Taking Information More Seriously:
Information and Preferences in International Political Economy

Sung Eun Kim

Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in the Graduate School of Arts and Sciences

COLUMBIA UNIVERSITY
2016

ABSTRACT

Taking Information More Seriously:
Information and Preferences in International Political Economy

Sung Eun Kim

The key underlying question of this dissertation is how individuals develop informed views about the open international economy and make informed decisions as consumers, workers and voters. Globalization has generated competing interest groups that are highly informed about its effects. Each of these groups can exploit its informational advantage and strategically provide information to less informed individuals in order to shape their policy preferences and economic and political behavior. Focusing on this informational discrepancy among domestic actors, this dissertation investigates the mechanisms and the effects of information dissemination from three different angles. The first chapter examines the role of product-related information provided by the news media, biased in favor of domestic firms, in shaping consumer behavior. In the second chapter, I examine the role of trade-related information provided by interest groups in altering the trade preferences of workers. In the third chapter, I examine the role of trade-related information provided by political elites in shaping their constituents' attitudes toward trade. These essays contribute to the extant international political economy literature by introducing an actor that has been largely neglected, illuminating new causal mechanisms with information at the center, and clarifying the causal effect of certain economic groups in trade policy preference formation.

Contents

List of Tables

List of Figures

Acknowledgement

I have been hoping to see the end of this process for many years, but those years have been filled with self-doubts and worries about not being able to actually see the end. With the tremendous support of many people acknowledged here, I would have been able to come this far to the verge of completing this dissertation. I would like to thank all who made it possible through their guidance and encouragement. This dissertation would not have been possible without their support.

First and foremost, I would like to express my gratitude to members of my committee, Yotam Margalit, Johannes Urpelainen, Shigeo Hirano, Pablo Pinto and Allison Carnegie. I am deeply grateful to Yotam, for his unwavering support throughout my time at Columbia. Yotam constantly encouraged me and taught me everything I need to know to become a good scholar – how to think, how to write, and how to speak. I thank him for being a source of my intellectual stimulation and confidence that have motivated me to aim higher. I am also greatly indebted to Johannes, for his untiring attention and guidance. I have immensely benefited from being a student and a co-author of the most prolific scholar in the discipline. I thank him for being a source of my energy that has motivated me to work harder. I also owe deep gratitude to Shigeo for helping shape this project from its very inception and guiding it through with insight and patience. I would also like to thank Pablo for his insightful comments, feedback and for his heartfelt advice that encouraged and inspired me. I am also grateful to Allison for her valuable comments and feedback. I was very fortunate to have these amazing mentors as my

advisors. I could have not asked for a better team of advisors.

I also owe a personal debt of gratitude to my incredible colleagues at Columbia. I was truly lucky to have been surrounded by an exceptional group of bright, talented, and collegial individuals. I would like to thank Hadas Aron, H. Seung Cho, Al Fang, Justine Guichard, Bjorn Wee Gomes, Emily Holland, Nora Keller, Christodoulos Kaoutzanis, Trish Kirkland, Florence Larocque, Matias Mednik, Tamar Mitts, Michael Schwam-Baird, Camille Strauss-Kahn, Joonseok Yang, Lauren Young, and Tinghua Yu for their support and friendship. I wish to express my deep and special thanks to Andrew Cheon and Xian Huang for their invaluable advice at different stages of the graduate school. My graduate school experience would have been vastly different if it were not for these two great individuals. I thank Andrew and Xian for their wholehearted support that helped me survive and enjoy the graduate school.

I also want to extend my thanks to my friends outside the department for making my life more interesting and enjoyable. Among others, I would like to thank Sangwon Han, Kangkook Jee, Jooeun Kim, Byungkyu Lee, Arum Park, Jinho Park, Sunkyoung Park, and Eunkyoung Shin. I wish to give special thanks to Sueyeon Song for her constant support and understanding. I also thank Arnie Changwon Lee for his presence and many unforgettable fun memories during my six years of undergraduate and graduate studies in Seoul and another six years of graduate studies in New York.

My eternal thanks go to my parents, Young Sik Kim and Young Shin Park, for being a constant source of love and encouragement throughout my life. I am grateful for the countless small and large sacrifices they have made so that I could pursue all my interests. Their wisdom guided me in every step of my life, and their sacrifices made everything possible. I also thank my brother, Junghwan, for being someone whom I can always rely on.

Finally and above all, the main reason why I am able to complete this journey is

the support of my husband DJ Kim. He has been the best friend who has stood by me through all the ups and downs of the graduate school, enduring my constant worries about everything and turning those worries into positive expectations. He has also been the best colleague who gave valuable comments and feedbacks to almost everything I wrote in the graduate school and proofread those writings. And I am especially thankful to him for being a great dad for our boy Hajin, who is the most wonderful thing that has ever happened to us. DJ sacrificed so much of his time in the very first year of his career, single-handedly taking care of Hajin in Singapore, while I was completing this project in New York. Without his sacrifice, this dissertation would have not been completed. I dedicate this dissertation to the two best men in my life, DJ Kim and Hajin Kim, my endless source of happiness, inspiration, and strength.

To my family

Introduction

The most challenging questions in the study of international political economy, as Frieden and Martin (2002: 119) write, "have to do with the interaction of domestic and international factors as they affect economic policies and outcomes." Exploring those interactive effects is made especially difficult by the strategic interaction among states and non-state actors, but scholarship on these fronts has advanced remarkably in a number of ways. At the core of this scholarship are three key factors: domestic actors' preferences, the nature of domestic political institutions, and the distribution of information domestically (Milner, 1997; Frieden and Martin, 2002). The literature to this point has given considerable attention to the first two–how changes in the global economy affect the preferences domestic actors, and how those changes impact domestic institutions, which then shape foreign economic policymaking (e.g. Rogowski (1989); Rodrik (1997)). On the role of information, however, the scholarship is limited. Many scholars have recognized its importance and incorporated the domestic informational structure in modeling the domestic-international linkages (Milner and Rosendorff, 1997; Milner, 1997; Mansfield, Milner, and Rosendorff, 2000). Yet, while these models shed important light on the effects of information asymmetry among domestic actors, they give less attention to the mechanisms through which domestic actors strategically provide information to other actors and how the provision of information shapes the preferences and decisions of other domestic actors.

In this dissertation, I explore the ways in which domestic actors disseminate informa-

tion on diverse aspects of globalization to individual citizens, and how such information shapes individuals' economic and political responses to globalization. The key underlying question of this dissertation is how individuals develop informed views about the open international economy and make informed decisions as consumers, workers and voters. The role that information plays in the globalized economic setting is particularly important for two reasons. On the one hand, globalization makes it difficult for individuals to acquire and process all relevant information about their economic conditions by exposing them to rapid and multidimensional changes in the labor, consumer and capital markets, as well as in the social and cultural environments. On the other hand, globalization has generated competing interest groups that are highly informed about its effects. Each of these groups can exploit its informational advantage and strategically provide information to less informed individuals in order to shape their policy preferences and economic and political behavior.

Focusing on this informational discrepancy among domestic actors, this dissertation investigates the mechanisms and the effects of information dissemination from three different angles. The first chapter examines the role of product-related information provided by the news media, biased in favor of domestic firms, in shaping consumer behavior. In the second chapter, I examine the role of trade-related information provided by interest groups in altering the trade preferences of workers. In the third chapter, I examine the role of trade-related information provided by political elites in shaping their constituents' attitudes toward trade. Overall, the three chapters in this dissertation contribute to the extant international political economy literature by introducing a factor that has been largely neglected, illuminating new causal mechanisms with information at the center and clarifying the role of certain economic groups in trade policy preference formation.

The first chapter demonstrates that the news media can serve as one channel for

governments to indirectly favor domestic industries by influencing the coverage of domestic versus foreign products. The news media is a key channel through which consumers gain product-related information. Some governments can therefore influence how consumers think about national and foreign products by disseminating favorable information about domestic products and unfavorable information about foreign products. Focusing on the Chinese news coverage of domestically-produced versus imported automobiles, I reveal a systematic government-driven bias against foreign automakers.

I assess home bias in the Chinese news media using an original dataset comprised of media coverage of auto recalls in the country between 2005 and 2013. By conducting an automated text analysis of thousands of articles from 121 Chinese newspapers under varying degrees of government control, I demonstrate a systematic bias against foreign automakers in those newspapers under strict government control, but not among commercial newspapers. I further analyze subnational reporting patterns, exploiting variation in the level of regional government interest in the automobile industry to conclude that official newspapers in areas where local governments own automotive enterprises exhibit a strong home bias. This is not observed in commercial newspapers based in the same areas or in official newspapers from other areas. The analysis suggests that the media's home bias is driven by the government's protectionist interests, rather than by the nationalist sentiment of readers. Furthermore, I show that this home bias in news coverage has a meaningful impact on actual consumer behavior, combining automobile sales data and information on recall-related web searches. The findings presented in this chapter suggest that while the rules of international trade regimes prevent governments from employing protectionist instruments directly, other less visible means are available to governments seeking to protect domestic industries.

The second chapter turns the focus to the role of labor unions as information providers for workers. Most studies on the sources of individual policy preferences assume that

individuals form their preferences based on self-interested motivations, without explaining how those interests are crystallized by the individuals (Facchini and Mayda, 2009; Scheve and Slaughter, 2001*b*). By illuminating an informational mechanism through which labor unions shape workers' policy preferences by providing policy-relevant information, this chapter offers new evidence to substantiate the link between self-interest and policy preferences.

To evaluate the effects of information on union membership, this chapter combines unique survey data of American workers and a novel set of inferential strategies. I exploit two sources of variation–namely, the legal choice that workers face in joining or opting out of unions, and the over-time reversal of a union's policy position–to demonstrate that unions influence their members' policy preferences in a significant and theoretically predictable manner. In contrast, self-selection into membership accounts for at most a quarter of the observed "union effect". The study thus illuminates the impact of unions in cohering the voice of workers, and it provides insight into the role of information provision in shaping how citizens form trade policy preferences.

The third chapter investigates the role of political elites as information providers for individual citizens. Despite well-established evidence of simultaneous influence between elites and voters, the literature on trade policy preferences has disproportionately focused on bottom-up models while rarely noting the potential for top-down influence. I address this deficiency by examining how political elites communicate their trade policy positions to constituents, and how such communications shape public attitudes toward trade. Utilizing a unique dataset constructed from an original collection of press releases along with a survey of a large sample of American workers, I offer new evidence on the effect of elite communication on trade policy attitudes. The analysis suggests that representatives' pro-free trade messages are systematically associated with a decrease in protectionist attitudes among co-partisan constituents in their districts. Exploiting the

difference in political information environments across the states, created by different senator electoral cycles, I further demonstrate that this association is mainly driven by elite influence. Overall, this chapter provides important implications for trade policy by illuminating an overlooked mechanism regarding how voters develop their trade policy preferences.

Chapter 1

Media Bias against Foreign Firms as a Veiled Trade Barrier: Evidence from Chinese Newspapers

1.1 Introduction

What measures can states employ to protect domestic industries against foreign competition when traditional measures become costly? Two core principles of the World Trade Organization (WTO), non-discrimination among other members (the "most-favored nation" principle) and treating foreign goods no less favorably than local products (the "national treatment" principle) increase the costs of employing traditional protectionist measures for member states. Nonetheless, many (if not most) governments continue to exhibit interest in protecting domestic industries. As increasing tariffs has become more difficult, states have resorted to subtler non-tariff barriers (Mansfield and Busch, 1995). In response, trade regimes have strengthened regulation of these non-tariff barriers, leading some member states to seek out other, more indirect means of supporting their national industries.

In this chapter, I argue that the news media can serve as one means of protecting domestic industries. In countries where the government controls the media, it can establish a veiled trade barrier by affecting media coverage to present domestic firms in

a more favorable light than their foreign counterparts. Such a strategy is unlikely to be challenged at the WTO due to the absence of explicit regulations regarding this issue and the difficulty of establishing evidence of deliberate government involvement. Influencing media coverage is also an attractive option for governments since the news media, as a major source of product-related information for consumers, plays a key role in shaping consumption patterns. In fact, firms doing business in foreign markets have expressed concern over unfavorable coverage they receive in the local media.[1]

Testing this claim, however, raises an empirical challenge. Recent developments in automated text analysis substantially reduce the costs of analyzing large collections of texts, but a significant challenge lies in developing an objective measure of home bias – a tendency to favor domestic firms over foreign ones. Suppose that a media outlet were found to have released more negative stories on foreign products than on domestic ones. This finding does not necessarily substantiate the existence of a systematic home bias because the difference in coverage may result from differences in the types of products or the quality of goods manufactured by domestic versus foreign firms. I therefore focus on one sector and examine instances of faulty production in the same sector to account for differences in product quality. An examination of news coverage of automobile recalls is an ideal test because product recalls have obvious negative implications with regard to the quality of the products in question, and their characteristics are comparable across different cases. Recalls of automobiles are particularly well suited for this type of comparison because they occur frequently and garner more media attention than recalls of other products.

A further challenge arises in identifying the source of media bias. While my argu-

[1]For instance, see Laurie Burkitt, "Foreign Firms Feel China's Heat." *The Wall Street Journal*, October 19, 2011; Kazunori Takada and Samuel Shen, "China Media Train Fire on U.S. Food Giants over Chicken Scare." *Reuters*, January 17, 2013; David Barboza and Nick Wingfield, "Pressured by China, Apple Apologizes for Warranty Policies." *The New York Times*, April 1, 2013 .

ment focuses on governments' protectionist incentives, media home bias can be influenced by other factors such as the nationalist sentiments of readers. Ruling out this alternative explanation is difficult because it is not easy to separate government's protectionist influence from public attitudes against globalization: newspapers under the influence of protectionist governments may tend to have readers with nationalist attitudes. In order to pin down the effect of governments' protectionist interests, I utilize a set of inferential strategies to address this challenge. With an empirical focus on Chinese newspapers, I distinguish government-driven bias from demand-driven bias by exploiting variation in the level of government control over different newspapers. I further delineate the effect of governments' protectionist interests on media bias by exploiting sub-national variation in regional governments' ownership of automotive enterprises.

My analysis, based on 6,578 news articles on auto recalls published in 121 Chinese newspapers between 2005 and 2013, reveals that newspapers, especially those under strict government control, exhibit a systematic bias against foreign automakers. Official newspapers controlled by the central government are nearly twice as likely to cover recalls by foreign automakers and publish longer news stories about such events than they do in the case of recalls involving domestic automakers. Commercial newspapers, on the other hand, do not discriminate between domestic and foreign automakers in their recall coverage. This finding is consistent with the expectation that governmental protectionist interests drive bias in the media. A sub-national analysis further corroborates that the bias is driven by the government's interest in supporting the domestic industry. Official regional newspapers in provinces in which the local governments own automotive enterprises exhibit a home bias in their recall coverage, but this tendency toward bias is observed neither in commercial newspapers located in the same provinces nor among official newspapers in other provinces where the regional government has no direct stake in the automotive industry.

Further, I assess the effect of home bias on consumer behavior, focusing on recall-related web searches and automobile sales. My analysis of recall-related web searches demonstrates that recalls of foreign cars receive more public attention than those of domestic cars, especially in provinces where official newspapers exhibit home bias. Analyzing the effect of recalls on automobile sales, I find that recalls have a negative effect on sales by foreign firms, but their effects on domestic firms are unclear. These findings are consistent with the pattern of media bias. Because the news media is more likely to cover foreign recalls than on domestic ones, the public is more aware of foreign recalls, and foreign firms face more negative consequences. This suggests that government-driven bias may constitute a serious barrier to foreign firms' business.

The finding of a government-driven bias in the Chinese news media has direct implications for challenges faced by automakers in the world's largest auto market. China's accession to the WTO in 2001 attracted keen interest from global automakers due to the enormous and fast-growing market, which in 2009 surpassed the U.S. to become the largest in the world. Despite its broad commitment to tempering its protectionist policies, the Chinese government has demonstrated a continued interest in promoting its automobile industry (Gerth, 2012; Noble, Ravenhill, and Doner, 2005; Saikawa and Urpelainen, 2014). In fact, opening its market did not result in a surge of foreign vehicle imports. The Chinese tariff on vehicles was gradually lowered from 101.1% in 1996 to 34.3% in 2004, and has remained at 25.0% since 2007, but the share of imported cars among total car sales only increased slightly, from 2.2% in 1998, to 3.5% in 2004, and 5.9% in 2012.[2] This sluggish increase in automobile imports in the wake of trade liberalization can be explained in part by the presence of joint-ventures in China, but my

[2]The tariff data are based on the HS code 8703 (motor cars and other vehicles principally designed for the transport of persons) from the WTO Tariff databases at `http://tariffdata.wto.org/`. The imports rate is based on the author's own calculation based on the *China Auto Market Almanac* (*Zhongguo qiche shichang nianjian*) series and denotes the share of the number of imported cars to the number of total vehicle sales in China.

findings on media bias also provide a potential explanation for this phenomenon. The former chief negotiator for China's WTO accession, Long Yongtu, once asserted that encouraging Chinese consumers to purchase Chinese products "will violate neither the WTO rules nor the market economic rules" (Gerth, 2012: 213). While he did not elaborate on precisely how China might do so, this study demonstrates that the utilization of government-controlled media provides a channel for influencing consumer decisions.

More broadly, the argument and the analysis presented here provide a two-fold contribution to the study of international political economy. First, this study expands the discussion of non-tariff barriers by illuminating an indirect protectionist mechanism through which the governments affect the flow of of product-related information. Previous research on non-tariff barriers has focused on ways governments can directly affect demand, supply and prices of domestic and foreign goods (Kono and Rickard, 2014; Mansfield and Busch, 1995; Naoi, 2009; Rickard, 2012; Rickard and Kono, 2014). This study, in contrast, demonstrates that governments may protect domestic industries by indirectly fostering a consumer preference for domestic goods. Individual consumers play a significant role in international trade relations, since their demand for domestic and foreign products ultimately determines the flow of trade. Thus, a systematic government effort promoting consumer preference for domestic goods over their foreign counterparts could indeed constitute a serious barrier to trade and must be examined as a non-tariff barrier.

Second, this study adds its voice to a chorus of pessimistic views regarding the effectiveness of international trade institutions. The findings here suggest that states can pursue concealed indirect measures to protect domestic industries when trade policy is otherwise constrained. While indirect protectionist measures may not be as effective as direct measures such as tariffs or quotas, they may exacerbate the difficulties of monitoring and regulating protectionist behavior by international trade institutions. A

number of studies have suggested that international institutions are not particularly effective at addressing indirect or disguised protectionism (Kim, 2015; Rickard and Kono, 2014). Compared to government procurement or health and safety policies, the use of news media as a protectionist tool is even more opaque, hindering the effective regulation of this issue. Even if governments were to make an unlikely commitment to ensure equal treatment of foreign goods in media coverage, it would be almost impossible for international institutions to enforce.

In the next section, I further discuss the broader literature on protectionism in which this study is situated and outline theoretical expectations regarding the sources of home bias in the media. I then introduce my empirical strategy and describe the dataset. The following section presents the findings and a series of robustness tests. Next, I explore the implications of the findings by focusing on the difference in public attention toward domestic and foreign recalls and on the differential effect of recalls on domestic and foreign automotive companies. In the final section I discuss the applicability of my findings beyond China, as well as related implications for the study of regime type and trade policy.

1.2 Explaining Home Bias in the News Media

To explain the news media's home bias, I consider the government's incentive to use the media as an indirect tool of protectionism. I argue that governments seek to employ less visible trade barriers to gain the benefits of protectionism without violating the rules of international trade institutions. I then discuss the mechanisms by which governments can influence media coverage of national and foreign firms in order to achieve protectionist goals. As an alternative explanation, I discuss the potential effect of readers' nationalist sentiments on coverage. I then derive observable implications of these two competing perspectives.

1.2.1 Argument: Influencing News Media as a Protectionist Measure

A state has an incentive to protect certain domestic industries against foreign competition, either in response to domestic interest groups, or to promote national interests. Despite the increasing influence of supranational economic institutions, protectionism is likely to persist in various forms. The key question, then, is how states can protect their industries while avoiding the costs that may be imposed on them by international trade regimes. Non-tariff barriers, especially those that do not involve observable government policy, are useful protectionist tools for skirting these international constraints. I suggest that home bias in the media is an instrument states may use to protect domestic industries.

International trade agreements have made imposing tariffs costly, and non-tariff barriers have served as a substitute (Anderson and Schmitt, 2003; Baker, 2005; Kono, 2006; Mansfield and Busch, 1995). Their use has become more pervasive among both advanced and developing countries over the past few decades. As the WTO and other international trade agreements have caught on to the increased use of non-tariff barriers (Rickard and Kono, 2014; Staiger, 2012), the cost of employing these protectionist measures has also increased, forcing leaders to find increasingly subtler ways of protecting domestic industries. That is, the sophistication of international trade regimes forces states to find protectionist measures that can circumvent the rules and principles set forth by those regimes.

The drafters of the General Agreement on Tariffs and Trade (GATT) took a minimalist approach to non-tariff barriers, while recognizing their potential use as a substitute for tariffs. The WTO, however, took a more stringent stance. Specifically, the WTO's Subsidies and Countervailing Measures Agreement included substantial commitments to limit the use of domestic subsidies and strengthened the prohibition on export sub-

sidies. The WTO also significantly strengthened national treatment obligations through the Technical Barriers to Trade Agreement and Sanitary and Phytosanitary Measures Agreement, both of which require member states to treat imported and locally-produced goods equally once the foreign goods have entered the domestic market (Staiger, 2012). Other international trade agreements began to pay more attention to the use of non-tariff barriers as well. Some recently concluded preferential trade agreements have an explicit rule restricting government procurement practices that discriminate against foreign producers (Rickard and Kono, 2014).

The costs of violating these rules may not be prohibitive, but member states are certainly discouraged from employing visible protectionist instruments because other member states can challenge them on policy measures that are inconsistent with the WTO rules. Since the inception of the WTO, the use of a dispute settlement mechanism has become very common especially in cases challenging subsidies, countervailing measures, anti-dumping duties, and safeguard measures. A dispute in most cases results in more openness. In eighty-nine percent of the 152 dispositive reports on WTO dispute cases initiated before 2001, at least one national measure was ruled WTO-inconsistent (Goldstein and Steinberg, 2008). Thus, it is reasonable to expect that a country, once challenged at the WTO, would be required to correct its protectionist practices. The respondent country in a dispute also pays a reputational cost when its violations become widely known by other third parties (Maggi, 1999), as well as the monetary cost of engaging in formal litigation, which can reach $500,000-$1 million (Davis and Bermeo, 2009). These costs deter member countries from implementing trade barriers that may be disputed. As Chaudoin, Kucik, and Pelc (2013: 28) note, "the mere possibility of a WTO dispute might deter a country from implementing a harmful protectionist barrier in the first place. Alternatively, a dispute between countries i and j might deter country k from erecting trade barriers. A dispute against country i over product s might deter

country *i* from erecting trade barriers for another product, *t*."

With restrictions on the use of protectionist instruments increasing, member countries are forced to abandon their protectionist policies or to continue to use traditional protectionist measures at the risk of being challenged at the WTO. If they abandon their protectionist policies, they forgo the domestic political benefits (e.g. political support from protected industries) they once earned from protectionism. If they continue to employ traditional protectionist instruments, they enjoy the domestic political benefits as long as they remain unchallenged at the WTO, but there remains a high possibility of a costly trade dispute. A third option is to find alternative protectionist instruments that evade WTO restrictions. If this is feasible, it is in governments' interests to use these measures because it allows them to gain political benefits without paying any costs.

What are these alternative protectionist instruments? While a wide array of policy instruments are subject to the rules and regulations of trade regimes, governments can still indirectly protect domestic firms against foreign competition. Besides restricting the flow of imports or offering subsidies, governments can favor domestic firms by promoting the consumption of their products. Government procurement is one useful instrument, but governments can also encourage their citizens to buy domestically produced goods. Governments can change how consumers think about national and foreign products by appealing to their patriotism or by disseminating favorable information about domestic products and/or unfavorable information about foreign products. Shaping the information provided to consumers can be an effective protectionist tool because consumers are uncertain about the quality of products, especially experience goods (Nelson, 1970), and must rely on outside information to determine the quality of the goods. If they received information biased in favor of domestic products, they would consume more domestic products and fewer foreign goods than they normally would. As a consequence, demand for foreign products would decrease, and this would have "voluntary"

protectionist effects.

The news media is a key channel through which consumers gain product-related information, and thus a potential target for protectionist manipulation. I suggest two mechanisms by which governments can exert influence on the news coverage of firms. The first mechanism is through direct censorship. In places where press freedom is limited and governments are heavily involved in micromanaging news content, governments can suppress the publication of negative stories about domestic companies or goods. When a government has a direct stake in domestic industries through state-ownership of enterprises, for instance, government officials can try to censor negative stories because they may undermine national economic interests.

