Democrats voted *for* the bill, while all Republicans voted *against*.

A.2 Questions

Pre-Treatment

- *Car* - What type of cars do you currently own? Please select all that apply.
(Electric Vehicle / Hybrid / Gasoline powered / I don't own a car)
- *EV likely* - How likely are you to buy an electric vehicle in near future (in a year)? (Extremely unlikely / somewhat unlikely / neither likely nor unlikely / somewhat likely / extremely likely)
- *EV satisfaction* (Asked only if they own an EV) - How likely are you to buy an electric vehicle in near future (in a year)? (Extremely dissatisfied / somewhat dissatisfied / neither satisfied nor dissatisfied / somewhat satisfied / extremely satisfied)
- *National Identity* - How much do you feel that what happens to the US in general will be your fate as well? (A tremendous amount / a lot / somewhat / not too much / none at all)
- *National attachment* - When someone says something bad about American people, how strongly do you feel it is as if they said something bad about you? (Very strongly / strongly / somewhat strongly / not too strongly / none at all)
- *Patriotism* - How proud are you of being American? (Very proud / proud / somewhat proud / not too proud / not proud at all)
- *Policy Preference 1* - Which of the following priorities do you think should be the most important for the making of US foreign policy today? (Ensuring the physical defense of our country / Seeking economic gains for the US economy / Leading international cooperation on global problems / Protecting democratic values and ideals of the world / Constraining potential aggressors in the world)
- *Policy Preference 2* - On a 5-point scale, please evaluate the following issues in terms of their importance for the foreign policy of the US. (Not at all important / slightly important / moderately important / very important / extremely important)
  - National economy
  - National security
  - Global peace
  - International reputation of the US
  - Combating climate change
  - Protecting human rights and other democratic values
- *Policy Preference 3* - On a 5-point scale, please evaluate how much of a problem do you think each of the following are in the country today. (Not a problem at all / a small problem / somewhat of a problem / a big problem / a very big problem)
  - Degradation of American values
  - Job opportunities
  - Inflation
  - Environment
  - Relying on foreign trade

- *Policy Preference 4* - On a 5-point scale, please evaluate how much you support each of the following policies. (Highly support / somewhat support / neither support nor oppose / somewhat oppose / highly oppose)
  - Impose tariffs to reduce the amount of foreign goods coming into the country.
  - Introducing carbon pricing to reduce carbon emission.
  - Providing consumer subsidies on clean air vehicles to promote clean energy.
  - Subsidizing US manufacturing to create more job opportunities.

Dependent Variables

- *Overall* - Given everything, how much do you support the electric vehicle subsidy? (Highly support / somewhat support / neither support nor oppose / somewhat oppose / highly oppose)
- *On a 5-point scale, please evaluate how much you agree with the following statements (Strongly disagree / somewhat disagree / neither agree nor disagree / somewhat agree / strongly agree).*
  - *Environmental Benefit* - The electric vehicle subsidy will contribute to cleaner air quality and decrease carbon emission.
  - *Economic Benefit* - The electric vehicle subsidy will contribute to the overall US economy (e.g., create more jobs in the green sector).
  - *Security Benefit* - The electric vehicle subsidy will contribute to the overall US security (e.g., decrease reliance on foreign sources of energy).

Post Treatment

- Please answer true or false for the following questions based on the text that you just read. If the information did not appear in the text, choose 'Don't know'.
  - This policy is designed to promote clean air vehicles, and therefore is expected to have positive environmental effects.
  - This policy is expected to strengthen the US national security by decreasing reliance on foreign countries.
  - This policy is expected to contribute to the US economy by creating more jobs in the US.
  - The political party that you feel closest to supports this policy.
- *Political Knowledge 1* - Protectionist measures that distort free trade usually have the following effects (Harm domestic consumers, but benefit domestic producers / Harm domestic producers, but benefit domestic consumers / Harm foreign consumers, but benefit domestic consumers / Harm domestic producers, but benefit foreign consumers)
- *Political Knowledge 2* - Discriminating against foreign producers with protectionist measures is often in violation of free trade agreements. (True / false)

B Descriptive Statistics

Table A1: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Pctl. 25	Pctl. 75	Max
Ideology	2613	2.9	1.3	1	2	4	5
Education	2608	3.1	1.3	1	2	4	6
Income	2612	2.1	0.92	1	1	3	5
Gender	2612						
... Female and others (0)	1948	75%					
... Male (1)	664	25%					
Age	2612						
... 18-24 years old	142	5%					
... 25-34 years old	238	9%					
... 35-44 years old	406	16%					
... 45-54 years old	495	19%					
... 55-64 years old	596	23%					
... 65-74 years old	519	20%					
... 75 years or older	216	8%					
Partisanship	2614						
... Dem (0)	1315	50%					
... GOP (1)	1299	50%					
Region	2614						
... Midwest	516	20%					
... Northeast	483	18%					
... South	990	38%					
... West	625	24%					
Treatment	2614						
... Control (C0)	429	16%					
... Control - LCR (C1)	435	17%					
... Security (T1)	436	17%					
... Security & Party Cue (T4)	441	17%					
... Econ (T2)	431	16%					
... Econ & Party Cue (T3)	442	17%					

Note that ideology was measured with a 5 point scale, education a 6 point scale, and income 5 point scale.

Figure A1: Distribution of Categorical Variables

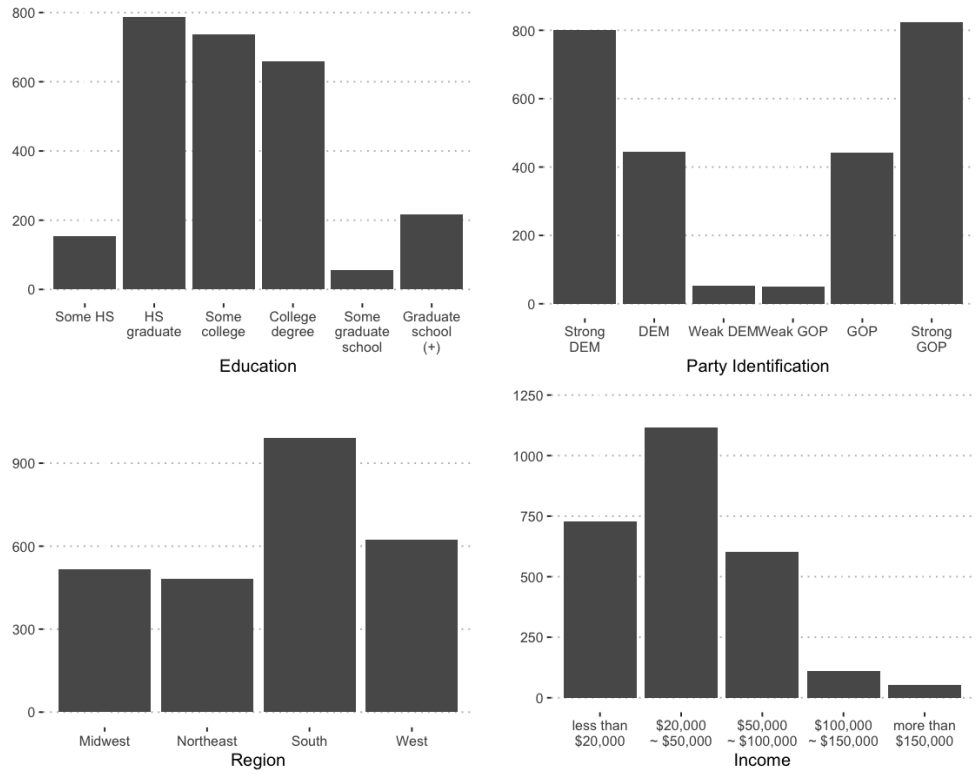
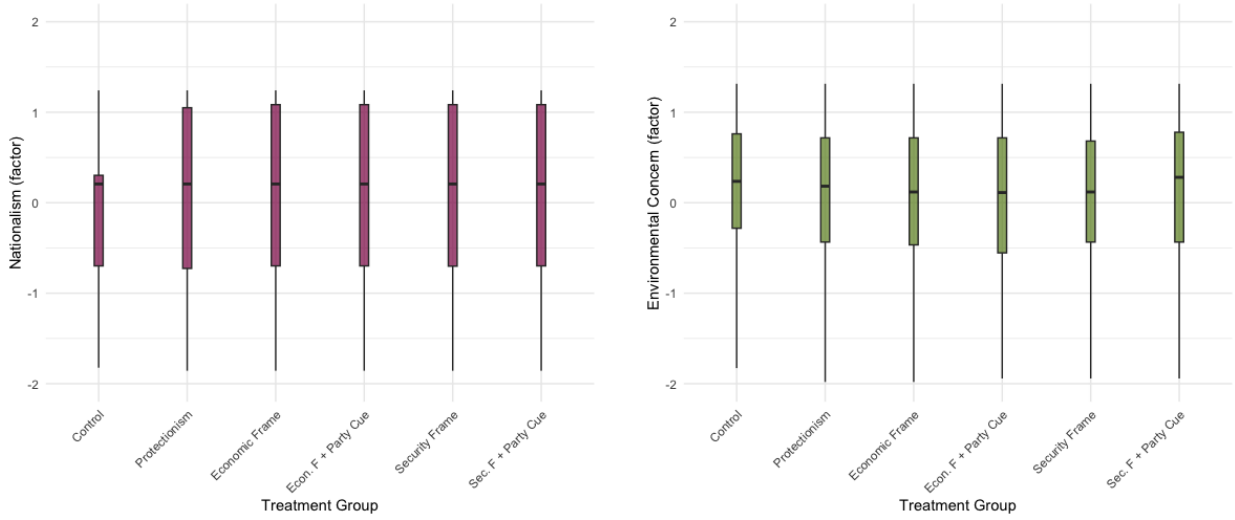


