SUPPLEMENTARY MATERIAL

Relative Gains in the Shadow of a Trade War

Contents

Appendix A – Experimental Instrument

This section provides the text used in the survey experiment.

Introduction

The following questions are about U.S. economic relations with other countries.

Experimental Treatment

FOR RESPONDENTS RANDOMLY ASSIGNED TO THE "REMOVE" SCENARIO

- Suppose that the U.S. proposes to remove limits on imports against [China / Country X].
- The limits on imports, if removed, will increase both American citizens' welfare and [Chinese / Country X's] citizens' welfare.
- [The gains enjoyed by [Chinese / Country X's] citizens will be significantly greater than the gains enjoyed by American citizens. / NO ADDITIONAL VIGNETTE]

FOR RESPONDENTS RANDOMLY ASSIGNED TO THE "IMPOSE" SCENARIO

- Suppose that the U.S. proposes to impose limits on imports against [China / Country X].
- The limits on imports, if imposed, will increase American citizens' welfare and decrease [Chinese / Country X's] citizens' welfare.
- [The losses suffered by [Chinese / Country X's] citizens will be significantly greater than the gains enjoyed by American citizens. / NO ADDITIONAL VIGNETTE]

Dependent Variable

Do you favor, oppose, or neither favor nor oppose the U.S. [removing / imposing] such limits on imports against [China / Country X]?

- Favor
- Oppose
- Neither favor nor oppose

FOR RESPONDENTS WHO ANSWERED "FAVOR"

Do you favor strongly, or only somewhat?

- Favor strongly
- Favor somewhat

FOR RESPONDENTS WHO ANSWERED "OPPOSE"

Do you oppose strongly, or only somewhat?

- Oppose strongly
- Oppose somewhat

FOR RESPONDENTS WHO ANSWERED "NEITHER FAVOR NOR OPPOSE"

Do you lean toward favoring the proposal, lean toward opposing, or don't you lean either way?

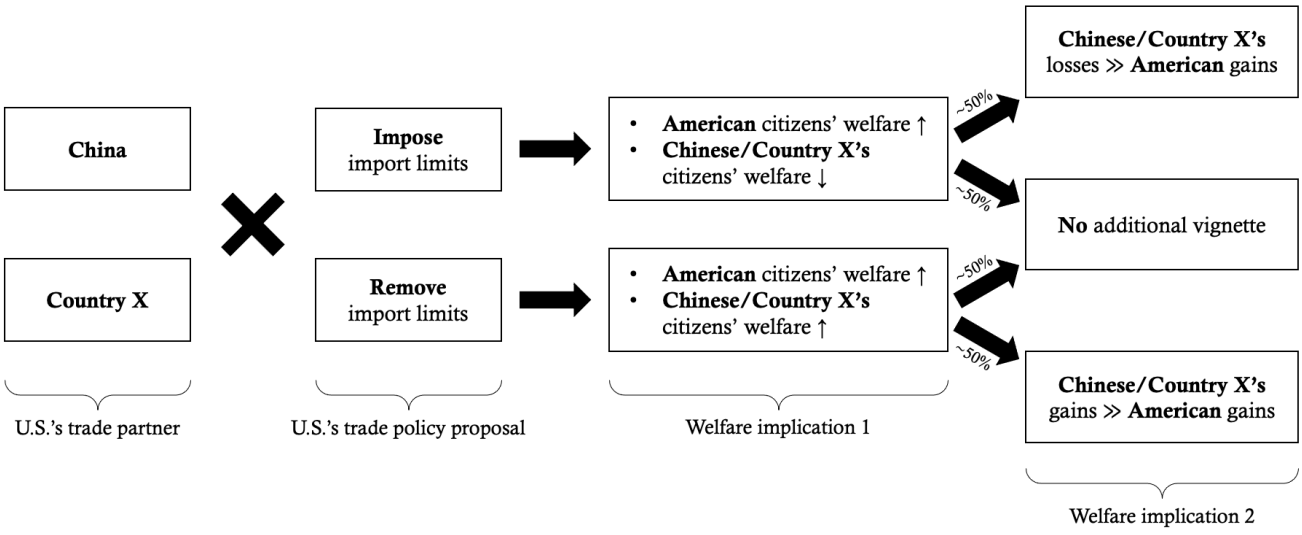
- Lean toward favoring
- Lean toward opposing
- Lean neither way

Open-Response Question

Please tell us briefly why you favor or oppose the proposal.

[END OF THE EXPERIMENT]

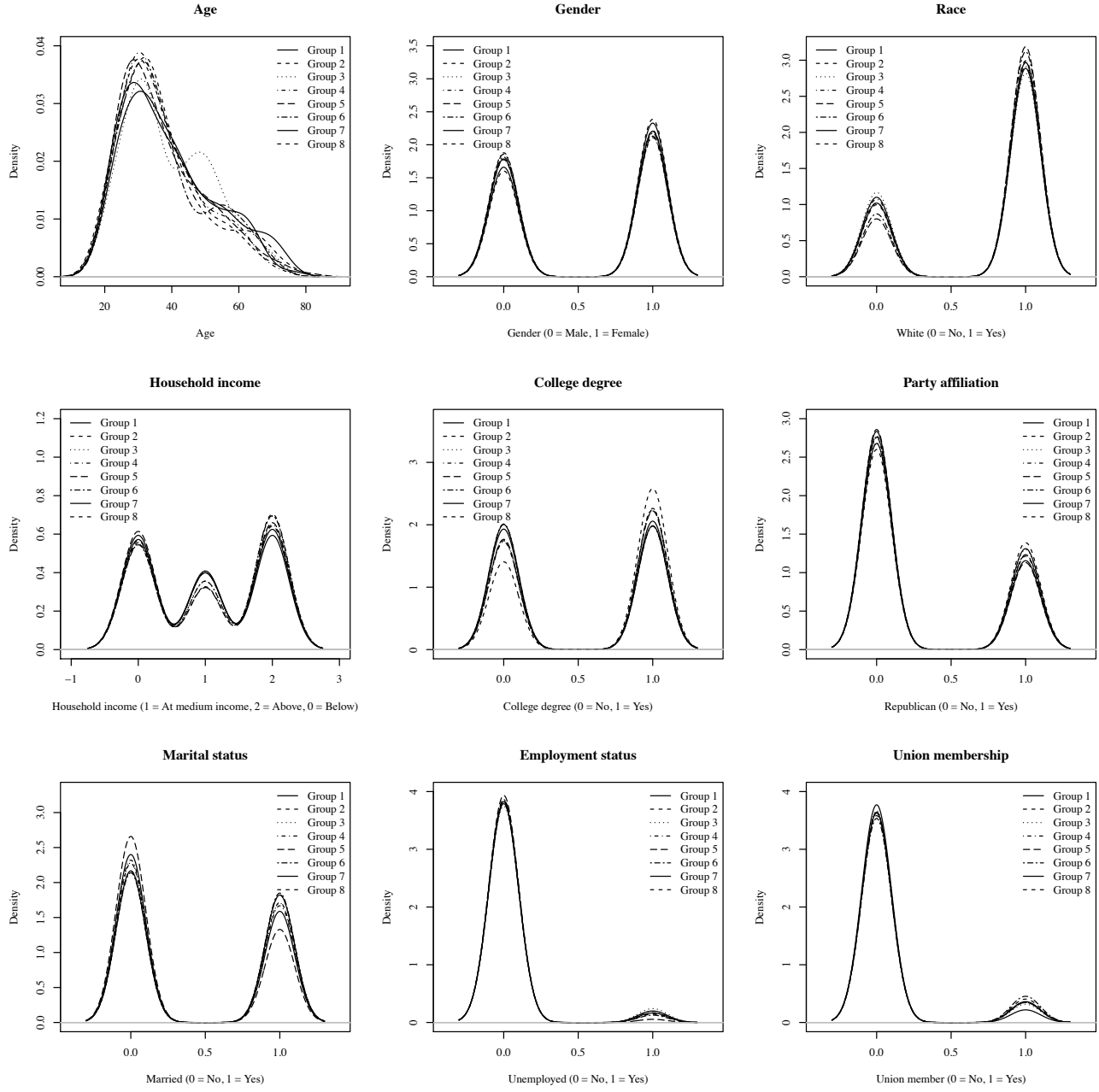
FIGURE A1 Design of Study



Appendix B – Balance on Pre-Treatment Covariates

Figure A2 shows the univariate distributions of different demographic variables across the eight experimental groups. Most of these pre-treatment covariates are balanced across the eight groups, as we would expect from randomization.

FIGURE A2 Univariate Balance on Pre-Treatment Covariates



Note: Gaussian kernels are used for all density estimations.

