

## CHAPTER SEVEN

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# American Business Leaders' Opposition to World War I

## SURVEY EVIDENCE

How did other American businesses respond to the threat of World War I? The four industries discussed in the preceding chapters—the wheat, cotton production, cotton manufacturing, and wool manufacturing industries—represent only a small slice of American economic life during the World War I era. It is important, therefore, to assess whether my additive theory of business war preferences does a better job of predicting business support and opposition to the war than existing explanations across an array of other industry cases. In this chapter I therefore aim to establish the external validity or “causal generalizability” of both my additive theory and empirical findings across a wider range of World War I-era American businesses.<sup>1</sup> I save the question of whether my theory and findings hold outside of the World War I era for a subsequent chapter.

I also present a slightly different type of evidence in this chapter relative to the previous chapters. Specifically, I argue that my additive theory has external validity outside of the World War I-era wheat, cotton production, cotton manufacturing, and wool manufacturing industries using qualitative survey response data from a rare 1916 survey of American business leaders. Although not without its shortcomings, this survey represents an important source of data for establishing the external validity of my theory for a number of reasons. First, it offers a unique cross-industry view of business war preferences in an important historical case. Representative cross-industry survey samples of business leaders, particularly when assessing policy preferences,

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<sup>1</sup> Sean Gailmard, “Theory, History, and Political Economy.” *Journal of Historical Political Economy* 1, no. 1 (2021): 69–104.

are incredibly difficult to assemble.<sup>2</sup> Indeed, I am unaware of any other existing surveys that explicitly measure cross-industry variation in business war preferences with the level of detail necessary to accurately code both a respondent's trade orientation and conflict relevance.<sup>3</sup>

Second, because the survey aimed to capture a representative sample of American business leaders it includes a far wider array of industries than my previous case studies. Third, and relatedly, the survey contains representative industry cases, as opposed to the extreme cases I analyzed in the previous chapters. As noted in chapter 2, I chose to analyze the wheat, cotton production, cotton manufacturing and wool manufacturing industries in depth because they were uniquely likely to be positively or negatively affected by World War I, and therefore most likely to express a preference about the war. Since the survey targeted all businesses regardless of the war's effects on them, I can see whether my theory holds across businesses that are not as uniquely affected by the war.

Crucially, however, the United States during World War I is not just a convenient case for analyzing business war preferences, but an analytically justified one. First, the case fits all the scope conditions outlined in chapter 2. Second, it provides evidence for variation in business war preferences in a case where scholars have long argued that business pressure affected wartime decision-making, namely the United States' decision to enter the war.<sup>4</sup> Third, measuring business war preferences in a neutral country avoids potential bias stemming from censorship laws and tests the theory in a least-likely case for businesses to oppose war.<sup>5</sup> I note how the empirical evidence from this case could be productively augmented by evidence from other, more contemporary cases in the conclusion of the chapter.

In the remainder of this chapter I first describe the general outlines of the survey data. Second, I motivate a simple research design to test my competing hypotheses using difference of proportions tests and regression analysis. Third, I describe how I pre-processed the raw qualitative survey data, and operationalized and measured my key variables of interest. Fourth, I report my empirical results, leaving a full discussion of additional robustness checks to Appendix B. I conclude with the implications of my findings and discuss additional ways to probe the external

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<sup>2</sup> See, for instance, the discussion in David E. Broockman, Gregory Ferenstein, and Neil Malhotra, "Predispositions and the Political Behavior of American Economic Elites: Evidence from Technology Entrepreneurs." *American Journal of Political Science* 63, no. 1 (2019): 212–33.

<sup>3</sup> For instance, Gallup polling on World War II and the Korean and Vietnam Wars identifies which respondents are business leaders, but they don't indicate which industries respondents are from. See Bruce M. Russett and Elizabeth C. Hanson, *Interest and Ideology: The Foreign Policy Beliefs of American Businessmen*. San Francisco, CA: W. H. Freeman and Company, 1975; Adam J. Berinsky, *In Time of War: Understanding American Public Opinion from World War II to Iraq*. Chicago, IL: University of Chicago Press, 2009.

<sup>4</sup> William Appleman Williams, *The Tragedy of American Diplomacy*. 2nd ed. New York, NY: W. W. Norton & Company, 1972; Benjamin O. Fordham, "Revisionism Reconsidered: Exports and American Intervention in World War I." *International Organization* 61, no. 2 (Spring 2007): 277–310; Galen Jackson, "The Offshore Balancing Thesis Reconsidered: Realism, the Balance of Power in Europe, and America's Decision for War in 1917." *Security Studies* 21, no. 3 (2012): 455–89.

<sup>5</sup> Both England and the United States, for instance, passed sedition laws prohibiting public criticism of the war after they entered the conflict. Accurate measurements of business war preferences would ideally predate these types of legislation. Since neutral countries aren't directly involved in the conflict, arguably they will be less affected economically and therefore businesses have less reason to oppose the conflict.

validity of my additive theory of business war preferences and empirical findings outside of the World War I-era.

### 7.1 Outline of Data

In the spring of 1916, Harris, Winthrop & Co., a New York-based investment firm, decided to survey American business leaders on a variety of political and economic topics. They had fielded a similar survey the previous year, at a time when “many were in doubt whether this country could prosper while Europe was involved in a war which had then been in progress only five months.”<sup>6</sup> The 1915 survey, however, had not explicitly asked respondents about the economic effects of the conflict. The firm aimed to rectify this shortcoming with the 1916 survey. As a result, Harris, Winthrop & Co. mailed a seventeen question survey to approximately 4,500 business leaders and other notables across the country. Aiming to reach a representative sample of American business leaders, they sent surveys to each state in proportion to that state’s population. In all, the firm received 1,710 responses, for a response rate of ~38%.

The survey results contain a variety of quantitative information—that is numerical responses—on political and economic topics, including unemployment, inflation, military preparedness, and tariffs. Unfortunately, however, this quantitative data is not very helpful in testing theories of business war preferences. First, the individual response data has been lost, and the firm only publicly reported aggregate response data at the regional, as opposed to industry, level. In order to test my additive theory of business war preferences I need to be able to link a business’ expressed preference about a war to their industry’s trade orientation and conflict relevance. Second, the survey question about the economic effects of war was phrased poorly, asking respondents simply whether “your business will be directly affected by peace in Europe,” without separating out whether that effect would be positive or negative. Numerical responses to this question, therefore, are a poor measure of a business’ war preferences.

Luckily, however, 185 respondents (~10% of the total sample) enclosed open-ended text responses alongside their numerical responses. Although varying in length and detail, these respondents wrote rich, descriptive qualitative responses that elaborated on the numerical responses they provided to various questions.<sup>7</sup> Since this qualitative survey data is measured at the individual respondent level, and the majority of respondents can be matched to the industry in which they work, I can use this qualitative survey data to test my additive theory of business war preferences against alternative explanations. Moreover, as column 3 in Figure 7.1 demonstrates, this sub-sample is very similar to the overall survey sample. There is therefore little reason to suspect a selection bias regarding which respondents provided qualitative responses. Column 4 in Figure 7.1 reports the p-values for a two-sided difference of proportions test between the two samples. Only one of these p-values is statistically significant ( $p < .05$ ), increasing our confidence that there isn’t selection bias.