Figure A2: Distribution of Factor Variables Across Treatment Groups

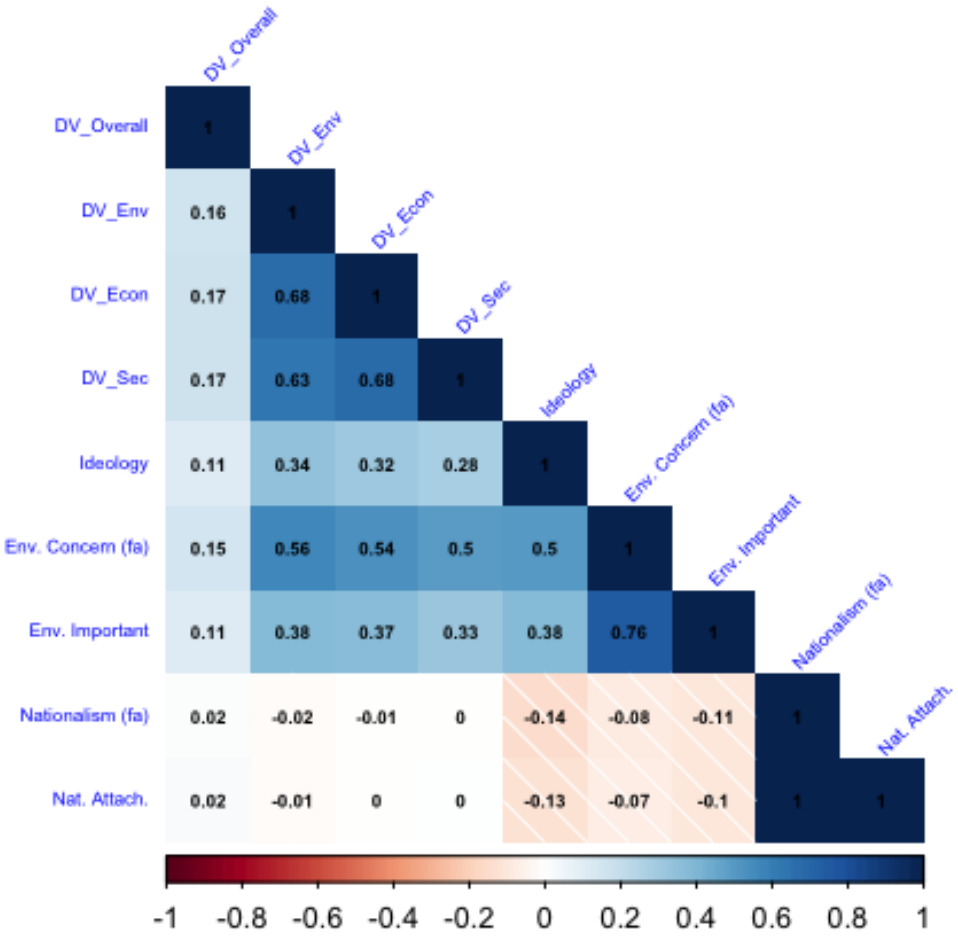
(a) Nationalism

(b) Environmental Concern



C Correlation Matrix

Figure A3: Correlation between Main Variables of Interest

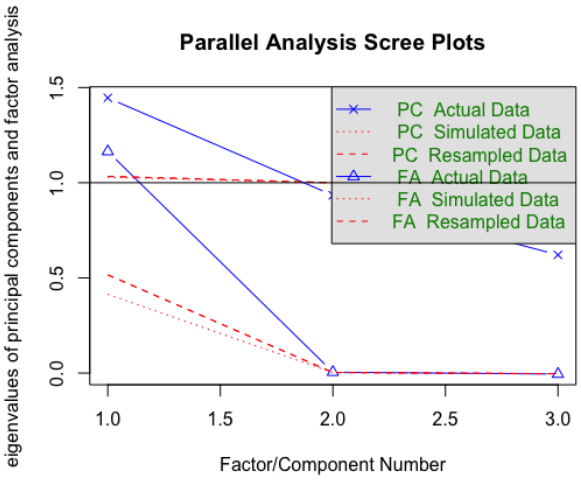


D Factor Analysis

Nationalism and environmental concerns are multi-faceted concepts that cannot be adequately measured with one survey questions. To measure such complex concepts, I used a battery of questions and then reduced the number of dimensions of respondents' using factor analysis.

For nationalism, I asked three questions: one on national identity, one on national attachment, and one on patriotism. The factor analysis indicates that they can be condensed into one dimensional factor.

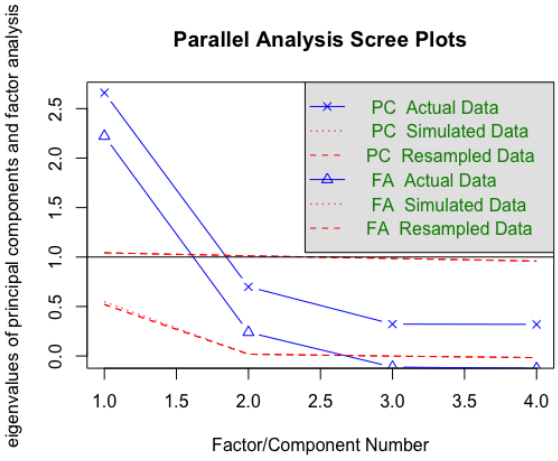
Factor Analysis of Nationalism



	PA1
National Identity	0.24
National Attachment	0.92
Patriotism	0.37

For environmental concerns, four questions were asked. Two asked about how important do respondents think of climate change and environment. The other two were more about direct policy supports – carbon pricing and EV subsidies. The scree plot below (Figure D) suggests that these questions should be condensed using two factors. However, since I have strong theoretical reasons to believe that these four questions related, I chose to use one factor. The correlation coefficient between the factor measure and response for how important does one think of environment as a problem for the US is 0.73.

Factor Analysis of Environmental Concern



	PA1
Climate change in FP	0.80
Environment as a Problem	0.68
Support for Carbon Price	0.74
Support for EV Subsidy	0.76

E Robustness Checks

E.1 Attitude towards EVs

Since the climate policy that I used in the experiment is an electric vehicle (EV) subsidy, it is possible that one's prior attitude towards EVs act as a confounder. In particular, if one is likely to buy an electric vehicle in near future. I create a dummy variable, *EV*, to indicate those who expressed interest in buying an EV in near future: 541 respondents said that they are either somewhat likely or extremely likely to buy an EV in a year.

Figure A4: Difference in Mean Responses by EV Ownership Likelihood

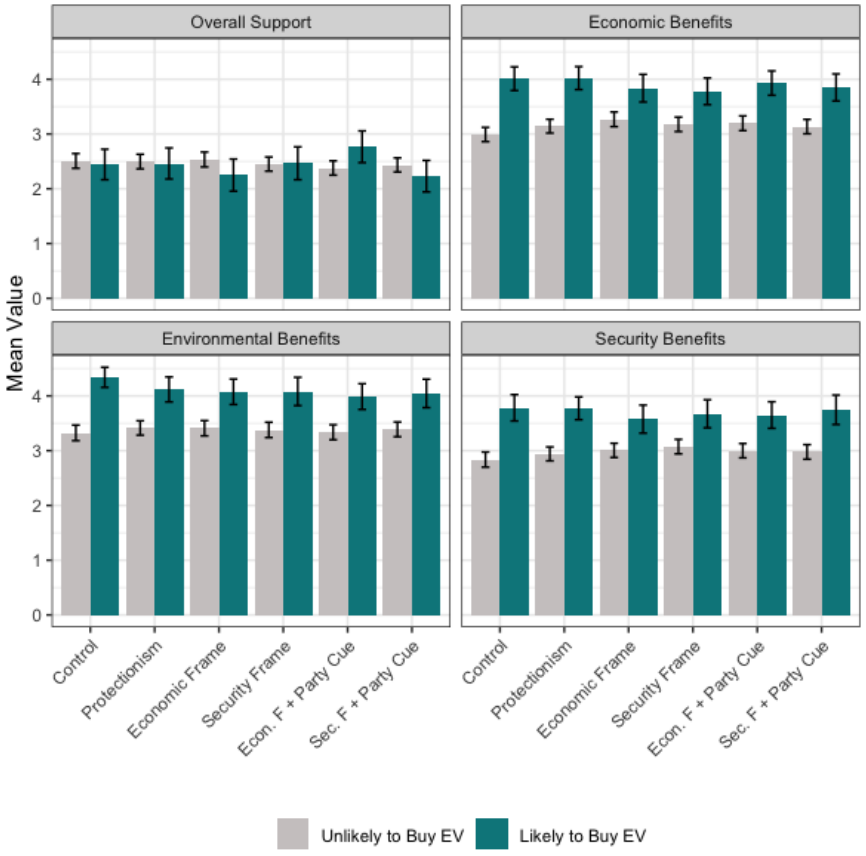


Figure A4 shows the mean difference between those who are likely to buy an EV and those who are not. Those who are more likely to buy an EV show a higher level of support on the policy, as well as perceived benefits across all treatment groups.

I also ran a subset analysis using only those who are likely to buy an EV in a year. This limits the sample size to 413 after I eliminate all the NA values. The results are a little different from the main analysis that uses the entire sample.

Table A2: Sub-set Analysis for Those Likely to Buy an EV

Dependent Variables:	Overall	Environment	Economy	Security
Model:	(1)	(2)	(3)	(4)
Env. Concern	-0.6057***	0.5330***	0.6082***	0.5463***
	(0.1034)	(0.0787)	(0.0757)	(0.0816)
Nationalism	0.0509	-0.0047	0.0860	0.0098
	(0.0741)	(0.0564)	(0.0542)	(0.0585)
Republican	-0.0422	-0.1187	-0.0259	-0.0830
	(0.1498)	(0.1140)	(0.1096)	(0.1181)
Protectionism	-0.2662	-0.1025	0.1957	0.2077
	(0.2220)	(0.1690)	(0.1624)	(0.1752)
Economic Frame	-0.4321*	-0.2080	-0.0907	-0.1490
	(0.2247)	(0.1711)	(0.1644)	(0.1773)
Econ. Frame + Party Cue	0.2608	-0.0904	0.1266	0.0723
	(0.2291)	(0.1744)	(0.1676)	(0.1807)
Security Frame	-0.2565	-0.2079	-0.2327	-0.0332
	(0.2217)	(0.1688)	(0.1622)	(0.1749)
Sec. Frame + Party Cue	-0.3020	-0.1924	-0.0575	0.1274
	(0.2290)	(0.1744)	(0.1676)	(0.1807)
Fit statistics				
Observations	413	413	413	413
R^2	0.11270	0.13597	0.17402	0.13240
Adjusted R^2	0.09513	0.11886	0.15767	0.11522

IID standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

The effects of treatments on the perceived benefits on specific issues lose statistical significance. This may be due to the small N. On the other hand, the economic frame treatment appears to be negative and statistically significant at 0.1 level.