Appendix C – Ordered Probit Regressions Controlling for Demographic and Attitudinal Variables

TABLE A1 Multivariate Analysis of Support for Removal of Import Limits among Groups with China as the Trade Partner

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
VIGNETTE (1 = additional vignette)	-0.349***	-0.421***	-0.428***	-0.423***	-0.422***	-0.451***
	(0.104)	(0.105)	(0.107)	(0.107)	(0.108)	(0.135)
FEMALE (1 = female)	-0.149		-0.240**	-0.254**	-0.264***	-0.495***
	(0.104)		(0.109)	(0.112)	(0.113)	(0.141)
WHITE (1 = white)	-0.756***		-0.843***	-0.827***	-0.803***	-0.436
	(0.273)		(0.304)	(0.307)	(0.310)	(0.339)
BLACK (1 = black)	-0.540*		-0.840**	-0.827**	-0.776**	-0.366
	(0.317)		(0.347)	(0.351)	(0.355)	(0.393)
HISPANIC (1 = Hispanic)	-0.349		-0.578	-0.569	-0.588	-0.478
	(0.365)		(0.390)	(0.398)	(0.400)	(0.471)
ASIAN (1 = Asian)	-0.278		-0.439	-0.414	-0.429	-0.260
	(0.330)		(0.355)	(0.361)	(0.364)	(0.427)
INCOME		-0.00395	-0.00479	-0.0125	-0.0142	-0.0151
		(0.0167)	(0.0168)	(0.0180)	(0.0182)	(0.0222)
COLLEGE (1 = college graduate)		0.0109	0.0302	0.0431	0.0243	-0.0401
		(0.111)	(0.113)	(0.113)	(0.116)	(0.147)
DEMOCRAT (1 = Democrat)		0.310*	0.364**	0.370**	0.352**	0.127
		(0.161)	(0.166)	(0.167)	(0.169)	(0.215)
REPUBLICAN (1 = Republican)		-0.295*	-0.279	-0.295*	-0.281	-0.127
		(0.171)	(0.174)	(0.175)	(0.181)	(0.224)
AGE			-0.00821*	-0.00914**	-0.00860*	-0.00434
			(0.00432)	(0.00443)	(0.00455)	(0.00564)
MARRIED (1 = married)				0.0742	0.0852	0.0456
				(0.120)	(0.121)	(0.145)
POLITICAL KNOWLEDGE				0.0216	0.0224	0.00253
				(0.0435)	(0.0441)	(0.0534)
UNEMPLOYED (1 = unemployed)					-0.164	-0.213
					(0.251)	(0.327)
UNION MEMBERSHIP (1 = labor union member)					-0.119	-0.252
					(0.181)	(0.201)
COSMOPOLITANISM					0.0517	0.0903
					(0.0588)	(0.0727)
PATRIOTISM					-0.00909	-0.00880
					(0.0299)	(0.0380)
CHAUVINISM					-0.00674	0.110**
					(0.0361)	(0.0466)
NEGATIVE EFFECT OF TRADE ON OWN FAMILY (1 = negative effect)						-0.703***
						(0.203)
PERCEIVED U.S. ECONOMIC SITUATION (4 = got a lot better)						-0.244***
						(0.0699)
PERCEIVED EFFECT OF IMMIGRATION ON U.S. ECONOMY						0.172*
						(0.100)
PERCEIVED EFFECT OF IMMIGRATION ON U.S. CULTURE						0.201**
						(0.0991)
Observations	435	423	423	422	421	295
Pseudo R^2	0.020	0.029	0.046	0.047	0.049	0.093

Note: Dependent variable is support for removal of import limits on a seven-point scale. Responses with the most negative perceived effects of immigration on U.S. economy or culture are coded as 0; the most positive ones are coded as 4. Entries are ordered probit estimates with standard errors in parentheses. Constant cuts are omitted. All significance tests are two-tailed with the following notations: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A2 Multivariate Analysis of Support for Removal of Import Limits among Groups with Country X as the Trade Partner

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
VIGNETTE (1 = additional vignette)	-0.254**	-0.284**	-0.283**	-0.290**	-0.327***	-0.436***
	(0.109)	(0.112)	(0.112)	(0.113)	(0.115)	(0.146)
FEMALE (1 = female)	-0.121		-0.182	-0.177	-0.232*	-0.120
	(0.110)		(0.117)	(0.118)	(0.120)	(0.151)
WHITE (1 = white)	0.0854		0.0245	0.0384	0.0271	0.101
	(0.310)		(0.317)	(0.318)	(0.322)	(0.392)
BLACK (1 = black)	0.0350		-0.0847	-0.0814	-0.0840	-0.246
	(0.354)		(0.361)	(0.363)	(0.370)	(0.467)
HISPANIC (1 = Hispanic)	-0.115		-0.227	-0.214	-0.138	-0.396
	(0.369)		(0.375)	(0.374)	(0.380)	(0.492)
ASIAN (1 = Asian)	-0.0824		-0.240	-0.223	-0.193	-0.258
	(0.358)		(0.364)	(0.367)	(0.371)	(0.452)
INCOME		-0.0169	-0.0140	-0.0113	-0.0101	-0.0304
		(0.0170)	(0.0171)	(0.0185)	(0.0189)	(0.0230)
COLLEGE (1 = college graduate)		0.373***	0.341***	0.340***	0.383***	0.333**
		(0.118)	(0.121)	(0.123)	(0.129)	(0.162)
DEMOCRAT (1 = Democrat)		0.454***	0.501***	0.484***	0.469***	0.487**
		(0.151)	(0.154)	(0.156)	(0.158)	(0.206)
REPUBLICAN (1 = Republican)		-0.0246	-0.0399	-0.0398	0.140	0.264
		(0.162)	(0.165)	(0.166)	(0.174)	(0.220)
AGE			-0.00251	-0.00210	0.0000242	0.00156
			(0.00495)	(0.00516)	(0.00525)	(0.00645)
MARRIED (1 = married)				-0.0806	-0.0236	-0.129
				(0.128)	(0.133)	(0.159)
POLITICAL KNOWLEDGE				0.0109	0.0154	0.106*
				(0.0458)	(0.0466)	(0.0580)
UNEMPLOYED (1 = unemployed)					-0.158	0.0987
					(0.283)	(0.407)
UNION MEMBERSHIP (1 = labor union member)					-0.249	-0.221
					(0.200)	(0.229)
COSMOPOLITANISM					-0.00192	-0.0429
					(0.0622)	(0.0766)
PATRIOTISM					-0.00933	0.0211
					(0.0326)	(0.0401)
CHAUVINISM					-0.0981***	-0.0781*
					(0.0368)	(0.0444)
NEGATIVE EFFECT OF TRADE ON OWN FAMILY (1 = negative effect)						-0.229
						(0.213)
PERCEIVED U.S. ECONOMIC SITUATION (4 = got a lot better)						0.0402
						(0.0823)
PERCEIVED EFFECT OF IMMIGRATION ON U.S. ECONOMY						-0.00522
						(0.0953)
PERCEIVED EFFECT OF IMMIGRATION ON U.S. CULTURE						0.136
						(0.0929)
Observations	415	408	408	407	407	286
Pseudo R^2	0.007	0.031	0.035	0.035	0.049	0.060

Note: Dependent variable is support for removal of import limits on a seven-point scale. Responses with the most negative perceived effects of immigration on U.S. economy or culture are coded as 0; the most positive ones are coded as 4. Entries are ordered probit estimates with standard errors in parentheses. Constant cuts are omitted. All significance tests are two-tailed with the following notations: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A3 Multivariate Analysis of Support for Imposition of Import Limits among Groups with China as the Trade Partner

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
VIGNETTE (1 = additional vignette)	-0.287***	-0.242**	-0.235**	-0.238**	-0.266**	-0.222*
	(0.101)	(0.103)	(0.104)	(0.105)	(0.106)	(0.132)
FEMALE (1 = female)	-0.0811		-0.0730	-0.0780	-0.0618	0.0839
	(0.102)		(0.105)	(0.107)	(0.108)	(0.141)
WHITE (1 = white)	-0.0457		-0.186	-0.189	-0.304	-0.643
	(0.303)		(0.307)	(0.308)	(0.313)	(0.391)
BLACK (1 = black)	-0.556		-0.516	-0.523	-0.658*	-0.917**
	(0.346)		(0.352)	(0.352)	(0.359)	(0.440)
HISPANIC (1 = Hispanic)	-0.247		-0.210	-0.216	-0.507	-0.950*
	(0.385)		(0.392)	(0.392)	(0.402)	(0.485)
ASIAN (1 = Asian)	0.172		0.220	0.226	0.00516	-0.339
	(0.349)		(0.354)	(0.355)	(0.359)	(0.434)
INCOME		0.0310*	0.0288*	0.0317*	0.0340*	0.0423*
		(0.0166)	(0.0167)	(0.0189)	(0.0194)	(0.0235)
COLLEGE (1 = college graduate)		-0.0299	-0.0694	-0.0717	-0.132	-0.0604
		(0.113)	(0.115)	(0.116)	(0.119)	(0.146)
DEMOCRAT (1 = Democrat)		-0.331**	-0.318**	-0.317**	-0.276*	-0.323
		(0.152)	(0.153)	(0.153)	(0.154)	(0.197)
REPUBLICAN (1 = Republican)		0.520***	0.484***	0.485***	0.299*	0.0733
		(0.168)	(0.170)	(0.170)	(0.175)	(0.227)
AGE			0.00899**	0.00951**	0.00576	0.00314
			(0.00405)	(0.00423)	(0.00437)	(0.00568)
MARRIED (1 = married)				-0.0398	-0.0819	-0.233
				(0.126)	(0.128)	(0.159)
POLITICAL KNOWLEDGE				-0.0123	-0.0154	-0.0188
				(0.0425)	(0.0432)	(0.0525)
UNEMPLOYED (1 = unemployed)					0.264	0.601
					(0.337)	(0.428)
UNION MEMBERSHIP (1 = labor union member)					0.0191	0.156
					(0.212)	(0.255)
COSMOPOLITANISM					0.0510	0.105
					(0.0554)	(0.0672)
PATRIOTISM					0.0932***	0.109***
					(0.0298)	(0.0384)
CHAUVINISM					0.0376	-0.0289
					(0.0384)	(0.0489)
NEGATIVE EFFECT OF TRADE ON OWN FAMILY (1 = negative effect)						0.558***
						(0.207)
PERCEIVED U.S. ECONOMIC SITUATION (4 = got a lot better)						0.0909
						(0.0759)
PERCEIVED EFFECT OF IMMIGRATION ON U.S. ECONOMY						-0.0559
						(0.0980)
PERCEIVED EFFECT OF IMMIGRATION ON U.S. CULTURE						-0.231**
						(0.101)
Observations	438	425	425	425	425	289
Pseudo R^2	0.011	0.041	0.049	0.049	0.068	0.091