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<sup>6</sup>Harris, Winthrop & Co, *American Business as Affected by Peace and Preparedness* (New York, 1916), <https://catalog.hathitrust.org/Record/100511581>: 1-2.

<sup>7</sup> The shortest qualitative response was 42 words while the longest was 2158 words. The mean response contained 345 words with a median response of 263 words.

**Figure 7.1: Survey Sample Composition**

Industry	Proportion of Full Sample	Proportion of Qualitative Sample	P-Value
.	0.011	0	0.323
Academic	0.007	0.005	1
Agricultural Tools	0.015	0.027	0.428
Agriculture	0.01	0	0.387
Automobile	0.011	0.011	1
Banking	0.182	0.162	0.592
Brass Manufacturing	0.005	0.011	0.771
Breadstuffs	0.023	0.027	0.98
Brewing	0.01	0.011	1
Brick Manufacturing	0.003	0.005	1
Cement	0.01	0.005	0.916
Chemicals	0.007	0.005	1
Clocks	0	0.005	0.459
Coal	0.021	0.016	0.932
Coffee	0.001	0	1
Cold Storage	0.004	0.005	1
Construction	0.016	0.022	0.87
Cotton Buying and Shipping	0.01	0.016	0.706
Cotton Manufacturing	0.019	0.011	0.643
Cottonseed Oil	0.003	0.005	1
Dairy	0.003	0	1
Department Stores	0.029	0.016	0.485
Distilling	0.007	0.016	0.436
Dry Goods	0.027	0.011	0.294
Fertilizer	0.003	0	1
Finance	0.01	0.011	1
Furniture	0.011	0.016	0.836
Glass Manufacturing	0.007	0.005	1
Importers	0.003	0.005	1
Insurance	0.008	0	0.466
Iron Founder	0	0.011	0.054
Iron Manufacturing	0.019	0.022	1
Journalist	0.004	0	0.877
Law	0.036	0.032	1
Leather Manufacturing	0.003	0.005	1
Linseed Oil	0.003	0.005	1
Lumber	0.103	0.108	0.942
Manufacturing (General)	0.06	0.016	0.025
Meat	0.008	0.005	1
Metalworking	0	0.005	0.459
Mining	0.007	0.005	1
Musical Instruments	0.005	0.005	1
Ocean Freight Broker	0.001	0.005	0.867
Oil Production	0.005	0.011	0.771
Packaged Food	0.007	0.016	0.436
Paint/Ink Manufacturing	0.01	0.005	0.916
Paper	0.012	0.005	0.678
Pharmaceuticals	0.014	0.027	0.343
Politician	0.004	0	0.877
Pottery	0	0.005	0.459
Precision Tool Manufacturing	0.004	0.005	1
Public Utility	0.019	0.011	0.643
Publishing	0.004	0.011	0.586
Railroad Equipment	0.007	0.011	0.937
Railway	0.033	0.065	0.075
Real Estate	0.022	0.022	1
Ribbons and Silks	0	0.005	0.459
Ribbons/Silks	0.003	0	1
Rubber	0	0.005	0.459
Service Industry (Hotels/Restaurants)	0.004	0	0.877
Shipbuilding	0.003	0	1
Shoes	0.007	0.005	1
Steel Manufacturing	0.005	0.022	0.096
Steel Production	0.01	0.016	0.706
Stone Quarry	0.003	0.005	1
Sugar Production	0.005	0.016	0.306
Telephone	0.008	0	0.466
Textile Manufacturing	0.023	0.022	1
Tin	0.001	0	1
Tobacco	0.005	0	0.699
Wholesale Grocery	0.019	0.016	1
Wholesale Hardware	0.008	0.005	1
Wholesale Liquors	0.001	0	1
Wholesale Produce	0	0.005	0.459
Wine Growers	0.001	0.005	0.867
Wood Manufacturing	0.021	0.005	0.275
Wool Manufacturing	0.005	0.011	0.771

Note: Values are rounded to three decimal places; 0 therefore indicates less than .001

## 7.2 Design

In the interests of transparency and simplicity, I chose to rely on simple difference of proportions tests as the primary way of testing my additive theory of business war preferences against alternative explanations, supplemented by non-linear and linear regression models. As the name implies, in difference of proportions tests a researcher compares the proportional responses of two groups to see whether the difference between them is statistically significant.<sup>8</sup> The researcher calculates a sample proportion ( $\hat{p}$ ) as the ratio of “successes” in a sample ( $x$ ) divided by the sample size ( $n$ ). A confidence interval for the population proportion can then be calculated using the following formula, where  $z$  is the  $z$  value for the desired confidence level:

$$\hat{p} \pm z * \sqrt{\frac{\hat{p} * (1 - \hat{p})}{n}}$$

We can then test whether the difference between two population proportions is statistically significant using a simple  $z$  test as follows:

$$z = \frac{\hat{p}_1 - \hat{p}_2}{SE}$$

In this test  $\hat{p}_1$  and  $\hat{p}_2$  are two sample proportions and  $SE$  is the standard error of the sampling distribution. We estimate  $SE$  using a pooled sample proportion ( $\hat{P}$ ) calculated as follows:

$$\hat{P} = \frac{(x_1 + x_2)}{n_1 + n_2}$$

And the following formula:

$$SE = \sqrt{\hat{P} * (1 - \hat{P}) * \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$$

This method is admittedly—and intentionally—quite simple. It fits the empirical aim of this chapter, however, in so far as it can credibly demonstrate the importance of accounting for conflict relevance alongside trade orientation in empirical models of business war preferences. I note in the conclusion of this chapter how further empirical research might mitigate some of the inferential shortcomings associated with this approach.

Testing **H<sub>1</sub>** from trade preference theory—that internationalist businesses will be more likely to oppose wars than domestic oriented businesses—simply requires testing the proportional opposition to war between internationalist and domestic oriented businesses. Testing hypotheses **H<sub>2</sub> – H<sub>5</sub>** from my additive theory requires testing proportional opposition to war across four business types. Testing **H<sub>6</sub>**, that conflict relevance is a sufficient cause of business war preferences, requires testing proportional opposition to war between businesses with high conflict relevance versus businesses with low conflict relevance. Because these hypotheses all posit a directional relationship in relative opposition between different types of businesses, I use one-sided difference

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<sup>8</sup> This description of difference of proportion tests follows that in Kosuke Imai, *Quantitative Social Science: An Introduction*. Princeton, NJ: Princeton University Press, 2017, chapter 7.

of proportions test and a standard alpha level of .05 for assessing the statistical significance of all difference of proportions.