E.2 Political Knowledge

In the post treatment part of the experiment, respondents were asked two political knowledge questions on protectionism. I created a *knowledge* variable, to indicate the number of questions that the respondents answered correctly on these to questions. 634 people got both questions wrong, 1,471 answered only one correctly, and 509 answered both questions correctly.

To ensure that the randomization of treatment worked correctly, I ran a Kruskal–Wallis test. The p-value for Kruskal-Wallis test is 0.2012, which indicates that the randomization of treatment was successful. I then re-ran the main analysis controlling for the level of political knowledge, but the results did not change significantly.

Table A3: OLS Results with Political Knowledge As Control

Dependent Variables:	Overall	Environment	Economy	Security
Model:	(1)	(2)	(3)	(4)
Knowledge	-0.0382	0.0460	0.0621*	0.0402
	(0.0425)	(0.0349)	(0.0340)	(0.0355)
Education	-0.0404*	0.0079	0.0244	0.0163
	(0.0232)	(0.0190)	(0.0185)	(0.0193)
Income	0.0425	-0.0023	0.0093	0.0160
	(0.0327)	(0.0268)	(0.0261)	(0.0273)
Male	-0.0421	0.0224	0.0317	0.0117
	(0.0658)	(0.0540)	(0.0525)	(0.0549)
North East	0.1264	0.0122	0.0385	0.0604
	(0.0896)	(0.0736)	(0.0715)	(0.0747)
South	0.0255	0.0542	0.1402**	0.1282**
	(0.0773)	(0.0635)	(0.0617)	(0.0645)
West	0.0801	-0.0161	0.0747	0.0861
	(0.0832)	(0.0683)	(0.0664)	(0.0694)
Env. Concern	0.1857***	0.7334***	0.6813***	0.6386***
	(0.0365)	(0.0299)	(0.0291)	(0.0304)
Nationalism	0.0463	0.0454*	0.0524**	0.0584**
	(0.0303)	(0.0249)	(0.0242)	(0.0253)
Republican	-0.1343**	-0.2326***	-0.1807***	-0.1683***
	(0.0651)	(0.0534)	(0.0520)	(0.0543)
Protectionism	0.0078	0.0362	0.1648**	0.1366*
	(0.0955)	(0.0784)	(0.0763)	(0.0797)
Economic Frame	0.0142	0.0614	0.2691***	0.1841**
	(0.0963)	(0.0791)	(0.0769)	(0.0804)
Econ. Frame + Party Cue	-0.0082	0.0819	0.2439***	0.2195***
	(0.0962)	(0.0790)	(0.0768)	(0.0802)
Security Frame	-0.0250	0.0101	0.1283*	0.2226***
	(0.0953)	(0.0783)	(0.0761)	(0.0795)
Sec. Frame + Party Cue	-0.0605	0.0265	0.1114	0.1531*
	(0.0957)	(0.0785)	(0.0764)	(0.0798)
Fit statistics				
Observations	2,064	2,064	2,064	2,064
R^2	0.03049	0.32624	0.30437	0.25867
Adjusted R^2	0.02339	0.32131	0.29928	0.25324

IID standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

E.3 Marginal Effects of Frames and Party Cues

To calculate the marginal effect of frames and cues, I change the reference category for regression models. In other words, instead of having the control group as the reference category, I set *Economic frame* and *Security frame* groups as reference categories for models 1-2, and models 3-4, respectively (Table A4). *Without a Frame* is comparing those in the *Protectionism* group to those in the single frame groups. Meanwhile, *With a Party Cue* indicates the marginal effect of party cues, as they are equivalent of coefficients for *Econ Frame + Party Cue* and *Sec Frame + Party Cue*, respectively for each of the framing groups. However, none of the coefficient for treatment groups are statistically significant.

Table A4: Using Framing Groups as Reference Groups

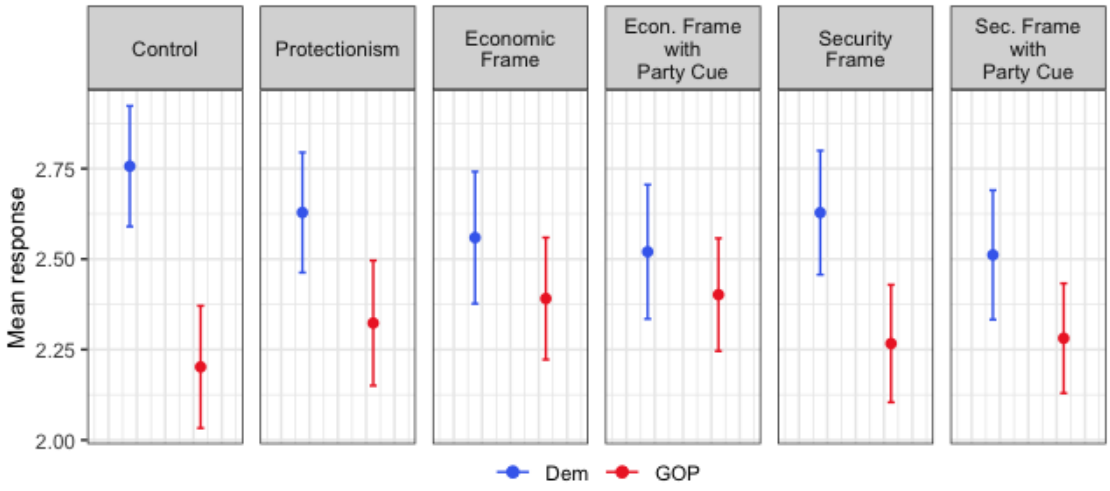
Frame:	Economic Frame		Security Frame	
Dependent Variables:	Overall	Economy	Overall	Economy
Model:	(1)	(2)	(3)	(4)
Education	-0.0597*	0.0203	-0.0174	0.0703***
	(0.0339)	(0.0275)	(0.0325)	(0.0264)
Income	0.0494	0.0707*	0.0587	-0.0183
	(0.0468)	(0.0380)	(0.0464)	(0.0376)
Male	-0.0739	0.0011	-0.1153	0.0387
	(0.0939)	(0.0762)	(0.0910)	(0.0738)
North East	0.1559	0.1570	0.1768	-0.0481
	(0.1313)	(0.1066)	(0.1243)	(0.1007)
South	0.0765	0.1802**	0.0439	0.1263
	(0.1095)	(0.0889)	(0.1092)	(0.0885)
West	0.0998	0.1722*	0.1096	0.0460
	(0.1212)	(0.0984)	(0.1179)	(0.0956)
Env. Concern	0.1606***	0.6009***	0.0675	0.6129***
	(0.0546)	(0.0443)	(0.0527)	(0.0427)
Nationalism	0.0469	0.0355	0.0272	0.0386
	(0.0435)	(0.0353)	(0.0414)	(0.0336)
Republican	-0.0706	-0.4355***	-0.2648***	-0.4450***
	(0.0877)	(0.0712)	(0.0850)	(0.0689)
Without Frame	-0.0058	-0.1194	0.0343	0.0222
	(0.0972)	(0.0789)	(0.0944)	(0.0766)
With a Party Cue	-0.0300	-0.0311	-0.0316	-0.0082
	(0.0981)	(0.0796)	(0.0946)	(0.0767)
Fit statistics				
Observations	1,026	1,026	1,044	1,044
R^2	0.01936	0.25585	0.02396	0.27427
Adjusted R^2	0.00872	0.24777	0.01355	0.26653

IID standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

E.4 Heterogeneous Effects by Party ID

Figure A5 shows the mean response for overall evaluation of the policy by treatment group and by respondents' party ID. It is evident that overall, Democrats tend to view the policy more favorably than Republicans - without any treatment. Although not statistically significant, we see that with any type of treatments, the mean evaluation of the policy tends to move upwards for the Republican respondents. This is unsurprising given the current political climate where Republicans are more favorable to protectionism. Meanwhile, the Democrat respondents' overall evaluation of the policy tends to slightly decrease, albeit not to a statistically significant extent. When the respondents were given an economic frame or a dividing party cue (that Democrats in Congress supported the policy while Republicans opposed), the partisan difference on the overall assessment of the policy decreases insofar as there is no statistically significant difference between the two political parties.