Second, governments can affect news content by maintaining a "cozy" relationship with the media. In the case of state-owned media, influencing news coverage is straightforward. Since state ownership induces newspapers to take government interests into account, governments can also easily suppress negative news on the pages of state-controlled newspapers. Even when formal press freedom is guaranteed, journalists and editors may have financial and political incentives to abstain from undermining governmental interests. Some governments have the authority to appoint top-level managers of media companies. Journalists themselves may find it beneficial to maintain a good relationship with the government for their career prospects. Colluding with the government can also be profitable for media firms. Direct monetary payments are an extreme form of this; governments can also exert subtle influence through administrative decisions or legislative interventions that reward certain news companies (Besley and Prat, 2006). Thus, when political leaders openly strive to promote domestic industries, journalists learn these leaders' policy priorities and may reflect those priorities in their story selection.

There is one important qualifier that warrants a brief discussion with regard to a

state's ability to manipulate information. A state with strong control over civil society can more effectively use the news media as a protectionist tool than can states where government's function in civil society is weaker. For instance, liberal democracies such as the United States have a marketplace of ideas where government-issued information is thoroughly tested and challenged. Governments in such countries are not necessarily able to maintain "cozy" relationships with the media, and thus may not be able to collude with the media to hide negative information about domestic firms. Therefore, attempts to use news media as a protectionist instrument would be observed more often in states with a weak civil society.

1.2.2 Alternative Explanation: Nationalist Sentiments

While I argue that government's protectionist interests are responsible for home bias in the media, there is an alternative explanation: that the media's home bias reflects economic nationalism or anti-globalization attitudes among newspaper readers. International economic integration has adversely affected many individuals, generating discontent among those who are not among its beneficiaries or who perceive economic integration to be harmful to their own well-being or national interests (Rodrik, 1997; Stiglitz, 2002). The social and cultural consequences of globalization also lead some people to oppose international economic integration (Margalit, 2012). These anti-globalization attitudes may generate negative sentiment toward foreign companies, and as a consequence, may compel newspapers to present the activities of foreign firms less favorably.

The demand-side theory of media bias suggests that newspapers, as profit-maximizing firms, have an incentive to offer consumers what they want and distort stories accordingly in order to reflect the preferences of readers (Gentzkow and Shapiro, 2008, 2010).[3]

[3]Theoretical literature on media bias can be grouped into two primary perspectives: a supply-side perspective and a demand-side perspective. Theories on the supply side posit that media bias could

According to this perspective, newspapers may exhibit bias against foreign firms when their readers embrace economic nationalism and hold negative views about foreign economic influence. These readers would prefer to read negative stories about foreign firms than about domestic firms, and thus newspapers would be incentivized to provide more negative stories on foreign firms to satisfy reader demand.

This conjecture focused on the demand-side is consistent with Friebel and Heinz's (2014) study of German media coverage of downsizing. Friebel and Heinz (2014) found that German newspapers tend to cover the downsizing of foreign firms more intensely and in a more negative manner, and suggested that this pattern is driven by consumers' discontent with regard to the effects of globalization. They arrived at this conclusion because this biased tendency was found in all of the newspapers they examined. The newspapers they examined, however, were all commercial newspapers and thus, from their work it cannot be determined how a government's protectionist attitudes might play a role in news coverage. To better test this demand-driven perspective against my own argument, I outline the following competing hypotheses and test them using a sample of both government-owned and commercial newspapers.

1.2.3 Hypotheses on Media's Home Bias

Both of the above explanations suggest the existence of a home bias in media, but they diverge on the source of this bias. While my argument views a government's protectionist motives as the key factor driving home bias in media, the demand-side explanation

reflect the preferences of suppliers such as owners of news organizations, journalists, and editors. Baron's (2006) model shows that journalists may have incentives to exhibit bias in their coverage in order to increase the probability that their stories are published, or to promote their world view. Baron (2006) also suggests that news organizations may allow them to write biased stories because it helps to lower wage costs. Theories on the demand side suggest that profit-maximizing newspapers supply the slant preferred by their consumers. Gentzkow and Shapiro's (2006) model shows that bias even arises when a media firm strives to build a reputation as a provider of accurate information because providing information consistent with consumers' priors is sometimes the best way to establish a firm's reputation.

focuses on reader discontent toward foreign companies. To distinguish between these two explanations, I form two competing hypotheses, one that suggests government influence drives home bias, and the other that suggests home bias is a response to reader demand.

If government influence were the primary driver of media bias, it would be expected that media outlets under tighter government control would be more biased in favor of domestic companies. The degree of government control over news media varies greatly across countries, but even within a country, some media outlets are under more strict government control than others due to different ownership and financing structures. When media outlets are financially dependent on or directly owned by the government, they have various incentives to represent government interests through their news reporting, and governments can exert influence over these newspapers more easily. Thus, government-controlled newspapers are expected to exhibit more bias in favor of domestic companies.

Hypothesis 1. *(Government-driven bias) Government-controlled newspapers are more likely than non-government media to exhibit bias in favor of domestic companies.*

Alternatively, if popular discontent toward foreign companies drives media's home bias, we should observe bias also from commercial media that cater to their readers' interests. As commercial newspapers rely on circulation numbers and advertising sales, they have strong incentives to satisfy reader demand and to provide stories with the slant preferred by their readers. Thus, commercial newspapers would exhibit bias against foreign companies when economic nationalism or anti-globalization sentiments are prevalent among newspaper readers. Government-controlled newspapers, on the other hand, have weaker incentives to slant news stories in response to popular discontent. They may exhibit home bias to pander to nationalist sentiments, but only when it is deemed in government interests, because they mainly cater to government interests. From this

discussion, we can draw the following hypothesis that diverges from the government-driven bias hypothesis.

Hypothesis 2. *(Demand-driven bias) Commercial newspapers are equally or more likely to exhibit bias in favor of domestic companies compared with government-controlled newspapers.*

One key assumption implicit in this hypothesis is that readers of commercial newspapers hold nationalistic attitudes. The empirical validity of this assumption in the context of this study will be discussed in detail in the Section 6.

1.3 Empirical Strategy

1.3.1 Empirical Scope: News Coverage by Chinese Newspapers

The main hypotheses of this study center on the ownership of newspapers: the difference between government-controlled newspapers and commercial newspapers. In order to empirically test these hypotheses, we need a sample of newspapers that differ in the degree to which they are under government control but share other economic, social and political characteristics.

For these purposes, Chinese newspapers provide an excellent opportunity. Due to the highly localized and fragmented nature of the Chinese newspaper industry, more than 1,700 registered newspapers were operating in China as of 2013. While all newspapers in China are ultimately under state control, the degree of this government control varies substantially across newspapers, especially between official newspapers and non-official newspapers. Official newspapers are directly owned by party organizations and reflect the party's position in their news reporting. These publications are supported with public money and are circulated in offices, classrooms, and factories. Commercial newspapers, on the other hand, are financially reliant on newsstand sales and are primarily oriented toward their readership rather than the state (Stockmann, 2013: 68-73).

The differing levels of government control over newspapers which otherwise operate within common economic, social and political environments allows us to differentiate government-driven bias from demand-driven bias.

1.3.2 Measuring Media Bias: News Coverage on Auto Recalls

Media bias can be defined as a systematic tendency to favor a certain party over others in news coverage. A media outlet that is biased in favor of a certain party may slant information in various ways by, for instance, selectively reporting positive news and omitting negative news involving the given party. It may also use language that conveys a positive impression of the party. Many existing studies measure bias by examining whether these two types of behaviors are observed in a media outlet's reporting patterns.[4] This framework can be also applied to measure home bias in the news media.

In choosing a measure for home bias in the media, however, a challenge arises, because, in evaluating coverage of foreign versus domestic firms, it is necessary to take into account differences in product and service quality across these firms. Some firms produce better-quality products than others, and they naturally receive more favorable coverage from the news media. Therefore, some newspapers that appear to treat domestic firms more favorably may actually offer unbiased reporting if domestic firms outperform foreign ones in product quality. For this reason, merely looking at whether newspapers present favorable or unfavorable coverage of domestic or foreign firms is not a suitable way to study bias.

One way of addressing this challenge is to focus on a newspaper's selective omis-

[4]Scholars of media bias have measured bias in various ways. A study of partisan media bias by Puglisi and Snyder (2011) focuses on the news media's selective reporting, comparing the relative extent of coverage of political scandals involving Republican and Democratic politicians. Other studies examine the language of news coverage to examine media bias. Gentzkow and Shapiro (2010) study partisan bias by analyzing the use of language that sways readers to the right or to the left on political issues (e.g. "death tax" and "tax relief" identified as strongly Republican; "estate tax" and "tax break" identified as strongly Democrat).

sions: when similar types of negative or positive events affect firms, how likely is a newspaper to cover the story when it involves a domestic versus a foreign firm? While an unbiased newspaper would be equally likely to cover negative or positive events involving domestic or foreign firms, a newspaper with a home bias might selectively omit coverage of negative events affecting domestic firms while covering positive events, and vice versa for foreign firms. With this approach, one can establish an objective measure of media bias without explicitly taking into account differences in product quality, because comparable types of events have similar implications for product quality.

Based on these considerations, I examine the reporting on auto recalls affecting Chinese and foreign firms and measure home bias according to the frequency and intensity of news reporting devoted to the domestic car recalls relative to the foreign ones. Product recalls have obvious negative implications for the quality of the products in question, and their characteristics are comparable across different cases. A newspaper's failure to cover such a negative event involving a certain party would indicate its bias toward that party. The recall of automobiles is particularly well suited to this study's purpose because these happen frequently and get more media attention than the recall of other products (i.e. toys, electronics, or drugs), allowing an empirical examination of reporting patterns over various time periods. The next section provides a detailed description of the dataset on auto recalls and their media coverage in China.

1.3.3 Data

In order to carry out the empirical analysis, I constructed an original dataset containing information on 472 auto recall incidents announced in China between 2005 and 2013, including more than 5,000 news reports on these incidents by 121 Chinese newspapers.

Auto Recalls I compiled a list of auto recalls announced in China between 2005 and 2013 from the website of the Chinese government agency in charge of disseminating

recall-related information.[5] For each announced recall, the website provides the name of the manufacturer, the estimated number of affected cars, and the reason for the recall. In addition, I classified recalls into three categories according to the manufacturer: domestic, domestic-foreign joint venture, or foreign. The joint venture category includes cars produced in China by foreign investors partnering with Chinese companies (foreign automakers investing in China are allowed to produce vehicles only through a 50-50 split ownership with Chinese partners). The foreign producers category exclusively captures imported vehicles produced abroad by foreign automakers.[6]

Table 1.1 compares the characteristics of recalls across the three types of manufacturers. Among 472 recalls of passenger cars, excluding recalls of trucks or buses, 62% of recalls were by foreign automakers, 26% were by domestic-foreign joint ventures, and 12% involved cars produced by domestic manufacturers. The number of cars affected varies considerably across the recall incidents, from a single car to 1,200,000. Among the three types of producers, recalls by joint venture producers, on average, tend to involve the highest number of affected cars, followed by domestic and foreign automakers. The reason for the recalls also varies among the three types of producers to some degree, but defects in electrical systems, engines, or steering represent the three most common reasons, accounting for roughly 60% of recall cases for each type of producer.

Newspapers The primary empirical focus of this study is news coverage of auto recalls by Chinese newspapers. I examine news coverage by 121 daily general-interest

[5] I choose this time period due to the data availability. Recall announcements in China are available at `www.qiche365.org.cn`. The website provides information on recalls announced only from June 2004 around at a time when the Chinese government announced the introduction of the Provision on Regulations on Defective Automobile Products Recall in March 2004, which took into effect from October 2004. The Provision required automobile manufacturers to recall products that are found to be defective.

[6] I code recalls announced by a joint venture producer in the foreign producer category when the recall announcement explicitly states that the recalled cars are imported ones. This is when the domestic-foreign joint automakers are in charge of recalling cars produced by foreign automakers and then imported to China. The results are not sensitive to this coding decision.

Table 1.1: Summary Statistics of Recalls Announced in China

	Domestic Cars		Joint Venture Cars		Foreign Cars	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Recall Size						
Affected Cars	25,470	49,194	87,794	182,782	6,599	25,465
Recall Type						
Air Bag/Seat Belt	0.00	0.00	0.00	0.00	0.01	0.10
Brake	0.16	0.37	0.19	0.39	0.13	0.34
Electrical System	0.11	0.31	0.34	0.47	0.22	0.41
Engine	0.21	0.41	0.18	0.39	0.25	0.43
Powertrain	0.13	0.33	0.12	0.32	0.09	0.29
Steering	0.22	0.42	0.14	0.35	0.15	0.36
Structure/Body	0.16	0.37	0.08	0.27	0.16	0.37
Others	0.00	0.00	0.02	0.12	0.02	0.15
Observations	55		125		292	

Note: Recall type variables are binary indicators for whether the recall happened due to the specified reason (e.g. air bag/seat belt, brake, or electrical system). These variables are not mutually exclusive because one recall event could involve multiple reasons.

newspapers, including the state press agency, the *Xinhua News Agency* (*Xin-hua she*). I exclude newspapers with a narrow scope, such as *International Finance News* (*Guoji jinrong bao*) or *China Construction Newspaper* (*Zhongguo jianshe bao*). I also restrict the sample to daily newspapers, excluding semi-weekly, weekly, or monthly papers since these non-daily newspapers tend to have different reporting patterns.

I acquired the newspaper articles published in 120 newspapers through *WiseNews*, the Hong Kong based newspaper data provider, and the articles by *Xinhua News Agency* through *Factiva*'s newspaper archive. *WiseNews* covers the whole period under examination (2005-13) for most newspapers. Where WiseNews' subscription to a particular newspaper starts later than 2005 or ends earlier than 2013, my data coverage is necessarily limited to a shorter period. This set of newspapers covers 29 provinces, including province-level municipalities and autonomous regions.[7]

For each newspaper, I collected information on the newspaper's ownership to iden-

[7]The dataset does not cover Hong Kong, Macau, Guizhou Province, the Inner Mongolia Autonomous Region, or the Tibet Autonomous Region.

tify the degree to which it is party-controlled.[8] I classified newspapers into two categories: official newspapers and non-official newspapers. Official newspapers are owned and strictly controlled by party committees at different administrative levels, CCP divisions, or party-sponsored mass organizations. They mostly rely on mandatory subscription by government departments, government-affiliated organizations, and state-owned enterprises, and are consumed in offices, classrooms, and factories. Non-official newspapers include evening newspapers that are allowed more managerial autonomy despite sponsorship by party committees and commercial newspapers that are subsidiaries of other newspapers or press groups. Non-official newspapers are distinguished from official newspapers by their reliance on advertising revenues and on street vendors for circulation. They also have greater editorial autonomy than official newspapers. A previous analysis of the level of political control over Chinese newspapers also found a significantly higher degree of party control over official newspapers compared to evening or subsidiary newspapers, which I broadly group as non-official newspapers (Qin, Strömberg, and Wu, 2014). The list of newspapers along with their sponsoring institutions and classification is available in the Appendix.

I then collected newspaper articles published by these newspapers that mention an auto recall event. I first searched for all newspaper articles published between 2005 and 2013 that included the word "recall" (*zhaohui*) in the headline, returning more than 40,000 articles. I excluded irrelevant articles that involved non-auto product recalls or that featured the word "recall" in other contexts. I then constructed the dataset with newspaper-recall as a unit of observation. For each observation, I created a binary indicator *Report* scored as 1 if a newspaper published an article on a given recall event

[8]I acquired sponsorship information from the 2006 Chinese Newspaper Directory (*Zhongguo baozhi minglu*) published by the General Administration of Press and Publication, the agency that issues licenses for newspaper publication. This information is current for 2013 because the newspaper sponsors rarely change.

within two weeks of the recall announcement and 0 otherwise, matching the name of the newspaper, the name of the automaker, the date of publication and the date of recall in the newspaper dataset and the newspaper-recall dataset.

Table 1.2: Summary Statistics of Auto-Recall News Reporting

	Min.	**Mean**	**Max.**
Total	0.0%	14.7%	66.1%
By Manufacturer			
Domestic	0.0%	12.2%	58.2%
Joint Venture	0.0%	18.5%	70.4%
Foreign	0.0%	13.7%	67.1%
By Recall Size			
# < 10,000	0.0%	13.1%	64.9%
# > 10,000	0.0%	20.7%	69.4%
By Recall Type			
Electrical System	0.0%	16.0%	69.4%
Engine	0.0%	14.2%	65.1%
Steering	0.0%	14.6%	67.6%
Brake	0.0%	15.4%	65.3%

Note: Entries indicate the statistics for the proportion of recalls covered by a newspaper out of all recalls. The unit of observation is newspaper, and the statistics is based on the observations of 121 newspapers.

Table 1.2 provides a brief overview of auto recall reporting patterns, which vary widely across newspapers. On average, newspapers covered 15.0% of all auto recalls announced in China between 2005 and 2013. While 10 of the 121 newspapers examined never published a story on the announced recalls, *Nan Fang Daily* (*Nan Fang Ribao*) wrote recall-related articles most frequently, covering 66.1% of the incidents, followed by the *Beijing Times* (*Jinghua Shibao*) and the *Beijing News* (*Xin Jing Bao*), covering 61.6% and 60.8%, respectively. I also examine reporting patterns across different characteristics of auto recalls. The number of affected cars appears to be a key determinant of newspapers' reporting decisions. Newspapers on average reported 20.7% of recalls that involved more than 10,000 vehicles, but only 13.1% of those involving fewer than 10,000 vehicles.

In order to account for this difference, I control for the size and type of the recall in the empirical analysis.

Provincial-Level Indicators I identified the location of each newspaper's headquarters and identified province-level demographic and economic variables that could influence the reporting patterns of newspapers operating in the region.[9] Namely, I extracted variables relating to the total yearly population of the province, regional gross domestic product, car ownership, retail sales of automobiles, passenger car production, and foreign direct investment flow from the Access China database of the Economist Intelligence Unit.[10] I also acquired data on the annual province-level newspaper advertising revenue variable from the *China Advertising Yearbook* (*Zhogguo guang gao nian jian*) series to account for the overall level of newspaper commercialization in each province.

1.4 Empirical Analysis

1.4.1 Government-Driven vs. Demand-Driven

In order to examine whether newspapers discriminate against foreign automakers, and to explore the source of this bias, I begin by analyzing differences between official and non-official newspapers in their coverage of domestic and foreign auto recalls.

Analyzing the Selective Omission of Recall Incidents I first examine whether newspapers are more likely to cover recalls involving foreign automakers than recalls involving domestic ones. In this analysis, the dependent variable Y_{ijkt} is a binary indicator *Report* that is coded 1 if the newspaper i located in a province j published a news story about the recall event k announced in a time period t, and 0 otherwise. I use the binary

[9] Address information for each newspaper's headquarter is listed in the *Chinese Journalism Yearbook* (*Zhongguo xin wen nian jian*) series.

[10] Detailed information about the database is available at `http://www.eiu.com/public/accesschina/marketing.aspx`.

indicator instead of focusing on the number of newspaper articles written per recall k because most recall events are covered only once by each newspaper. The binary probit models are specified as follows:

$$\Pr(Y_{ijkt} = 1) \quad = \quad \Phi(\alpha + \beta_1 Foreign_k + \beta_2 Official_i + \beta_3 Official{*}Foreign_{ik} + \delta \mathbf{Z}_k + \mu_j + \tau_t)$$

where *Foreign* takes the value of 1 if the recall involves imported foreign cars, or 0 if the recall involves domestic or domestic-foreign joint venture cars; *Official* is a binary indicator for official newspapers; vector Z denotes control variables at the recall level; μ is a vector of province fixed effects; and τ is a vector of half-year fixed effects. In constructing the binary indicator *Foreign*, I treat both domestic firms and domestic-foreign joint ventures as non-foreign automakers because domestic companies, which are usually state-owned, have at least a 50% stake in the operation of joint ventures.[11]

The main parameter of interest is β_3. The coefficient for the interaction term of *Official* and *Foreign* indicates if bias is government-driven or not. If the media's home bias reflects the government's interest in protecting domestic industry, we should observe the bias mainly in official newspapers, and β_3 should be positive and statistically significant. A positive and statistically significant coefficient for the interaction term would mean that official newspapers tend to selectively write about recalls of imported cars.

The specification also controls for several recall-specific factors. I include *Recall Size (Logged)*, the logged number of affected cars in each recall incident k, since a recall involving more cars would attract more media attention. I also include seven binary indicators of recall type (e.g. engine, brake, or electrical system) across all estimations, because some types may receive more coverage than others. I also include province-specific fixed effects to control for any unobservable factors leading newspapers located

[11] I also estimate the models separating purely domestic companies from joint-venture companies, as presented in the Appendix.

in a specific province to devote more coverage to auto recalls. In some models, I include the newspaper fixed-effect instead to control for unobservable factors that may affect the newspaper's reporting decisions. Additionally, I include half-year-specific fixed effects to capture any temporal trends in the news value of auto recall. I include recall-specific fixed effects in some models instead of half-year specific fixed effects. Throughout the estimations, standard error is clustered by recall in order to account for the dependence between different newspapers' observations of the same recall event. I also experiment with different clustering – by recalls or by the two-dimensions of newspapers and recalls as a robustness test.

Table 1.3: Probit Models Estimating News Coverage Probability of Auto Recalls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign	0.036**	0.026+	0.024+		0.035**	0.026+	0.024+	
	(0.013)	(0.014)	(0.013)		(0.013)	(0.014)	(0.013)	
Official	-0.011**	-0.029**	-0.041**					
	(0.004)	(0.006)	(0.006)					
Official * Foreign		0.031**	0.030**	0.033**				
		(0.009)	(0.009)	(0.009)				
Central Party Official					0.021*	-0.034**		
					(0.009)	(0.012)		
Central Party Official * Foreign						0.103**	0.098**	0.141**
						(0.021)	(0.020)	(0.033)
Regional Party Official					-0.017**	-0.027**	-0.009	
					(0.004)	(0.006)	(0.006)	
Regional Party Official * Foreign						0.018*	0.020*	0.020*
						(0.009)	(0.009)	(0.009)
Province FE	No	No	Yes	No	No	No	Yes	No
Newspaper FE	No	No	No	Yes	No	No	No	Yes
Halfyear FE	No	No	Yes	No	No	No	Yes	No
Recall FE	No	No	No	Yes	No	No	No	Yes
Observations	35246	35246	35246	32886	35246	35246	35246	32886

Marginal effects; Standard errors clustered by recalls in parentheses

All models include recall-level controls: the logarithm of recall size (number of cars affected by recall) and binary indicators for recall type (i.e. airbag, brake, electrical system, engine, powertrain, steering, and structure/body).

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

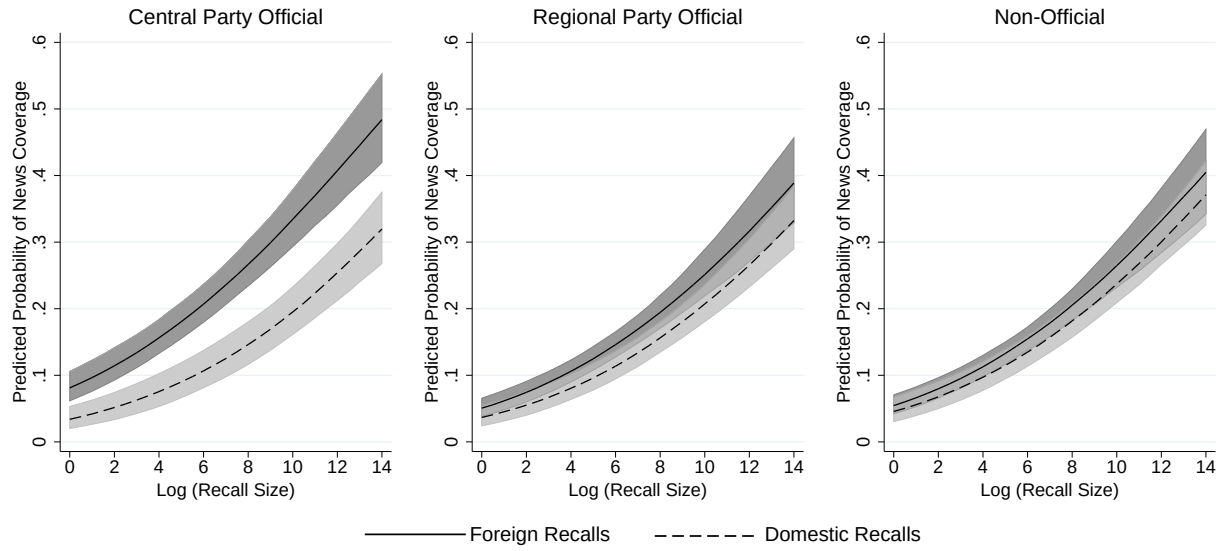
Table 1.3 presents the estimation results with marginal effects in the main entries and clustered standard errors in parentheses. The results are consistent with the government-driven bias hypothesis. Foreign recalls generally receive more media coverage, and official newspapers drive this tendency. The first column shows the estimate for *Foreign* and *Official* variables. *Foreign* appears to be positive and significant at the 0.01 level, yet its significance becomes weaker as its interaction term with the *Official* variable is added in models 2-4. The interaction term is always positive and statistically significant at the 0.01 level. This suggests that official newspapers are more likely to report foreign recalls than domestic recalls, while non-official papers tend to devote more or less equal coverage to domestic and foreign recalls.