I can then validate the findings of my difference of proportions tests by predicting a business's war preferences based on their trade orientation and conflict relevance using regression analysis. I test my competing hypotheses using a simple model specification (1) that predicts business  $i$ 's war preferences ( $Y_i$ ) as a function of whether they have an internationalist trade orientation ( $X_{\text{internationalist}(i)}$ ) and their conflict relevance ( $X_{\text{relevance}(i)}$ ), and assessing the direction and statistical significance of the coefficients on the trade orientation ( $\beta_1$ ) and conflict relevance ( $\beta_2$ ) variables. The specification also includes intercept ( $\beta_0$ ), and stochastic error ( $\varepsilon_i$ ) terms.

$$(1) \quad Y_i = \beta_0 + \beta_1 X_{\text{internationalist}(i)} + \beta_2 X_{\text{relevance}(i)} + \varepsilon_i$$

Trade preference theory (**H<sub>1</sub>**) predicts that  $\beta_1 > 0$  and will be statistically significant. Trade preference theory also predicts that a business's conflict relevance would add little to an empirical model of business war preferences since a businesses' trade policy preferences are a sufficient cause of business war preferences. As such, trade preference theory predicts that  $\beta_2$  would be close to zero and statistically insignificant.<sup>9</sup> Conversely, **H<sub>6</sub>** holds that a business's conflict relevance is a sufficient cause of business war preferences, predicting that  $\beta_2 < 0$  and will be statistically significant while  $\beta_1$  will be close to zero and statistically insignificant. My additive theory (**H<sub>2</sub>** - **H<sub>5</sub>**) predicts that  $\beta_1 > 0$ ,  $\beta_2 < 0$ , and both will be statistically significant. To probe whether the findings from the difference of means tests and regression models are robust to alternate tests, I report the results of a number of robustness checks in Appendix B.

### 7.3 Pre-Processing of Data and Measurement

I pre-processed the raw data by downloading a digital copy of the original survey report and pulling the qualitative survey responses into a usable format using simple optical character recognition (OCR) tools.<sup>10</sup> I then manually verified the accuracy of the OCR output against the original report. I measured a survey respondent's trade orientation, conflict relevance, and war preferences using a mix of quantitative and qualitative coding rules.

First, following trade preference theory, I dichotomously categorized a respondent as being in a domestic oriented versus internationalist industry based on their industry's export/import ratio, export value, and import value prior to World War I using data from the U.S. Department of Commerce.<sup>11</sup> I coded a respondent as being in a domestic oriented industry if their industry's export-import ratio was in the bottom half, and import value in the top half, of all industries in 1913. I coded a respondent as being in an internationalist industry if their industry's export-import

<sup>9</sup> Carlisle Rainey, "Arguing for a Negligible Effect." *American Journal of Political Science* 58, no. 4 (October 2014): 1083–91.

<sup>10</sup> The original report is from the Harvard University Library, as cataloged by the Hathi Digital Trust. I used the OCR software contained in Adobe Acrobat Software DC.

<sup>11</sup> Department of Commerce, "Monthly Summary of Commerce and Finance of the United States," Hathi Digital Trust, Original from University of Iowa, December 1914, <https://catalog.hathitrust.org/Record/008954857>.

ratio was in the top half, and export value in top half, of all industries during 1913. Although an imperfect measure, since it ignores an industry's domestic consumption, *ceteris paribus* industries that export more than they import should favor free trade while industries that face a high flow of import competition should favor trade protectionism.

I supplemented these quantitative coding rules with qualitative industry information from a variety of historical sources to account for respondents that didn't fall easily into one of the Department of Commerce's industry groupings. I excluded respondents such as lawyers, academics, and bankers, who couldn't be coded as belonging to an internationalist or domestic oriented industry even with this supplemental research (n = 46).<sup>12</sup> As I demonstrate in Appendix B, my findings are robust to alternate tests that include these respondents. More qualitative evidence justifying individual trade orientation coding decisions can also be found in Appendix B.

I then categorized industries based on whether they have high conflict relevance or not. Conceptually, an industry has conflict relevance if it contributes to a military's effectiveness, their ability to successfully fight and win on the battlefield. Measuring conflict relevance therefore becomes a somewhat subjective exercise, since all industries contribute to military effectiveness to some degree in a total war such as World War I. Here I am interested in separating industries with a high level of conflict relevance from those with a low level of conflict relevance.

I categorize an industry as having high conflict relevance based on whether its products were considered conditional and absolute contraband in the 1909 Declaration of London and, more generally, if the industry largely contributed to the feeding, clothing, or equipping of World War I era armies. I relied on historical sources from the World War I era to inductively determine how observers at the time thought about an industry's conflict relevance when confronted with borderline cases, where it was hard to determine an industry's conflict relevance deductively. Qualitative evidence underpinning each conflict relevance coding decision can be found in Appendix B. Figure 7.2 reports where all the industries represented in the final sample (n = 139) fall in my typology.

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<sup>12</sup> I exclude bankers and the finance industry given the uniqueness of managing domestic and international capital flows versus commodity and trade flows. On financial opposition to war see Jonathan Kirshner, *Appeasing Bankers: Financial Caution on the Road to War* (Princeton, NJ: Princeton University Press, 2007).

**Figure 7.2: Industries Present in Sample**

	<u>Internationalist</u>	<u>Domestic Oriented</u>
<u>High Conflict Relevance</u>	<ul style="list-style-type: none"> <li>● Automobile (2)</li> <li>● Breadstuffs (5)</li> <li>● Chemicals (1)</li> <li>● Coal (3)</li> <li>● Iron Founder (2)</li> <li>● Iron Manufacturing (4)</li> <li>● Leather Manufacturing (1)</li> <li>● Meat (1)</li> <li>● Metalworking (1)</li> <li>● Mining (1)</li> <li>● Oil Production (2)</li> <li>● Packaged Food (3)</li> <li>● Precision Tool Manufacturing (1)</li> <li>● Rubber (1)</li> <li>● Steel Manufacturing (4)</li> <li>● Steel Production (3)</li> </ul>	<ul style="list-style-type: none"> <li>● Brass Manufacturing (2)</li> <li>● Railroad Equipment (2)</li> <li>● Railway (12)</li> <li>● Wholesale Hardware (1)</li> <li>● Wholesale Produce (1)</li> <li>● Wool Manufacturing (2)</li> </ul>
<u>Low Conflict Relevance</u>	<ul style="list-style-type: none"> <li>● Cotton Buying and Shipping (3)</li> <li>● Dry Goods (2)</li> <li>● Importers (1)</li> <li>● Lumber (20)</li> <li>● Manufacturing (General) (3)</li> <li>● Ocean Freight Broker (1)</li> <li>● Paint/Ink Manufacturing (1)</li> <li>● Pharmaceuticals (5)</li> <li>● Sugar Production (3)</li> <li>● Wood Manufacturing (1)</li> </ul>	<ul style="list-style-type: none"> <li>● Agricultural Tools (5)</li> <li>● Brewing (2)</li> <li>● Brick Manufacturing (1)</li> <li>● Cement (1)</li> <li>● Clocks (1)</li> <li>● Cold Storage (1)</li> <li>● Construction (4)</li> <li>● Cotton Manufacturing (2)</li> <li>● Department Stores (3)</li> <li>● Distilling (3)</li> <li>● Furniture (3)</li> <li>● Glass Manufacturing (1)</li> <li>● Linseed Oil (1)</li> <li>● Musical Instruments (1)</li> <li>● Paper (1)</li> <li>● Pottery (1)</li> <li>● Publishing (2)</li> <li>● Ribbons and Silks (1)</li> <li>● Shoes (1)</li> <li>● Stone Quarry (1)</li> <li>● Textile Manufacturing (4)</li> <li>● Wholesale Grocery (3)</li> <li>● Wine Growers (1)</li> </ul>

*Number of respondents from each industry is in parentheses*

In terms of a survey respondent's war preferences, I coded the respondent as opposing the war if they clearly note that the war has had a negative economic effect, or peace would have a positive effect, on their business. I coded a respondent as not opposing the war if they noted either that the war had a positive economic effect, peace would have a negative effect, or peace would have no effect on their business.