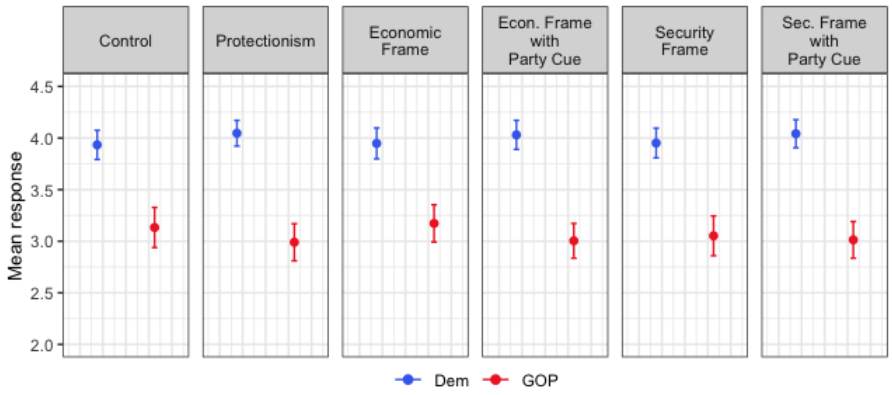
Figure A5: Mean Responses for Overall Evaluation of the Policy



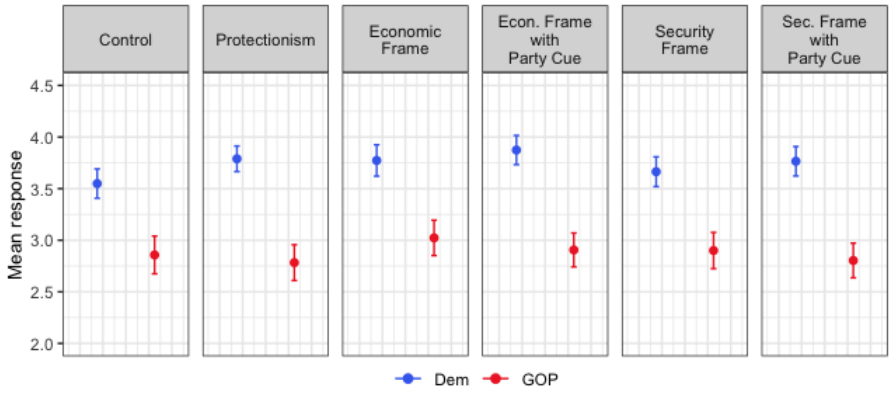
When it comes to specific aspects of the policy, Democrats still view the policy more positively than Republicans (See Figure A6). This makes the above result of overall policy evaluation more interesting. In terms of the overall evaluation of the policy, the Democrat and Republican mean responses are essentially indistinguishable when they were given any type of treatment (except for the security frame treatment). This means that although Democrat respondents see more benefits from the policy than Republicans, their overall evaluation of the policy tends to be similar to that of Republicans. This is also evident in terms of the absolute score for the mean responses. The mean score for the overall evaluation of the policy (5 being the highest score) is 2.60 for the Democrats and 2.31 for the Republicans. However, the mean score for the perceived benefits of economy, for example, is 3.73 for the Democrats and 2.88 for the Republicans.

Figure A6: Mean Responses for Individual Aspect Evaluation of the Policy

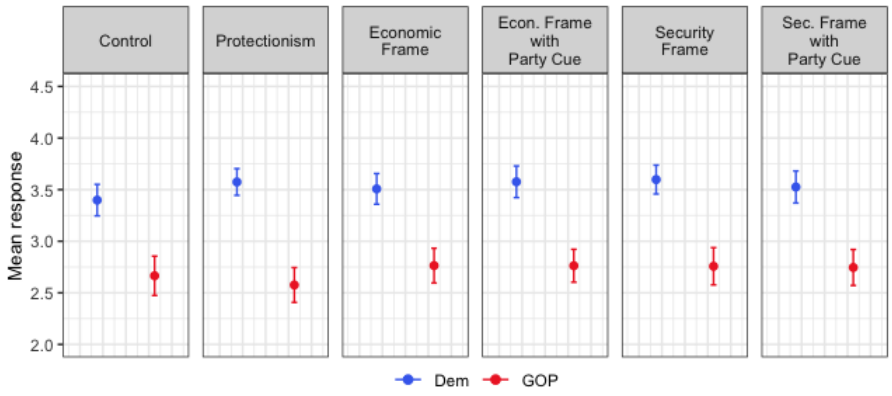
(a) Perceived Environmental Benefits



(b) Perceived Economic Benefits



(c) Perceived Security Benefits

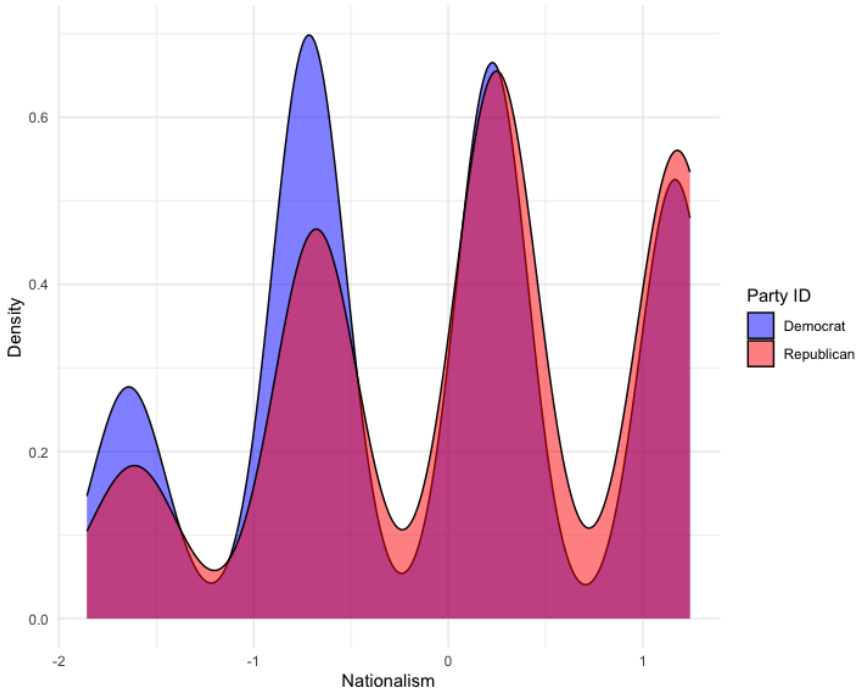


E.5 Heterogeneous Effects by Nationalism Level

To test the robustness of my null findings on the moderating effect of nationalism, I first re-ran the interaction analysis with single questions on nationalism instead of a composite index created with factor analysis. The single questions were on patriotism, national identity, and national attachment. None of the interaction terms were significant, so the results are not reported.

Second, I examined the distribution of nationalism by party lines. Because previous studies have found that Republicans are more nationalistic on average than Democrats, it is possible that nationalism is highly correlated with party id. However, the below density graph (Figure A7 shows that the distribution of the nationalism factor is highly similar for the Democrats and Republicans.

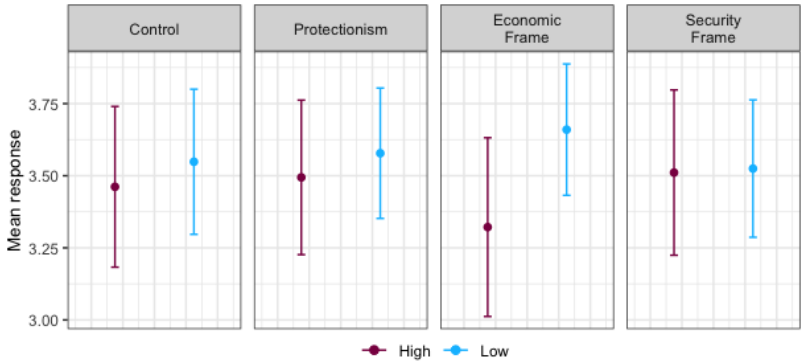
Figure A7: Distribution of Nationalism Factor by Party Id



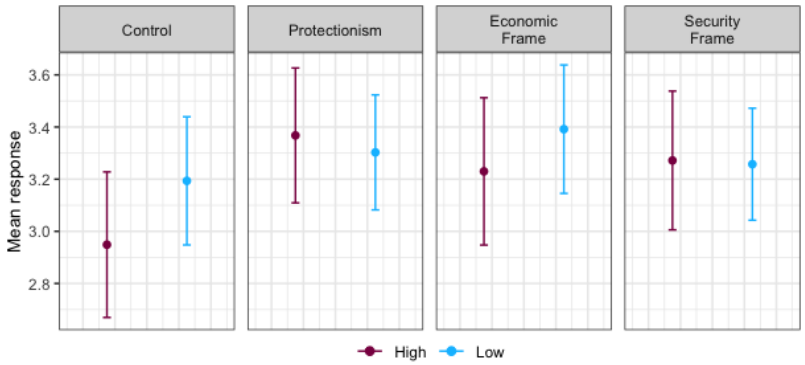
Third, I compared the mean of different dependent variables by the level of nationalism. Recall that I coded those in the first quartile of nationalism factor as *low* in nationalism (400 respondents) and in the fourth quartile (344 respondents) as *high*. Figure A8 shows the means and 95% confidence intervals for the perceived benefits of each issue area by the nationalism groups. The two groups do not show any statistically meaningful difference in means. There is not a noticeable effect of the treatments based on nationalism levels either.

Figure A8: Mean of DV by Nationalism Levels

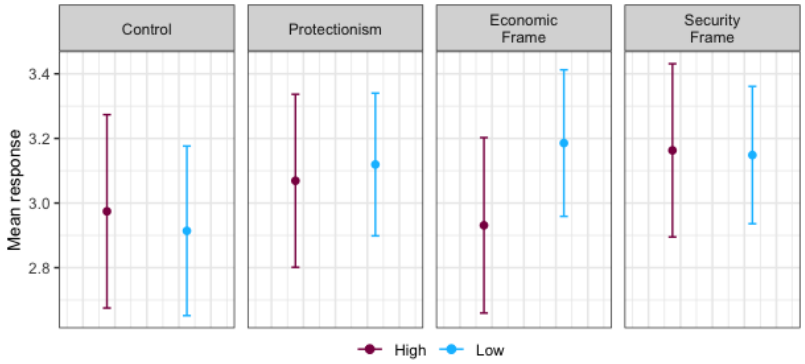
(a) Perceived Environmental Benefits



(b) Perceived Economic Benefits

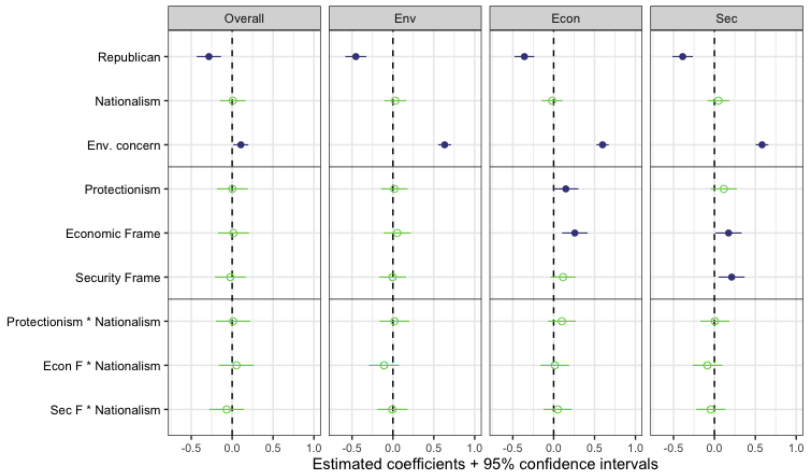


(c) Perceived Security Benefits



Fourth, I report the results of interaction analysis using interaction between *nationalism* and treatment dummies.