To further investigate the mechanism by which home bias occurs, I estimate additional models presented in columns 5-8, where I include separate indicators for *Central Party Official* and *Regional Party Official* variables and their interaction terms with the *Foreign* indicator. Official newspapers have different sponsoring institutions, from the central party to various province or municipal-level parties. We would expect official newspapers sponsored by the central party to exhibit more bias against foreign automakers. As the central party is the main decision-making organization dealing with trade liberalization, it would be under more pressure from interest groups seeking protection than regional governments would be. In addition, the Chinese automobile industry is dominated by state-owned companies, and the central party owns the majority of them.[12] Among provincial governments, only seven out of thirty-one own automobile companies and thus, regional parties in general do not have a significant direct stake in protecting

[12]Among the 47 passenger car companies listed in the 2009 *China Large Corporation Yearbook*, 22 companies are owned by the Assets Supervision and Administration Commission (SASAC) of the State Council, or their joint ventures with foreign companies, 16 companies are owned by the SASAC of the provincial or municipal parties or their joint ventures with foreign companies, and the rest are privately owned. I collected the ownership information from the annual reports of each company, available on the Shanghai Stock Exchange website `http://www.sse.com.cn`, the Shenzhen Stock Exchange website `http://www.szse.cn/main/`, and from companies' own websites.

the domestic automobile industry. From the perspective of the government-driven bias hypothesis, then, central party-controlled newspapers would exhibit more bias against foreign automakers than regional official newspapers. The estimation results presented in columns 5-8 are consistent with this hypothesis: central party-controlled newspapers are more likely to cover foreign recalls than domestic ones. The estimated coefficient for the variable *Central Party Official * Foreign* is always statistically significant at the 0.01 level and substantively meaningful in the expected direction. Note also that the estimated coefficient for the variable *Regional Party Officials * Foreign* is positive and statistically significant, but its magnitude is much smaller.

Figure 1.1: Predicted Probability of News Coverage of a Recall Event by Newspaper Type



I assess the substantive effects of an automaker being foreign across three types of newspapers. Figure 1.1 describes the predicted probability that each type of newspaper covers a recall event depending on the recall size and the domestic/foreign classifica-

tion.[13] As the figure illustrates, holding the size of a recall and other factors constant, all three types of newspapers are more likely to report foreign recalls, but the substantive effect appears to be the largest for central party officials, followed by regional party officials. For example, consider a recall incident involving 1,100 cars ($ln(1,100) \approx 7$). While a central party-sponsored official newspaper has a 12.5% probability of reporting the recall when it involves a domestic automaker, this probability almost doubles to 23.6% when the recall involves a foreign automaker. A regional official newspaper has, on average, a 13.4% probability of reporting a domestic recall and a 16.9% probability of reporting a foreign recall. On the other hand, the substantive effect of an automaker being foreign is marginal in a commercial newspaper that has, on average, a 15.7% of probability of covering a domestic recall and a 17.8% probability of covering a foreign one.

This result reveals a selective coverage pattern among official newspapers. An auto recall does not always make it into the newspaper headlines, and journalists and editors use their discretion in selecting which news stories to deliver. Among the many factors considered, whether the firm in question is domestic or foreign appears to have a considerable effect on whether the recall is reported by local media, especially official media, with recalls by domestic firms less likely to be covered. The estimated substantive effect suggests that readers of these newspapers get to read almost twice as many news articles on foreign recalls as domestic recalls if the two types of recalls occur with similar frequency. Given that foreign companies have announced more recalls in China in recent years, the number of articles on foreign recalls relative to domestic recalls that readers are exposed to today may even be higher than this estimate suggests. In 2013, for instance, 59 foreign and 39 domestic recalls were announced in China. According to

[13] I calculated the probability using 1,000 simulations based on the estimation results from the sixth model, setting the type of recall to engine.

the calculated predicted probability of reporting by central-party officials, this translates into the publication of roughly 14 news stories on foreign recalls, and only 5 on domestic recalls.

Analyzing the Intensity of Recall Reporting Next I examine the media's home bias using an alternative measure, intensity of reporting. Newspapers with a home bias would emphasize negative stories involving foreign companies: they would provide more intensive coverage of recalls involving foreign cars. In order to explore this possibility, I focus on the number of words per article as the main dependent variable indicating intensity of coverage.[14] Specifically, I estimate the following model focusing on those cases in which newspapers covered a recall event:

$$Article\ Length_{ikt} = \alpha + \beta_1 Foreign_i + \delta \mathbf{Z}_k + \mu_i + \tau_t + \epsilon_{ikt}$$

where $\mathbf{Z}$ denotes control variables at the recall level. A vector of newspaper fixed effects, μ, and a vector of half-year fixed effects, τ, are also included to account for any newspaper-specific and temporal factors that influence the length of articles.

Table 1.4: Length of Article as Dependent Variable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Central Party Official			Regional Party Official			Non-Official		
Foreign	27.642^{+}	25.328	31.220^{+}	16.177	16.237	9.924	5.882	6.952	3.390
	(15.697)	(15.496)	(16.159)	(14.936)	(14.605)	(14.926)	(8.493)	(8.223)	(7.545)
Newspaper FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Halfyear FE	No	No	Yes	No	No	Yes	No	No	Yes
Observations	304	304	304	1323	1323	1323	3473	3473	3473

Marginal effects; Standard errors clustered by recalls in parentheses
All models include recall-level controls: the logarithm of recall size (number of cars affected by recall) and binary indicators for recall type (i.e. airbag, brake, electrical system, engine, powertrain, steering, and structure/body).
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

[14] As words are not separated from one another in the Chinese language, I counted the number of words after segmenting the sentence using the Stanford Word Segmenter (Chang, Galley, and Manning, 2008).

Table 1.4 presents the estimation results: the results from central-party official papers are placed in columns 1-3, from regional party officials in columns 4-6, and from non-official papers in columns 7-9. Again, the results provide evidence of a government-driven media bias. Central-party officials tend to publish longer stories on foreign auto recalls. According to the third model, central-party officials write on average about 31 more words per article on foreign recalls than on domestic recalls, making articles on foreign recalls about 16% longer than the average article on a recall. For other types of newspapers, the effect of foreignness appears to be positive, but its magnitude is marginal and not statistically significant at the conventional level.

On the whole, I find evidence of a home bias in official newspapers, especially those controlled by the central party, and a lack of evidence for bias among non-official newspapers. The finding that biased coverage is observed only in official newspapers (that must take into account the interests of the party) and not in non-official newspapers (that cater primarily to their readers' interests) shows that government interests, not the nationalist sentiments of newspaper readers, drive home bias.

1.4.2 State-Owned Enterprises and Party-Controlled Papers

The previous section demonstrated that official newspapers sponsored by provincial or municipal governments are less biased. This finding is in line with the government-driven bias hypothesis, because regional governments in general do not have a direct stake in protecting domestic industries. However, some regional governments have a greater interest in the automobile industry than others because they own automobile companies (domestic or joint venture). If the government's protectionist interest explains the presence of a home bias in media, regional governments with a greater interest in the automobile industry should exhibit more bias. This section conducts an empirical investigation of this expectation.

One key sub-national variation this study exploits is differences in the level of economic interest regional governments have in the automotive industry. While the central party owns most of China's state-owned automotive enterprises (SOEs), a few provincial and municipal parties have their own automotive SOEs. As a result, these governments have a direct stake in the operation of their local enterprises, and they have devised various protectionist measures to favor local companies. This protectionism has continued even after China's entry into the WTO. For instance, the Beijing municipal government has proactively adopted various policies to promote the Beijing Hyundai Motor Company–a joint venture between the state-owned Beijing Automotive Industry Holding Company and Hyundai Motors, a South Korean company. These protectionist policies include the Beijing government's successful promotion of a Hyundai model for Beijing's taxi fleet change prior to the 2008 Beijing Olympics (Oh, 2013). This example shows that some regional governments have an interest in promoting the domestic automotive industry and that they seek to do so in a way that does not violate the regulations imposed by the WTO. In this context, one would expect to observe a higher degree of home bias among newspapers controlled by these regional governments.

I test this expectation by analyzing the reporting patterns of regional newspapers. The localized nature of the Chinese newspaper industry allows for the examination of variation across regions. The Chinese provinces and municipalities have official newspapers that are controlled by provincial or municipal governments as well as non-official newspapers that are commercial in nature. I would expect official newspapers in provinces where the regional government has its own automotive SOE to exhibit a higher degree of bias compared to non-official newspapers located in the same provinces or official newspapers located in other provinces. Taking the same empirical approach used in the previous section, I estimate the following model:

$$\begin{aligned}\Pr(Y_{ijkt}=1) &= \Phi(\alpha+\beta_1 Foreign_k+\beta_2 Officials\ with\ Auto_i+\beta_3 Officials\ without\ Auto_i \\ &+ \beta_4 Officials\ with\ Auto{*}Foreign_{ik}+\beta_5 Officials\ without\ Auto{*}Foreign_{ik}+\gamma\mathbf{X}_j+\delta\mathbf{Z}_k+\mu_j+\tau_t).\end{aligned}$$

This specification is similar to the one estimated in the previous section, except that here I focus primarily on regional newspapers and include two indicators of newspaper type–*Officials with Auto* and *Officials without Auto*–and their respective interaction terms with *Foreign*, the variable denoting recalls of foreign cars. *Officials with Auto* is a binary indicator, scoring 1 if newspaper i is an official newspaper in a province j where the provincial or municipal government manages a state-owned automobile enterprise, and 0 otherwise. *Officials without Auto* is a binary indicator coded 1 for official newspapers located in a province j where the provincial or municipal government does not own automobile enterprises and 0 for others. Taking for an example of newspapers in Shanghai, *Jiefang Daily* (*Jiefang ribao*), the official newspaper controlled by the Shanghai Municipal Party Committee, is coded 1 for the *Officials with Auto* variable and 0 for the *Officials without Auto* variable, because this party committee owns the Shanghai Automotive Group. The *Shanghai Morning Post* (*Xinwen Chenbao*) and the *Shanghai Evening Post* (*Xinwen Wanbao*) are coded 0 for both *Officials with Auto* and *Officials without Auto* variables because they are non-official papers sponsored by the press group.[15] The main goal of this analysis is to identify the effect associated with *Officials with Auto* and the interaction term *Officials with Auto*Foreign*. Official newspapers with an interest in the automotive industry are expected to show a greater tendency to cover recalls involving

[15]For the construction of this variable, I collected information on the ownership of passenger car companies listed in the 2009 China Large Corporation Yearbook relying on various sources. The main sources include the annual reports of each company, which are available on the Shanghai Stock Exchange website `http://www.sse.com.cn`, the Shenzhen Stock Exchange website `http://www.szse.cn/main/`, and companies' own websites. As this yearbook does not contain information on medium-sized corporations, I also checked the list of state-owned companies available from the website of each provincial and municipal government's State-owned Assets Supervision and Administration to see if the list includes any passenger car companies. For instance, the list of state-owned enterprises that Beijing supervises is available at `http://www.bjgzw.gov.cn/QtCommonAction.do?method=xxcx&type=0000006010&flag_qt=6`, which includes Beijing Automotive Group.

foreign automakers than those involving domestic ones, and do so more than official newspapers in regions without any direct stake in the automotive industry.

In addition to the control variables included in the previous analysis, I include the following variables measured at the province level. First, I control for the log of the regional gross domestic product and population by the million because auto SOEs might be located in provinces with more wealth and a larger population. Second, I include the FDI inflows as a percentage of the province's gross domestic product. Those provinces that have attracted more foreign investment might be more favorable towards foreign companies. Conversely, those provinces exposed to more foreign influences might be under more pressure to protect domestic industries. Either way, this factor may influence newspapers' relative coverage of foreign to domestic recalls. Third, the log of the value of advertising revenue for each province is included. The media environment in Chinese provinces varies, especially with regard to the level of commercialization, which can be an important determinant of news coverage. I include the value of advertising revenue reported by industry, which is a more accurate estimate of the commercialization of local media markets than figures reported by the media itself (Stockmann, 2013: 223). I also control for car ownership and the log of the value of automobile retail sales at the province level because newspapers might cover auto recall incidents more frequently if their readers are more interested in the automobile market. Lastly, I control for the log of the value of passenger car production because auto SOEs are likely to be located in provinces where the automotive industry plays a larger role in the regional economy.

Table 1.5 presents the estimation results. I first estimate the model without adding the interaction terms. Official newspapers in provinces where local governments have auto SOEs appear to cover more auto recalls in general compared to official newspapers in other provinces. In order to examine these newspapers' relative coverage of foreign

Table 1.5: Probit Models Estimating Effect of Auto SOE Ownership on Recall News Coverage

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreign	0.032*	0.028*	0.026*	0.026*	0.024+	0.029*	0.029*
	(0.013)	(0.013)	(0.013)	(0.013)	(0.014)	(0.015)	(0.015)
Officials with Auto	0.060**	0.036**	-0.003	-0.003	-0.006	-0.004	-0.628**
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.061)
Officials without Auto	-0.107**	-0.099**	-0.026**	-0.025*	-0.029**	-0.013	-0.426**
	(0.005)	(0.008)	(0.010)	(0.010)	(0.011)	(0.014)	(0.101)
Officials with Auto * Foreign		0.037**	0.040**	0.040**	0.037**	0.035**	0.034**
		(0.010)	(0.010)	(0.010)	(0.011)	(0.011)	(0.012)
Officials without Auto * Foreign		-0.019	-0.015	-0.014	-0.009	-0.021	-0.014
		(0.014)	(0.013)	(0.013)	(0.015)	(0.017)	(0.016)
Regional GDP, logged				0.142**	0.004	-0.111	-0.104
				(0.051)	(0.068)	(0.088)	(0.091)
Population				-0.000	0.000	-0.030**	-0.016**
				(0.001)	(0.002)	(0.005)	(0.005)
FDI Inflows, % of GDP				0.000	0.003	0.018**	0.013*
				(0.004)	(0.005)	(0.005)	(0.006)
Advertising Revenue in Province, logged					0.003	-0.001	0.000
					(0.003)	(0.003)	(0.003)
Car Ownership						0.020**	0.013**
						(0.003)	(0.003)
Retail Sales of Automobile, logged						-0.077**	-0.076**
						(0.020)	(0.020)
Passenger Cars Production, logged						-0.012	-0.005
						(0.011)	(0.011)
Province FE	No	No	Yes	Yes	Yes	Yes	No
Newspaper FE	No	No	No	No	No	No	Yes
Halfyear FE	No	No	Yes	Yes	Yes	Yes	Yes
Observations	33455	33455	33455	33455	27575	24313	23758

Marginal effects; Standard errors clustered by recalls in parentheses

All models include recall-level controls: the logarithm of recall size (number of cars affected by recall) and binary indicators for recall type (i.e. airbag, brake, electrical system, engine, powertrain, steering, and structure/body).

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

and domestic recalls, I add the interaction terms in models 2-7. Across the estimations, the interaction term *Official with Auto * Foreign* appears to be positive and statistically significant at the 0.01 level or the 0.05 level, but *Official without Auto * Foreign* is negative and far from statistically significant. In other words, regional newspapers under the control of local governments seeking to protect the domestic automotive industry

Figure 1.2: Predicted Probability to Report the Recall Event by Auto SOE Ownership

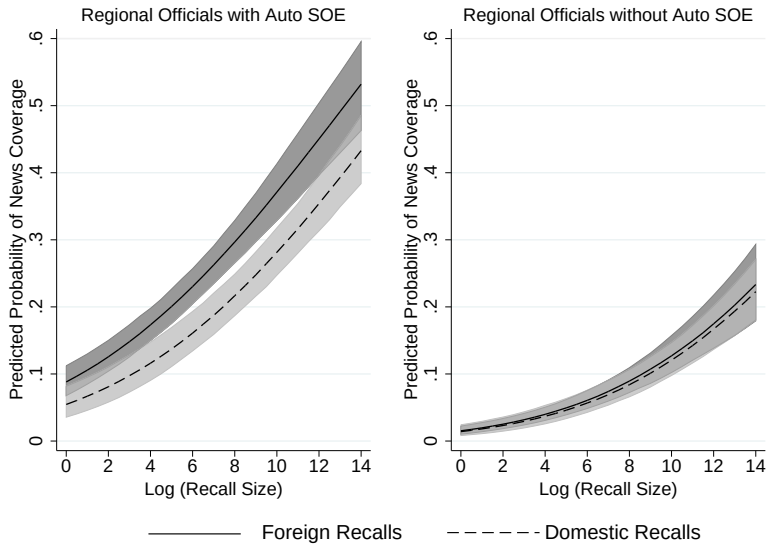


exhibit anti-foreign bias. This tendency, however, is not observed in official newspapers controlled by governments with less of an economic interest in the automotive industry. This suggests that not all government-owned newspapers are biased against foreign firms. Rather, government-owned newspapers exhibit bias only when the government has an interest in protecting domestic industries.

In order to better illustrate the result, Figure 1.2 describes the predicted probability of reporting a foreign versus a domestic recall.[16] As the left panel shows, newspapers controlled by regional governments with a direct stake in the automotive industry are more likely to report on auto recalls involving imported cars. Newspapers under the control of other governments with no direct interest in the automotive industry, however, cover foreign recalls about as often as domestic ones.

[16]I calculated the probability using 1,000 simulations based on the estimation result from the second model. I set the type of recall to *engine*.

1.5 Robustness Tests

I subject my results to a series of robustness checks. All robustness checks are variations of the original Models 3 and 7 from Table 1.3 and Model 6 from Table 1.5. The results presented in the Appendix demonstrate that the substantive findings of this analysis of auto recall reporting patterns remain strong across various specifications.

First, I account for differences between domestic and foreign cars in order to ensure that the findings are not driven by these differences other than "being foreign" vs. "being domestic." The major discernible difference is automobile price. Imported foreign cars tend to be more expensive than domestically produced ones, partly because the foreign category includes luxury brand cars. Thus, we may observe bias against foreign cars in some newspapers simply because these newspapers tend to report on luxury cars more frequently and intensely. In order to account for this, I additionally control for the price of recalled cars in the empirical analysis. I also create a binary indicator for luxury brand cars and include this indicator in the empirical analysis, and also estimate an additional model excluding luxury brand cars from the sample. These additional variables appear to have no meaningful effect on reporting decisions.

Another notable difference between domestic and foreign cars is the frequency of recalls. Foreign automakers have announced recalls more frequently than domestic or joint-venture automakers. This difference does not explain the empirical pattern by itself, because my empirical focus is on the probability that a given newspaper will report a recall, not on the absolute number of news reports on foreign versus domestic recalls. It is plausible, however, that newspapers find recalls by foreign automakers more newsworthy due to the reoccurrence of these recalls. I account for this possibility by controlling for the cumulative number of recalls by a manufacturer in China from 2005 to the date of the recall announcement under analysis. Controlling this variable

does not change my main findings.

Second, I exclude a subset of observations in order to ensure that my main substantive results are not driven by a small set of observations. I successively exclude major provinces or province-level cities, including Beijing, Guangdong, Hubei, Shanghai, and Sichuan, one by one. The coefficients for the main variables and their substantive significance remain strong. I also exclude recalls by manufacturers in specific countries from the sample, one by one, to check if the biased reporting targets a specific country. The results show that the media's home bias remains substantial even when I exclude subsets of observations involving recalls by manufacturers based in France, Germany, Japan, the U.S., and the U.K. This suggests that the news media do not make a clear distinction among producers in different countries in making their reporting decisions.

Third, I estimate the same models with different clustering. I cluster the standard errors by newspapers instead of by recalls. I also cluster by the two dimensions of newspaper and recall to capture the unspecified correlation between observations of the same newspaper in different recall reporting decisions and the dependence between observations of different newspapers in the same recall event. I follow a standard approach for estimating standard errors clustered by multiple dimensions (Cameron, Gelbach, and Miller, 2011; Petersen, 2009; Thompson, 2011). The main substantive findings remain robust across the models.

Lastly, I experiment with a different coding of the *Official* variable by treating semi-official newspapers as official newspapers. I originally treated evening newspapers sponsored by party organizations as non-official papers because they mainly rely on newsstand sales. As these newspapers are conventionally considered to be semi-official, under less government control than official newspapers but more government control than fully commercial newspapers, I revise the coding scheme. The analysis results show that revising the coding scheme does not change the empirical results.

1.6 Discussion of an Alternative Mechanism: Different Readerships

A plausible alternative mechanism of the main empirical findings could be the different characteristics of readers of official and non-official newspapers. Official newspapers' home bias could be explained by the nationalistic attitudes of their readers. Such a mechanism, however, is unlikely to hold for the following reasons. Official newspapers do not cater to their readers but only to government interests because they do not rely on circulation or sales of newspapers. Thus, it is unlikely that the readership characteristics account for the reporting patterns of official newspapers. Even if we assume that official newspapers seek to cater to more nationalistic readers, this account is unable to explain the sub-national variation: why regional official papers based in provinces with direct stake in the automobile industry exhibit more bias than other regional official papers.

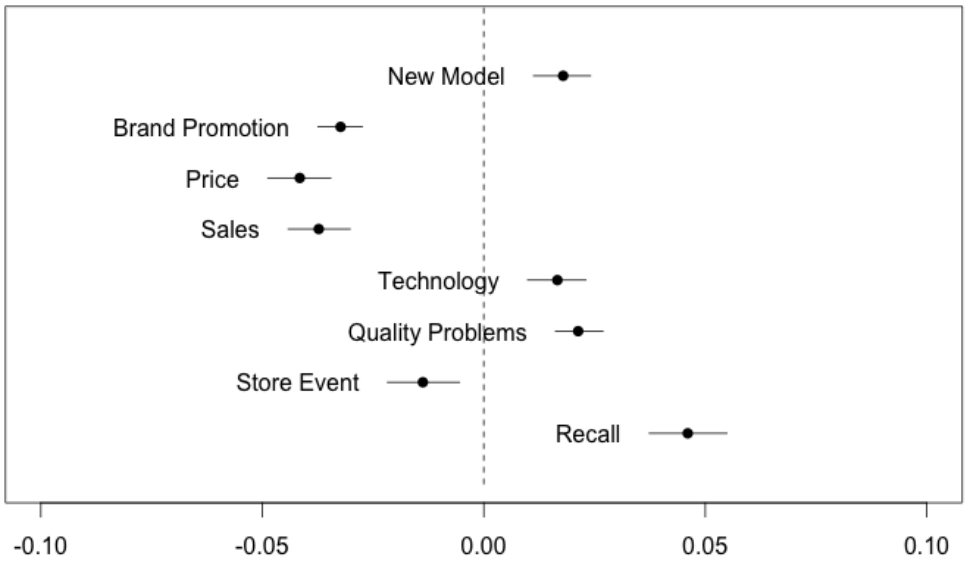
More importantly, official newspaper readers do not differ from non-official newspaper readers in their nationalistic sentiments. According to the 2004 Beijing Area Studies survey data that included detailed questions on media consumption patterns, official newspaper readers on average have higher income and include more CCP members, but their nationalist attitudes do not diverge from non-official newspaper readers. Responses to two questions can be used as a proxy measure for nationalistic attitudes of individuals: if they would like to be born again as a Chinese citizen, and if they think China is a better country than others. To these questions, a great majority of both official and non-official newspaper readers answered "strongly agree" or "somewhat agree" (98.2% and 86.0% of readers of only official newspapers, 94.2% and 81.6% of readers of only commercial newspapers, and 94.4% and 80.0% of readers of both types of newspapers to the first and the second questions, respectively; see the Appendix for detailed information). This shows that nationalistic tendency is very prevalent among Chinese people regardless of their news consumption pattern. As non-official newspaper readers are as

nationalistic as official newspaper readers, we should have observed bias in commercial newspapers if nationalistic attitude explains the media's home bias.

1.7 Further Examination of Media Bias Beyond Recall Reporting

While the main empirical scope of this study is limited to coverage of auto recalls, I demonstrate that media bias is not unique to auto recall coverage, by expanding observations to include other automobile-related news articles. As these additional observations include positive or neutral newspaper articles, I am able to demonstrate that newspapers are less likely to cover positive or neutral stories when foreign automobiles are involved.

Figure 1.3: Difference in Topic Proportions: Domestic (-) vs. Foreign (+)



To conduct this analysis, I collected newspaper articles that contain the name of an automaker in their headlines and the word "car" (*che*) or the word for measuring unit for counting cars (*liang*) in their stories published by four newspapers in Beijing (*Beijing Daily*, *Beijing Youth Daily*, *Beijing Morning Post* and *Beijing Evening News*) from 2000 to 2014. With these 15,141 newspaper articles, I estimated the Structural Topic Model (STM)

that classify texts into a given number of categories incorporating structural information about the texts (e.g. the year when the news article was published, or whether the news article involves foreign cars) (Roberts et al., 2014). I estimated a 25 topic STM and examined the effect of being foreign on topic proportion. Figure 1.3 illustrates the difference in topic proportion between foreign and domestic automobiles. I present the results for substantively meaningful topics while excluding topics irrelevant to automobiles. The figure demonstrates that newspapers are more likely to write on quality problems and recalls, and less likely to write on brand promotion, price, sales-related information, or store events for foreign cars compared to domestic counterparts (see the Appendix for a detailed explanation of the empirical analysis). While the results cannot serve as an objective indicator for media bias (since foreign cars may have had more quality problems or recalls, and released less information on sales or prices), they suggest that foreign firms may find it harder to deliver positive stories about their companies or products through the news media.