Interestingly, no business leaders in the sample actively supported the war. Although conceptually, therefore, business war preferences range from opposition to war to support for war, the range of business war preferences in the sample is censored. It might be that businesses in the United States simply didn't benefit economically enough from the conflict to cause them to support it. Alternatively, businesses might be normatively influenced to conceal their opposition to war. I discuss ways to investigate whether businesses censor their war preferences, and alternate ways to improve measurements of business war preferences, in the conclusion of this chapter.

Finally, I coded survey respondents who didn't mention the war in their qualitative response (n = 17) as having "no response" (NA). These respondents could either be unaffected by the war—and therefore hold no preference—or hold a preference but not have expressed it. This means that my effective sample size for my difference of proportions tests is 122 respondents. I note in Appendix B, however, that my findings are robust to coding these respondents as not opposing the war. Given the subjective nature of my measurement approach and coding I provide illustrative examples of each coding decision below (Figure 7.3) and make the entire set of survey responses available in the supplementary materials to aid in validation and replication.

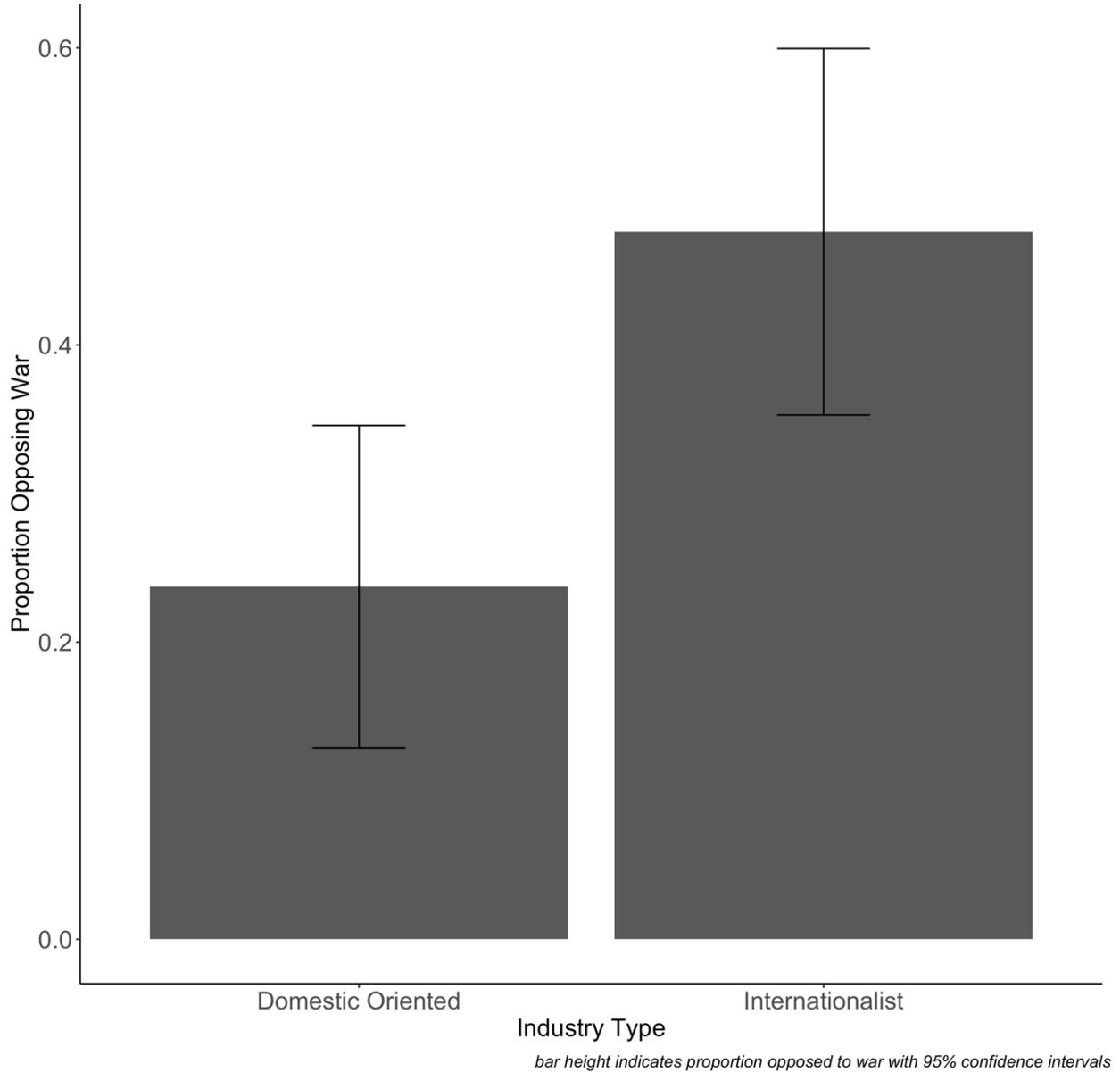
**Figure 7.3: Coding Examples of Business War Preferences**

<b><u>Opposition to War</u></b>
“Our business is very much affected by the war and, therefore, it would be a great benefit to have the war cease. For instance, the material which enters into the construction of our goods is two and a half times higher than it was last year, which, at the present price, almost prohibits our doing business. Labor is very scarce caused by a good many of the foreign laborers going abroad and further caused by the eastern factories who are making war appliances.”
<b><u>Not Opposition to War</u></b>
“Our business consists largely of the growing of grain and other farm products. Values of these products have ranged above the normal during the war, and this section has been correspondingly prosperous. There is likely to be a sharp break in values when the war closes but it seems probable that higher prices will prevail later and cover a considerable time after the war.”
<b><u>No Response</u></b>
“We feel that with our country and Canada taking practically the capacity of our shops that foreign trade is not a necessity at present, though we are making some endeavors to secure good connections in foreign countries where that trade is desirable. As to the general situation, we feel as if we could have a more stable government, one in which the policies are not altered every four years and in which nine-tenths of the action results from political feelings and not from what is best for the country at large”

### 7.4 Results

Do the survey results better support trade preference theory or my additive theory? Figure 7.4 presents the results of my first difference of proportions test, assessing trade preference theory.<sup>13</sup> We can see that internationalist businesses are proportionally more likely to oppose the war (48%) than domestic oriented businesses (24%), and the difference is statistically significant ( $p = 0.01$ ). This supports  $H_1$ , which predicts that internationalist businesses will be more likely to oppose wars than domestic oriented businesses.