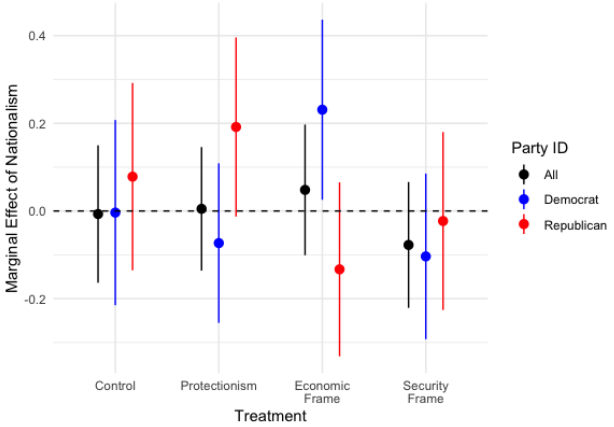
Figure A9: Coefficient Plots for Interaction Models - Nationalism



Note: Although not shown due to space constraints, all models include controls: education, income, male dummy, and regional dummies. Blue means significant at 90% confidence level

Lastly, I examine the conditional effect of the treatments on nationalism level by party ID. This helps me to unpack the effect of party cues by party ID. Figure A10 shows the marginal effect of nationalism across different treatment groups. When I use the entire sample (without dividing by party lines), none of the coefficients appear statistically significant. However, when I subset the sample by party lines, Democrats who received the economic frame stand out – as nationalism increase, they increase support for the policy. This implies that the economic frame is more effective than the security frame for Democrats to trigger their sense of nationalism, leading to a higher support for the policy.

Figure A10: Effects of Nationalism Conditional on Treatment



To better understand the conditional effect of treatments by nationalism level and party ID, I plotted the predicted dependent variables on the perceived benefits. In the following set of figures (Figures A11, A12, and A13), the blue lines represent Democrat respondents, the red lines represent Republican respondents, and the shaded area represent 95% confidence intervals.

Figure A11: Conditional Effect of Treatment on Env. Concern by Partisanship (Env. Benefits)

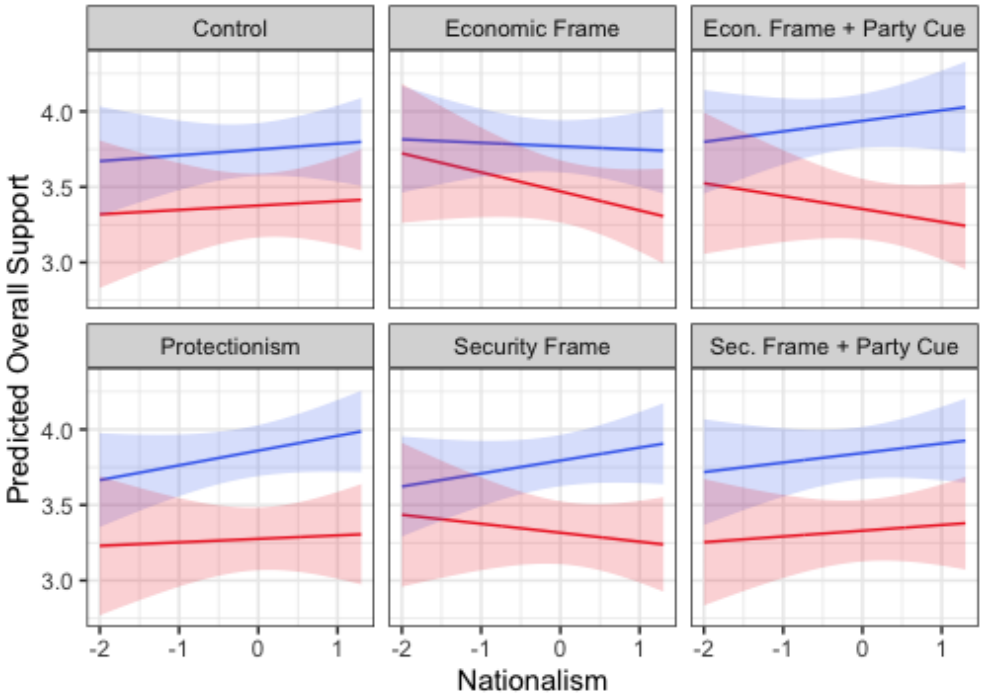


Figure A12: Conditional Effect of Treatment on Env. Concern by Partisanship (Economic Benefits)

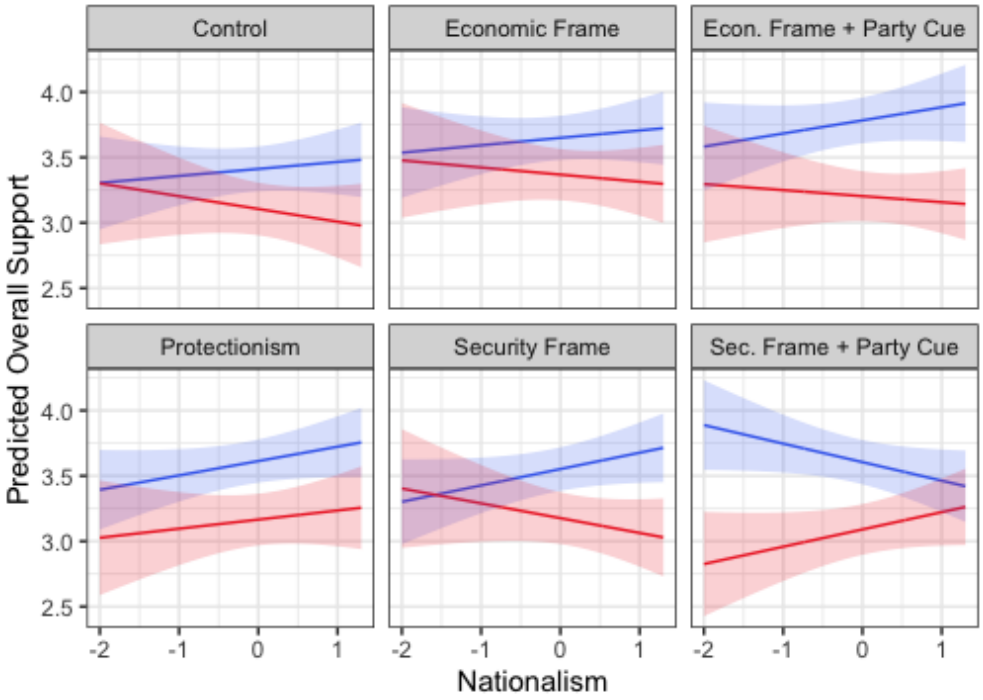
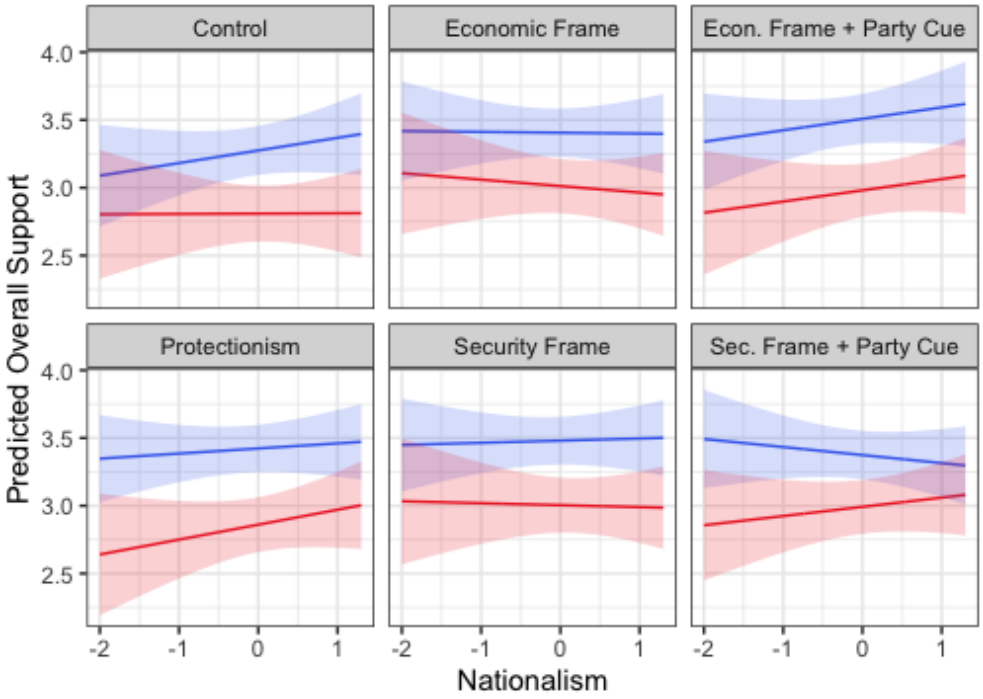