Note: Dependent variable is support for imposition of import limits on a seven-point scale. Responses with the most negative perceived effects of immigration on U.S. economy or culture are coded as 0; the most positive ones are coded as 4. Entries are ordered probit estimates with standard errors in parentheses. Constant cuts are omitted. All significance tests are two-tailed with the following notations: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE A4 Multivariate Analysis of Support for Imposition of Import Limits among Groups with Country X as the Trade Partner

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
VIGNETTE (1 = additional vignette)	-0.378***	-0.367***	-0.370***	-0.378***	-0.399***	-0.391***
	(0.0997)	(0.101)	(0.102)	(0.102)	(0.103)	(0.132)
FEMALE (1 = female)	-0.129		-0.0976	-0.101	-0.0545	-0.00488
	(0.101)		(0.104)	(0.106)	(0.108)	(0.142)
WHITE (1 = white)	0.407		0.436	0.441	0.663**	0.587
	(0.281)		(0.310)	(0.310)	(0.315)	(0.440)
BLACK (1 = black)	0.0149		0.244	0.251	0.290	0.170
	(0.318)		(0.345)	(0.345)	(0.349)	(0.485)
HISPANIC (1 = Hispanic)	0.0141		0.00773	0.00615	0.111	0.268
	(0.338)		(0.365)	(0.365)	(0.373)	(0.492)
ASIAN (1 = Asian)	0.257		0.288	0.283	0.529	0.255
	(0.333)		(0.360)	(0.360)	(0.370)	(0.499)
INCOME		0.00224	0.00344	0.00303	0.00557	0.0168
		(0.0158)	(0.0158)	(0.0168)	(0.0171)	(0.0227)
COLLEGE (1 = college graduate)		0.0368	0.0106	0.0163	-0.0139	-0.122
		(0.106)	(0.108)	(0.108)	(0.114)	(0.148)
DEMOCRAT (1 = Democrat)		-0.403**	-0.389**	-0.389**	-0.397**	-0.267
		(0.161)	(0.162)	(0.163)	(0.164)	(0.212)
REPUBLICAN (1 = Republican)		0.465***	0.437**	0.451***	0.141	-0.00376
		(0.173)	(0.174)	(0.175)	(0.183)	(0.235)
AGE			0.00814**	0.00782*	0.00626	0.0118**
			(0.00398)	(0.00416)	(0.00426)	(0.00564)
MARRIED (1 = married)				-0.00830	-0.147	-0.123
				(0.113)	(0.115)	(0.148)
POLITICAL KNOWLEDGE				0.00854	-0.00370	-0.0261
				(0.0420)	(0.0426)	(0.0534)
UNEMPLOYED (1 = unemployed)					0.269	0.468
					(0.285)	(0.451)
UNION MEMBERSHIP (1 = labor union member)					0.267	0.654***
					(0.183)	(0.231)
COSMOPOLITANISM					0.0297	0.122*
					(0.0570)	(0.0739)
PATRIOTISM					0.0161	-0.00942
					(0.0290)	(0.0365)
CHAUVINISM					0.167***	0.157***
					(0.0361)	(0.0444)
NEGATIVE EFFECT OF TRADE ON OWN FAMILY (1 = negative effect)						0.0653
						(0.199)
PERCEIVED U.S. ECONOMIC SITUATION (4 = got a lot better)						0.107
						(0.0783)
PERCEIVED EFFECT OF IMMIGRATION ON U.S. ECONOMY						0.00453
						(0.0991)
PERCEIVED EFFECT OF IMMIGRATION ON U.S. CULTURE						-0.113
						(0.0942)
Observations	445	435	435	433	433	277
Pseudo R^2	0.016	0.045	0.053	0.054	0.085	0.076

Note: Dependent variable is support for imposition of import limits on a seven-point scale. Responses with the most negative perceived effects of immigration on U.S. economy or culture are coded as 0; the most positive ones are coded as 4. Entries are ordered probit estimates with standard errors in parentheses. Constant cuts are omitted. All significance tests are two-tailed with the following notations: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix D – Subset Analysis by Nationalism, Hawkishness, and Risk Preference

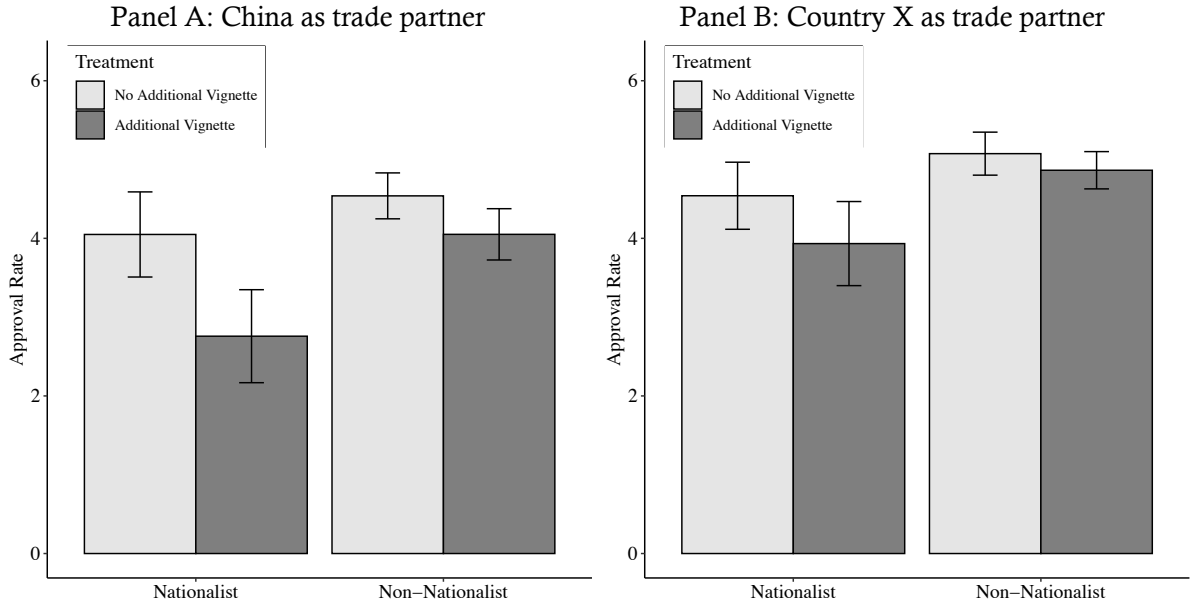
We first subset our data by *nationalism*. The subset analysis by nationalism in the main text (Figures 2 and 3) is based on three quarters of our sample[1] which received the following question: "Everyone should support their country even when it is wrong." Those who strongly or somewhat agreed with the statement are coded as "nationalists." We also conduct a subset analysis by *hawkishness*. To operationalize hawkishness, we use the following question: "The United States must demonstrate its resolve so that others do not take advantage of it."[2] The available answer options range from 1 ("Strongly Disagree") to 7 ("Strongly Agree"). We classify our respondents as "hawks" if they chose 5/6/7 in their response, and "doves" if they answered 1/2/3/4. Finally, we subset our data by *risk preference*. We use the following question to measure an individual's risk preference: "Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?"[3] The available answer options range from 0 ("not at all willing to take risks") to 10 ("very willing to take risks"). In our coding, respondents are "risk-averse" if they chose 0/1/2/3, "risk-neutral" if they selected 4/5/6, and "risk-seeking" if they answered 7/8/9/10.