**Figure 7.4: Proportion of Respondents Opposing War, By Trade Preference**

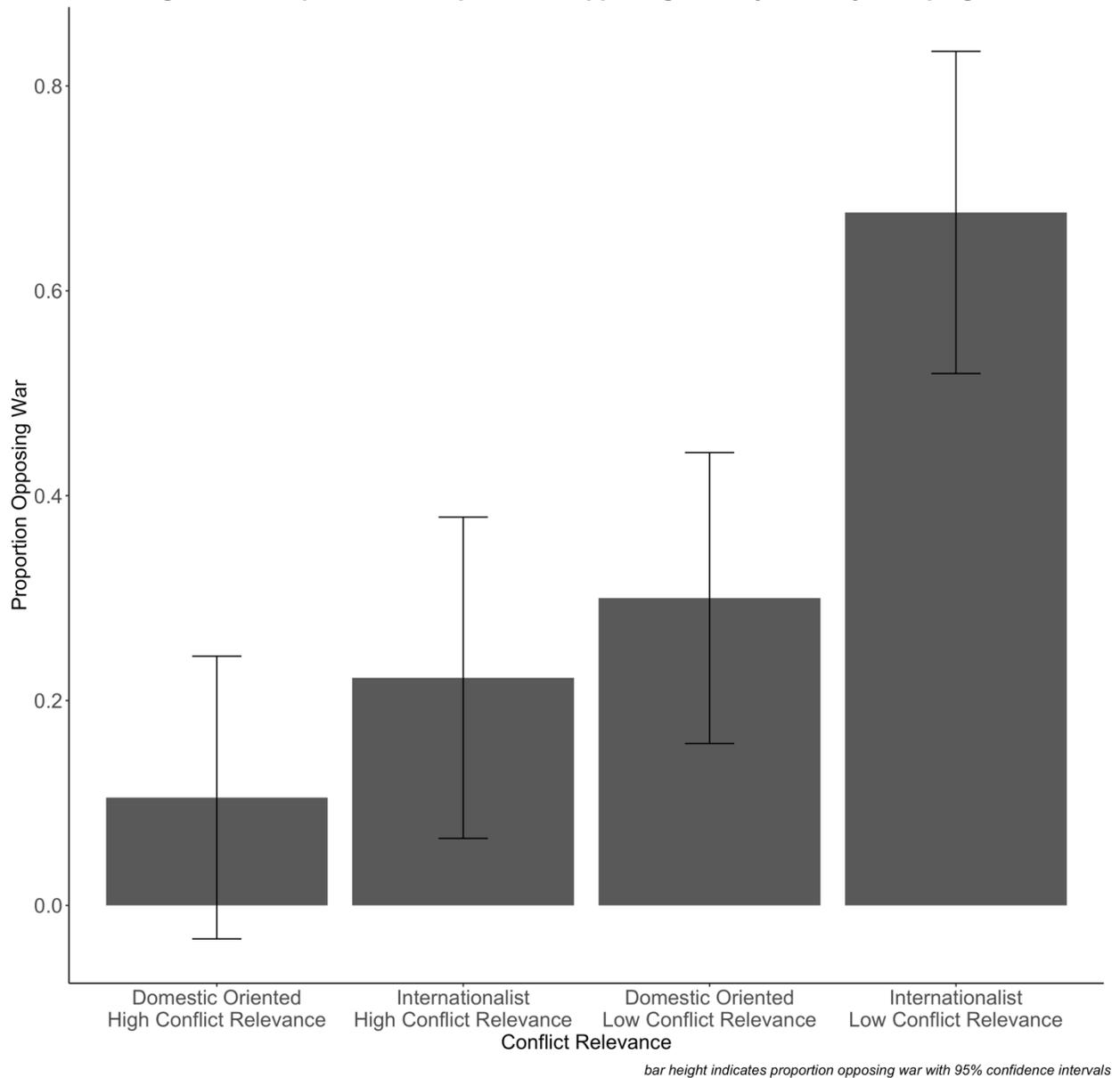


<sup>13</sup> Because my hypotheses all posit a directional relationship in relative opposition between different types of businesses, I use one-sided difference of proportions test and a standard alpha level of .05 for assessing the statistical significance of all difference of proportions.

These results nevertheless leave an important question unanswered: why do so few internationalist businesses oppose the war? To be fair, trade preference theory doesn't take a clear position on the absolute level of opposition to war that internationalist or domestic oriented industries will hold. It is somewhat puzzling, however, that only a minority of internationalist business leaders (48%) in the sample oppose the war given its disruption to international trade. Trade preference theory cannot explain why this is the case, but my additive theory of business war preferences can.

Figure 7.5 reports the results of my second set of difference of proportions tests, which test my additive theory of business war preferences. This set of tests provides support for my additive theory of business war preferences above and beyond trade preference theory. Figure 7.5 provides full support for **H<sub>4</sub>**, which predicts internationalist businesses with low conflict relevance will be more likely to oppose wars than internationalist businesses with high conflict relevance. A higher proportion of respondents from internationalist businesses with low conflict relevance (68%) oppose the war than respondents from internationalist businesses with high conflict relevance (24%), and the difference is statistically significant ( $p = .0007$ ). Importantly, trade preference theory cannot explain this key split in opposition to war between different types of internationalist businesses, and we would miss this divide entirely if we only looked at Figure 7.4 above.