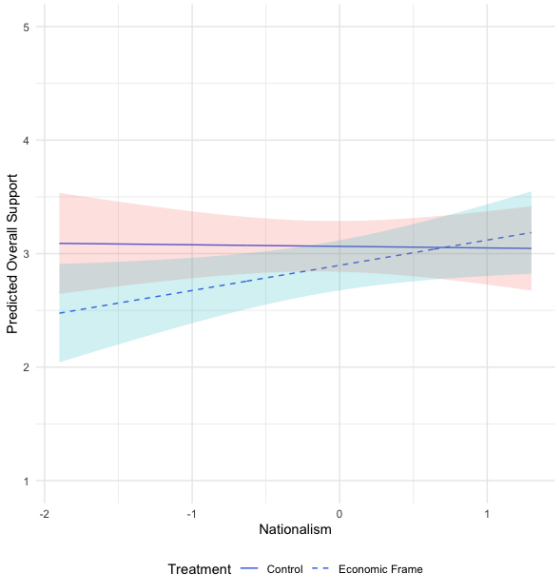
Figure A13: Conditional Effect of Treatment on Env. Concern by Partisanship (Security Benefits)



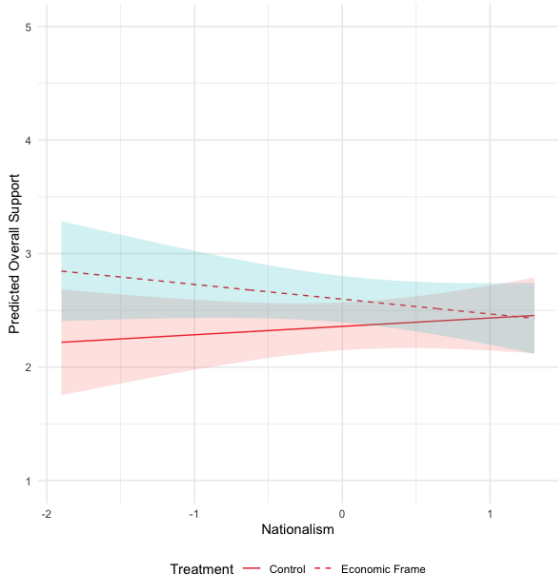
Below plots are examples to show that there is no statistical difference between treatment groups within a party.

Figure A14: Effects of Nationalism Conditional by Treatment Groups on Overall Policy Support (Econ. Frame)

(a) Democrats



(b) Republicans

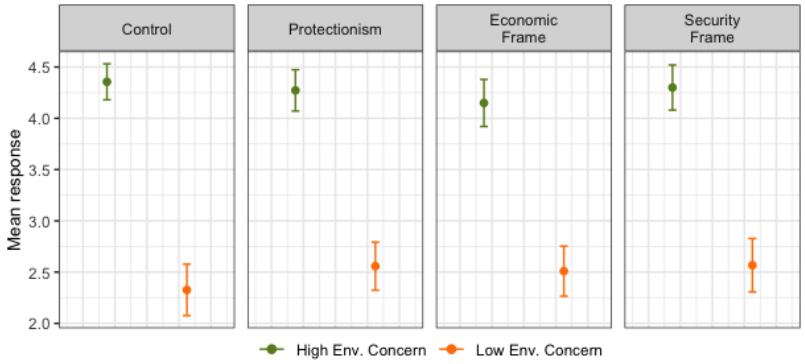


E.6 Heterogeneous Effects by Environmental Concerns

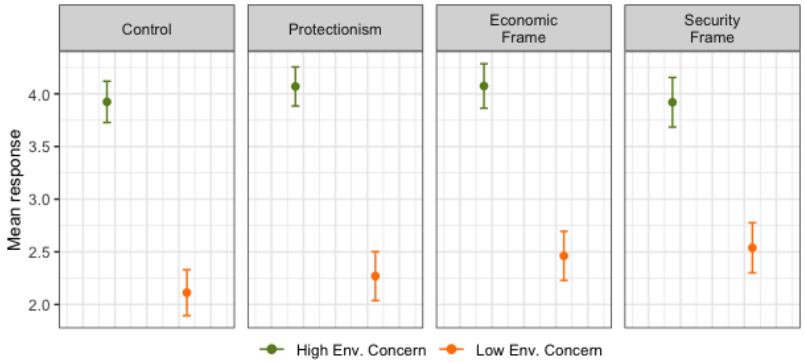
To see the heterogeneous effects by level of environmental concerns, I first compared the means of four dependent various across groups with different levels of environmental concerns (Figure A15). Those in the first quartile of *environmental concern* is coded as *low* in environmental concern, and those in the fourth quartile is coded as *high* in environmental concern. While treatments affect the overall support for the policy between the two groups insofar as the significant difference between the two groups in the control setting disappears for the treated groups, the perceived benefits remain statistically different for the two groups across all treatment groups.

Figure A15: Mean of DV by Environmental Concern Levels

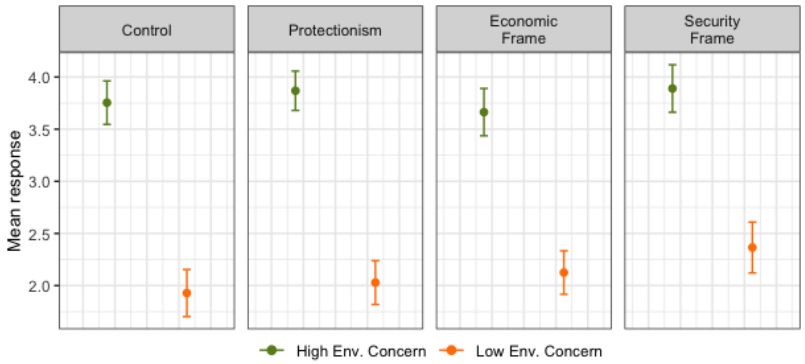
(a) Perceived Environmental Benefits



(b) Perceived Economic Benefits

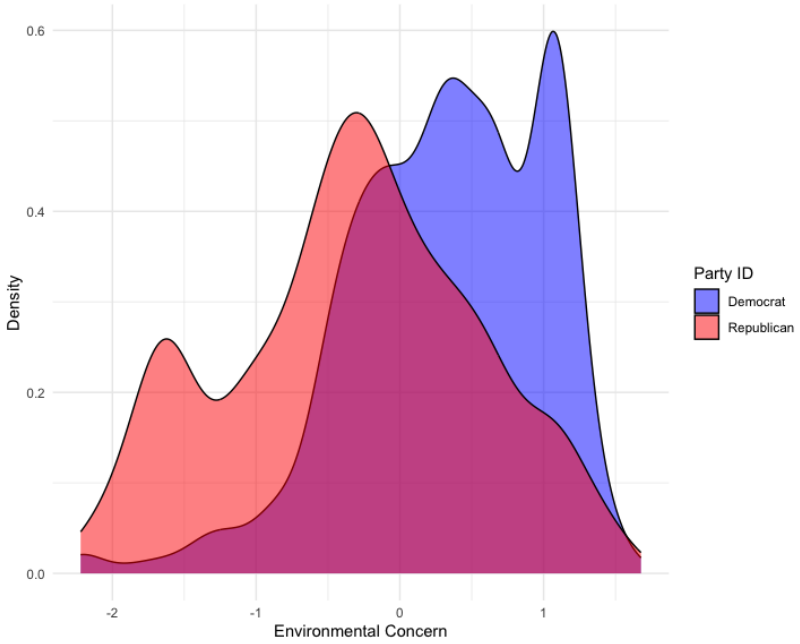


(c) Perceived Security Benefits



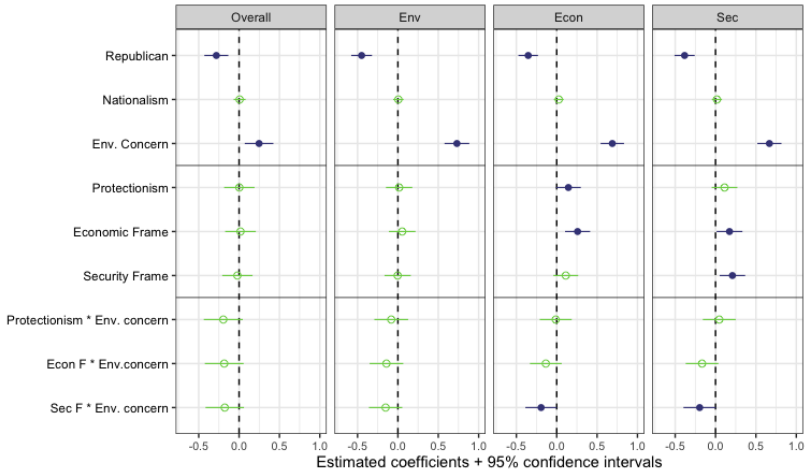
I also checked the distribution of environmental concern factor across the party lines. Figure A16 shows that Democrats have a higher level of environmental concern on average than Republicans.

Figure A16: Distribution of Environmental Concern Factor by Party ID



Next, I ran an interaction analysis, interacting environmental concern and treatment dummies. Figure A17 shows the coefficients and 90% confidence intervals from the regression models. One point to note is that when given the security frame, the perceived economic and security benefits decrease as environmental concerns increase. The interaction terms between the security frame treatment and environmental concerns for the overall policy support and perceived environmental benefits are negative as well, but they are not statistically significant.

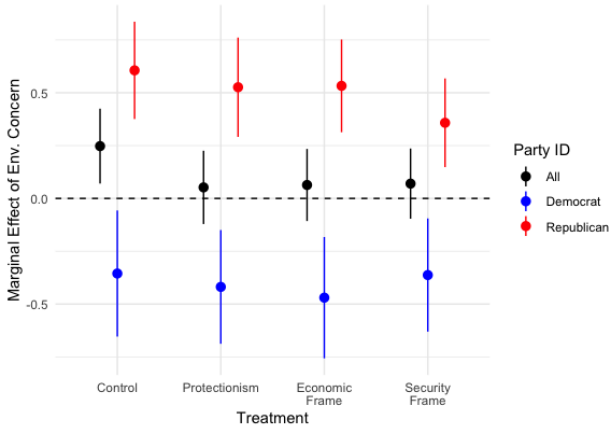
Figure A17: Coefficient Plots for Interaction Models - Env. Concern



Note: Although not shown due to space constraints, all models include controls: education, income, male dummy, and regional dummies. Blue means significant at 90% confidence level

In addition, I ran conditional effect analysis to see whether treatments have different effects by levels of environmental concerns on the overall support for the policy. Figure A18 shows the marginal effect of environmental concern by treatment groups, as well as by party identities. When the entire sample is used (without distinguishing party identities), the marginal effects of environmental concerns do not appear to be statistically significant, except for the control group. However, when the sample is divided by party lines, marginal effects of environmental concerns appear to be statistical for all treatment groups: For Republicans, the marginal effects of environmental concern is positive and significant, but for Democrats, the marginal effects of environmental concern is negative and significant. Thus, I do not find differences in the marginal effect of environmental concerns across treatment groups, but the conditional analysis confirms that the environmental concerns affect Democrats and Republicans differently.