1.8 Media Bias and Consumer Behavior

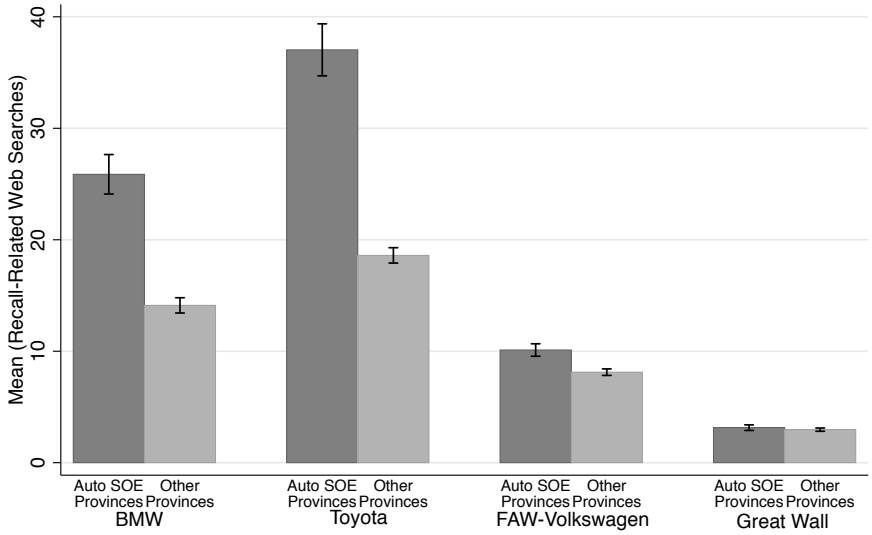
Does the news media's home bias affect consumer behavior? Inducing home bias in the news media can work as a trade barrier only when the news media can change consumer perception of domestic and foreign products and their consumption patterns. In this section, I examine the effect of home bias in the news media by focusing on recall-related web searches and automobile sales in the Chinese market.

1.8.1 Recall-Related Web Searches

I examine how the biased news reporting pattern is associated with individual awareness of recalls by relying on web query data provided by Baidu, the largest search engine in

China with more than 80% of market share. If the media's home bias were to affect consumer behavior, we should first observe that information provided through the news media reaches individuals. As a way of measuring individuals' awareness of information, I examine web searches data because individuals who become aware of product recalls through the news media would seek to find more information through web querying. The Baidu Index provides the daily volume of web searches for selected keywords for all Chinese provinces from 2011 to the present.[17] I collected this data for recall-related web searches for different automakers (e.g. Great Wall recall, FAW-Volkswagen recall, or BMW recall).

Figure 1.4: Recall-Related Web Searches by Automaker and Auto SOE Ownership



With this recall-related web searches data, I examine if the following expectation holds: as official newspapers controlled by the central party and the regional parties with auto SOEs are more likely to report recalls involving foreign automobiles, individuals are expected to be more aware of recalls of foreign cars than those of domestic ones,

[17]For more information about the Baidu Index, see `index.baidu.com`.

particularly in regions where governments own auto SOEs. Figure 1.4 that compares the average web-search volume for four different automakers across provinces is consistent with this expectation. First, the average volume of recall-related web searches are higher for foreign cars (BMW and Toyota) than for domestically produced cars (FAW-Volkswagen and Great Wall). As the market share of FAW-Volkswagen is higher than that of BMW (8.2% versus 1.0%),[18] this difference cannot be explained by the difference in market share.[19] Second, the search volume is higher in provinces with auto SOE than in other provinces with regard to foreign cars, but there is little difference between two types of regions with regard to domestic cars. This pattern is consistent with my findings on the pattern of media bias across provinces. The pattern also implies that bias in official newspapers alone may affect consumer perceptions of domestic and foreign products even when commercial newspapers remain unbiased or less biased.

1.8.2 Automobile Sales

I next turn to examine the differential effect of recalls on sales of foreign and domestic automakers. A number of empirical studies have demonstrated the negative effect of automobile recalls on sales and stockprices of the automakers (Grafton, Hoffer, and Reilly, 1981; Jarrell and Peltzman, 1985). One key mechanism underlying this finding is information: when an individual receives information about an automaker's recall decision, the individual's perception of the automaker that produced defective cars changes, and the individual would become less likely to purchase its products in the future. This information mechanism, however, is less likely to work with regard to domestic automakers

[18]The market share is the author's own calculation based on the number of imported BMW cars and the number of sold FAW-Volkswagen cars using the data available in the 2014 China Auto Market Almanac (*Zhongguo qiche shichang nianjian*).

[19]The difference may be explained by the brand effect because individuals may pay more attention to foreign luxury brands than to joint-ventures. However, this alternative mechanism cannot explain the sub-national difference between auto SOE provinces and others.

in the context of China because their recalls are less likely to be reported, as suggested by my findings on media bias. Thus, the effect of automobile recalls on sales is expected to be limited for domestic automakers compared to its effect on foreign automakers.

I test this expectation by analyzing the effect of recall announcements on sales of domestic and foreign automakers in China from 2007 to 2013.[20] As the provincial level sales data are not publicly available at the automaker level in China, my analysis focuses on the yearly sales data of different automakers without exploring sub-national difference. I estimate the following model:

$$\begin{aligned} \Delta\ Log(Sales)_{it} &= \alpha + \beta_1 Number\ of\ Recalls_{i,t-1} + \beta_2 Foreign{*}Number\ of\ Recalls_{i,t-1} \\ &+ \mu_i + \tau_t + \tau_t^2 + \tau_t^3 + v_{it} + \epsilon_{it}. \end{aligned}$$

The dependent variable is the yearly change in sales, measured as the logged number of cars sold or imported for an automaker i.[21] The main independent variables are the number of recalls announced by each firm i in year *t-1*, and its interaction term with the binary indicator *Foreign*. The main variable of interest is the interaction term, which is expected to be negative and statistically significant. The binary variable *Foreign* is not separately estimated because I include a vector of firm fixed effects, μ, throughout the models. A yearly time trend τ, its squared and cubed term along with a firm-specific time trend v are added to some models to account for any firm-specific temporal factors.

Table 1.6 presents the estimation results. The results suggest that a foreign firm that announced a recall in the previous year would experience a negative effect of recalls

[20] I choose this time period because the data on the number of imports of foreign cars by automakers is not available for the year 2006, while the recall announcement data are available from 2005.

[21] I use the number of car sales per year for domestic automotive companies and the number of imports per year for foreign automotive companies due to the data availability (sales data are not available for imported cars for each automaker). The data are from the the *China Auto Market Almanac* series, 2006-2014 (*Zhongguo qiche shichang nianjian*).

Table 1.6: Regression Models Estimating Effect of Recalls on Sales: Foreign vs. Domestic

	(1)	(2)	(3)
Number of Recalls (t-1)	-0.002	0.008	0.020
	(0.025)	(0.025)	(0.045)
Foreign * Number of Recall (t-1)	-0.127**	-0.117*	-0.106
	(0.049)	(0.050)	(0.066)
Firm FE	Yes	Yes	Yes
Yearly Trend	No	Yes	Yes
Firm-specific Trend	No	No	Yes
Observations	904	904	904

Standard errors clustered by firms in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

on sales, as indicated by the negative significant coefficient on the interaction term. The announcement of recalls, however, does not appear to bring substantially negative effects on sales of domestic firms. The findings suggest that domestic firms may suffer less from automobile recalls compared to foreign firms. The analysis presented here is far from a complete anlaysis of automobile sales, which are influenced by many factors including price, advertising, or other marketing strategy. Nevertheless, my findings show the differential effect of recalls on automobile sales. While the effect of recalls appears to be negative for foreign firms, my analysis reveals little effect of recalls on the sales of domestic cars. Again, many factors may account for these findings, but this pattern is consistent with the expectation that the effect of recalls on domestic firms would be limited because their recall announcements are less likely to be known among consumers due to the biased coverage of news media.

1.9 Conclusion

This study has demonstrated that newspapers in China, especially those under strict government control, exhibit systematic bias against foreign automakers. The disadvan-

tage of being foreign is substantial: auto recalls by foreign companies are more than twice as likely to be reported by central government-controlled newspapers, and those news reports tend to be more intense compared to those involving domestic automakers. This study has also found suggestive evidence on the effect of such bias: foreign recalls become more widely known than domestic recalls; and foreign firms experience the negative effect of recalls on their market share while its effect is limited to domestic firms.

This study's empirical analysis pertains to China, but its implications for international trade have broad applicability. Government ownership of news media is pervasive in other countries as well. A survey of media ownership in 97 countries by Djankov et al. (2003) finds that the state, on average, controls about 29% of newspapers, 60% of television stations, and 72% of top radio stations. This suggests that news media outlets in other countries may also face political pressure to portray domestic firms in a more positive light. One extension of this study would be to examine how other governments use news media as a protectionist instrument. Another possible extension would be to examine how the effect of WTO membership on import flows varies depending on the media environment of member countries. Some governments can utilize news media to protect their domestic industries when their trade policy is constrained by the rules of the WTO. Thus, WTO accession may have limited influence to increase imports, especially in consumer goods, in countries where news media are under tight government control. Exploring this question is timely and important given that recent members of the WTO include authoritarian countries with limited press freedom such as Russia, Saudi Arabia, and Vietnam.

Relatedly, this study contributes to the study of regime type and trade policy. Previous works show that democracy leads to more free trade agreements (Mansfield, Milner, and Rosendorff, 2002) and lower tariffs (Milner and Kubota, 2005), but democratic

countries protect their markets through "behind-the-door" measures such as non-tariff quality barriers (Kono and Rickard, 2014). As these studies suggest, democratic leaders have greater incentives to use opaque measures in order to avoid the electoral costs of employing visible protectionist measures. Despite these leaders' preferences for using opaque measures, however, my finding suggests that they may be less able to do so in some areas, including the realm of news media, where government influence is limited. In contrast, autocratic leaders, while having less of an incentive to employ opaque instruments, are better able to do so because their political systems are less transparent than democratic systems. Thus, a full understanding of the impact of regime type on trade policy requires a careful assessment of diverse policy options at the disposal of different regimes.

Chapter 2

Informed Preferences?

The Impact of Unions on Workers' Trade Preferences

(with Yotam Margalit)

2.1 Introduction

To what extent, and in what way, do labor unions shape workers' political preferences? The importance of unions is often attributed to their role in advancing the interests of workers, allowing them to overcome problems of collective action and to generate an effective "voice" (Freeman and Medoff, 1984). Much has been made, therefore, of the decline in the power of unions in recent decades and the impact of this trend on the representation of the disadvantaged and less well-off.

Yet despite a decrease in membership rates, union members still represent very sizable shares in the electorates of most advanced economies: a quarter of all workers in Britain, a third in Italy, and over half the workforce in countries such as Norway or Belgium. Even in the U.S., a noted example of shrinking unionization rates, enlisted union members still account for about 11% of the workforce (almost fifteen million workers), a conservative figure that excludes non-members covered by union agreements, nor family members whose livelihoods often depend on a unionized wage earner.[1] Clearly, few

[1]Data is from: OECD and J.Visser, ICTWSS database, version 3.0 (`http://www.uva-aias.net/208`).

organizations have the reach and ongoing access to such a significant share of the electorate as labor unions do. A key question is whether and how this access translates into political influence.

The importance of this question has gained added impetus in recent years, as scholars have argued that the decline in union membership contributed to a host of regressive labor market outcomes, including weakening labor protections in the face of growing trade liberalization, erosion of the real minimum wage, and the overall rise in income inequality (Bartels, 2009; Burgoon and Raess, 2006; Hacker and Pierson, 2011). One factor potentially contributing to these developments is the influence that unions exert on shaping the political views of their members. If unions are an institution that directly affects the policy preferences of a large swath of workers, e.g. by providing policy-relevant information to its members, the decline in union density could help account for the relatively weak public opposition to a host of regressive policies advanced in recent years. Yet this potential explanation rests on the assumption that unions exert substantial influence on the political preferences of their members, a key assumption that is empirically unsubstantiated. As a recent study summarizing the state of the research on the topic concluded, "After 60 years of research on American unions, we still lack convincing evidence of whether or how union membership affects political attitudes" (Ahlquist, Clayton, and Levi, 2014).

This lacuna is due at least in part to empirical challenges that arise in evaluating the political influence of unions on their members. The first is an absence of appropriate data. Standard national surveys do not include sizable samples of both union members and non-members within the same industry, limiting researchers' ability to conduct comparisons with a meaningful control group. A second empirical challenge arises from the fact that even if one overcame this data availability issue, and found that union members in a given industry hold policy positions that differ from those of their

non-unionized counterparts, the interpretation would still be unclear. It may be that participation in the union itself causes workers to adopt certain positions (i.e., a treatment effect), but it is equally plausible that workers who choose to join a union differ from non-unionized workers in other characteristics that may also account for their divergent political preferences (i.e., a selection effect).

We address these empirical challenges by combining a unique original survey that includes large samples of American workers in a targeted set of industries together with a set of inferential strategies that allow us to test the relative strength of the competing explanations. Our analysis focuses on the policy views of workers regarding trade openness, one of the few salient political issues on which unions across different industries vary significantly in positions and strength of preferences. To explore the link between the unions' stance on trade and the preferences of their members, we generate a new metric of each union's policy position that is based on its official announcements and lobbying efforts on trade-related bills in the years preceding the study.

Our findings provide evidence that unions exert influence on their members in a clear and systematic manner. In contrast, our analysis suggests that self-selection into unions accounts, at most, for less than a quarter of the observed difference between union members and their non-unionized counterparts. More specifically, the analysis points to the important role of unions as information providers, demonstrating a strong relationship between the intensity of unions' correspondence with their members, the degree of information that members possess about the issue at hand, and the degree of alignment between the unions and their members on the issue.

Exploiting differences across the U.S. in the legal choice that workers face in joining or opting out of unions (a.k.a the 'Right-to-Work' law), we show that preferences of union members and non-members are not consistent with the legal differences in selection mechanisms into unions. We estimate that union membership accounts for about a

41% increase above the baseline rate in workers' likelihood of opposing trade liberalization, an effect comparable to the effect associated with obtaining a college degree, one of the most studied and established predictors of trade policy preferences (Scheve and Slaughter, 2001*b*; Hainmueller and Hiscox, 2006). In addition, we leverage the dramatic change in the United Auto Workers' stance toward a free trade agreement with Korea and examine the impact of its reversal on the stance of its members. Using pre- and post-shift data, we show that members had indeed become more supportive of trade expansion following their union's change of position, while this change had no discernible effect on non-members employed in the same industry.

The chapter contributes to the research on the political impact of unions, currently the only organized interest group representing the interests of the low-skilled (Schlozman, Verba, and Brady, 2012). Beyond the well-researched traditional routes of influence, such as lobbying and investments in PACs (Facchini, Mayda, and Mishra, 2011; Masters and Delaney, 2005), we show that unions are also able to influence the views of their membership in a meaningful and theoretically predictable way. The study also speaks to the broader literature on organized interests (Baumgartner et al., 2009; Gais and Walker Jr, 1991; Kollman, 1998). In a major recent study of such organizations, Schlozman, Verba, and Brady (2012) note that one of the prominent routes by which advocacies pursue their objectives is by dissemination of information to members of the organization and to the public, with the aim of communicating to public officials their favored political stance. Yet as the authors acknowledge, systematic data on such activities is lacking, a deficiency that limits our understanding of how organized interest groups use information dissemination as a mechanism of influence. This study provides new insight on how one prominent type of organized interest fills this function, and highlights the substantial heterogeneity across unions (i.e. within the same type of interest group) in both the mode of operation and its degree of influence.

Finally, our analysis also adds to the work on the sources of voter preferences. In particular, a prominent strand in the political economy literature attributes the positions that individuals take on various policies (e.g. trade, immigration, taxation) to their expectations regarding the likely impact of the policy on their own wellbeing (Facchini and Mayda, 2009; Scheve and Slaughter, 2001*b*). Yet, most studies typically just assume this link between perceived self-interest and policy preferences, without explaining how those interests are crystallized by voters. By providing substantial new evidence on the role and impact of unions as information providers, the chapter illuminates one important mechanism that helps substantiate this key assumption.

The chapter proceeds as follows. Section II reviews the main insights from the literature and draws a set of expectations about the influence of unions on their members. Section III describes our data and empirical approach. Sections IV and V present the findings and a set of robustness tests. The final section discusses the broader implications of the findings for research on preference formation and the evolving role of unions.

2.2 Preference Formation, Information, and the Impact of Unions

One prominent strand in the political economy literature on policy preferences focuses on voters' self-interested considerations. This line of explanation suggests that people's attitudes on a policy are largely determined by the utilities they expect to derive from it (Alesina and La Ferrara, 2005; Scheve and Slaughter, 2001*a*). Critiques of the interest-based approach center not only on the empirical support (or lack thereof) for some of its predictions, but also on the mechanism underlying its core logic. In particular, some question the basic, often implicit, assumption that individuals understand how their personal well-being is influenced by government policy (Mansfield and Mutz, 2009). The notion that voters can tease out the implications of a complex policy, which at times

is a matter of debate even among the experts, seems questionable, particularly given the wealth of evidence demonstrating citizens' lack of knowledge or grasp of very basic political and economic facts (Campbell et al., 1960; Ferejohn, 1990).

One response to this critique focuses on voter learning. Such learning could presumably occur in several ways, without requiring the (probably heroic) assumption that voters actively seek out and process policy-relevant information. For example, individuals may draw on their everyday experiences to form policy opinions that largely accord with their interests. Indeed, some studies show that voters update their political preferences leftwards – even if only temporarily – in response to the experience of various hardships such as loss of employment or of health care (Hacker, Rehm, and Schlesinger, 2013; Margalit, 2013). Another source of learning is exposure to information or cues. According to this view, citizens acquire pertinent knowledge about the rationale and preferences of friends, co-workers, or other groups that they believe to share interests with them, and subsequently infer how a policy is likely to affect their own interests (Lupia, 1994).

It is within this strand of arguments that the importance of labor unions is often stressed. Unions have close access to their members via regular meetings, direct mailings or mobilization drives, and thus could regularly communicate with their members on the political issues of the day. If the members consider the union as a custodian of their interests and a reliable source of information, these communications can potentially influence and sway the political views of the member (Iversen and Soskice, 2015). Unions can also encourage their members to invest more effort in acquiring policy-relevant information (Ahlquist and Levi, 2013).

Indeed, in their mammoth study of political advocacy organizations, Schlozman, Verba, and Brady (2012: 400) note that an important route by which such organizations pursue their interests is through "disseminating information to the public or to

the organization's members... in order to highlight issues, to shape opinions, or to generate communication to public officials in support of favored political positions". Yet as this and related studies on advocacies indicate (e.g. Baumgartner et al. (2009); Gais and Walker Jr (1991); Kollman (1998)), there is little systematic data on the frequency or scope of information dissemination efforts, let alone on their actual impact. Perhaps due to this lack of data, the bulk of work on the political impact of unions has focused on other routes of influence, such as campaigns to increase voter turnout, mobilization of members to engage in PAC contributions, and on lobbying activities aimed at affecting pro-union legislation (Facchini, Mayda, and Mishra, 2011; Leighley and Nagler, 2007; Masters and Delaney, 1987).

In the context of trade policy, the domain of influence on which we focus in this chapter, prior studies find that union membership is, on average, associated with lower support for free trade (Mayda and Rodrik, 2005; Scheve and Slaughter, 2001*b*). Discussing this finding, scholars surmise that it may be the outcome of unions' ongoing communications on the matter with their membership (e.g. Mansfield and Mutz, 2009: 431,436). Yet again, other than conjecture, little evidence exists to back up this contention.

Cognizant of this deficiency, Ahlquist, Clayton, and Levi (2014) provide what is perhaps the most careful and nuanced new set of insights on the matter. Focusing on a case study of a dockworkers' union (ILWU), and using a survey of workers in three U.S. localities, the authors employ a matching procedure to get an estimate of the "union effect" on workers' attitudes. Overall, they find that members of the ILWU were more willing than non-members to support a protectionist stance on trade, even though trade openness was highly beneficial to their own employment. The authors propose that this seemingly puzzling result is evidence that the union was able to influence its members to oppose a policy that was injurious to the broader class of workers. The study combines survey data and a rich historical account of the ILWU's position on trade policy over a

period of six decades. Yet as the authors recognize, it remains an open question whether the findings regarding this case can be generalized to explain the impact of unions on workers' policy preferences in the broader economy.

To address this question, one must not only investigate the impact of unions on a broader set of sectors, but also explore the mechanism underlying the influence of unions. If unions clarify the interests and shape the preferences of their members, systematic evidence should show that members: (*i*) are aware of the information provided by their unions; (*ii*) correctly interpret the union's stance on the matter; and (*iii*) are more likely to adopt the position touted by the unions. While these outcomes are at least plausible *ex ante*, convincing empirical research on all three questions is lacking. In the next sections we aim to provide new insights that address each of these contentions in turn.

2.3 Data and Empirical Strategy

Our analysis uses novel survey data of more than 4,000 American workers employed in a set of selected industries. The survey design followed a customized two-stage sampling approach. First, a set of 12 key industries were identified based on several criteria reflecting variation in their exposure to the impacts of globalization (e.g., factor intensity, value-added per worker, trade balance, and exposure to offshoring activity).[2] Then, from each of those targeted industries, sizable samples of currently employed workers were recruited by YouGov/Polimetrix to participate in an online survey fielded between July 2010 and February 2011.[3]

To gain greater variation in the industries' exposure to international commerce, the

[2]Industries are classified at the 3 digit NAICS level.

[3]The data was collected as part of the Harvard Globalization Survey in which Margalit was a co-PI. See Hainmueller, Hiscox, and Margalit (2015) for a more detailed description of the survey. We thank the other PIs for generously allowing us to use the data for this study.

survey included firms in both manufacturing and services. As Table 2.1 shows, the industries provide wide variation of values along a set of pertinent dimensions. For example, with respect to trade balance, the selected industries include import-competing industries (e.g., transportation equipment and computer electronics manufacturing), nontradables (e.g., health services) and export-oriented industries (e.g., food manufacturing). Overall, the data include responses from 497 union members (12% of the sample), with substantial variation across industries.[4]

Table 2.1: Descriptive Statistics for Selected Industries

Industry:	Total Employed (1000s)	Output per Worker ($)	Trade Balance (B$)	Share BA Degree	Median Income ($)	Union Member (%)	Sample Size (#)
Manufacturing							
Food products	1,485	292,093	8,400	22%	51,000	11.0	218
Chemical	850	546,482	-3,100	40%	88,945	8.0	225
Transportation equipment	1,607	362,878	-14,000	24%	76,005	17.4	270
Computer electronics	1,248	412,519	-110,000	48%	96,004	1.2	349
Fabricated metal products	1,528	163,973	-9,900	15%	61,570	9.4	352
Services							
Data processing and internet	395	359,059	0	45%	82,557	1.3	320
Financial	858	507,517	41	65%	110,067	0.5	375
Telecommunications	1,022	470,191	2	34%	83,000	15.2	375
Construction	7,215	119,281	0	15%	55,197	12.0	393
Nursing and residential care	3,008	43,584	0	18%	4,590	6.8	382
Ambulatory health care	5,661	112,263	0	48%	73,067	5.8	446
Education	3,037	51,309	13	65%	79,235	34.4	607

Source: March Supplement of Current Population Survey 2009;
2010 United States International Trade Commission data on imports and exports

We use a series of questions that could potentially tap into different aspects of workers' views on trade policy. Our analysis relies on responses to all three questions:

> We would like to learn about your views on trade with other countries - by trade we mean American businesses and individuals buying goods from other countries or selling goods to other countries.
>
> - Overall, do you think trade with other countries should be expanded, reduced, or kept at its current level?

[4]See appendix for breakdown of union membership by industry.

- Do you think that trade with other countries is good or bad for you and your family?
- Do you think that trade with other countries is good or bad for the U.S. as a whole?

To explore the link between union membership and views on trade, the survey also contains questions regarding the intensity of communication initiated by the union on trade policy, as well as a question pertaining to the degree of information that the members possess about their unions' position on the issue (see appendix for exact question wording).