Figures A5 and A6 show the results of the subset analysis by hawkishness. The empirical patterns are similar to the ones observed from the subset analysis by nationalism: hawks behave like nationalists and doves behave like non-nationalists. Specifically, hawks' support for the win-lose trade policy is generally high, and their decrease in support for the policy is not very sensitive to the additional vignette. Their support for the win-win trade policy, on the other hand, is generally lower than doves', especially when they were informed about the relative losses to the U.S. by the additional vignette.

We now present the results of the subset analysis by risk preference. The purpose is to investigate whether there is prima facie evidence that the average treatment effects found in the win-lose scenario are driven by fears of a trade war—a self-serving rather than other-regarding consideration. If this were the case, we would expect that risk-averse respondents—who are more likely to fear retaliation—to be more opposed to the trade policy in the win-lose scenario when given the additional vignette. Figure A7 shows the results. We find no evidence that risk-averse respondents are systematically more opposed to the policy in the win-lose scenario when given the additional vignette.

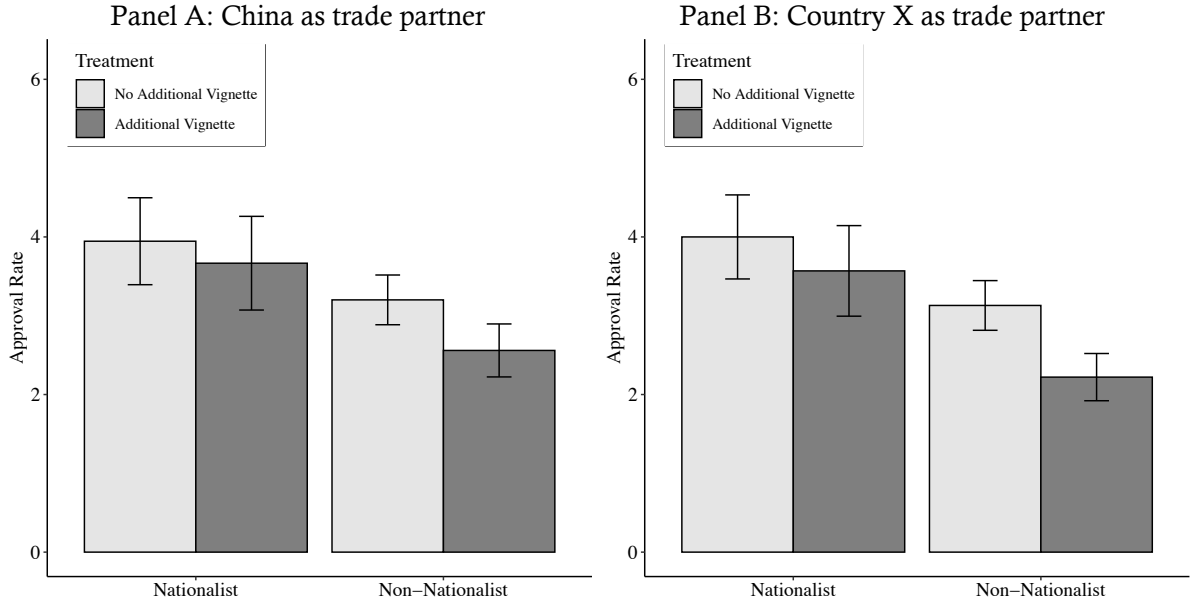
[1] The remaining (randomized) quarter of the sample received the same question in a different module in the survey. The results based on the full sample are displayed in Figures A3 and A4, which are nearly identical to Figures 2 and 3 in the main text.
[2] See, for example, Rathbun et al. (2016), which used a similar question.
[3] Dohmen et al. (2011) validated this survey measure with an incentive-compatible field experiment, showing that it is a reliable and robust predictor of actual risk-taking behavior with financial stakes.

FIGURE A3 Approval Rate of Removal of Import Limits by Nationalism—Full Sample



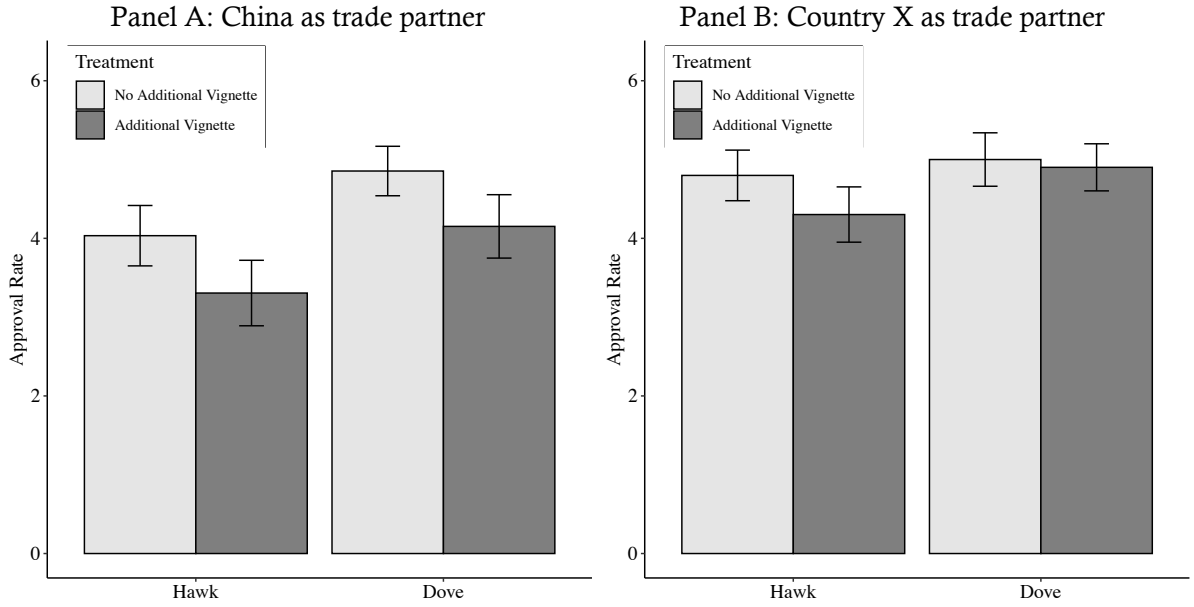
Note: The additional vignette displays that the gains enjoyed by Chinese or Country X's citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

FIGURE A4 Approval Rate of Imposition of Import Limits by Nationalism—Full Sample



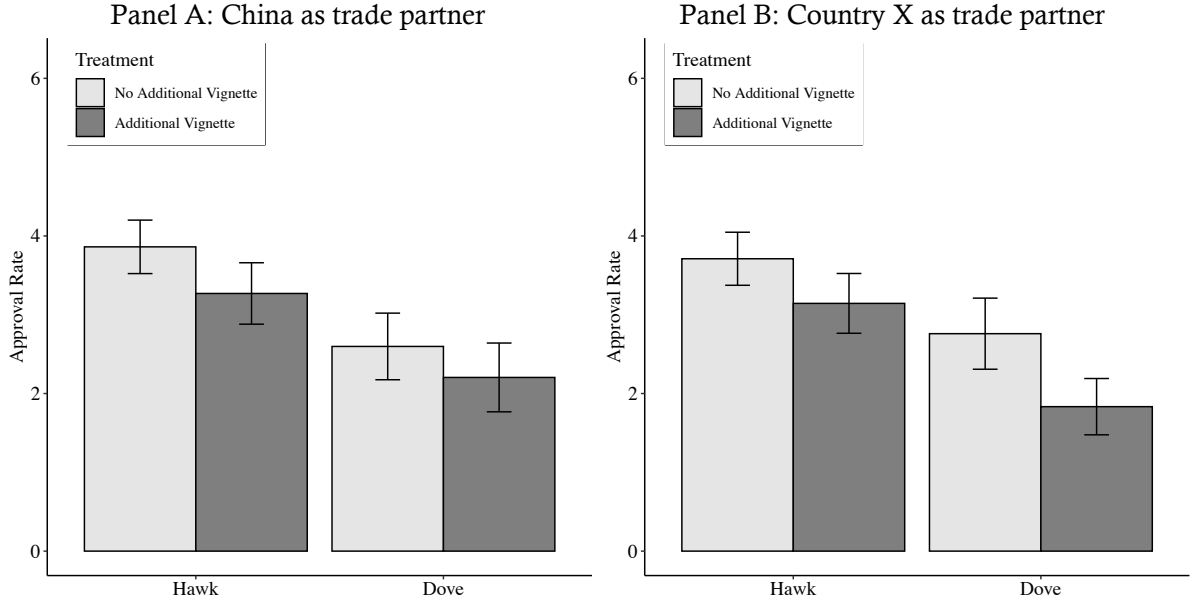
Note: The additional vignette displays that the losses suffered by Chinese or Country X's citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