Figure A18: Conditional Effect of Treatments on Environmental Concerns



The following set of figures (Figures A19, A20, and A21) shows the conditional effects of environmental concerns across treatment groups by party identities on the perceived environmental, economic, and security benefits (respectively). The blue lines represent Democrat respondents, the red lines represent Republican respondents, and the shaded area represent 95% confidence intervals.

Figure A19: Conditional Effect of Treatment on Env. Concern by Partisanship (Env. Benefits)

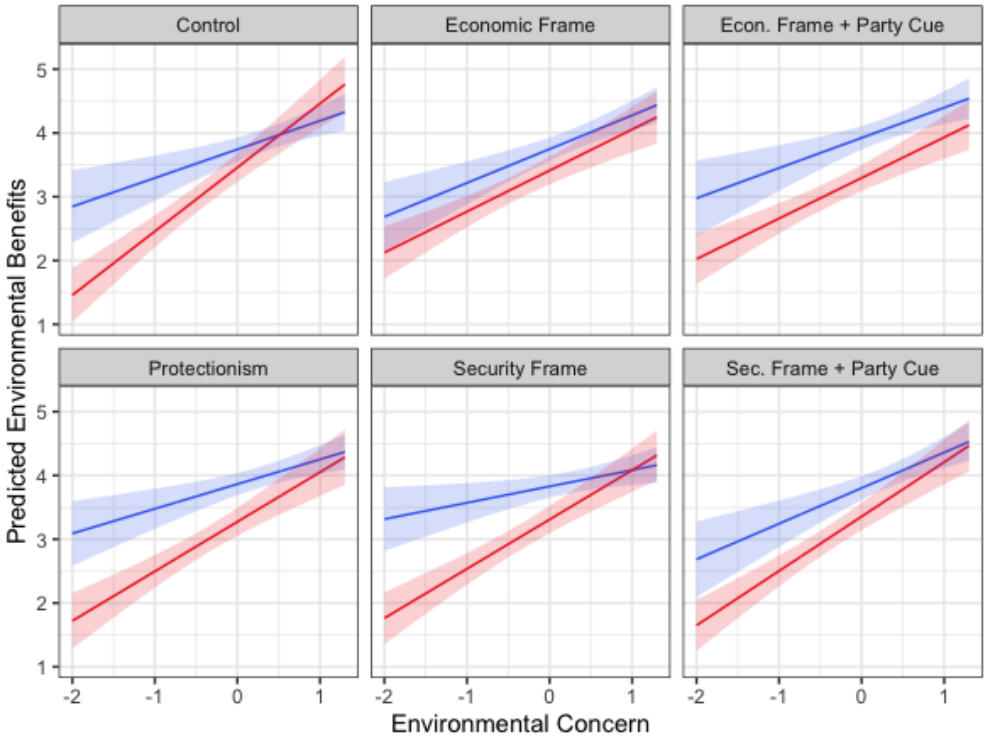


Figure A20: Conditional Effect of Treatment on Env. Concern by Partisanship (Economic Benefits)

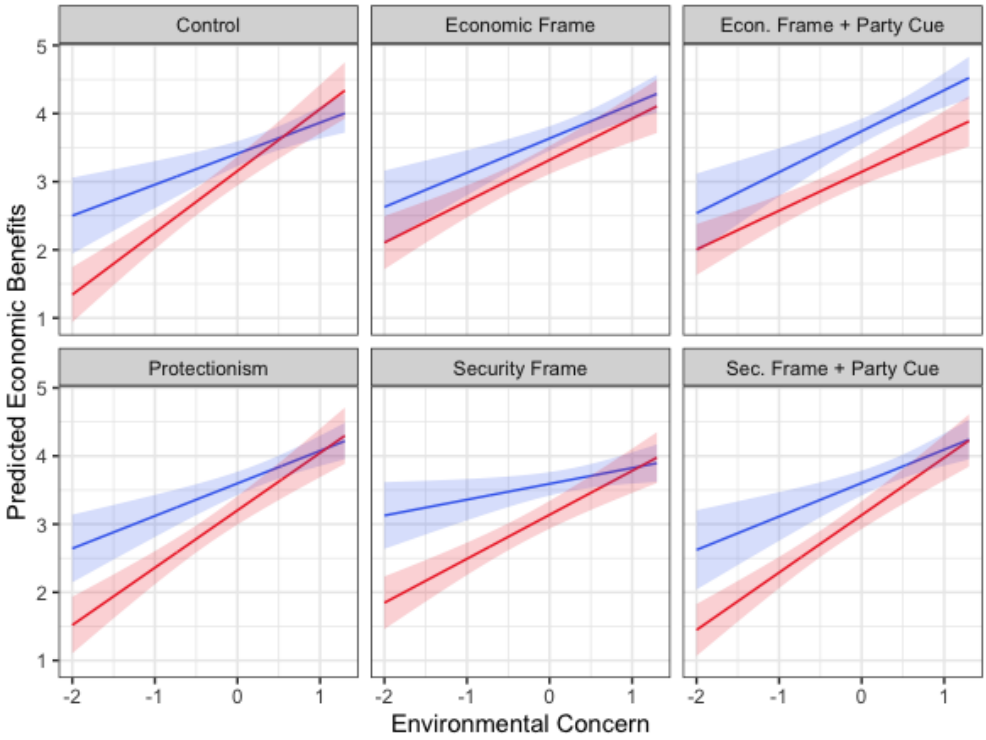
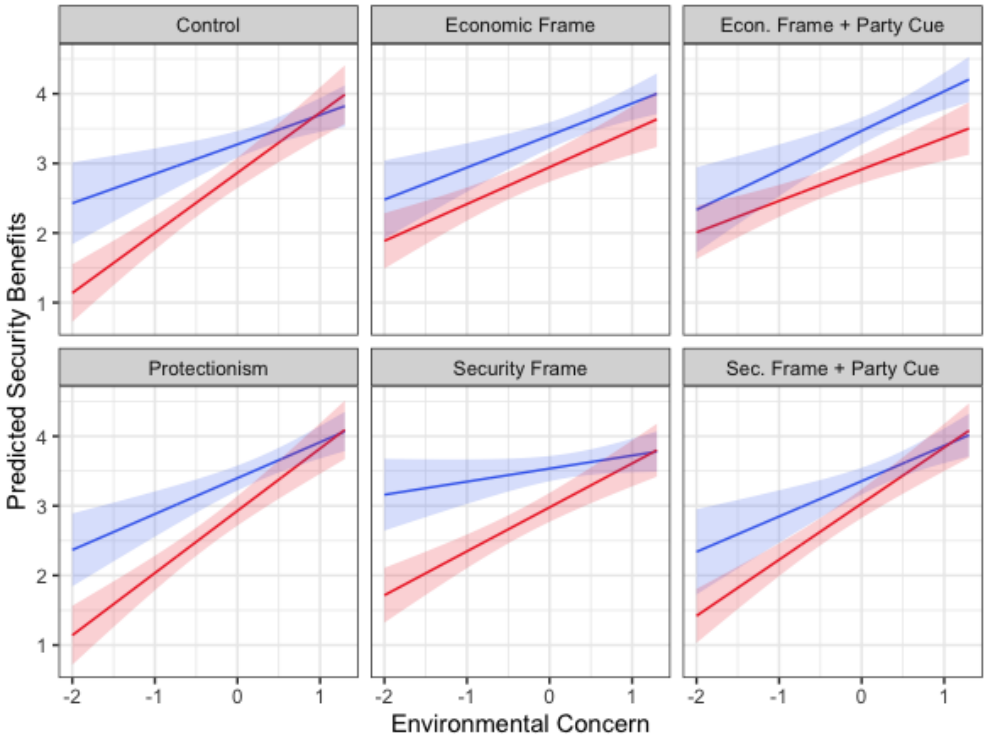


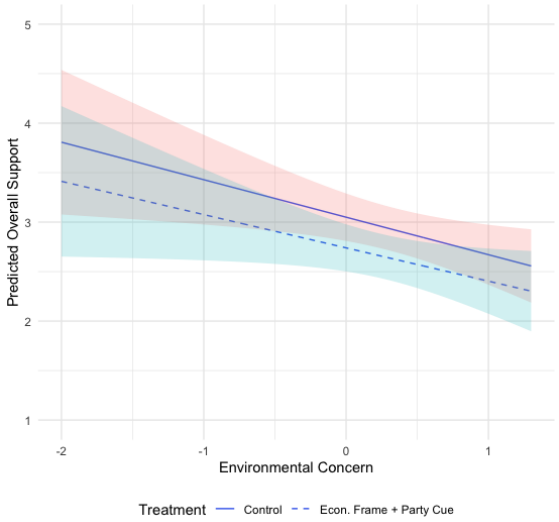
Figure A21: Conditional Effect of Treatment on Env. Concern by Partisanship (Security Benefits)



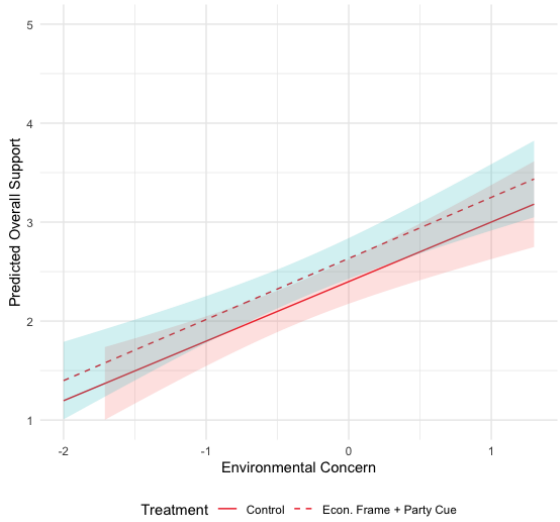
Despite the distinct difference between Democrats and Republicans within treatment groups, the treatment effects within a party group are not statistically significant.