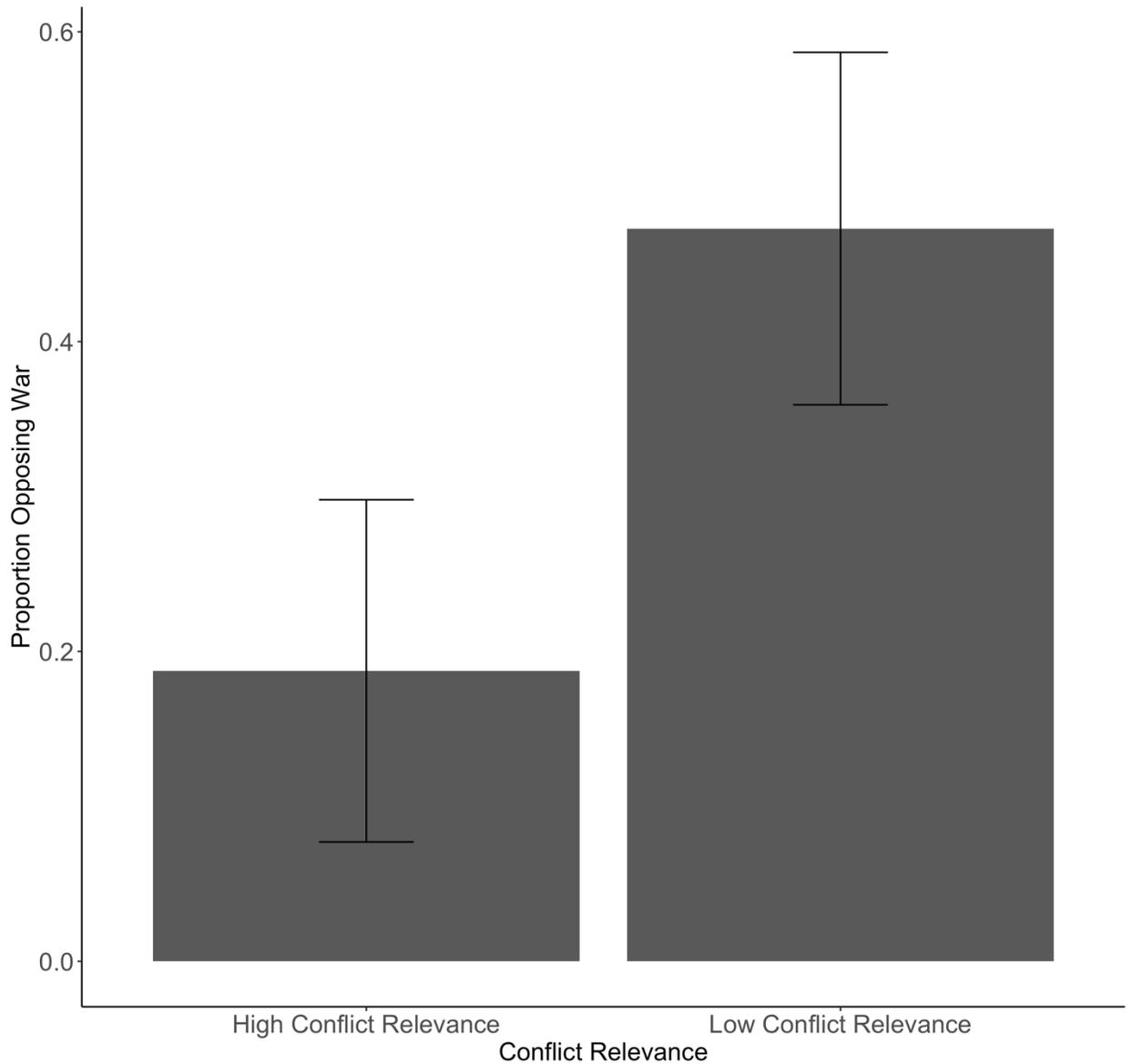
The results of this second set of difference of proportions tests also provide full support for **H<sub>2</sub>**, which predicts that internationalist businesses with low conflict relevance will be the most likely businesses to oppose the war. The highest proportion of respondents opposing the war are from internationalist businesses with low conflict relevance (68%) and there are statistically significant differences between this high proportion of opposition and the proportion of opposition in other business types.

**Figure 7.5: Proportion of Respondents Opposing War, By Industry Grouping**

The other hypotheses from my additive theory, though, aren't supported. **H<sub>5</sub>** predicts that respondents from domestic oriented businesses with low conflict relevance will be more likely to oppose the war than respondents from domestic oriented businesses with high conflict relevance. Only 10% of respondents from domestic oriented businesses with high conflict relevance oppose the war compared with 30% respondents from domestic oriented businesses with low conflict relevance, but the difference is not statistically significant ( $p = .094$ ). Finally, **H<sub>3</sub>** predicts that domestic oriented businesses with high conflict relevance will be the least likely businesses to oppose war in the international system. Although only 10% of respondents from domestic oriented businesses with high conflict relevance oppose the war, this is statistically indistinguishable from internationalist businesses with high conflict relevance (24%,  $p = .789$ ).

Can conflict relevance alone accurately predict business war preferences? **H<sub>6</sub>** predicts that businesses with high conflict relevance will be less likely to oppose wars in than businesses with low conflict relevance, and this is exactly what Figure 7.6 shows. A lower proportion of respondents from businesses with high conflict relevance (19%) oppose the war than businesses with low conflict relevance (47%), a difference that is statistically significant ( $p < .001$ ). These results point to the importance of including conflict relevance as an explanatory variable when trying to predict business war preferences, but don't indicate that conflict relevance alone explains a business's war preferences. Namely, this figure obscures the clear difference in opposition to war between domestic oriented businesses with low conflict relevance and internationalist businesses with low conflict relevance. As we can see in Figure 7.5, there is a large and statistically significant difference in these businesses' opposition to war, which isn't captured in Figure 7.6.

**Figure 7.6: Proportion of Respondents Opposing War, By Conflict Relevance**



*bar height indicates proportion opposing war with 95% confidence intervals*

I present the results of my regression analysis in Table 7.1. Since I have a binary dependent variable, with respondents either opposing (1) or not opposing (0) the war, I first estimate these regressions using a logistic link function and then using Ordinary Least Squares (OLS) using a linear probability model.<sup>14</sup> To validate the results presented above in Figures 7.4 and 7.6, Columns 1 and 2 of Table 7.1 report the results of simple monocausal model specifications predicting a respondent's war preferences based solely on their trade orientation and conflict relevance, respectively.

Column 3 of Table 7.1 presents the results from my preferred model specification, which predicts a respondent's war preferences based on both their trade orientation and conflict relevance and replicates Figure 7.5. These model results support the hypotheses from my additive theory of business war preferences ( $H_2 - H_6$ ) above and beyond monocausal theories. These hypotheses predict that the coefficient for increasing internationalist trade orientation will be positive, the coefficient for increasing conflict relevance should be negative, and both coefficients should be statistically significant, which they both are.

**Table 7.1: Logistic Regression Results**

	<i>Dependent variable:</i>		
	Systemic Opposition for War		
	(1)	(2)	(3)
Internationalist	1.072*** (0.295, 1.850)		1.448*** (0.582, 2.313)
High Conflict Relevance		-1.358*** (-2.215, -0.502)	-1.709*** (-2.645, -0.773)
Constant	-1.168*** (-1.767, -0.568)	-0.108 (-0.565, 0.348)	-0.783** (-1.417, -0.149)
AIC	155.85	152.70	142.85
McFadden	.048	.068	.142
Link Function	Logistic	Logistic	Logistic
Observations	122	122	122