FIGURE A5 Approval Rate of Removal of Import Limits by Hawkishness



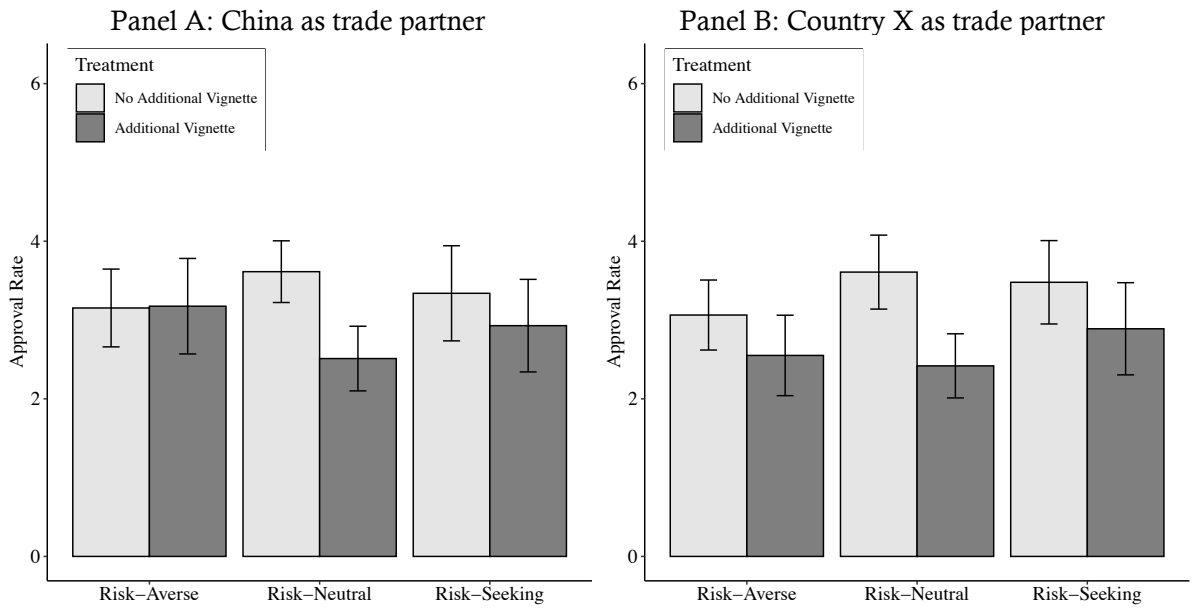
Note: The additional vignette displays that the gains enjoyed by Chinese or Country X's citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

FIGURE A6 Approval Rate of Imposition of Import Limits by Hawkishness



Note: The additional vignette displays that the losses suffered by Chinese or Country X's citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

FIGURE A7 Approval Rate of Imposition of Import Limits by Risk Preference



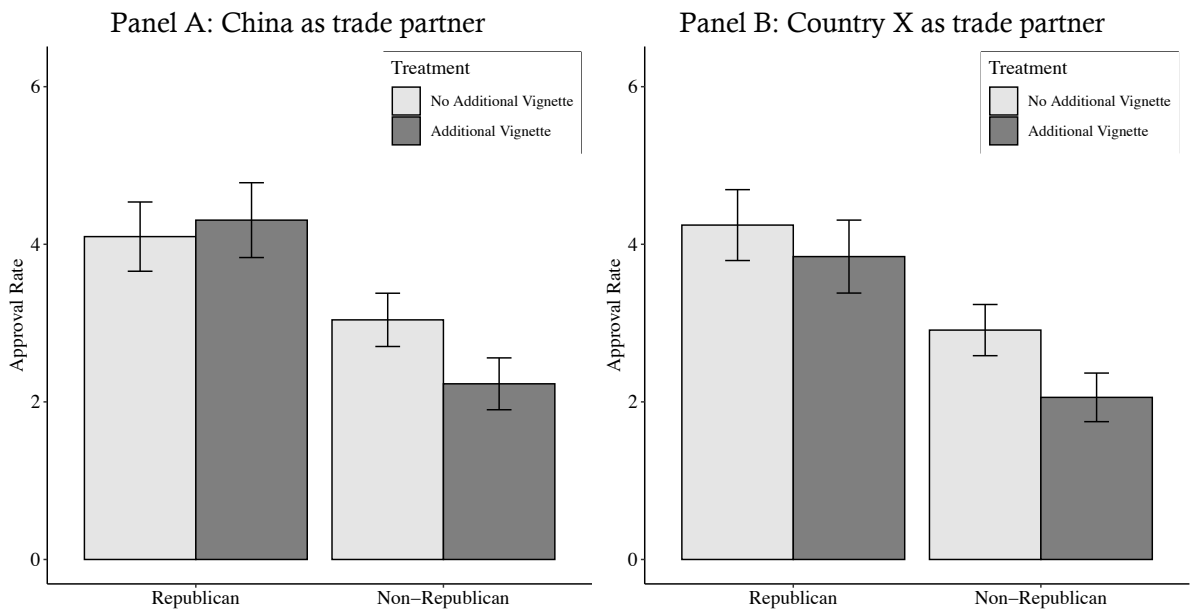
Note: The additional vignette displays that the losses suffered by Chinese or Country X's citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

Appendix E – Do Republicans Respond Differently?

This section explores the heterogeneous treatment effects on Republicans. A substantial body of literature suggests that Democrats and Republicans are fundamentally different in terms of nationalism, social dominance orientation, and their general evaluative processes (see, e.g., Mutz, Mansfield, and Kim 2021; Schreiber et al. 2013). It is also known that liberals and conservatives differ in their moral foundations, such that liberals tend to rely on the harm/care and fairness/reciprocity foundations in their moral judgments, whereas conservatives are more affected by the ingroup/loyalty, authority/respect, and purity/sanctity foundations (Graham, Haidt, and Nosek 2009). This distinction is especially salient in an ingroup-versus-outgroup context (Stewart and Morris 2021). Indeed, "IR scholars have found that Republicans and Democrats tend to conduct systematically different types of foreign policies" due to the different values they emphasize, such as equality which is more valued by Democrats (Powers et al. 2021, 22). In the same vein, many trade opinion studies have also documented heterogeneous effects on Republicans (e.g., Bush and Prather 2020; Guisinger 2017; Mutz and Kim 2017).

Extending from previous work, we find that Republicans are more likely to value relative gains in trade (Figure A8). For non-Republicans in the win-lose scenario, relative-gains considerations appear to be offset by other-regarding considerations—in line with the results presented in the main text (Table 2). Their support for the policy decreased by 0.812 when China was the trade partner (p = 0.0008, n = 304) and by 0.854 when Country X was the trade partner (p = 0.0002, n = 303).

FIGURE A8 Approval Rate of Imposition of Import Limits by Party Identification



Note: The additional vignette displays that the losses suffered by Chinese or Country X's citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

Such decreases, however, are not found among Republicans reacting to the same policy. Their support for the policy increased by 0.209 when China was the trade partner ($p = 0.5195$, $n = 134$), and decreased by only 0.400 when Country X was the trade partner ($p = 0.2220$, $n = 142$), indicating that Republicans value relative gains in trade more than non-Republicans do.

To probe further, we use a structural topic model (STM) (Roberts, Stewart, and Tingley 2019; Roberts et al. 2014) to analyze the open-ended responses from the two groups assigned to the win-lose trade policy toward China. Structural topic modeling is a semi-automated content analysis technique that uses machine learning algorithms to generate statistical topic models. In our application, it organizes the words from the open-ended responses by topic, and such categorization is based on the co-occurrence of vocabulary shown between the open-ended responses. Intuitively, an STM is estimated when cohesiveness (i.e., the degree to which frequent words for the topic co-occur within the open-ended responses in that topic) and exclusivity (i.e., the degree to which frequent words for that topic does not appear within the open-ended responses in other topics) are maximized. Specifically, the estimation is done with a generalized linear model, which allows analysts to incorporate additional information on the open-ended responses, including the subjects' demographics and their treatment status (Roberts, Stewart, and Airoldi 2016). This results in a model where each open response is a "mixture of topics" (Roberts et al. 2014, 1067).

STM offers two main advantages in our application. First, it supplements our hand-coded and dictionary-based content analyses. An unsupervised method, STM "allows the researcher to *discover* topics from the data, rather than assume them" (Roberts et al. 2014, 1066). It thus helps to cross-validate our findings from the hand-coded and dictionary-based content analyses, which are more susceptible to researcher bias. Second, it has methodological advantages over other conventional topic modeling methods such as Latent Dirichlet Allocation. It allows us to incorporate information on the treatment status and party identification when structuring the topics. Thus, it enables us to systematically analyze how topic prevalence varies heterogeneously between Democrats and Republicans across the experimental groups.[4]

To estimate the STM, we use a dummy variable for the treatment condition, a five-point variable for party identification,[5] and an interaction term between treatment condition and party identification as covariates. In order to address the multimodal estimation problem, we deploy spectral initialization for our model

[4] See Roberts et al. (2014) for more details on the application and advantages of structural topic modeling in analyzing heterogeneous treatment effects in survey experiments.