In order to examine the correspondence between how members assess the stance of their union and its actual position, we generated a new measure of each union's "revealed preference" with respect to trade policy. We did so using information on each union's official announcements and lobbying activity on all relevant trade-related legislation advanced in the two years prior to our study. We code the union's stance on a bill on a 7-point scale, and aggregate the codings from all bills to place the unions along a trade protectionist-liberalizer continuum. In total, we coded the activities of 15 labor unions that represent 75% of the unionized survey respondents who provided information on their affiliated unions.[5]

We examine the position of each union on major trade-related bills. We focus on all the bills on which at least one of the unions under study carried out an official (i.e., reg-

[5]Of the 497 surveyed union members, 343 respondents provided information on their union affiliation. The majority provided the exact names of their union. For those respondents who only provided the codes of their local branches (e.g. local 101) or their firm names, we were able to infer their union affiliation based on residence, industry, and firm name. For that, we used the records of collective bargaining agreements between firms and unions available through the Office of Labor-Management Standards (`http://www.dol.gov/olms/regs/compliance/cba/`) and the Center for Union Facts (`http://www.unionfacts.com/`). Among the remaining unionized workers not represented through the 15 unions, 57% belong to other unions in the education sector which presumably hold a similar stance on policy issues with the primary unions in the sector that we do examine, namely the National Education Association and the American Federation of Teachers; the other 33% belong to 32 different organizations for which have only one or two members in the entire sample.

istered) lobbying effort and those bills that had potential application across industries.[6] For every bill, we code each union's position along a seven-point scale that ranges from 'strongly protectionist' (+3) to 'strongly pro-trade' (-3). The coding is based on the position expressed by the union (i.e., pro- or anti-liberalization) and the number of quarters it registered lobbying activity for or against the bill.[7] For example, for bills on which a union lobbied against liberalization for five quarters or more,[8] the union's position is coded as 'strongly protectionist'. If the lobbying took place for a shorter period of 1 to 4 quarters, we assign a 'protectionist' (+2) score; we code a union as 'weakly protectionist' (+1) score if it did not lobby on the bill but had expressed a protectionist stance on the issue in its official pronouncements. Conversely, we assign scores between -1 and -3 using the same coding criteria when the union takes a pro-liberalization stance. Finally, a 'neutral position' (0) is assigned if the union did not express any view on the issue nor conducted any related lobbying activity.

Table 2.2 summarizes each union's score on the trade protectionism scale. Since we examine each union's position on eleven different trade bills, the score could theoretically range from a low of -33 (pro-free trade) to a high of +33 (protectionist). As expected, unions operating in the import competing sectors – fabricated metal, transportation equipment, and chemical manufacturing – exhibit the most protectionist stance. We also find, unsurprisingly, that the least protectionist unions operate in the export oriented sector, food manufacturing, and in the non-tradable service sectors of education, nursing, and ambulatory health services. Somewhat surprisingly, unions in the build-

[6]We obtained each union's lobbying reports from the Lobbying Disclosure Act Database available at `http://www.senate.gov/legislative/Public_Disclosure/LDA_reports.htm`. We then examined all the issues classified as trade-related issues according to the general issue area code in the report. See Appendix for a detailed description on the bills and the selection criteria.

[7]We use the union's official letters to Congress or public statements to code whether the union's stance is pro-trade or protectionist when lobbying reports do not have relevant information.

[8]When we revise the threshold to four or six quarters, the measured union stance remains robust.

Table 2.2: Union's Position on Each Issue and Calculated Protectionism Score

		TRADE	Colombia	Panama	Korea	Peru	NAFTA	TAA	Currency	Enft	BuyAmr	Recip	Total
1)	USW: Steelworkers	+3	+3	+3	+2	0	0	+1	+2	+3	+1	+2	+20
	IAM: Machinists	+3	+3	+3	+3	+1	+1	+2	+2	0	+1	0	+19
	UAW: Auto Workers	0	+3	+2	+3	0	0	+1	+3	+3	0	0	+15
	IFPTE: Technical Engineers	+2	+2	0	0	+2	0	0	0	0	+2	0	+8
2)	IBT: Teamsters	+3	+3	+3	+3	+1	+2	+3	+1	+1	+2	0	+22
	UBC: Carpenters	+2	+3	+3	+3	+1	0	0	0	0	+1	0	+13
	IBEW: Electrical Workers	+1	+1	+1	+1	+1	0	+1	+1	0	+1	0	+8
3)	CWA: Communications	+3	+2	+2	0	0	0	+1	0	0	+1	0	+9
4)	AFGE: Government Employees	+2	+1	0	0	0	0	+1	+2	0	0	0	+6
	SEIU: Service Employees	+1	+2	0	0	+2	0	0	0	0	0	0	+5
	NEA: Natl Education Assn	0	0	0	0	0	0	0	0	0	0	0	0
	AFT: Federation of Teachers	0	0	0	0	0	0	0	0	0	0	0	0
	AFSCME: St./Cty./Mun.	+1	+1	0	0	0	0	+1	0	0	0	0	+3
5)	UFCW: Food/Commercial	+2	+1	0	-1	+1	0	0	+1	0	0	0	+4
	BCTGM: Bakery/Tobacco	0	0	0	0	0	0	0	0	0	0	0	0

1) Import competing industries: fabricated metal manufacturing, transportation equipment manufacturing, chemical manufacturing.

2) Building construction; * Intl Brotherhood of Teamsters also encompasses educational service, ambulatory service, and food manufacturing sectors.

3) Telecommunication

4) Education services, nursing, and ambulatory health

5) Export oriented industry: food manufacturing

ing construction and the telecommunication sectors, both of which are not significantly affected by the flows of international trade, nonetheless take a relatively protectionist stance on the trade bills under study. To compare the views of union members and non-members that share similar employment interests, we also generate an *average protectionism score*. As an industry has members in multiple unions, we average the protectionism score of each of union, and weight it by the proportion the union represents among all workers in the industry.

2.4 Results

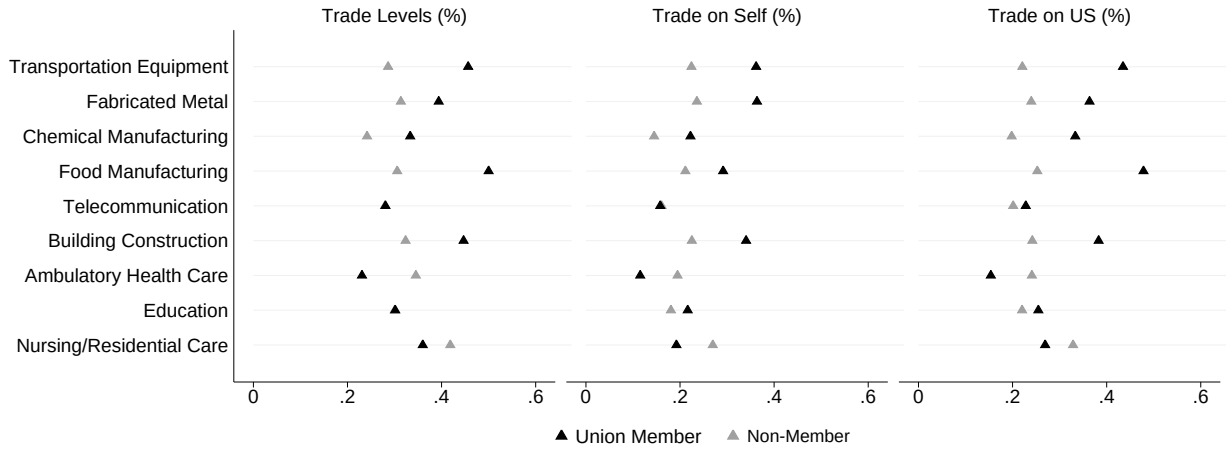
2.4.1 Do Union Members Have Different Policy Preferences?

We begin by presenting an unconditional comparison of union members' trade policy preferences and those of non-members working in the same industry. The panels in Figure 2.1 present a comparison of the share of respondents in each group who: i) support reducing trade levels, ii) have a negative perception of trade's impact on self, and iii) have a negative perception of trade's impact on the U.S. as a whole.[9]

The graphs show that union members' policy preferences are different from those of non-members, but the impact of union membership is not uniform across industries. In the manufacturing industries – transportation equipment, fabricated metal, chemical manufacturing, and food manufacturing – union members tend to hold more negative attitudes toward free trade than non-members. Yet, the difference in view associated with union membership is not homogeneous across the service industries. While union members employed in building construction are more opposed to trade expansion than non-members, the opposite pattern is registered in nursing and residential care, as well

[9]The binary measure uses the bottom two categories on the five-point scale to classify the opposition to trade.

Figure 2.1: Trade Policy Views of Union Members vs Non-Members, by Industry



as in the ambulatory health care industries, where unionized workers are less protectionist. Finally, we find little difference between the preferences of union members and non-members in both the telecommunication and education sectors.

To get a better sense of the overall 'union effect' across all industries, while taking account of the main potential confounders, we conduct a nearest-neighbor matching exercise. We match each union member with a non-unionized worker who is employed in the same industry and sector (private vs. public), and is also of the same gender, ethnicity, martial status and education level as the union member.[10] After the requirement for exact matching on these criteria is fulfilled, the matching algorithm is instructed to seek the closest observation in terms of income level and age.[11] With the matched data, we estimate a probit regression model calculating the average treatment effect of union membership on all three dependent variables.

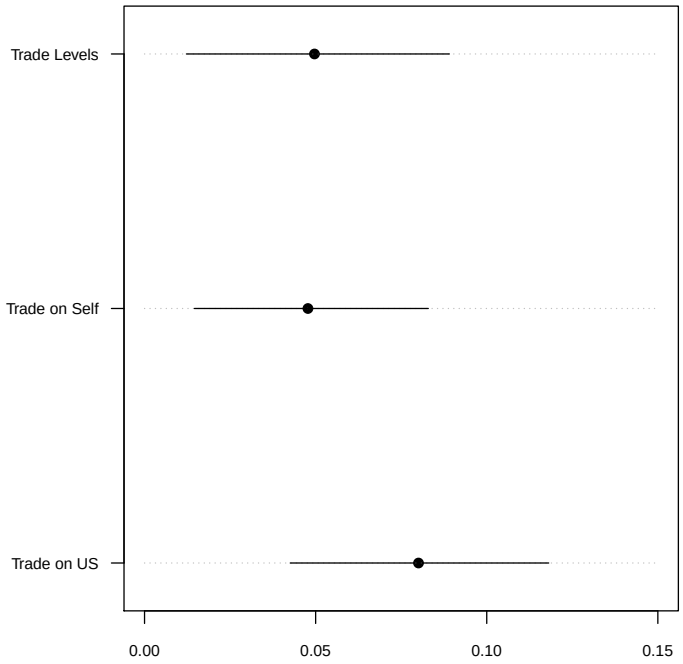
The results, presented in Figure 2.2, indicate that the average 'union effect' is indeed considerable: union members are about 5 percentage points more likely to support reduction in levels of trade than similar workers from the same industry who do not

[10]Education level is measured as a binary indicator of completing a 4-year college degree.

[11]We do not match on the respondent's party identification that could be influenced by union membership.

belong to a union and about 5 percentage points more likely to perceive that trade is adversely affecting them personally. The largest effect is registered with regard to the view that trade is harming the U.S. as whole, where the estimated union effect is an increase of 8 percentage points. Even taking account of the uncertainty in the estimates, the union effect is statistically distinguishable from zero at the 95% for all three of the dependent variables.

Figure 2.2: Average Treatment Effects (ATEs) of Union Membership



The question, of course, is what accounts for this 'union effect' and its variation across industries. Two plausible answers come to mind. Some unions might be more strongly opposed to trade expansion and thus more active than other unions in communicating their views to their members. Alternatively, the variation we observe may perhaps be explained by different sorting effects. Since unions across industries represent different interests, they may attract as members those individuals who *to begin with* hold similar

views to those of the unions (i.e. a self-selection mechanism). In other words, the first mechanism holds that unions shape the views of their members through communication and information provision, while the second mechanism suggests that unions merely echo the preferences of their members, not shape them. The following sections present empirical tests that evaluate the relative validity of these two lines of explanation.

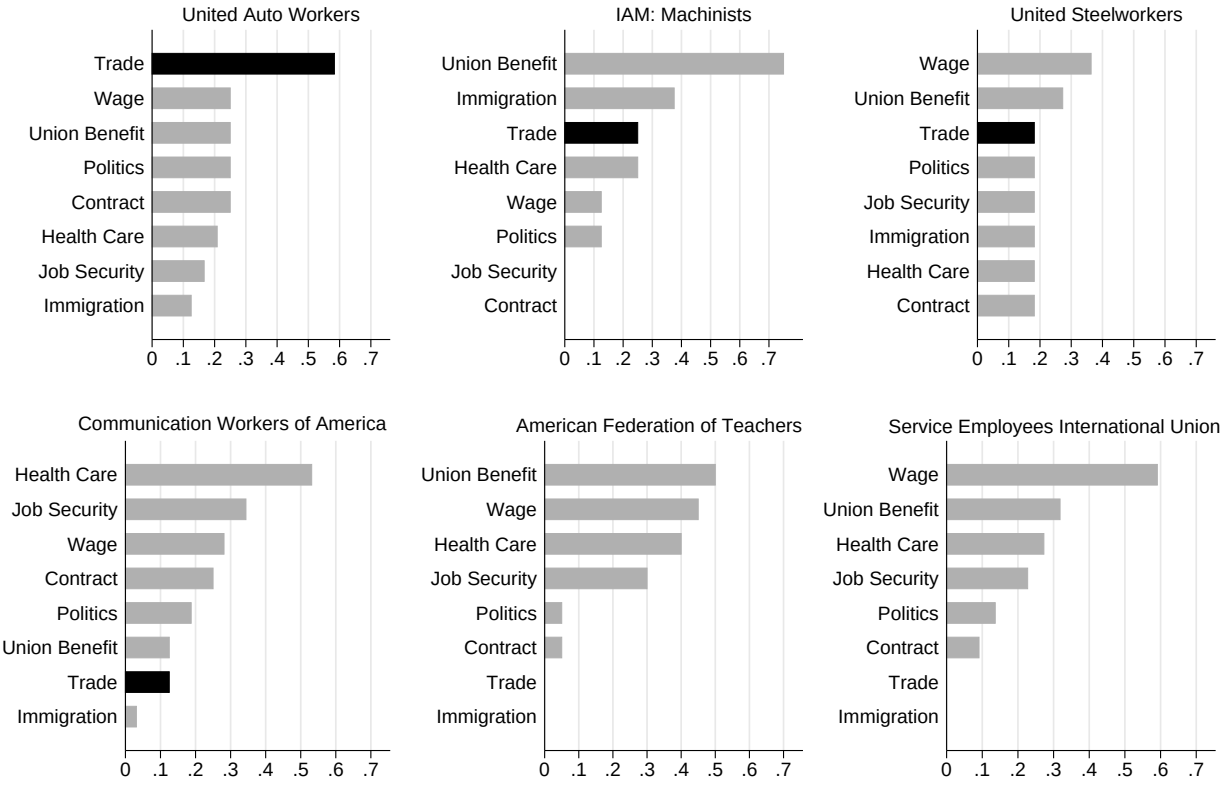
2.4.2 Unions as Information Providers

To evaluate the validity of the information provision mechanism, we begin by using descriptive data to examine the basic expectation that unions do indeed communicate with their members on trade issue. We then explore the extent to which members are familiar with their union's stance on the issue.

Our first analysis examines the issues that unions discuss most prominently in their communications with their members. As part of the survey, union members were asked to list up to three issues that were most frequently addressed in their union's communications. The answers to this open-ended question, presented in Figure 2.3, indicate that in some industries a considerable share of members describe trade as one of the three most discussed issues by the union: 58% of the respondents belonging to the United Auto Workers and 25% from the International Association of Machinists. In sharp contrast, none from two of the least protectionist unions – the American Federation of Teachers and the Service Employees International Union – listed trade as a frequently discussed issue.

Next, we explore the degree to which workers are familiar with their union's policy stance on trade. The panels in Figure 2.4 present the share of members who: i) answered that they had received at least three communications from their union in the past year on the issue of trade; ii) are either somewhat, or very familiar with the union's position on trade; and iii) think that their union advocates reducing trade. The unions

Figure 2.3: Issues Unions Discuss Most Frequently



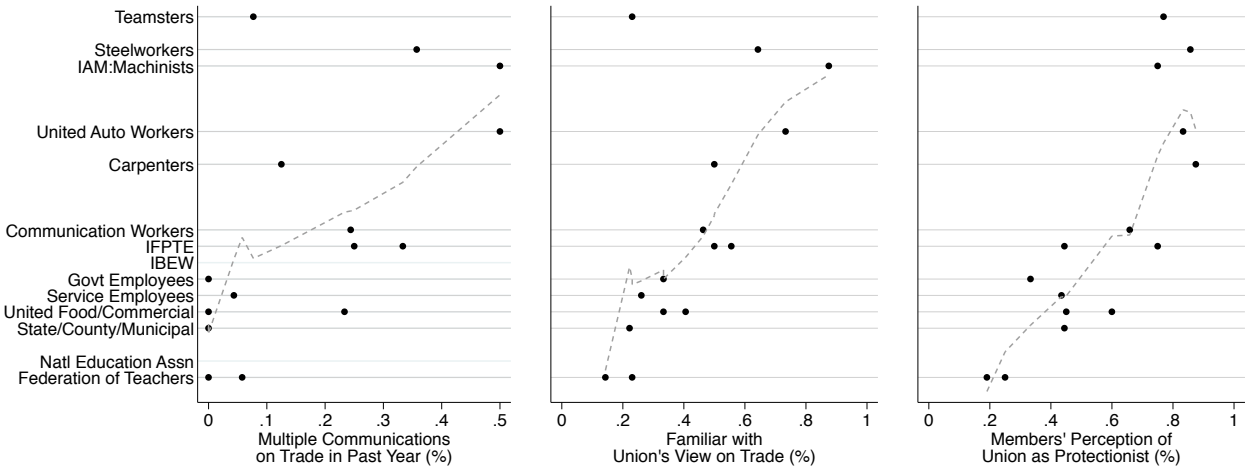
Note: The unionized respondents were asked to list up to three issues that their union discussed most frequently in its communications to the respondent. We reclassified open-ended responses to eight categories presented in the figure, leaving out some answers that appear only rarely in the responses.

are sorted along the vertical axis by their protectionism score. The left panel indicates that members of more protectionist unions typically received more communication from their organization on trade-related issues. Those members also tend to express greater familiarity with their union's stance on the issue of trade (center panel), and to describe their union as protectionist (right panel). In the case of the more protectionist unions such as the UAW or the United Steelworkers, over 70% of the members correctly note that their union supports reduction of trade levels. Notably, the picture is almost reversed among the American Federation of Teachers, the least protectionist union in our sample.[12] These findings are clearly consistent with the notion that unions serve as

[12]To be sure, these graphs alone do not prove a causal relation. In particular, given that union commu-

information providers on the issue of trade policy.

Figure 2.4: Union Communications on Trade and Members' Knowledge



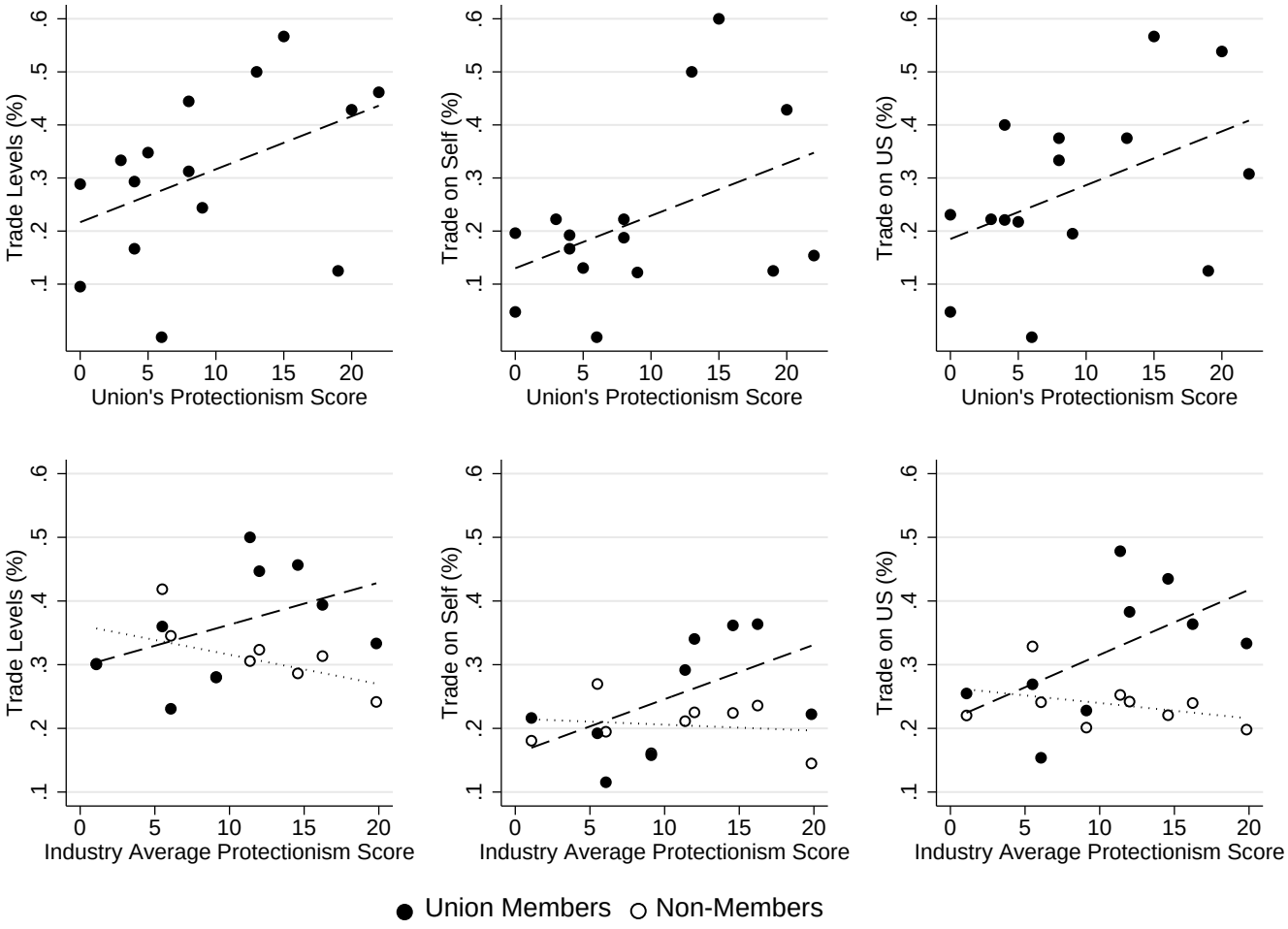
2.4.3 Do Members Internalize Information from the Union?

To assess whether communication from unions affects the preferences of workers on a given policy, we examine the alignment between the stance of the union and its members' attitudes toward trade openness. The upper panels in Figure 2.5 compare the stance of each union with the views of its members, presenting in each sub-graph the responses to one of the three dependent variable questions. The graphs show quite vividly that members' own attitudes on the issue of trade are positively associated with the protectionism score of their union. Put simply, in the more protectionist unions the members also tend to hold more protectionist views.

This finding, however, is subject to an obvious concern about endogeneity and potential spuriousness: The association might simply be driven by another factor that shapes both the unions' stance as well as that of its members. For example, workers and unions in import competing sectors might be more protectionist than others simply because of

nications are self-reported, one cannot rule out the possibility that the recollection of communications is endogenous to respondents' prior position on trade.

Figure 2.5: Alignment between Union's Stance and Workers' Policy Preferences



the adverse consequences that exposure to foreign competition poses to them. As a first way of dealing with this possibility, we compare the trade preferences of union members with those of non-union workers *employed in the same industry*. If the association is driven by some industry-level characteristic, we should observe the same pattern within an industry among both union and non-union members. Yet empirically, that does not appear to be the case.

The lower panels in Figure 2.5 present the share of union members and non-members holding negative views toward international trade, and plot them against the industry's protectionism score. The graphs highlight that the average protectionism score of unions

in each industry is positively correlated with union members' trade preferences, but not with those of non-members. This suggests that workers from the same industry not only differ in their views on trade as a function of whether or not they belong to a union, but also that the differences reveal a distinct pattern: members hold views that correspond to those of the union while non-members do not. This striking pattern finds support also when tested formally (see appendix).

2.5 Treatment versus Selection

The results presented so far are consistent with the notion that, among other functions, unions are information providers that exert effective influence on their members' policy preferences. Yet, as noted above, these findings may also reflect a self-selection process. To address this possibility, this section presents inferential tests designed to help tease out between the competing explanations.