Figure A22: Effects of Env. Concern Conditional by Treatment Groups on Overall Policy Support (Econ. Frame with Party Cue)

(a) Democrats



(b) Republicans



F Conjoint Analysis

To complement my survey experiment, I also conducted a conjoint experiment. The aim was to see if the policy preference translates into consumer preferences. In the field of international political economy, it has been common to use both survey and conjoint experiments to corroborate a theory (e.g., Carnegie and Gaikwad 2022; Schweinberger 2022). Survey experiments have been widely used to explore causal effects, and conjoint designs are useful in exploring multi-dimensional preferences (Bansak, Hainmueller, Hopkins, and Yamamoto 2021*b*; Hainmueller, Hopkins, and Yamamoto 2014). Using a combination of a survey and conjoint experiment has a couple of benefits. First, examining beyond policy preferences helps to increase external validity of the results. The public is rarely asked to choose policies. Rather, ordinary citizens' innate preferences are most relevant when they are faced to make a choice as consumers. Second, it is worth exploring whether one's policy preference corresponds with their consumer choice. It is possible that although one may support climate change legislation in theory, their behavioral choice may be different. The results from the conjoint will disclose whether the subjects prioritize economic aspect or the non-material characteristics such as the domestic manufacturing percentage as a consumer. Thus, the combination of the survey experiment and the conjoint experiment contributes to understanding the multi-facets of attitude towards climate change legislation linked with protectionism.

After my survey experiment, the respondents were asked to evaluate a pair of cars, as if they were to buy a new car. This sequence of questions allows me to see if the treatment effect from the survey experiment can be carried over to the conjoint experiment, where the respondents are asked to make a choice as a consumer. To run and analyze the conjoint experiment, I use the Conjoint Survey Design Tool developed as a companion to Hainmueller, Hopkins, and Yamamoto (2014).

F.1 Research Design of Conjoint analysis

In the conjoint experiment, the subjects were shown a pair of cars with the following characteristics that are randomized: (1) percentage of domestic manufacturing (low, middle, and high), (2) nationality of the car brand (domestic versus foreign), (3) estimated purchase cost (low, medium, and high), and (4) type of the car (electric versus gas-powered). While some point out the risk of satisficing, or the respondents' attenuating attention, with too many attributes or tasks, previous studies have found that the results from conjoint experiments remain fairly stable over a big range of attribute and task numbers (Bansak, Hainmueller, Hopkins, and Yamamoto 2021*a*, 2024). The attributes and levels of attributes were carefully chosen to reflect the reality of current EV market.[28] I purposefully chose not to use real brand names or country names (other than the US), because attitude towards a car brand or a country is too multifaceted. The order of attributes shown to the subjects was randomized.

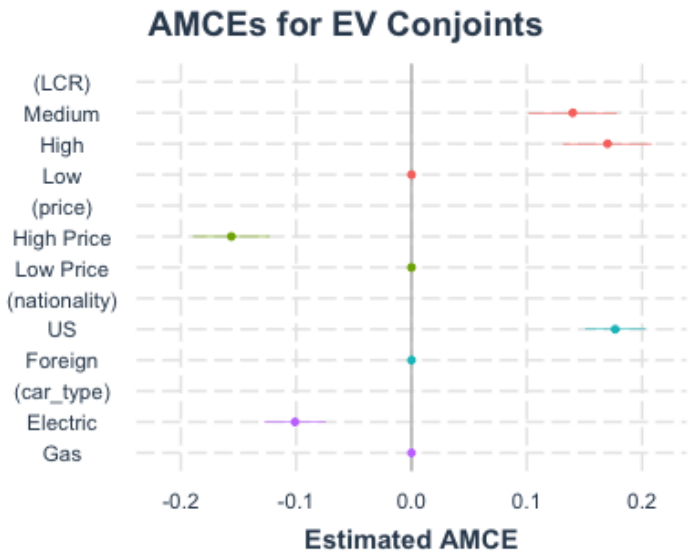
To make sure the reasons for which respondents choose an option over the other, I included an open-ended question directly asking the reasons for their choice. In addition, I use both a forced choice question and individual rating questions to measure the subjects' preferences.

[28] I used a web database of EVs in the US available at `https://evadoption.com/ev-models/bev-models-currently-available-in-the-us/`.

F.2 Results of Conjoint Analysis

Below coefficient plot shows the result of conjoint analysis using all the respondents without breaking them into their treatment groups.

Figure A23: Conjoint Analysis



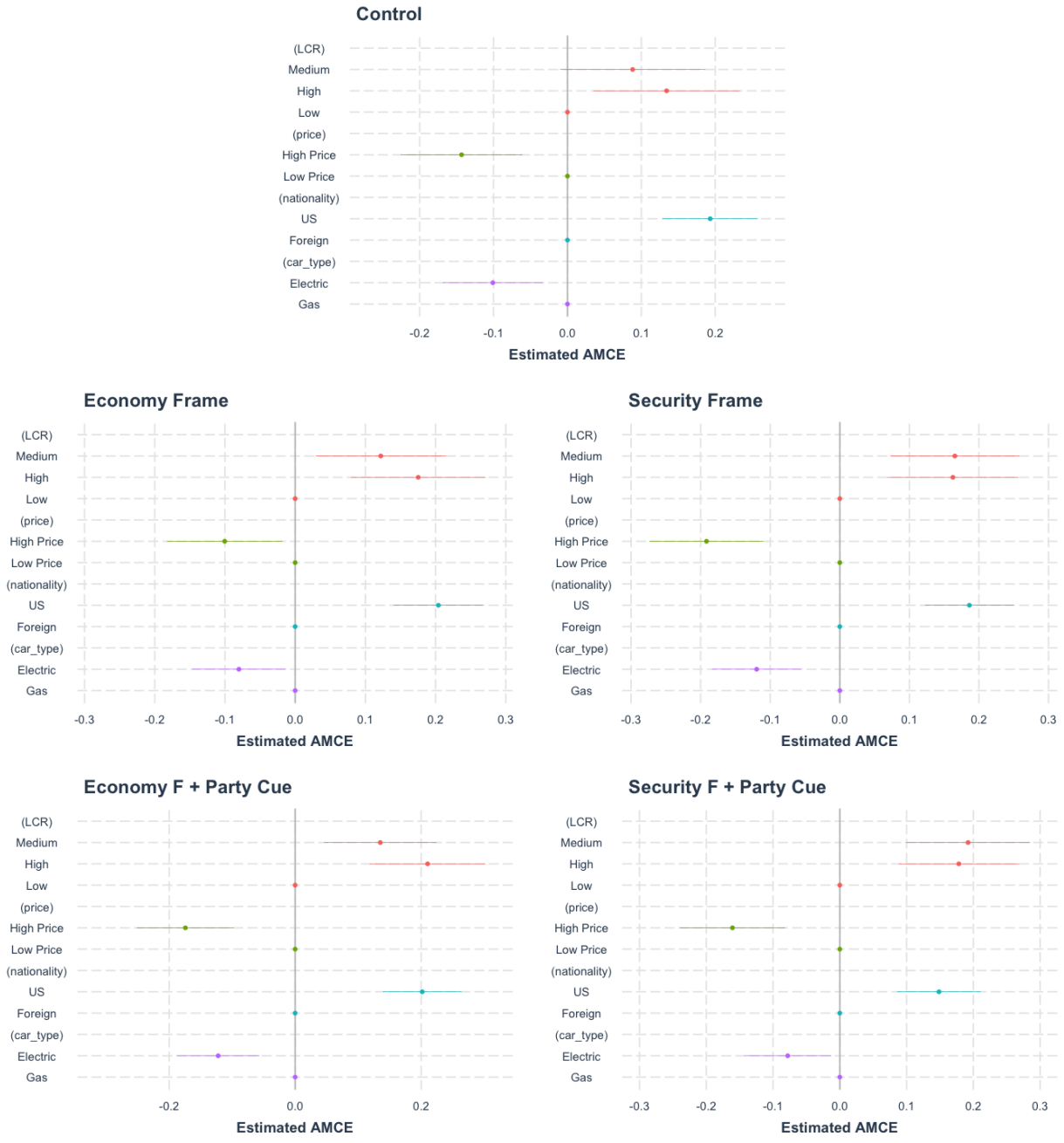
Note: The baseline levels are gas car, low level of local content (LCR), foreign nationality, and low price.

I divide the respondents into the treatment groups and compare the results from the choice based conjoint experiment. Figure A24 shows the average marginal effect of each attribute.

Across all treatment groups, respondents prefer an American gas car with a low price and higher percentage of local manufacture. When I subset the responses to only those who either already own an EV or are likely to buy one within a year, they tend to prefer an EV, but all the other preferences remain similar. The results clearly show that the *nationality* of a car is an important factor when people decide which car to buy.

There is some difference between treatment groups, even though they are not statically significant. The coefficient plots show that when primed with an economic or security frame, the respondents tend to value the amount of local content manufacturing percentage more. In particular, a security frame seems to trigger respondents to think more highly of the percentage of local content manufacturing as much as the brand nationality. However, the treatment do not show much change in how much people care about the nationality. This could be due to a ceiling effect, since the respondents in the control group also seem to prioritize the nationality.

Figure A24: Conjoint Experiment by Treatment Groups



Note: The baseline levels are gas car, low level of local content (LCR), foreign nationality, and low price. The standard errors are clustered by respondents.