[5] The party identification variable ranges from 0 (strong Democrat) to 4 (strong Republican). Subjects who identified themselves as strong Democrats or Republicans are respectively coded with 0 or 4; those who identified themselves as not very strong Democrats or Republicans are respectively coded with 1 or 3; those who did not consider themselves as Democrats or Republicans but later claimed that they were closer to the Democratic or Republican Party are respectively coded with 1 or 3 as well; and those who did not consider themselves as Democrats or Republicans and later claimed that they were closer to neither party are coded with 2.

selection (Roberts, Stewart, and Tingley 2016). Before analyzing the open-ended text responses, we manually removed a few invalid responses. Removing these responses was necessary because including them would distort the topic learning process and, consequently, reduce the accuracy of topic estimation. Below are all manually removed responses:

- *not a big issue*
- *very usefull*
- *No particular reason.*
- *I don't lean either way.*
- *It seems arbitrary*
- *Not sure*
- *por no esta bien*
- *will not change much.*
- *I am neutral*
- *I picked neutral because*
- *idk*
- *I am not too sure*
- *I am just in between opinions.*
- *don't care*
- *i don't know*

We then estimate a five-topic STM.[6] Table A5 presents the top words and theme for each topic, and Table A6 presents representative responses from each topic. Topics 3 and 4, for example, show respondents expressing their other-regarding concerns in general or—more specifically—concerns about China/Chinese when they explained their views on the win-lose trade policy toward China. But Topic 5—on the theme of "nation comes first"—reveals that other respondents focused on their own country's interest when explaining their support for the win-lose trade policy. Representative responses include "We need to look out for ourselves more instead of allowing other countries to take advantage of us," "As a country we must look out for our interests first and foremost," and "We need to put America first."[7] We will focus on Topic 5 first, before turning to the other topics later.

TABLE A5 Top Words and Theme for Each Topic

Topic	Top Words	Theme
Topic 1	help, unit, china, deal, think, econom*, import	Views on China and its imports
Topic 2	like, thing, caus*, live, price, consequ*, global	Detailed descriptions and/or analysis of current U.S. trade situation
Topic 3	welfar*, oppos*, better, free, see, group, trade	General other-regarding concerns
Topic 4	chines*, take, care, suffer, gain, decis*, seem	Care for China/Chinese
Topic 5	need, one, best, come, usa, look, way	Nation comes first

Note: Top words are calculated based on simplified frequency-exclusivity scoring (Roberts et al. 2013). The themes are jointly determined by the top words and representative responses from each topic.

[6] We have also estimated the STM with four and six topics. The five-topic model appears to work best because its topics are more readily identifiable compared to those derived from the four- and six-topic models.

[7] In some cases, STM's classification of text may contain noise such that some responses are categorized into a topic that does not precisely fit our interpretation. One such example for Topic 5 is "Trade agreements can ebb and flow, but must ultimately come back to the middle. Avoiding continuation of benefits to one country even after the agreement has served its purpose."

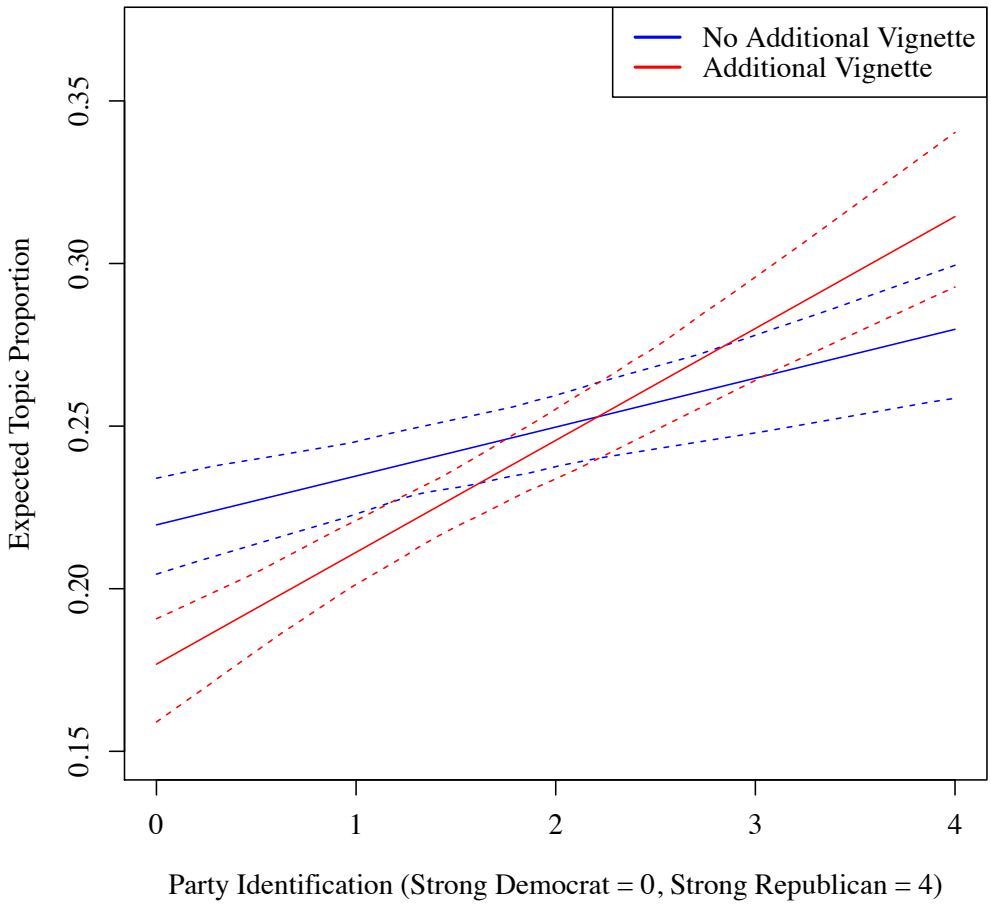
TABLE A6 Representative Responses from Each Topic

Topic and Theme	Representative Responses
Topic 1 (views on China and its imports)	• *Because we already have to* [sic] *much cheap china stuff in this country so if we don't let some come in it sure won't hurt anything* • *I think that imports from China help the businesses on US soil* • *We import too much from China and need to stop.*
Topic 2 (detailed descriptions and/or analysis of current U.S. trade situation)	• *China is a big player in the world economy. The US depends on many imports from China because of the lower prices to consumers. Cutting off imports may mean resorting to importing goods from a different country at a higher price.* • *China would most likely retaliate with increases on taxes for imports and exports to the US. This would cause the prices in the US to increase. Since the US imports much more from China then the opposite, this will cause much higher effects in the US.* • *There are so many people without jobs in the US. The lack of imports could mean new manufacturing jobs in the US.* […] *the Chinese would still be okay without an American market.*
Topic 3 (general other-regarding concerns)	• *I oppose this action because raising the welfare of one group while severely diminishing that of another is not something I would be comfortable with knowing about.* • *I feel we should advocate for our country. I also feel we should care about other nations* [sic] *welfare. All human beings have equal value.* • *I agree somewhat because it betters our country but saddened that it will worsen another country*
Topic 4 (care for China/Chinese)	• *The losses suffered by the chinese are worse than the gains by americans* • *The slight gain doesn't seem fair given the larger suffering.* • *Someone suffers regardless of the decision, I cannot make a fair decision.*
Topic 5 (nation comes first)	• *We need to look out for ourselves more instead of allowing other countries to take advantage of us* • *As a country we must look out for our interests first and foremost* • *We need to put America first*

We zero in on the heterogeneity between Democrats and Republicans in the two groups assigned to the win-lose trade policy. Recall that those who received the additional vignette in this scenario learned that Chinese losses would outweigh American gains. Figure A9 shows that, in the absence of the additional vignette, Democrats' and Republicans' tendencies to use the notion of "nation comes first" to explain their support for the trade policy were not that different. However, when the additional vignette was presented, strong Republicans became more likely to use "nation comes first" to explain their trade preferences, while strong Democrats became less likely to use it to justify their views. This finding from the open-ended responses further suggests that Republicans value relative gains in trade more than Democrats do.