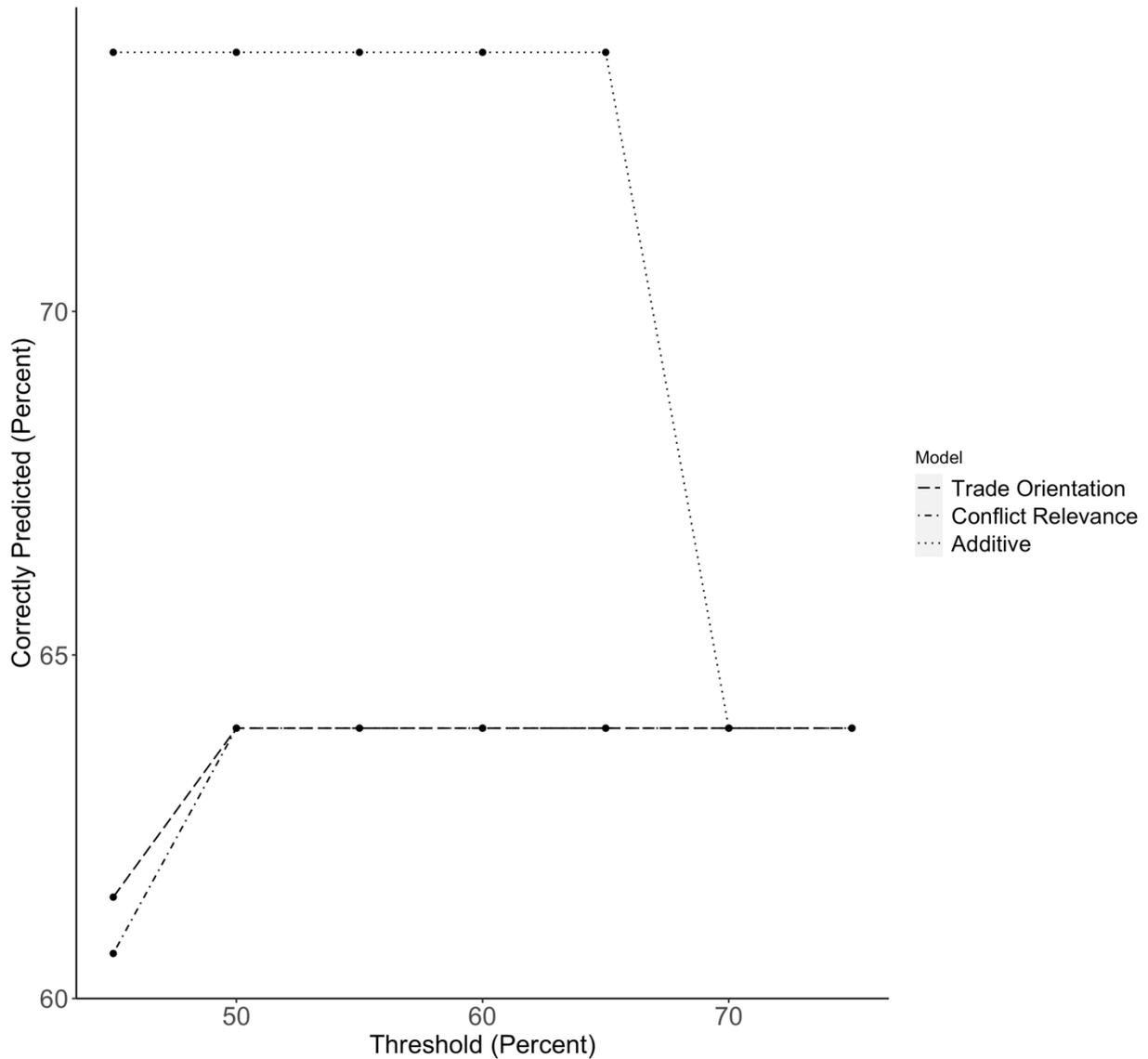
*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

<sup>14</sup> Joshua D. Angrist and Jörn-Steffen Pischke, *Mostly Harmless Econometrics*. Princeton, NJ: Princeton University Press, 2009.

Examining the predictive accuracy of the empirical models in Table 7.1 is another way of assessing the relative veracity of my additive theory of business war preferences against monocausal theories. Figure 7.7 therefore reports the in-sample predictive accuracy of my preferred, additive model specification alongside that of the monocausal model specifications from Table 7.1. I conceptualize predictive accuracy as the percentage of respondents that a model correctly predicts oppose the war, and calculate this value across a range of decision thresholds. Figure 7.7 demonstrates that the additive model specification is always more accurate than the monocausal models, except at very high decision thresholds, where it is equally accurate.

**Figure 7.7: Predictive Accuracy of Logistic Regressions**



The following table (Table 7.2) replicates the results of Table 7.1 using Ordinary Least Squares (OLS) as a link function rather than a logistic link function. The results are identical to those presented in Table 7.1.