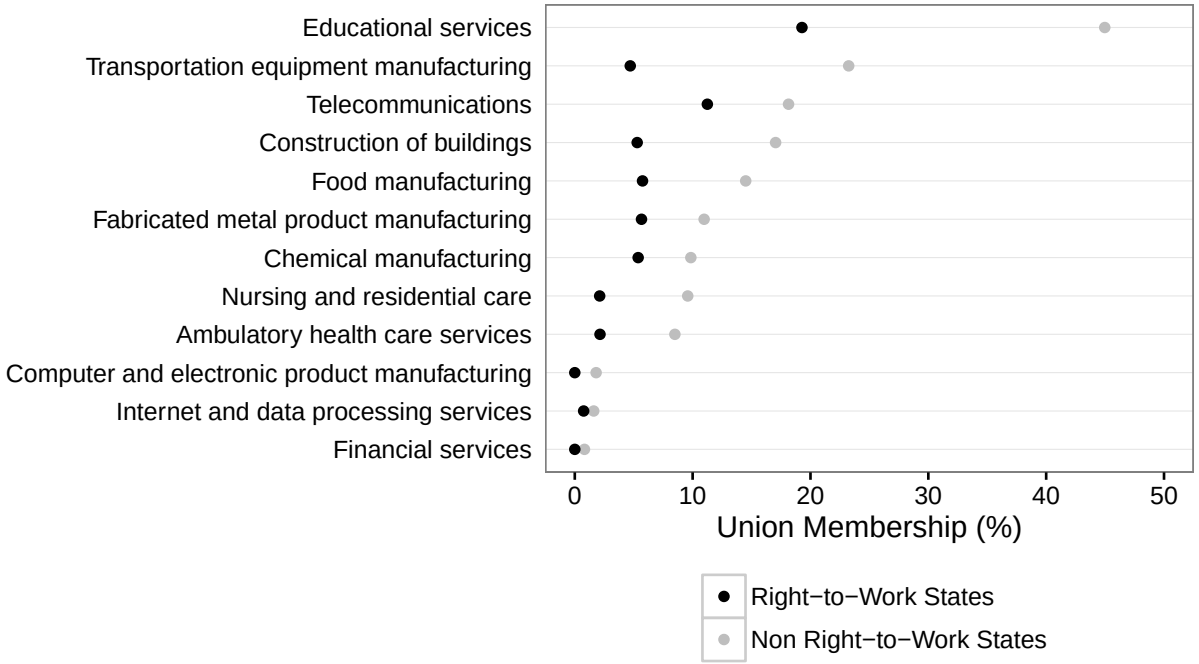
2.5.1 Cross-State Legal Differences and the Union Effect

To examine whether self-selection accounts for the 'union effect' detected in the analyses above, we leverage state-level differences in their Right-to-Work (RTW) laws, statutes that govern the extent to which employment in a workplace can be conditional on the worker becoming a union member. The RTW law, a provision included in the Taft-Hartley Act of 1947, allows individual states to prohibit union "security agreements". This means that in states that adopt the RTW provision, labor unions cannot legally require workers to pay union dues.[13] The implication is that union membership in RTW states depends much more on individual workers' own discretion and is less a func-

[13]In some states there is an exemption to government employees, that can be required to pay union dues.

tion of an institutional requirement to become members.[14] Indeed, union membership rates are systematically much higher in non-RTW states, even within the same industry. For example, workers in educational services are more than twice as likely to be union members in non-RTW states (48% vs. 23%), or almost 3 times as likely in building construction (20% vs 7%). Even in sectors with lower unionization rates, the relative difference is mostly as large, if not greater (see Figure 2.6). This difference in the regulation of union membership across states allows us to test the self-selection explanation in the following manner: if self-selection accounts for members' preferences, we should observe that the effect of union membership is larger in those states in which membership is more likely to arise from a worker's own volition.

Figure 2.6: Unionization Rate by Industry and Right-to-Work Law Status



[14]For an overview of the Right-to-Work law, see Collins (2012).

To test this proposition, we estimate the following binary probit model:

$$Probit(Y_i) = \alpha + \beta_1 Union_i + \beta_2 RTW_i + \beta_3 Union * RTW_i + \gamma Industry_i + \theta Controls_i + \epsilon_i,$$

where Y_i is a binary measure of respondents' attitudes toward international trade. *Union* is a binary indicator for an individual *i*'s union membership, and *RTW* is a binary variable taking the value 1 if *i* resides in the RTW states at the time of the survey. The key parameter of interest is the coefficient β_3 on the interaction term *Union* * *RTW*. A finding that the interaction term is sizable and significant would point strongly toward a selection-based explanation, as it would indicate that the 'union effect' is less pronounced when workers are "pushed" into their union membership status. The model also includes fixed effects for *Industry* as well as *Controls*, a vector of individual characteristics (income, gender, race, age, education, and marital status).[15] In the last column of each set of specifications, we include the full set of control variables interacted with *RTW*, to account for the possibility that individual characteristics may also have varying effects under the different legal settings. The analysis focuses on private sector workers, because unions in the public sector are only covered by RTW statutes in some of the states. Thus, for testing the selection hypothesis, restricting the analysis to private sector workers is more apropriate.[16]

We expect unions to affect the policy preferences of their members when they actively disseminate policy-related information to their membership. Thus, to provide an effective test of this claim, we conduct a split-sample analysis in which we estimate the model separately for industries in which the average protectionism score is high (i.e.,

[15]See appendix for complete details on the coding of each variable.

[16]Nonetheless, the findings are unchanged when we also include the public sector workers in the analysis (see Table B.6).

above median) and low.[17]

We present the estimation results with all three dependent variables in Table 2.3. For each dependent variable, we begin by including only a set of basic covariates. The coefficient on *Union Member* is positive and statistically significant in the industry groups represented by the protectionist unions (top panel), yet it is not significant in the less protectionist industries (lower panel). This result, which holds across all the model specifications, suggests that the effect of union membership is conditional on the firmness of the union's stance on the policy issue in question, perhaps because those unions communicate their stance on the issue more intensely to their membership.

Yet as explained above, the key coefficient of interest is the interaction term *Union Member * RTW*. Notably, this interaction term is not statistically significant in any of the specifications in the protectionist industries: this is the case when we include only the basic set of covariates, when we control also for respondents' partisan affiliation, as well as when we interact RTW with all other covariates. Moreover, the substantive effect of the interaction term is either very close to zero or small and slightly *negative*, a finding that is inconsistent with the selection mechanism being prominent. In the less protectionist industries, the finding is similar. The interaction coefficient is either substantively close to zero or negatively signed.

We subject the results to a series of robustness tests. First, we re-estimate the models using the preprocessed data from the matching analysis. Second, we estimate the models with sampling weights. Our main analysis uses unweighted data because we do not seek to estimate the effect for the U.S. population as whole, but as robustness we check whether the results are affected by the use of weights. Third, we examine whether the exclusion of the public sector workers from the sample makes a difference as opposed

[17]None of the unions in the sample is actively advancing a pro-trade stance. The difference is thus between unions strongly opposed to trade-liberalizing bills and unions that are not strongly opposed.

Table 2.3: Effect of Union Membership on Attitudes toward Trade

Strongly Protectionist Unions												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Trade Levels				Trade on Self				Trade on US		
Union Member	0.097*	0.088*	0.089*	0.090*	0.063+	0.074+	0.075+	0.085*	0.127**	0.137**	0.140**	0.140**
	(0.038)	(0.043)	(0.043)	(0.044)	(0.034)	(0.039)	(0.039)	(0.040)	(0.037)	(0.042)	(0.043)	(0.043)
RTW	0.024	0.020	0.025	-0.077	-0.001	0.003	0.009	0.264	0.014	0.017	0.025	0.041
	(0.024)	(0.026)	(0.026)	(0.175)	(0.021)	(0.022)	(0.022)	(0.172)	(0.022)	(0.024)	(0.024)	(0.172)
RTW*Union Member		0.040	0.025	0.026		-0.040	-0.059	-0.077		-0.035	-0.054	-0.052
		(0.085)	(0.084)	(0.087)		(0.062)	(0.058)	(0.054)		(0.066)	(0.062)	(0.064)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1614	1614	1588	1588	1614	1614	1588	1588	1614	1614	1588	1588
Not Strongly Protectionist Unions												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Trade Levels				Trade on Self				Trade on US		
Union Member	-0.011	-0.014	-0.020	-0.029	-0.018	-0.002	-0.013	-0.021	-0.031	-0.027	-0.038	-0.041
	(0.052)	(0.054)	(0.054)	(0.054)	(0.041)	(0.045)	(0.044)	(0.043)	(0.043)	(0.046)	(0.045)	(0.045)
RTW	0.008	0.008	0.006	0.137	-0.002	0.000	0.001	-0.122	-0.021	-0.020	-0.019	-0.043
	(0.022)	(0.023)	(0.023)	(0.176)	(0.019)	(0.019)	(0.019)	(0.118)	(0.020)	(0.020)	(0.020)	(0.148)
RTW*Union Member		0.046	0.041	0.056						-0.066	-0.057	-0.064
		(0.188)	(0.183)	(0.183)						(0.133)	(0.141)	(0.133)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1810	1810	1778	1778	1810	1805	1773	1773	1810	1810	1778	1778

Marginal effects; Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for *Industry* as well as *Controls* (income, gender, race, age, education, and martial status).

Full Interactions include the demographic controls interacted with *RTW*.

to including all workers in the analysis. And lastly, we re-estimate the models while excluding managers and supervisors, since they cannot join the unions by law. The estimated results presented in the appendix Tables B.4 - B.7 show that the findings hold against this variety of robustness tests.

Another plausible alternative explanation for these findings could be a strategic allocation of effort that unions exert in informing their members. Unions may employ greater communication effort in non-RTW states, where members are less likely ex ante to share the political views of the unions. Such strategic effort could then explain the lack of difference in members' attitudes across states with different RTW status. Yet, our data suggest this explanation is highly unlikely given that in both types of states we observe very similar levels of union communication efforts. In RTW states, 22% of members received multiple trade-policy related communications from the union in the previous year, a figure almost identical to the corresponding share of members in the non-RTW states (21%). This pattern also holds true for other measures of union communication.

To assess the substantive effect of union membership on trade attitudes we estimate the probability that a worker with characteristics of the sample median supports a reduction in trade levels.[18] A non-member with such characteristics is, on average, 19% likely to support a more protectionist measure, but union membership increases this probability by 8 percentage points to over 27%. This represents a 39% increase over the baseline level. We also examine the effect of union membership in the less protectionist group of industries.[19] In this case, union membership increases the predicted probability of supporting trade reduction by less than 1 percentage points on average, and the point

[18]We estimate the predicted probability based on the second model and set *age* at its mean value and all other categorical variables at their median values, assuming a white male, married, with 4 years of college education. The industry is set to *transportation equipment industry* when estimating the model for more protectionist group of industries.

[19]We estimate the probability setting the industry category to *ambulatory health care industry*.

estimate is not statistically significant.

The substantive effect of union membership on the probability that a worker perceives a negative impact of trade on oneself and family is also considerable. A worker with characteristics of the sample median has a 16% likelihood of perceiving trade as harmful, but this estimate increases by over 7 percentage points among union members with similar characteristics, representing a 44% increase compared to the baseline estimate. This effect is comparable in size to that associated with education, a variable that is widely documented as an important determinant of trade preferences (e.g., Hainmueller and Hiscox, 2006).

In sum then, the results clearly go against the prediction that arises if self-selection accounts for the distinct trade policy preferences of union members. Nonetheless, other unobservable factors can still account for some of the so-called union effect. We therefore follow the method pioneered by Altonji, Elder, and Taber (2005) and estimate a lower bound of the treatment, in the presence of other unobservables that influence the outcome of study. The results indicate that selection on unobservables can account, at most, for 24% of the estimated effect, implying that the union 'treatment' accounts for the bulk of the observed change in the preferences of its members.[20]

2.5.2 Members' Preferences when the Union Changes Position

If unions affect the policy positions of their members by providing policy relevant information, we would expect that following a change in the policy stance of the union, a corresponding change in the view of their members would also take place. In contrast, we would not expect this to occur if members join the union because of their affiliation with its (original) stance on trade. This section examines the effect of exactly such a type of reversal in a union's stance: the sudden and fairly dramatic shift in the United Auto

[20]See appendix for full description of the method and findings.

Workers (UAW) position toward a major trade liberalization deal.

For many years, the UAW, a union representing workers primarily in the auto industry, had been consistently and strongly opposed to the expansion of trade. It was also part of a vocal opposition to the signing of trade agreements with Colombia and with Korea, agreements that were debated exactly around the time of the survey. With respect to the latter agreement, the UAW's official statement from April 2010 summarized its position as follows: "The UAW strongly opposes the free-trade deal negotiated by President Bush with South Korea (KORUS FTA) in April 2007, and has reiterated that opposition to the Obama administration and to Congress. The poorly negotiated and misguided auto provisions of the KORUS FTA would further open the U.S. market to increased automotive imports from Korea..." The statement ended by calling the union members to "Tell Congress that this free-trade deal would lead to a surge in automotive imports from South Korea, worsening our lopsided auto trade deficit and threatening the jobs of tens of thousands of American workers."[21]

Yet, following intense lobbying and negotiations with the Obama administration, a set of changes advocated by the union were incorporated into the revised agreement. On December 6th of that same year, the union made a statement pronouncing that "the changes announced to the U.S.-Korea Free Trade Agreement today... represent an important opportunity to break open the Korean market for U.S. businesses and workers and boost American manufacturing jobs, particularly in the automotive sector... We believe an agreement was achieved that will protect current American auto jobs, that will grow more American auto jobs... and that has important enforcement mechanisms."[22]

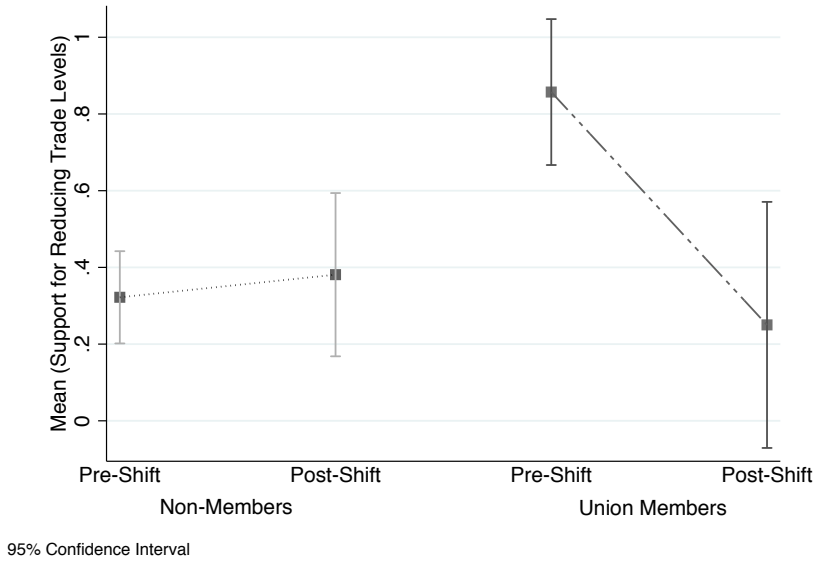
How did this shift in the union's position influence the views of the autoworkers on trade? We examine the impact of the UAW's pro-trade message by focusing on our

[21]The full statement is at `http://www.uaw.org/page/international-trade-and-investment-policy`.

[22]The full statement is at `http://www.uaw.org/category/tags/korus`.

sample of auto industry workers. The survey includes 102 auto industry workers, a quarter of which participated in the survey *after* the UAW announced its support for the free trade agreement. Using this sample, we compare the views of union members with those of non-members before and after the UAW's endorsement of the free trade agreement. Figure 2.7 clearly demonstrates that union members working in the auto industry were more protectionist than non-members before the shift, yet the level of support for trade restrictions decreased substantially after the UAW endorsed the free trade agreement. Crucially, this change in attitudes toward trade liberalization is not observed among non-members also working in the auto industry.

Figure 2.7: Support for Reducing Trade by Union Membership before and after the UAW Shift



This pattern is very much consistent with the information provision mechanism discussed herein, namely that union members became more supportive of trade as they received a pro-trade message from the union. Yet at least in theory, this observed pattern could be explained also by reversed causality, namely that a shift in members' trade

preferences (following the renegotiation of the trade deal) was itself the trigger for the change in the union's public stance. Such an explanation, however, is highly implausible given the very complicated and technical nature of the changes made to the trade agreement. These included new provisions on the schedule of tariff reductions, changes to the list of safety regulations, incorporation of certain environmental standards, and the introduction of safeguard provisions pertaining to Korean exports.[23] Without the union communicating and clarifying the overall impact of these changes, the average worker may not even have been aware that such changes to the agreement were made, let alone comprehend how these complex technicalities would affect her well-being.

Qualitative evidence from the online discussion forum of the UAW workers further contradicts this possibility of reverse causality. Examining the entries regarding KORUS posted by workers in the union's Facebook page, we find that the discussion was overwhelmingly critical of the agreement, as well as of the change in the union's official stance. While not necessarily representative of the entire UAW membership's views, this evidence is inconsistent with the notion that the shift in the union's stance came as a result of strong rank-and-file support for the agreement.[24]

Another alternative explanation for the shift that occurred only in union members' preferences could be differences in news consumption: if union members follow the news more than non-members, perhaps the former became supportive of trade openness because of greater exposure to the media coverage of the agreement. While theoretically plausible, it should first be noted that the revised agreement was in fact criticized by key media outlets, some of which took a stance that directly contradicted the union's assessment of the deal.[25] Thus, it is unclear in what direction the effect of news consumption

[23]See appendix for detailed information on the revised agreement.

[24]See appendix for full excerpts from the UAW's discussion forum on the KORUS agreement.

[25]For example, see the *The New York Times'* article "Few New Jobs Expected Soon from Free-Trade Agreement with South Korea" (December 7, 2010).

should exert on one's attitudes toward trade. Notwithstanding, in the following estimation we also control for respondents' level of news consumption along with other potential confounding factors to ensure that the difference between union members and non-members are not driven by other characteristics. We estimate the model:

$$Probit(Y_i) = \alpha + \beta_1 Union_i + \beta_2 Post\text{-}Shift_i + \beta_3 Union * Post\text{-}Shift_i + \theta Controls_i + \epsilon_i.$$

This specification is similar to the one estimated in the previous section, only here we include a *Post-Shift* indicator instead of a binary variable denoting an *RTW* state. The *Post-Shift* indicator variable takes the value 1 if individual i was interviewed after the UAW announced its support for the KORUS FTA and the value 0 if interviewed before. In some models we also include separate indicators for Michigan and Ohio, the two states in which the auto industry is concentrated, as well as their interaction terms with a binary indicator for post-shift survey. The main interest in this analysis is the effect associated with *Union* membership and the interaction term *Union*Post-shift*. We expect union members interviewed before the change in the union's position to exhibit more intense protectionist attitudes than non-members because the former were exposed to the union's message opposing the free trade deal. In addition, we expect that union members interviewed after the shift – and who presumably were exposed to the pro-trade message from the union – to be less protectionist.

The estimation results, presented in Table 2.4, are in line with these expectations: The coefficient on *Union Member* is positive and statistically significant at the 0.01 level or higher in all specifications estimating support for trade reduction. In addition, the coefficient on *Union Member*Post-Shift* is negative and highly significant in all models. This is also the case when we control for respondent's news consumption and ideological affinity. Given the fairly small sample size, the consistency of the finding, both

Table 2.4: Change in the Union's Policy Position and Members' Preferences

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Trade Level				Trade on Self			
Union Member	0.541**	0.492**	0.501**	0.477**	0.397**	0.299+	0.415*	0.375*
	(0.120)	(0.141)	(0.143)	(0.156)	(0.140)	(0.157)	(0.164)	(0.178)
Post-Shift	0.076	0.043	0.021	-0.005	-0.048	-0.070	-0.094	0.035
	(0.130)	(0.138)	(0.139)	(0.176)	(0.123)	(0.127)	(0.127)	(0.166)
Post-Shift*Union Member	-0.453**	-0.473**	-0.478**	-0.507**	-0.074	-0.042	0.022	0.146
	(0.076)	(0.075)	(0.077)	(0.072)	(0.207)	(0.230)	(0.253)	(0.325)
Demographic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
News Consumption	No	No	Yes	Yes	No	No	Yes	Yes
Party ID	No	No	Yes	Yes	No	No	Yes	Yes
Auto States	No	No	No	Yes	No	No	No	Yes
Observations	100	97	96	96	100	97	96	96

Marginal effects; Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$

Demographic Controls: income, gender, race, age, education & martial status

News Consumption: A binary indicator taking a value of 1 if the respondent read a newspaper once a day or more.

Auto States: Michigan, Post-Shift*Michigan, Ohio, Post-Shift*Ohio

unconditionally and when controlling for a host of confounding factors, is quite striking.

Turning to the right panel of the table in which we analyze respondents' view of trade as harmful to themselves and their families, we find that union membership was again associated with a sizable and significant effect on the perception of trade as adversely affecting oneself. However, in this case we observe a much weaker change following the union's u-turn in the pro-trade direction. Taken together, these results suggest that the union's change in position influenced the views of its members toward a more liberal stance, but this shift did not reverse the members' perception that trade had overall been harmful to them and their families.

2.6 Unobservable Selection and Bounding of the Treatment Effect

Our empirical analyses demonstrate that the effect associated with union membership on the policy preferences of its members cannot be accounted for by a self-sorting (i.e. selection) mechanism. Nonetheless, the evidence does not eliminate the possibility that

other unobservable factors account for at least some, if not most of the so-called 'union effect'. Thus, we estimate a lower bound of the treatment in a condition where other unobsevables may account for some of the estimated effect.

We do so using the method pioneered by Altonji, Elder, and Taber (2005) and recently developed in Oster (2014), which estimates the bounds of a treatment effect based on coefficient movements after inclusion of controls. The logic of this approach is straightforward: If we assume that selection on observables is proportional to selection on unobservables, we can examine how much coefficients change with the inclusion of observables and form an understanding of the sensitivity of a coefficient to unobservables. If the coefficient moves little after the inclusion of controls, this suggests that the coefficient is robust to unobservables. Yet, this movement must be scaled by movements in the R-squared because an uninformative control does not change the coefficient in a significant manner, but also adds little to the model's explanatory power (see appendix for the technical details about the approach).

Table 2.5 summarizes the results. The identified set shows the lower and upper bounds of the union treatment effect. The lower bound refers to the treatment effect when we assume that the unobservables are as important as the observables in explaining the impact of union membership on trade attitudes. The upper bound denotes the union treatment effect when we assume that there is no selection on unobservables. Among protectionist unions, the results show that the lower bound of the union effect is both positive and sizable for all three dependent variables. For example, in the case of support for reduction in trade levels, the lower bound is 0.069, which means that union members are about 7 percentage points more likely to support a reduction of trade than non-members, even when we assume that the unobservables are as important as the observables. This represents about a 37% increase from the baseline rate. Crucially, in all three dependent variables, even the lower bound of the estimated union effect is

sizable, representing at least 72% of the upper bound estimate. This indicates that selection on unobservables accounts, at most, to a quarter of the estimated effect. Finally, in the bottom three rows, which show the estimation results for the less protectionist unions, the finding is very different: the union effect is either not robust to selection on unobservables or substantively very close to zero.

Table 2.5: Identification of Lower Bound of Treatment Effect

	Baseline Effect (S.E.) [R^2]	Controlled Effect (S.E.) [R^2]	Identified Set
Strongly Protectionist Unions			
Trade Level	0.115 (.034) [.007]	0.095 (.035) [.059]	[0.069, 0.095]
Trade on Self	0.073 (.030) [.004]	0.063 (.031) [.044]	[0.049, 0.063]
Trade on US	0.126 (.032) [.010]	0.124 (.033) [.045]	[0.121, 0.124]
Not Strongly Protectionist Unions			
Trade Level	0.058 (.055) [.001]	-0.006 (.054) [.108]	[-0.008, -0.006]
Trade on Self	0.033 (.048) [.000]	-0.015 (.047) [.061]	[-0.015, -0.007]
Trade on US	0.042 (.040) [.000]	-0.030 (.050) [.087]	[-0.112, -0.030]

2.7 Moderators of the Union Effect

Having demonstrated that union membership exerts significant influence on members' views, we also explore whether the effect varies across different types of workers in theoretically predictable ways. First, we examine whether workers with opposed ideological convictions exhibit a lesser tendency to adopt the union's stance. Since we do not have information about workers' views on trade prior to joining the union, we use members' partisan stance instead, with the expectation that Republicans (who tend to be more pro-trade) would exhibit less openness to the union's protectionist message. In our model, we interact a 5-point measure of partisan preference with an indicator variable denoting union membership. The results provide qualified support for the hypothesis, indicating that indeed, the "union effect" on member's views tends to be weaker among

Republicans (Table B.11). The interactions are always positively signed and in two of the outcomes significant at the 90% level.

Following Zaller (1992), we also test the prediction that unions' communication is more likely to influence the members who are less informed about economic matters. This is expected both because the union-provided content is likely to be newer for those individuals, and because it likely to face less countervailing information. To test this prediction, we interact union membership with a measure of economic knowledge, based on whether the respondent had ever taken an economics class. Examining the results, we observe that among union members, having no prior economics education is indeed associated with a more protectionist view, as well as a more negative perception of trade's impact on the US. However, the estimated effect is well below statistical significance, a result we obtain across all models (Table B.12). In sum, we find very limited evidence that prior economic knowledge is a strong moderator of the union effect.[26]

Finally, we examine whether the characteristics of the unions themselves are associated with differences in the influence they exert on their members. Following Ahlquist and Levi (2013), we expect that the more economically successful unions will also be the most effective in swaying their members' views. Using a union's spending power (measured per capita in the previous year) as a proxy for its economic success, we interact this measure with the union's stance on trade (i.e., the protectionism score). The results in this case are consistent with the expectation: The interaction term is positive, and statistically significant at 0.01 level with respect to the perceived impact of trade on self and on the US (see Table B.13). Thus, the findings are consistent with the argument that the more economically successful unions are more effective in influencing their members.