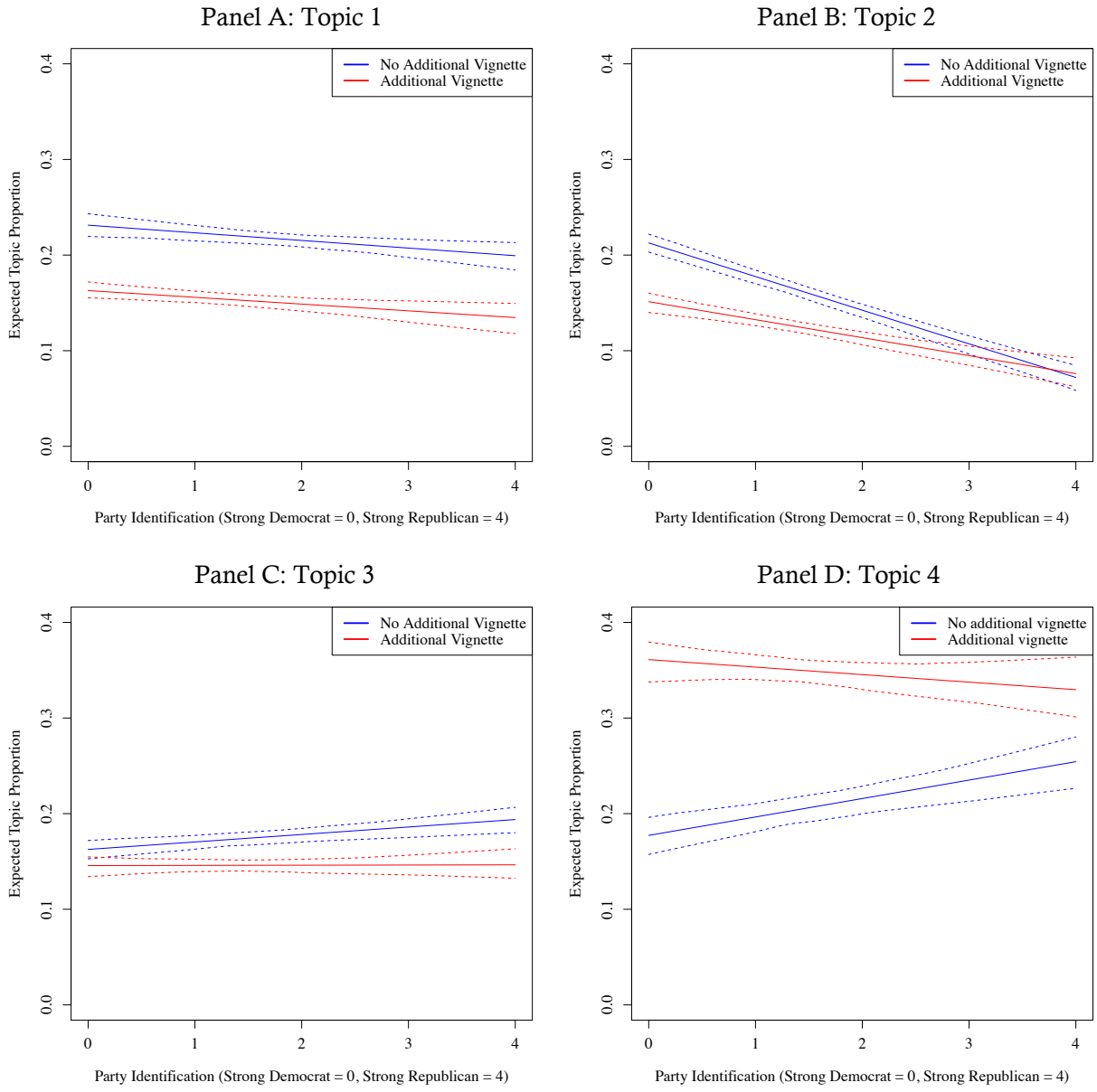
Figure A10 shows our analyses for Topics 1 to 4. As illustrated, there is no obvious heterogeneity between Democrats and Republicans in each of Topics 1 to 4. While the frequency of responses focusing on Topic 3 did not differ much across the experimental groups, responses focusing on Topic 4—which we interpreted as "care for China/Chinese"—became substantially more prevalent in the treatment group (where respondents were informed that Chinese losses would outweigh American gains). This observation, consistent with the ones from hand-coded and dictionary-based content analyses, suggests further evidence that our results in the "impose" scenario were driven by other-regarding concerns.

FIGURE A9 Party Identification, Treatment, and Expected Topic Proportions in Topic 5



Note: The additional vignette displays that the losses suffered by Chinese citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

FIGURE A10 Party Identification, Treatment, and Expected Topic Proportions in Topics 1 to 4



Note: The additional vignette displays that the losses suffered by Chinese citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

Appendix F – Dictionary-Based Content Analysis of Open-Ended Responses

We also conduct dictionary-based content analysis to supplement the hand-coded content analysis in the main text. We use the word counting method—a reproducible, top-down dictionary-based approach (Rocklage and Rucker 2019)—with two different pre-defined dictionaries to track the presence of other-regarding and self-serving words in each open-ended response in the win-lose scenario.

Our first set of dictionary-based content analysis is based on our own pre-created dictionary. We created specifically a dictionary for our topic of interest based on a careful reading of the open-ended responses.[8] The dictionary—which we believe is of higher face validity and is made available here for transparency—is shown in Table A7. Using this dictionary, we analyze the open responses based on the following steps:

1. First, we remove open-ended responses that are non-interpretable.[9]
2. Then, we use the R package *quanteda* for text pre-processing.
3. Subsequently, we conduct the word counting in R, classifying a response as "other-regarding" if it contains any **one** of the word stems from the "other-regarding" dictionary.
4. Similarly, we classify a response as "self-serving" if it contains any **one** of the word stems from the "self-serving" dictionary.

Steps 3 and 4 imply that it is possible that a response is classified as both "other-regarding" and "self-serving," or neither. This coding scheme is consistent with our hand-coded analysis, where some responses were also classified as both "other-regarding" and "self-serving."

TABLE A7 Our Dictionary

Category	Words in the Dictionary
Other-regarding preference	harm*, hurt*, selfish, equal*, other*, human*, inhuman*, wrong, incorrect, suffer*, equit*, unfair*, expense*, unethic*, inapprop*, moral*, unscrupl*, miser*, harsh, unnecessar*
Self-serving preference	job*, help*, econom*, protect, first, priorit*, regain, own

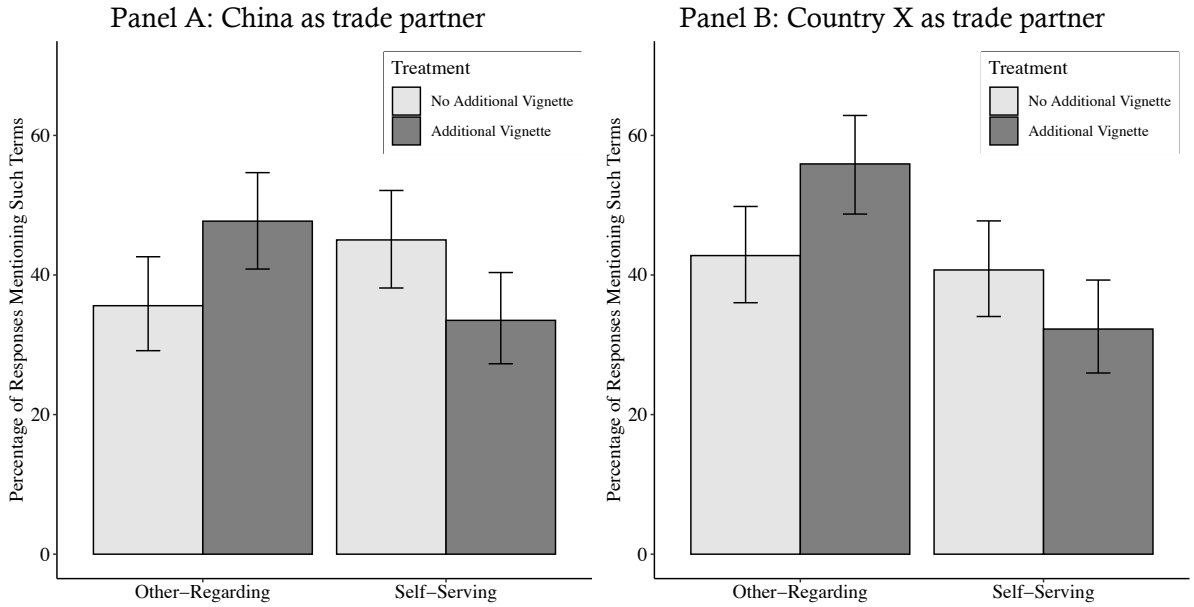
Note: Terms with (*) indicate that the word stem is matched in the open-ended responses.

Figure A11 shows the distribution of responses among the "other-regarding" and "self-serving" categories. The results suggest that other-regarding responses became more prevalent—and self-serving responses rarer—when respondents were informed that foreign losses would outweigh domestic gains. Where the trade partner was China, the proportion of other-regarding responses increased by 12 percentage points ($p = 0.0156$, $n = 388$), and that of self-serving responses decreased by 11 percentage points ($p = 0.0201$, $n = 388$), when the additional vignette was introduced. Where the trade partner was Country X, the proportion of other-regarding responses increased by 13 percentage points ($p = 0.0105$, $n = 380$), and that of self-

[8] See, e.g., Owen (2017) and Rauh and Zürn (2020) for a similar approach.
[9] Thirteen percent (115 out of 883) of the responses were removed. See also Footnote 79 in the main text.

serving responses decreased by 8 percentage points (p = 0.0868, n = 380), when the additional vignette was introduced. These replicate our finding in the main text (Figure 4), and further imply that the relative importance of relative gains decreased when other-regarding concerns became salient due to the experimental treatment.