**Table 7.2 OLS Regression Results**

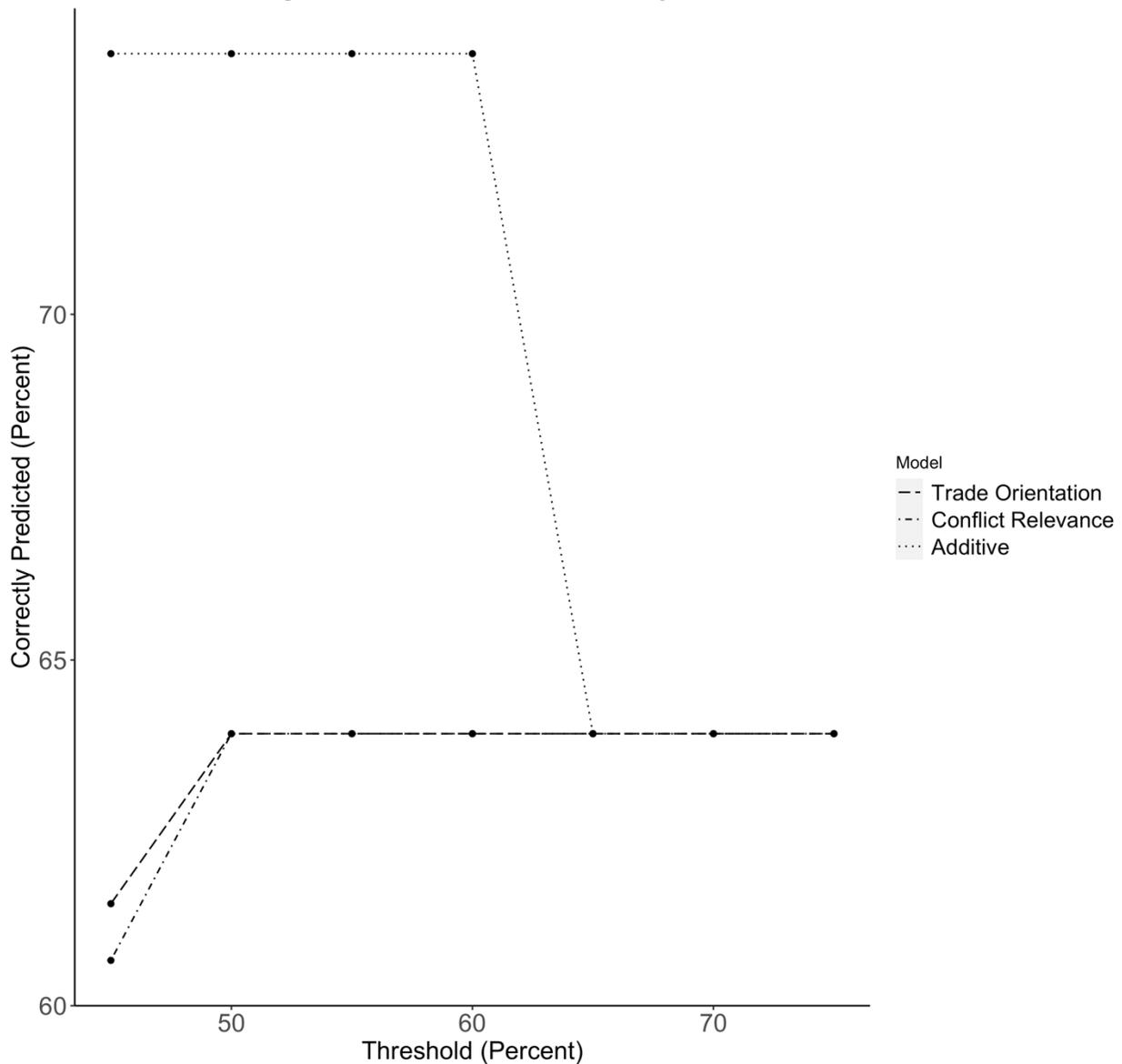
*Dependent variable:*

	Systemic Opposition for War		
	(1)	(2)	(3)
Internationalist	0.239*** (0.072, 0.405)		0.284*** (0.125, 0.443)
High Conflict Relevance		-0.285*** (-0.454, -0.117)	-0.327*** (-0.489, -0.164)
Constant	0.237*** (0.118, 0.357)	0.473*** (0.367, 0.579)	0.342*** (0.218, 0.467)
Link Function	OLS	OLS	OLS
Observations	122	122	122
R <sup>2</sup>	0.062	0.084	0.170
Adjusted R <sup>2</sup>	0.054	0.077	0.156
Residual Std. Error	0.469 (df = 120)	0.463 (df = 120)	0.443 (df = 119)

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

The following figure (Figure 7.8) replicates the results of Figure 7.7. As with Figure 7.7, it demonstrates that the in-sample predictive accuracy of an additive specification is higher than monocausal specifications, except at very high thresholds, where it is equally accurate.

**Figure 7.8: Predictive Accuracy of OLS Models**

I report the results of a number of robustness and sensitivity checks in Appendix B. First, I test the sensitivity of my results to differing sample composition and individual coding decisions for my independent variables by conducting 306 additional difference of proportions tests while sequentially dropping each individual industry one at a time. Second, I test the sensitivity of my results to differing sample composition and individual coding decisions for my dependent variable by re-coding respondents who didn't mention the war as "not opposing" the war. I replicate my initial difference of proportions tests, and conduct 330 additional difference of proportions tests while sequentially dropping individual industries. Third, I re-estimate my logistic and OLS models using an industry's export value as a continuous measure of trade orientation. Fourth, I re-estimate my regressions using all businesses that take an opinion on the war ( $n = 157$ ) to investigate whether

my results hinge on removing businesses that don't align to my four-part typology. Fifth, I include regional fixed effects in all model specifications to guard against the possibility that sociotropic economic factors or other regional confounders are biasing my results. The results of all these tests are either identical to or consistent with the results of my difference of proportions tests and regression analysis.

## 7.5 Discussion

Combined, then, the results from my difference of proportions tests and regression analysis support my additive theory of business war preferences above and beyond trade preference theory. A business's trade orientation is clearly an important determinant of their war preferences, but it isn't the only determinant of these preferences. The evidence reported above demonstrate that a business's conflict relevance plays an essential, and to this point under examined, role in determining a business's opposition to conflict.

In particular, the difference of proportions tests reveal a large and statistically significant gap in the relative opposition to war between internationalist businesses with low conflict relevance and internationalist businesses with conflict relevance that trade preference theory cannot explain. Trade preference theory would predict that internationalist businesses with conflict relevance and internationalist businesses with low conflict relevance would both oppose war. Empirically, we find that internationalist businesses with conflict relevance are among the least likely businesses to oppose war (24%) and far less likely to oppose the war than internationalist businesses without conflict relevance (68%).

At the same time, however, conflict relevance alone isn't a sufficient explanation for business war preferences. The difference of proportion tests reveal a statistically significant difference in the relative opposition to war between internationalist businesses with low conflict relevance (68%) and domestic oriented businesses with low conflict relevance (30%,  $p = .001$ ). A monocausal explanation for business war preferences based solely on their conflict relevance would predict that these types of businesses would have similar levels of opposition to war, and they don't.

There are at least three important caveats regarding the empirical results of this article. First, although the difference of proportions tests don't provide support for all the hypotheses from my additive theory, this may simply be due to a lack of statistical power given the small number of survey respondents. For example,  $H_5$  predicts that respondents from domestic oriented businesses with low conflict relevance will be more likely to oppose wars than respondents from domestic oriented businesses with conflict relevance. The p-value for the difference of proportions test ( $p = .094$ ) is not statistically significant at the  $p < .05$  level but is significant at the  $p < .1$  level. Given that there are only 59 total survey respondents in these two sub-groups, a larger sample size could easily increase the precision of this and the other difference of proportions tests.

Second, I am not arguing that trade orientation and conflict relevance are the only important determinants of business war preferences, or that I have causally identified the effects of trade orientation and conflict relevance. There may be additional, potentially confounding, causes of

business war preferences that may be biasing my quantitative results. Importantly, however, existing theories of business war preferences provide little guidance regarding what those confounders might be. As a result, my quantitative results still improve on our current understanding of business war preferences by highlighting other important factors, like a business's conflict relevance, that matter for determining their war preferences.

Third, whether these results are generalizable to other countries and wars requires further investigation. Although the evidence from the comparative case studies possess high internal validity, it necessarily lacks external validity across a wide range of representative cases. The results of my difference of proportions tests can mitigate these concerns but not completely resolve them. In particular they can't demonstrate the external validity of my additive theory outside of the case of American businesses during World War I. The results very well could be generalizable given that my additive theory of business war preferences consists of general variables and mechanisms that aren't context specific.<sup>15</sup> Nevertheless, the financialization of international commerce, whereby capital flows far outpace trade in either goods and services, or the changing nature of interstate warfare, may render my additive theory of primarily historical rather than contemporary interest. Both explicit claims for and against the external validity of my results, however, would need to rest on firm theoretical and empirical grounds that are beyond the scope of this article.

## 7.6 Conclusion

Assessing the relative empirical validity of trade preference theory versus my additive theory of business war preferences is difficult given that it is impossible to manipulate these two variables in an experimental research design. Although the comparative case studies presented in the previous four chapters can tell a detailed, rich story about the war preferences of selected American industries during World War I, it is only natural to question whether the findings from those carefully chosen cases hold across more representative cases. The evidence presented in this chapter aims to mitigate these concerns by assessing the war preferences of a broader set of American businesses using rare, historical survey data. The results of this chapter are consistent with those of the comparative case studies, demonstrating—in line with the expectations of my additive theory of business war preferences—that a business's conflict relevance is an important determinant of their war preferences above and beyond their trade orientation alone.

Even as the evidence in this chapter bolsters the external validity of my additive theory of business war preferences across the universe of American businesses during the World War I, up to this point I have presented only anecdotal evidence to support its validity outside of the World War I era. Does my additive theory of business war preferences better predict these preferences than trade preference theory in more contemporary conflicts? I provide a preliminary answer to this question in the following chapter by analyzing American business leaders' war preferences during the Vietnam War.

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<sup>15</sup> Dan Slater and Daniel Ziblatt, "The Enduring Indispensability of the Controlled Comparison." *Comparative Political Studies* 46, no. 10 (October 2013): 1301–27.