[26]Employing education as an alternative measure to knowledge produces substantively similar results.

2.8 Conclusion

Labor unions are conventionally seen as organizations fighting for better rights, wages and benefits for workers. This study has shown that one route by which unions pursue their objectives is communication of policy-relevant information to their membership. The frequency and nature of the communications varies across unions, but those that engage in it more intensely are able to influence the members' attitudes toward the union-held position. Thus, it appears that unions are not merely a "voice" of workers' preferences, but also an effective institution that is able to systematically shape and cohere that voice toward a given policy objective.

To what extent do the findings speak to the influence of other organized interest groups on their members? In their most recent study of organized interests in the US, Schlozman, Verba, and Brady (2012) show that unions are more likely than any other type of organized interest groups – e.g., trade associations, identity groups, corporations – to be engaged in multiple activities such as testifying to congressional committees, lobbying, filing an amicus brief or making a PAC donation.[27] Unions are also more likely to use their websites to promote discussion of public policy issues as well to try to facilitate political action.[28] Even the average spend by unions on lobbying is relatively high, second only to occupational and trade/business associations.[29] Thus, on average, unions are relatively more active than most organized interest groups, which suggests that their influence on their membership is probably also more significant than that of their counterparts.

---

[27]Ibid p. 406.

[28]For example, 72% of union websites try to advance political action (e.g. promote a certain action or provide a link to facilitate voter registration); the corresponding figures are 37% for identity groups, 33% for trade or business associations, and only 3% for corporations (See Schlozman, Verba, and Brady (2012: 403)).

[29]Ibid p. 409.

Our findings also give rise to the question of whether trade is a representative issue for testing the unions' influence on their members. To address this point, consider the following: In the 2012 American National Election Study (ANES), 45% of respondents asked about their views on trade policy said that they "haven't thought much about it". In contrast, 12% and 13% chose this answer when asked about national spending on defense and on social services, respectively.[30] Given that people's views tend to be more malleable on issues on which they possess weaker opinions, this evidence suggests that the effect we observe with respect to trade is likely to be closer to the upper bound of the influence organized interest groups are able to exert on their members. Affecting attitude change on issues on which people tend to have stronger prior views – social issues, moral values – is likely to be more difficult.

In prior research on public opinion, any consideration of a union effect on members' attitudes has almost exclusively relied on the inclusion of an indicator variable denoting whether or not the respondent belongs to a union. This approach assumes a homogeneous effect across unions. Yet our study, which utilizes information not only on membership but also on the specific unions to which the respondents belong, highlights the significant variation in the position that unions take on the same issue as well as in the intensity with which they correspond about it with their members. Thus, by estimating only the average union effect, as most prior research has done, scholars have underestimated the impact of the more active unions on the preferences of their members. This suggests that for addressing certain questions about the political consequences of unions, particularly in studies that seek to go beyond their overall effect on the electorate, collecting information not just on membership but also on the specific union affiliation is pertinent.

In recent years, perhaps due to the declining rates of union membership, the focus in

[30]See Supplemental Material for a more complete discussion of the ANES data.

much of the research has shifted to exploring the influence of other institutions such as the church or business lobbies on various political and electoral outcomes (Green, 2007; Baumgartner et al., 2009). Yet even today, few organizations have the broad reach and regular access to such sizable portions of the electorate as unions do. As the findings of this chapter indicate, a meaningful understanding of the forces shaping public preferences in today's political environment still requires taking account of labor unions' impact.

Chapter 3

Who Speaks for Free Trade: Elite Communications and Public Support for Free Trade

3.1 Introduction

Elites and voters simultaneously influence each other. Electoral accountability compels politicians to respond to constituent preferences, while politicians also affect how voters understand policy issues and how they form their policy preferences. While both bottom-up and top-down mechanisms are theoretically and empirically grounded, the literature on trade policy has disproportionately focused on bottom-up models (e.g. Caves, 1976) and has paid relatively less attention to top-down influences. How do political elites publicly position themselves on the issue of international trade? How do elite positions influence voter preferences over trade policy? The literature remains comparatively silent on these questions.

The lack of attention to elite influence reflects the assumptions about voters often made in the existing trade policy literature. On the one hand, voters are assumed to understand the distributive consequences of international trade. Individual voters, the argument goes, are able to infer the likely impact of international trade on their well-being and to take positions that are consistent with their material interests (Scheve and

Slaughter, 2001*b*; Beaulieu, Yatawara, and Wang, 2005). As voters in this perspective form their policy preferences based on their own calculations, there is little room for political elites to shape voter preferences. On the other hand, some scholars suggest that voters are ignorant and apathetic about trade policy. In this view, voters are not well informed about the material consequences of international trade on the economy and on their own welfare (Rankin, 2001; Guisinger, 2009). Again, the role of political elites is limited because voters do not pay attention to politicians' trade-related legislative activities.

Contrary to these expectations, the effects of elite communications can be quite strong, especially when it comes to the formation of individual trade preferences, given the highly politicized nature of trade policy. A wide range of trade issues are often at the center of political debate, and politicians offer strikingly different interpretations of the effects of a given trade policy. For instance, on the signing of free trade agreements, Senator Dianne Feinstein publicly supported free trade on the Senate Floor, saying that "export growth as a result of these trade agreements will mean more jobs." Representative Daniel Lipinski took an opposite stance, calling the bill that outlines those agreements the "job-killing trade bill".[1] If elite communications indeed shape public attitudes, voters' views on trade would look very different depending on whose statements voters are exposed to and influenced by. The key question is whether and to what extent elite communications exert influence over public attitudes regarding trade.

Answering this question has proven to be a difficult task, in part due to the paucity of systematic data on trade-related communications by politicians, and in part due to empirical challenges in addressing the issues of endogeneity and omitted variable bias. First, investigating the effects of elite communication requires information about the in-

[1]Full transcripts of floor speeches by Sen. Feinstein and Rep. Lipinski on October 12, 2011 are available at `http://votesmart.org/public-statement/644494/united-states-korea-free-trade-agreement-implementation-act` and `http://votesmart.org/public-statement/645805/united-states-korea-free-trade-agreement-implementation-act`, respectively.

tensity and the contents of trade-related messages that legislators transmit to their constituents. Since such information is not readily available, empirical studies on the link between elite and public trade preferences have instead examined the influence of party as a whole (Hicks, Milner, and Tingley, 2014) or focused on the roll-call voting records of legislators (Guisinger, 2009). These measures, while informative, do not capture the varying intensity of trade-related communications by legislators. Second, one needs to disentangle top-down and bottom-up influences in order to identify the effect of elite communications on public attitudes. The relationship between elites and the public, however, is subject to an obvious concern of endogeneity, because legislators have electoral incentives to communicate messages that are in keeping with their constituents' preferences. Omitted variables may also account for both elite and public attitudes, thus introducing an additional source of potential bias.

I address these empirical challenges by combining an original measure for the expressed pro-free trade positions of representatives–constructed from an original collection of press releases–and a survey of a large sample of American workers. I classify the collected trade-related press releases into a set of categories and create a new metric for representatives' trade policy positions, which is based on the share of pro-free trade and protectionist press releases among all press releases issued in a given congressional term. I find that representatives' pro-free trade messages are systematically associated with a decrease in protectionist attitudes of co-partisan constituents in their districts. Yet, the messages appear to have little impact on other constituents. This finding remains robust to the inclusion of a series of demographic controls and fixed effects for employed industry and district.

Exploiting the difference in political information environments across the states, I further demonstrate that this association is mainly driven by elite influence. Taking advantage of the timing of the survey that took place during the months preceding and

following the 2010 mid-term election, I show that the effects of representatives' messages appear stronger in states without reelection-seeking senators, on whom voter attention tends to be focused. The association appears much weaker in other states where voter attention is diverted to reelection-seeking senators. As the senate electoral cycle is not systematically related to the communication strategy of representatives or other characteristics of districts, which I demonstrate empirically below, I can leverage this change in the informational environment–created by the differential attention paid to representatives with and without an incumbent senator running in the state–to disentangle top-down and bottom-up influences. As additional evidence for the informational mechanism underlying elite influence, I also show that voters are fairly well informed about their representatives' position on trade when they are extensively exposed to messages from their representatives.

The findings presented in this study contribute to our understanding of how voters develop their trade policy preferences. Although voters are not fully guided by their material interests, it would be misleading to conclude that voters are completely apathetic about trade policy. It is fair to say that voters do not have sophisticated economic knowledge about the distributional effects or efficiency gains of trade liberalization (Rho and Tomz, 2015). It is also probably true that voters do not actively seek out trade-related information and pay little attention to the trade-related voting records of their elected leaders (Guisinger, 2009). However, my findings suggest that individual citizens are better informed and more politically aware than is typically assumed. When exposed to messages from political elites, individual voters are able to use that information as a policy heuristic to update their preferences. This implies that voters are potentially able to form trade preferences that are reasonably aligned with their self-interested considerations, as long as political elites serve the interests of voters.

This study also contributes to an extensive literature on elite communications. First,

my analysis utilizes actual legislator messages communicated to voters, and it demonstrates the effects of such messages on the actual policy preferences of voters. This focus contributes to the literature by demonstrating that the findings from experimental studies (e.g. Broockman and Butler (2015); Bullock (2011)) generalize to natural political settings. Second, the findings highlight the importance of how legislators explain their policy positions to constituents. Importantly, the analysis of press releases by representatives reveals significant variation with regard to whether and how representatives explain their policy positions. Together with the findings from Grose, Malhotra, and Van Houweling (2015) that legislators strategically tailor their messages to their constituents, my findings suggest that one needs to consider the effect of actual *elite messages* rather than elite policy positions *per se* in examining the effects of elite communications.

The rest of the chapter is organized as follows. The next section reviews the main insights from the literatures on elite communications and trade policy preferences, followed by a discussion of the factors that may account for congressional position taking on trade and its effects on public attitudes. Sections 3.4 and 3.5 describe my data, empirical approach, and the findings. The final section discusses the broader implications of the findings for trade policy making.

3.2 Elite Communication and Individual Preference Formation

Questions on how voters form their policy preferences have motivated political scientists for decades and continue to draw important attention from scholars (for reviews, see e.g. Druckman and Lupia (2000, 2016)). One strand of research on the sources of policy preferences addresses whether and how political elites influence public opinion. While elites and the public simultaneously influence each other, accumulated evidence in the literature suggests that political elites indeed shape public attitudes by providing policy-relevant information (Zaller, 1992; Chong and Druckman, 2007). As average

voters are not well equipped to gather and process relevant information, they defer to legislators' policy judgement and take positions endorsed by the elites. Legislators can shape voters' preferences with persuasive appeals, yet even without sophisticated reasoning, they can influence voters' views merely by announcing their own positions (Broockman and Butler, 2015).

Despite the well-established evidence for elite influence over a range of policy issues (e.g. wartime public opinion, public support for European integration, or social security policy preferences (Gabel and Scheve, 2007; Lenz, 2009; Kriner and Shen, 2014)), existing studies of trade policy preferences have rarely paid attention to potential top-down influence in preference formation. Much of the scholarship focuses instead on bottom-up models of trade policy, thereby suggesting that individual trade preferences are largely shaped by the material consequences of international trade on one's own well-being (O'Rourke and Sinnott, 2001; Scheve and Slaughter, 2001*b*). The implicit assumption made in the literature is that voters are able to calculate how their economic interests are affected by international trade, and that political elites then take voter preferences into account in the process of trade policy making.

A focus on trade policy constrained to bottom-up influences not only presents an incomplete picture of trade preference formation, but it also leaves the literature at odds with the mounting evidence regarding voter ignorance on trade policies. Contrary to the expectations of a bottom-up approach, an increasing number of studies suggest that ordinary citizens are not well informed about how trade affects their material interests. For instance, Rankin (2001) asserts that individuals pay little attention to trade policies and do not know whether the U.S. generally and they as individuals benefit or lose from trade. In a similar vein, Guisinger (2009) questions the tacit assumption regarding voter knowledge of the effects of trade. Her study shows that voters place less importance on trade-related voting records in evaluating legislators, and that they lack knowledge

of how their legislators voted on trade agreements. Rho and Tomz (2015) further advances this discussion. From their assessment of voter knowledge on the economic effects of trade, they surmise that average citizens are economically ignorant: they have not thought carefully about trade and know little about efficacy and distributional effects associated with international trade.

It is against this backdrop that scholars of international political economy have begun to recognize the important roles of information and of political elites as information providers. Given low levels of information among average citizens, how would individual trade preferences change when provided with more information? Motivated by this question, Rho and Tomz (2015) explore the effect of information via a series of survey experiments. Their finding suggests that learning about the distributional consequences of trade, on average, makes individuals more selfish (i.e., more supportive of policies advancing their own material interests). As Rho and Tomz (2015) conclude, the substantial effects of information imply that politicians and the media can shape public opinion through the strategic use of rhetoric. This conjecture, albeit indirectly, is supported by Hicks, Milner, and Tingley's (2014) finding of party influence on trade preferences. Their analysis shows that parties played a critical role in affecting how the public voted in the referendum on a trade agreement in Costa Rica.

While these recent studies point to the important role of political elites as information providers, no prior studies offer direct evidence regarding the effect of elite communication on trade preferences. Evidence from survey experiments demonstrate the effect of informational cues on individual trade preferences (Hiscox, 2006; Murillo, Pinto, and Ardanaz, 2013; Rho and Tomz, 2015), yet it remains unexplored whether the results generalize to real political environments and how trade issues are communicated and framed by political elites. A study by Hicks, Milner, and Tingley (2014) provides new evidence of top-down influence, but systematic data are still lacking on the contents and

the intensity of communication by political elites.

This deficiency in the literature is striking not only due to the accumulated evidence of elite influence regarding other issue domains, but also because trade policy is one of the areas where the effects of elite communication are expected to be strong. First, individual views on trade policy might be more easily swayed by political elites than other policy domains. The fact that average citizens have low levels of knowledge on trade issue means that they may have weaker priors, which would thereby make their trade policy preferences more malleable. Second, trade policy is a frequently politicized issue. When political elites strategically put the trade issue on the agenda, awareness on the issue may improve among uninformed and apathetic citizens (McKibben and Taylor, 2014). Yet again, to date, little systematic evidence has been provided to document the effects of elite communication on trade policy preferences.

In this chapter, I offer new evidence that helps to address this deficiency. By analyzing legislators' trade-related messages and the corresponding public opinion in their districts, I seek to provide new insights on (i) how frequently and in what way legislators communicate information on trade issues to their constituents, (ii) what determines such communication strategy by legislators, and (iii) whether and in what way trade-related messages from legislators shape the views of their constituents.

3.3 Congressional Position Taking on Trade and Its Effects

Before moving to discuss the empirical approach of this study, I draw here a set of expectations on congressional position taking and its effects on public attitudes. Building on the literature on trade policy, I discuss what factors are likely to be associated with elite positions on trade. I then discuss the possible effects of elite communication on public attitudes, paying particular attention to the conditions under which elite communication can be more influential in shaping the views of individuals.

3.3.1 Congressional Position Taking on Trade

In explaining who tends to take positions as pro-free traders or protectionists in Congress, the first factor I consider is legislators' ideology, which has been consistently found to shape their foreign economic preferences (Noël and Thérien, 2008; Milner and Tingley, 2011). Since conservatives emphasize the importance of the market, as opposed to liberals who are more supportive of government intervention in the economy, legislators with more conservative ideology tend to be more likely to express views in favor of free trade.

Another factor to consider is the socio-economic characteristics of districts. As legislators wish to explain that their congressional activities serve their constituents' interests, they take into account the economic effects of international trade on their districts. When their districts gain from trade liberalization, legislators tend to emphasize their pro-free trade stance. When many of their constituents lose from trade, on the other hand, legislators are likely to express more protectionist views. This leads to the following expectations. First, districts abundantly endowed with human capital are likely to benefit from more trade according to the predictions from the Stolper-Samuelson models (Rogowski, 1989; Scheve and Slaughter, 2001*b*). Legislators serving those districts, therefore, are more likely to be pro-free trade in their communications with their voters. Second, districts where export-oriented (import-competing) industries are concentrated are expected to win (lose) from international trade. Legislators from these districts have more (less) incentive to position themselves as pro-free traders.

These expectations may raise the question of why legislators would consider districts' interests while their voters are ignorant and apathetic to the issue of international trade. Two mechanisms may explain this. First, legislators have incentives to support economic policies that serve their constituents. Even when their constituents do not pay attention

to legislators' records on specific policies, they may evaluate their legislators based on the outcome (i.e. job creation, economic growth, etc). As trade policy may affect the long-term economic performance of legislators, it is in their interests to support policies that are conducive to their districts. Second, districts with a substantial stake in international trade are likely to have at least some voters and organized groups (i.e. labor unions, or agricultural interest groups) who are highly attentive to the issue. Legislators respond to these interests and emphasize their positions on the issue when explaining their work to constituents.

3.3.2 Effects of Elite Position Taking on Public Attitudes

Elite position taking on international trade is expected to have downstream effects on public attitudes, as suggested from the literature, but when is such communication more influential in shaping individual preferences? Individuals take cues from political elites because their attentive capacity is limited, compared to the amount of political and non-political information (Druckman and Lupia, 2016). Yet, given that individuals are exposed to cues from diverse political actors, not all of the information transmitted from political elites can reach to the public. Furthermore, individuals may not internalize all of the information delivered to them. For these reasons, one must pay close attention to when elite-provided information exerts more influence on the public.

Partisanship is a key factor that determines whether and to what extent elite communication shapes individual trade preferences. While it is widely known that individuals tend to base their decisions on party cues rather than detailed issue descriptions (Cohen, 2003), that tendency may appear even greater in the context of trade policy, due to its complexity. As the effects of international trade constitute a contentious issue even among experts, it is not reasonable to expect average citizens to gauge the effects of trade policy on their own. Even when provided with detailed policy-relevant information, in-

dividuals may not be able to understand and critically evaluate such information. In such contexts, individuals may tend to rely more on simple heuristics such as party cues than other types of complex and technical information (Lau and Redlawsk, 2006).

This discussion implies that legislators' messages are likely to shape the attitudes of their co-partisans, but other individuals are unlikely to be influenced. When exposed to messages on the views of their legislators, individuals may focus more on *who* their legislators are, and less on *why* their legislators endorse such policy positions. Co-partisan voters are likely to assume that their legislators' views are in line with their interests and take the same positions as their legislators. However, individuals may not buy the messages when they come from legislators of other parties. In short, pro-free trade messages from legislators are likely to move co-partisan constituents in a more pro-trade direction, but they are expected to have little impact on the views of other constituents.

3.4 Data and Empirical Strategy

My analysis utilizes an original dataset constructed from press releases from the U.S. representatives along with survey data from approximately 4,000 American workers. Using these datasets, I examine congressional position taking on international trade and its effects on individual trade preferences. This section describes the data and outlines my empirical strategy.

3.4.1 Measuring Congressional Position Taking on Trade

In order to measure how legislators take positions on trade and communicate their positions to constituents, I focus on their press releases, which a number of prior studies have examined to study legislators' communications with their constituents (Grimmer, Messing, and Westwood, 2012; Grimmer, 2013). Focusing on the 111th Congress (2010-

11), I collected press releases by the U.S. representatives and selected a total of 2,159 press releases relevant to international trade. I classified the selected documents into a set of categories using a supervised learning method, and constructed measures for each representative's expressed pro-free trade or protectionist position.

I collected press releases from *voxgov*, the website that provides all official announcements from all government sources. From among the press releases, which cover a diverse range of topics, I selected documents that contain a carefully chosen set of 127 key phrases related to international trade (e.g. trade agreement, export promot, export opportun, or import surge).[2] This procedure results in the selection of 2,159 press releases. A detailed description of the document selection procedure and a list of key phrases are available in Section C.1 in the appendix.

I then classified the selected documents using a supervised learning method: human coders first categorize a set of documents manually, and the algorithm learns how to classify the documents using the manually coded sets.[3] I first decided on the number of categories after systematic reading of 25% of randomly selected documents and manually classified those documents into i) pro-free trade, ii) protectionist, iii) trade adjustment assistance, iv) export assistance, v) foreign countries' trade barrier against the U.S., vi) other trade-related, and vii) unrelated. A document is classified as i) pro-free trade if it contains a legislator's view in favor of free trade policy reducing U.S. trade barriers, and as ii) protectionist if a legislator advocates restrictions of U.S. trade through protectionist measures. Other documents that do not contain a legislator's view on trade policy, but that are still relevant to international trade, include those announcing the funds for districts through iii) trade adjustment assistance or iv) export assistance

[2]All texts were "stemmed" through the Porter Stemming Algorithm (stemming refers to a process for reducing words to their root). I choose to select on key phrases instead of keywords because selecting on keywords (e.g. trade, import, or export) results in the inclusion of many irrelevant documents.

[3]For details about the supervised learning method, see Grimmer and Stewart (2013).

programs. A document that calls for the reduction of trade barriers by foreign countries is classified as v) trade barriers of foreign countries. Other trade-related documents and documents that are only marginally relevant or unrelated to trade are classified as vi) others and vii) unrelated, respectively. After manual coding of 25% of the documents based on this coding rule, the rest of the documents were classified by three supervised learning algorithms - maximum entropy, support vector machine, and generalized linear models.[4] When the three algorithms all made the same prediction for the classification of a document, I followed the machine-coded classification.[5] When the three algorithms failed to agree on the classification, the documents were manually coded to improve the accuracy of classification.

The classification results are summarized in Table 3.1. Focusing on press releases that are directly relevant to the issue of international trade, the table shows that a fair proportion of documents (13.5%) are pro-free trade while the majority of press releases (57.6%) show a protectionist tone. In pro-free trade press releases, legislators express their support for signing free trade agreements or reducing trade barriers and articulate the economic benefits from trade (i.e. expansion of exports, new markets for firms, or job creation). In press releases classified as protectionist, legislators criticize free trade agreements or call for protectionist policies (i.e. increasing tariffs, or buy American), generally with an explanation of the harmful effects of trade on workers. As hinted at from the most frequent stemmed words appearing in each classification, congressional critiques of trade often focus on the negative effects of trade with China on American workers. The 20 most frequent bigrams (two-adjunct words) in each category are fully described in Figure C.2 in the appendix.

---

[4]The supervised learning was conducted using *RTextTools*. See Jurka et al. (2013) for details.

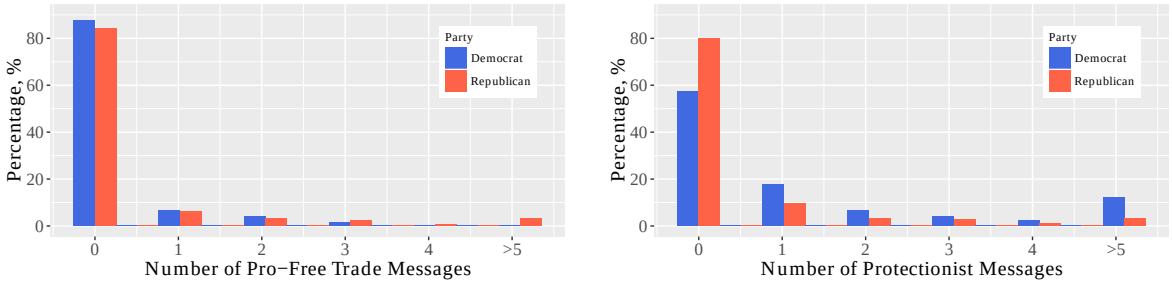
[5]When tested with a training dataset of manually coded documents, the three selected algorithms make the same prediction for 77% of the documents and its recall rate of 0.94 is comparable to manual-coding. See Section C.2 in the appendix for details about the supervised learning method.

Table 3.1: Results from Supervised Text Classificaton

Classification	Most Frequent Stemmed Words	House
Pro-Free Trade	trade, agreement, will, american, export, job, presid	146 (13.5%)
Protectionist	trade, china, american, job, manufactur, currenc, worker	622 (57.6%)
TAA	worker, assist, job, trade, taa, program, adjust	90 (8.3%)
Export Assistance	export, busi, small, program, trade, help, will	55 (5.1%)
Trade Barrier	senat, trade, beef, market, export, poultri, product	55 (5.1%)
Others	trade, product, drywal, will, import, export, senat	112 (10.4%)
All Trade-Related		1025

I focus on the first two categories (pro-free trade and protectionist) because they explicitly demonstrate the views of legislators on trade policy while the other categories do not. I explore the variation in the frequency of pro-free trade and protectionist messages in Figure 3.1. The figure presents the distribution of the number of press releases with pro-free trade and protectionist messages; it illustrates that the vast majority of legislators rarely make public announcements for or against free trade, while only a small proportion of legislators actively announce their views on international trade. Not surprisingly, Republican legislators tend to advocate for free-trade, and Democratic legislators tend to demonstrate protectionist stances. Yet, even among legislators from the same party, there is significant variation in individual members' propensities to publicly announce their views on international trade.