FIGURE A11 Percentages of Other-Regarding and Self-Serving Responses in the Win-Lose Scenario



Note: The additional vignette displays that the losses suffered by Chinese or Country X's citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

We now discuss the second set of dictionary-based content analysis that uses a pre-existing dictionary. We use the Moral Foundations Dictionary from social psychology (Graham, Haidt, and Nosek 2009; Graham et al. 2011).[10] The dictionary includes five categories: (1) harm/care, (2) fairness/reciprocity, (3) ingroup/loyalty, (4) authority/respect, and (5) purity/sanctity. We view the first two categories as akin to "altruism/empathy" and "equality/fairness" described in the main text. This is consistent with how political psychologists have conceptualized and applied these categories in IR research. As Kertzer et al. (2014, 829) note:

> Harm/care is a concern for the suffering of others, including virtues of caring and compassion; caring for others and protecting them are good behaviors in this system. It is driven by altruistic, other-regarding behavior. Under the moral foundation of fairness/reciprocity, individuals

[10] See Kraft (2018) for an application in political science. The author uses the Moral Foundations Dictionary to analyze open-ended responses from the ANES data. For the relevance of moral foundations theory—which underpins the Moral Foundations Dictionary—in IR, see Kertzer et al. (2014). The authors argue and find that "harm/care and fairness/reciprocity are particularly important drivers of cooperative internationalism" (825).

should be treated equally; to deny a person such equality is to treat them unfairly and unjustly (Graham, Haidt, and Nosek 2009).

Given the compatibility of "harm/care" and "fairness/reciprocity" of the Moral Foundations Dictionary with our conceptualization of "altruism/empathy" and "equality/fairness" described in the main text, we leveraged the dictionary—specifically its "harm/care" and "fairness/reciprocity" categories—in our dictionary-based content analysis.[11]

Table A8 shows the dictionary for "harm/care" and "fairness/reciprocity." Based on this external, pre-specified dictionary, we classify a response as showing the moral foundation of harm/care if it contains one of the keywords for the "harm/care" category.[12] Similarly, we classify a response as showing the moral foundation of fairness/reciprocity if it contains one of the keywords for the "fairness/reciprocity" category. Before conducting the word counting, we remove open-ended responses that are non-interpretable and use the R package *quanteda* for text pre-processing.

TABLE A8 Moral Foundations Dictionary—Harm/Care and Fairness/Reciprocity

Category	Words in the Dictionary
Harm/Care	safe*, peace*, compassion*, empath*, sympath*, care, caring, protect*, shield, shelter, amity, secur*, benefit*, defen*, guard*, preserve, harm*, suffer*, war, wars, warl*, warring, fight*, violen*, hurt*, kill, kills, killer*, killed, killing, endanger*, cruel*, brutal*, abuse*, damag*, ruin*, ravage, detriment*, crush*, attack*, annihilate*, destroy, stomp, abandon*, spurn, impair, exploit, exploits, exploited, exploiting, wound*
Fairness/Reciprocity	fair, fairly, fairness, fair-*, fairmind*, fairplay, equal*, justice, justness, justifi*, reciproc*, impartial*, egalitar*, rights, equity, evenness, equivalent, unbias*, tolerant, equable, balance*, homologous, unprejudice*, reasonable, constant, honest*, unfair*, unequal*, bias*, unjust*, injust*, bigot*, discriminat*, disproportion*, inequitable, prejud*, dishonest, unscrupulous, dissociate, preference, favoritism, segregat*, exclusion, exclud*

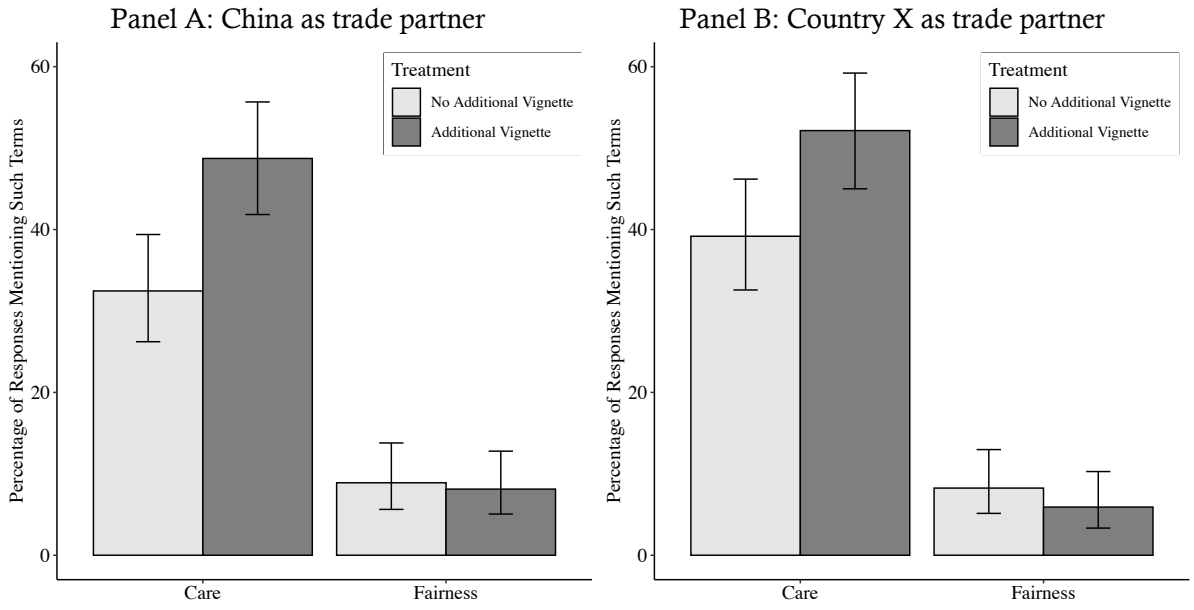
Note: Terms with (*) indicate that the word stem is matched in the open-ended responses.

Figure A12 shows the distribution of responses among the "harm/care" and "fairness/reciprocity" categories. Consistent with the findings from previous analyses, many respondents showed their other-regarding preferences in the win-lose trade scenario. Also consistent with our earlier findings, respondents were more likely to explain their trade opinion based on their other-regarding preferences when they learned that foreign losses would outweigh domestic gains. This appears to be driven by their concerns about

[11] We did not use the dictionary for the third category, "ingroup/loyalty," because it does not give a high face validity considering our topic of interest. Interested readers can visit http://www.moralfoundations.org/ for the dictionary.
[12] We note that the "harm/care" dictionary contains words such as "kill" and "war" which are either unrelated to our context or related to our context in a different way—such words might indicate retaliation concerns instead of other-regarding preferences. Therefore, in an alternative analysis, we manually excluded these words from the dictionary. We obtained similar results.

foreign citizens' welfare. They displayed more reluctance to inflict harm on foreign citizens when they were assigned to the treatment group. Where China was the trade partner, the proportion of "harm/care" responses increased by 16 percentage points ($p = 0.0011$, $n = 388$) when the additional vignette was introduced. Similarly, where Country X was the trade partner, the proportion of such responses increased by 13 percentage points ($p = 0.0111$, $n = 380$).

FIGURE A12 Percentages of "Harm/Care" and "Fairness/Reciprocity" Responses in the Win-Lose Scenario



Note: The additional vignette displays that the losses suffered by Chinese or Country X's citizens would be greater than the gains enjoyed by American citizens. Error bars represent 95% confidence intervals.

Appendix G – Average Treatment Effects After Reweighting Sample

All figures reported in our article are unweighted analyses, but our main conclusions remained the same after we reweighted our survey data according to the characteristics of the American population. The reweighting exercise was conducted by using entropy balancing (Hainmueller 2012; for a similar practice, see Rho and Tomz 2017). Table A9 reports our target demographics.

TABLE A9 Target Demographics

Category	Number of People in Original Source	Target Percentage (%)
Aged 18–34	74,216,881	29.78
Male	120,705,468	48.44
Female	128,487,626	51.56
Bachelor's Degree or Higher	80,374,186	32.25
Democrat / Lean Democrat	N/A	50
Total Population (Aged 18+)	249,193,093	100

Note: Party identification data are obtained from Pew Research Center's 2018 report titled "Wide Gender Gap, Growing Educational Divide in Voters' Party Identification." Other data are obtained from U.S. Census Bureau's 2018 Annual Social and Economic Supplement to the Current Population Survey.

Table A10 shows the average treatment effects before and after we reweighted our data to match the target demographics. The main conclusions presented in our article remained unchanged after the reweighting.

TABLE A10 Average Treatment Effects Before and After Reweighting Sample

Treatment Group	Mean Difference and *p*-value (Pre-Reweighting)	Mean Difference and *p*-value (Post-Reweighting)
Removing Limits; China	–0.714 ($p = 0.0004$)	–0.644 ($p = 0.0075$)
Removing Limits; Country X	–0.290 ($p = 0.0828$)	–0.201 ($p = 0.3312$)
Imposing Limits; China	–0.571 ($p = 0.0057$)	–0.674 ($p = 0.0058$)
Imposing Limits; Country X	–0.800 ($p = 0.0001$)	–0.892 ($p = 0.0001$)

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