Figure 3.1: Frequency of Press Releases with Pro-Free Trade and Protectionist Stance



This pattern is more clearly illustrated in Figure 3.2, which contrasts the number of press releases with pro-free trade and protectionist stances. Clearly, Democratic legis-

lators seldom communicate pro-free trade messages to their constituents, but not all of them publicly advocate for protectionist policies. A few Democrats including Dan Lipinski from Illinois and John Dingell from Michigan sent protectionist messages ten times or more during the period of two years. Ten Republican legislators including Chris Lee from New York and Robert Aderholt from Alabama made multiple protectionist announcements.

Figure 3.2: Frequency of Press Releases with Pro-Free Trade and Protectionist Stance by Partisanship

Note: The number of protectionist press releases (y-axis) is plotted against the number of pro-free trade press releases by each representative (x-axis). Data points with a value of 10 and higher are collapsed as 10. Overlapping data points are horizontally jittered. Labels for data points are displayed only up to two points to make the labels legible due to too many overlapping values.

Based on this dataset, I constructed measures for expressed pro-free trade and protec-

tionist stances. The main measures I use are (i) the share of press releases with pro-free trade messages out of all press releases; (ii) the share of protectionist messages; and iii) the difference between the two, which measures the degree of a pro-free trade stance relative to a protectionist stance. I consider the share of press releases instead of the raw number of press releases in order to account for the total number of press releases issued by legislators within a given period. Given the significant variation in these measures, I examine what accounts for the variation in the intensity of pro-free trade and protectionist communications and what impact this has in terms of individual trade preferences.

3.4.2 Measuring Individual Attitudes toward Trade

In order to examine how trade-related information transmitted from legislators influences their constituents' trade preferences, I link the legislator-level dataset of trade-related communications to survey data from more than 4,000 American workers. The survey data is a part of the Harvard Globalization Survey that was designed to examine workers' attitudes toward various aspects of globalization.[6] In my analysis, I mainly rely on responses to three questions on individual views of trade policy: whether a respondent thinks that (i) trade with other countries should be expanded, reduced, or kept at its current level; ii) trade with other countries is good or bad for the individual and the family; and iii) trade with other countries is good or bad for the U.S. as a whole. Using the five-point response scales to these questions, I construct three binary measures that use the bottom two categories to assess respondents' opposition to trade.

In addition to having a series of questions on individual views regarding trade policy, this dataset is particularly well-suited for examining the effect of elite communications on trade views for two reasons. First, the survey was fielded between July 2010 and February 2011, a period that coincides with the mid-term election campaign, when in-

[6] A more detailed description of the survey is presented in Hainmueller, Hiscox, and Margalit (2015).

dividuals are particularly attentive to the activities and the views of legislators. Second, the survey contains a question on how respondents assess their representatives' view on trade: "Overall, do you think your district's Representative in Congress, [*name of Representative*], shares your views about trade with other countries?" Responses to this question allow me to examine the degree of information that individuals have about their representatives' view as well as the alignment between the public stance of legislators and the views of individuals on the issue.

3.4.3 Disentangling Top-Down Influence from Bottom-Up Influence

The reciprocal relationship between elites and voters poses a major empirical challenge for this analysis. While political elites exert down-stream influence over public opinion, they also respond to public attitudes. This endogeneity issue raises an empirical problem in determining whether an observed empirical pattern is due to top-down or bottom-up influence. Furthermore, it is also possible that both elite and public opinion are jointly influenced by other common factors that are hard to capture through observational data. This second issue of omitted variables is relatively easy to address with the inclusion of district fixed effects, as discussed later in the empirical analysis section. Yet, my empirical strategy for addressing the endogeneity issue requires a more comprehensive discussion, to which this section is devoted.

My empirical strategy takes advantage of two things: (1) the timing of the survey that was conducted during the mid-term election period and the preceding months in 2010, and (2) the different electoral cycles of senators. The survey was conducted from July 2010 to February 2011, a period during which the primary and general elections took place for all House seats and for the Senate seats of class III. In each congressional election, only one of three classes (that were originally determined randomly in 1789) are up for re-election. In 2010, seats of class III were contested and 25 incumbents

from 24 states ran for reelection (including special elections), with 12 other incumbents retiring. The fact that only a proportion of incumbent senators were seeking reelection for an exogenous reason is unlikely to be related to position taking or the communication strategies of House Representatives. However, voters in those states with reelection-seeking senators were likely to be less exposed to information about their representatives due to more media coverage devoted to incumbent senators running for reelection. Due to limited attentive capacity, voters themselves in those states may also pay relatively less attention to their representatives than do other voters whose incumbent senators do not run for reelection and who can thus pay more attention to their representatives.

This suggests that voters in two types of states (states with reelection-seeking senators and the rest of the states) find themselves in very different informational environments for an exogenous reason.[7] Voters in states with reelection seeking senators are likely to be relatively less informed about their representatives, compared to voters in the other states who are more extensively exposed to information about their representatives (either due to media coverage or their own information-seeking behavior).

I support this claim empirically with an analysis of individual information-seeking behavior on the web and a comparison of socio-economic and political characteristics of districts in the two types of states. First, my analysis of the Google trend index shows that individuals indeed express the least degree of interest toward representatives in the states with reelection-seeking senators. This indicates that individuals are less likely to seek information about their representatives especially when their senators run for

[7]States with retiring senators are considered as "the rest of the states" because retiring senators presumably do not attract much media and voter attention, creating more room for attention to representatives. In particular, considering the fact that most of respondents participated in the survey in July (61%) and August (14%), a few months before the election period, my focus on the presence of reelection-seeking incumbents (not on the presence of contested senate seats) is warranted. While voter attention can be diverted to senate candidates as the election approaches in those states with retiring senators, the empirical focus here is on the period preceding the survey (up until June 2010), which is used to study the effect of elite-provided information communicated prior to the survey.

reelection, probably due to the diversion of media attention toward senators. (See Table C.4 in the appendix for the empirical results). Second, I also show that districts in the two types of states are comparable with respect to various pertinent factors. They are on average very similar with regard to representatives' trade-related communications, the skill-level of the population, the importance of the agricultural industry, media income, and Republican candidate's vote share in the previous House election, among others. (See Table C.5 in the appendix for empirics). An overall news consumption pattern of individuals also appears to be comparable in the two types of states. This suggests that the electoral cycle of senators is not systematically related to other factors that could be associated with elite and public trade preferences.

From this discussion, the following expectation can be drawn. If an observed empirical association is driven by top-down influence from representatives, the association should appear much stronger in states where voters are more highly exposed to information from representatives, i.e. in states without reelection-seeking senators. If the association is mainly driven by bottom-up influence, conversely, the difference in the informational environment should not affect the level of association between elite and public influence, because the difference in the informational environment has little influence on how representatives respond to the public. Exploiting the difference in the political informational environment, I thus seek to disentangle top-down influence from bottom-up influence.

3.5 Empirical Analyses

3.5.1 Who Speaks for Free Trade in the US Congress?

I begin by exploring the factors associated with congressional position taking on international trade. With three different measures for revealed stance on trade as dependent

variables, I estimate a linear regression model with each legislator i in state j as the unit of analysis:

$$Y_{ij} = \alpha + \beta \textit{Legislator Characteristics}_i + \gamma \textit{District Characteristics}_i + \theta \textit{State}_j + \epsilon_{ij},$$

where *Legislator Characteristics* is a set of legislator-specific variables and *District Characteristics* is a set of socio-economic characteristics for a district that legislator i represents.

For *Legislator Characteristics*, I include the DW-Nominate score as a measure for ideology, and additionally include the trade-related committee membership and gender of legislators. Specifically, I include a binary indicator for whether legislators belong to the Ways and Means Subcommittee on Trade, because those legislators serving in the committee may be more active in disseminating information on trade policy-related legislation. I also include an indicator for female legislators because women have consistently been found to be less favorable toward free trade than men (O'Rourke and Sinnott, 2001; Mansfield, Mutz, and Silver, 2015).

For *District Characteristics*, I include the share of high-skill (executive and managerial) workers in the district, which measures the capital endowment of the district as in Broz (2005) and Broz and Hawes (2006), as well as the agricultural production of the district in order to examine the effect of the export-oriented sector. Additional variables included in the analysis are the share of the population that is foreign born, the logarithm of median income, the unemployment rate, the share of Republican votes in the previous House election, the African American share of the population, and the share of the population over 65.[8] All district-level variables take the values for 2009.

[8]Data for agricultural production by districts are from the 2007 Census of Agriculture, published every five years and available at `http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/Congressional_District_Profiles/index.asp`. Data for the vote share of Republican candidates in the previous House election come from the CQ voting and election collection. Other data on the share of high skill workers, median income, unemployment rate, black population, and population over 65 at the district-level are from the 2009 American Community Survey collected from `http://factfinder.census.`

Table 3.2: Pro-Free Trade and Protectionist Communication by Representatives

	Free Trade		Protectionist		Difference	
	(1)	(2)	(3)	(4)	(5)	(6)
DW-Nominate Score	0.220*	0.197	-0.928**	-0.938*	1.148**	1.135**
	(0.097)	(0.140)	(0.255)	(0.368)	(0.277)	(0.399)
Trade-related Committee	1.712**	1.714**	1.343*	1.401*	0.370	0.312
	(0.256)	(0.256)	(0.675)	(0.672)	(0.733)	(0.729)
Female	-0.147	-0.148	-0.304	-0.274	0.157	0.126
	(0.093)	(0.093)	(0.245)	(0.244)	(0.266)	(0.265)
High Skill, %	0.002	-0.002	-0.055**	-0.057**	0.057*	0.055*
	(0.008)	(0.008)	(0.020)	(0.022)	(0.022)	(0.023)
Agriculture Products, $1B	0.085*	0.082*	-0.155+	-0.183*	0.241*	0.265**
	(0.034)	(0.034)	(0.089)	(0.089)	(0.096)	(0.097)
Foreign Born Population, %	0.014**	0.015**	-0.029*	-0.018	0.043**	0.033*
	(0.004)	(0.005)	(0.012)	(0.013)	(0.013)	(0.014)
Median Income, Log	0.173	0.241	0.373	0.668	-0.199	-0.428
	(0.278)	(0.289)	(0.734)	(0.757)	(0.796)	(0.822)
Unemployment Rate, %	0.011	-0.006	-0.105+	-0.047	0.116+	0.041
	(0.021)	(0.026)	(0.056)	(0.068)	(0.061)	(0.073)
Republican Vote Share, %		0.001		-0.002		0.003
		(0.003)		(0.007)		(0.008)
Black Population, %		0.006		-0.007		0.012
		(0.004)		(0.010)		(0.011)
Population over 65, %		0.009		0.104*		-0.095*
		(0.017)		(0.044)		(0.047)
Observations	433	433	433	433	433	433

Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
All models include state fixed effects.

Table 3.2 presents the estimation results. The dependent variable is the share of press releases with pro-free trade messages in the first two models, the share of protectionist messages in the next two, and the difference between the two measures (with higher values indicating a stronger pro-free trade stance) in the last two. Representatives included in the analysis are those who served the district as of June 2010.[9]

Legislators' ideology appears to be substantially associated with congressional position taking on trade. Consistent with the expectation that conservatives are more likely

gov/faces/nav/jsf/pages/download_center.xhtml.

[9]Dependent variables for two representatives who served in the House only for a short period by the cutoff point are thus missing.

to be supportive of free trade than liberals, the measure of liberal-conservative ideology (DW-Nominate), ranging from -1 for liberal to 1 for conservative, appears to be positively associated with a pro-free trade stance. Specifically, a 1-point increase in the measure is associated with a 0.2 percentage-point increase in the share of pro-free trade press releases and a -0.9 percentage-point decrease in the share of protectionist press releases. Given that representatives on average devote only 0.2 percent of their press releases to pro-trade contents and 0.7 percent of them to protectionist contents, the association between a representative's ideology and her trade-related stance is fairly substantial.

The economic characteristics of districts are also substantially associated with the expressed pro-free trade and protectionist stances of representatives. The coefficient on *High Skill* is close to 0 in the first two models but is negative and statistically significant at conventional levels in the next two; it is positive and also statistically distinguishable from zero in the last two models. This suggests that legislators from districts abundant with human capital tend to send less protectionist messages. An increase of high-skilled workers by 1 percent is associated with a 0.05 percentage-point decrease in the share of protectionist messages. A district's agricultural production appears to be positively associated with a pro-free trade stance and negatively associated with a protectionist stance, meeting conventional levels of statistical significance across all the estimated models. This suggests that legislators from export-oriented districts are more likely to advocate free trade policies and less likely to call for protectionist policies. Another factor worth discussing is the share of the population that is foreign born, which is positively and systematically associated with a pro-free trade stance.

The results suggest that legislators respond to the interests of their districts, but at the same time, that the ideological predisposition of legislators also plays a significant role in how they position themselves on trade issues. This suggests important implications regarding whether and how elite communication influences public attitudes toward

trade.

First, the significance of ideology implies that legislators are not merely influenced by voter interests but are also guided importantly by their own beliefs. Legislators from districts with similar socio-economic and political characteristics may have markedly different beliefs about free trade policy. As they communicate their beliefs to their constituents, individuals in different districts are exposed to different messages about how trade influences the U.S. or the local economy, as well as their own well-being.

Second, legislators may serve as information providers for their constituents. Average individuals, even when their local economy is negatively affected by international trade, may need additional information to understand the connection between the expansion of trade and increasing job loss, for example. In a similar vein, individuals who potentially gain from free trade policy may not have a sophisticated enough understanding of the benefits that free trade may bring to their own wellbeing. For these individuals, the information provided by legislators may serve as a heuristic for understanding how a given policy influences their interests. In this sense, legislators are not merely representing their voters' interests but are also proactively providing information to their constituents about the potential gains and losses from policy implementation. The following section turns the focus to examining whether such information indeed shapes public views toward international trade.

3.5.2 Do Constituents Internalize Messages from Legislators?

I next examine whether pro-free trade messages from legislators increase public support for free trade in their districts. As individuals rely on party cues, I expect pro-free trade messages from legislators to exert influence over the trade-related views of co-partisan constituents in their districts but not the views of other constituents. To test this expectation, I estimate the following binary probit model with each individual i in

district j as a unit of analysis:

$$\begin{aligned} Probit(Y_{ij}) &= \alpha + \beta_1 Pro\text{-}Free\ Trade_j + \beta_2 Co\text{-}Partisan_{ij} \\ &+ \beta_3 Pro\text{-}Free\ Trade * Co\text{-}Partisan_{ij} + \gamma Industry_i + \theta Controls_i + \epsilon_i, \end{aligned}$$

where Y_i is a binary measure of respondents' protectionist attitudes, *Pro-Free Trade* is a measure for pro-free trade stance of representatives, and *Co-Partisan* is a binary indicator taking the value 1 if i shares the same party affiliation with her representative.[10] The model also includes *Industry* fixed effects along with *Controls*, a vector of individual characteristics (income, gender, race, age, education, marital status, and union membership). I also include district-fixed effects in some models to account for any unobservable district-level characteristics that influence both elite and public attitudes toward trade.

The key parameter of interest here is the coefficient β_3 on the interaction term *Pro-Free Trade*Co-Partisan*. A finding of sizable and significant coefficient would indicate an association between the expressed stance of representatives and co-partisan attitudes toward trade in their districts. In order to probe whether such association is driven by top-down influence, I estimate the model separately for (1) states with no reelection seeking incumbent senators where voters are more extensively exposed to information about representatives (high information environment) and (2) states with reelection seeking senators where voters are relatively less exposed to the views of representatives (low information environment). Leveraging the different electoral cycles of senators, which creates the difference in the political information environment for voters, I examine whether the effect of elite communication appears to be stronger in "high information environment"

[10] *Pro-Free Trade* is calculated as the difference between the proportion of press releases with pro-free trade and protectionist messages. As one only wants to consider press releases issued before the survey, the measure is based on the number of press releases distributed from January 2009 to June 2010. *Co-Partisan* is based on respondent i's 3-point party identification. It takes the value of 0 for all those who identify themselves as independent.

than in "low information environment."

Table 3.3: Pro-Trade Messages from Representatives and Public Attitudes toward Trade

High Information Environment									
	Trade Reduction			Trade on Self			Trade on US		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Pro-Free Trade by Representative	-0.012	0.005		-0.001	0.016^{+}		-0.005	0.003	
	(0.007)	(0.010)		(0.007)	(0.009)		(0.007)	(0.009)	
Copartisanship w/ Representative	0.004	-0.006	0.006	-0.016	-0.023	-0.023	-0.012	-0.016	-0.010
	(0.023)	(0.023)	(0.025)	(0.019)	(0.019)	(0.022)	(0.020)	(0.020)	(0.023)
Pro-Free Trade * Copartisanship		-0.052**	-0.072**		-0.037**	-0.051**		-0.020	-0.040*
		(0.017)	(0.020)		(0.013)	(0.015)		(0.014)	(0.020)
State FE	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No
District FE	No	No	Yes	No	No	Yes	No	No	Yes
Observations	1918	1918	1778	1908	1908	1655	1906	1906	1703
Low Information Environment									
	Trade Reduction			Trade on Self			Trade on US		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Pro-Free Trade by Representative	0.006	0.010		0.007	0.013*		0.006	0.009	
	(0.007)	(0.008)		(0.006)	(0.006)		(0.006)	(0.007)	
Copartisanship w/ Representative	-0.003	-0.007	-0.002	0.003	-0.004	-0.002	0.026	0.022	0.040^{+}
	(0.023)	(0.023)	(0.027)	(0.019)	(0.019)	(0.023)	(0.021)	(0.021)	(0.024)
Pro-Free Trade * Copartisanship		-0.016	-0.015		-0.022^{+}	-0.025		-0.011	-0.010
		(0.016)	(0.018)		(0.013)	(0.016)		(0.014)	(0.015)
State FE	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No
District FE	No	No	Yes	No	No	Yes	No	No	Yes
Observations	1761	1761	1623	1759	1759	1448	1762	1762	1572

Marginal effects; Robust standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
All models include fixed effects for Industry as well as *Controls* (income, gender, race, age, education, martial status, and union membership).

The estimation results with all three dependent variables are presented in Table 3.3. For each dependent variable, I begin with a base model without an interaction term. In the base models, *Pro-Free Trade by Representative* and *Copartisanship* appear to have little meaningful effect on individual attitudes toward trade as the coefficients are indistinguishable from 0 at the conventional level of significance. However, the interaction term included in the next two models appear to be negative in all the estimated models, suggesting that pro-free trade messages by representatives are negatively associated with protectionist attitudes of their co-partisan constituents.

A more important pattern to be noted is the difference of the coefficient on the interaction term between high and low information environment. Where individuals are more extensively exposed to messages from representatives or pay more attention to their representatives (high information environment), the interaction term is substantively meaningful and statistically significant in five out of six estimated models. In low information environment where individual attention is diverted toward senators, the coefficient is consistently negative, but statistically significant at the 0.01 level in only one out of six estimated models while the substantive effect of the interaction term is far less meaningful. This finding is consistent with the expectation of elite-driven influence in trade preference formation.

Specifically, for the subsample of individuals in high information environment, one percentage point increase in the share of pro-free trade messages is associated with about 5-7 percentage points decrease in the probability that a co-partisan individual supports the reduction in trade level. Given that about 30 percent of surveyed respondents show protectionist attitudes with regard to trade-level reduction, this effect translates into an 18-24% reduction from the baseline. Substantively, the effect is more pronounced with respect to individual support for trade reduction, yet relatively less pronounced with respect to individual perception of trade on the US. For the case of low information environment, the messages from legislators are not likely to reach to the public and have very little influence on their co-partisan voters. To be specific, for the case of individual support for trade reduction, one percentage point increase in the share of pro-free trade message is on average associated with about -0.06 and -0.15 percentage points decrease in the second and third models, respectively. The difference in the effect of representative messages between the two information environments is also observed from another set of estimations where a binary indicator for *High Information* is interacted with *Pro-Free Trade* and *Copartisanship*. The results are presented in Table C.6 in the appendix.

As an additional check for the finding of elite influence, I further examine whether the informational mechanism accounts for the observed pattern. Do co-partisan voters show attitudes that correspond to their representatives' stance because they are informed of the views of representatives? In order to explore whether voters are more or less aware of their representatives' policy positions, I utilize survey responses to the question that asks whether respondents think their representatives share their views on trade. The responses to this question do not directly capture the degree of voter knowledge on representatives, but the responses are, probablty, the second best measure that allows me to indirectly examine whether voters are correctly informed about their representatives' position. With a binary indicator taking the value of 1 if a respondent thinks the representative shares her views on trade and 0 otherwise, I estimate the following binary probit model:

$$\begin{aligned} Probit(Y_{ij}) &= \alpha + \beta_1 Negative\ View\ on\ Trade_j + \beta_2 Pro\text{-}Trade\ Messages_j \\ &+ \beta_3 Negative\ View\ on\ Trade * Pro\text{-}Trade\ Messages_{ij} + \gamma Industry_i + \theta Controls_i + \epsilon_i, \end{aligned}$$

where *Negative View on Trade* indicates a binary indicator for a respondent i's protectionist attitude (negative perception of trade on one self), *Pro-Trade Messages* is a representative j's expressed pro-trade view, and the interaction term is a key variable of interest.

The estimation results, presented in Table 3.4, demonstrate the association between pro-free trade messages from representatives and voter perception of representatives as pro-free traders in high information environment. Specifically, the findings suggest that individuals with negative perception on trade are more likely to think that their representatives do not share their views on trade when their representatives communicate pro-free trade messages more frequently. The association, however, is much wekaer in low information environment.

Table 3.4: Pro-Trade Messages and Voter Perception of Representatives' Policy Positions

	High Information			Low Information		
	(1)	(2)	(3)	(4)	(5)	(6)
Negative View on Trade	-0.102**	-0.104**	-0.134**	-0.023	-0.019	-0.032
	(0.027)	(0.027)	(0.029)	(0.031)	(0.032)	(0.036)
Pro-Trade Messages	0.034**	0.034**		0.010	0.011	
	(0.009)	(0.010)		(0.009)	(0.009)	
Negative View on Trade * Pro-Trade Messages	-0.049**	-0.051**	-0.136**	-0.008	-0.008	-0.015
	(0.018)	(0.018)	(0.036)	(0.019)	(0.019)	(0.022)
State FE	No	Yes	No	No	Yes	No
District FE	No	No	Yes	No	No	Yes
Observations	1902	1902	1750	1764	1756	1590

Marginal effects; Robust standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
All models include fixed effects for Industry.
All models control for co-partisanship, income, gender, race, age, education, martial status, and union membership.

While the overall evidence points toward a considerable role of elite communication in shaping trade-related attitudes, one should consider the possibility that the observed pattern can also be attributed to bottom-up influence. If representatives are merely being responsive to their co-partisan voters in high information environment, but not in low information environment, the finding presented here can be also consistent with the bottom-up influence.

Yet, this alternative explanation is unlikely. First, it is not reasonable to assume that representatives adjusted their responsiveness to constituents and their communication strategy taking into account of senate electoral cycle. This possibility is highly unlikely especially because my press releases for this analysis cover the period prior to the survey, from January 2009 to June 2010, at a time far preceding the election. Especially during the earlier period, representatives could not predict whether senators in their states would retire or seek reelection, which makes it difficult to predict political information environment in advance and adjust their strategy accordingly. Second, districts of the two types of states are very similar in their socio-economic and political characteristics, as described earlier, and representatives in the two types of states appear to be very similar in their communications with their constituents. During the given period,

representatives on average sent 179 and 186 press releases in the states with and without reelection-seeking senators, respectively. Among the issued press releases, 0.1% are pro-free trade in both types and 0.4% and 0.3% are protectionist, respectively. Overall, two types of states do not systematically differ in a series of pertinent dimensions.

3.6 Conclusion

This study has investigated how legislators communicate their trade policy positions to their constituents and whether such messages have any impact on the views of their constituents. I first documented that the majority of legislators are relatively silent on the issue of international trade while a few legislators actively explain their trade-related positions to constituents. The findings suggest that position taking of legislators is associated with their ideological beliefs as well as the economic characteristics of districts. By linking the legislator-level dataset to survey data of individuals, I examined the impact of legislators on the views of constituents and uncovered considerable effects of elite communications on co-partisan constituents' attitudes toward trade.

These findings offer important implications for trade policy, by underscoring the role of legislators as information providers. Evidence that voter preferences are shaped by legislators raises the question of whether the interests of voters are represented in the process of trade policy making. If legislators can sway the views of voters with persuasive appeals or an announcement of support for a given policy, this may imply that politicians are not strongly constrained by public opinion and that, as a consequence, they may not serve the interests of voters. Nevertheless, other types of constraints are placed on legislators even when they are only weakly constrained by public opinion. For instance, legislators are still incentivized to serve constituent interests in that voters may reward or punish them according to the policy outcomes. My findings of an association between the economic characteristics of districts and legislators' positions indeed sug-

gest that the policy positions of legislators are largely in line with the economic interest of districts. This implies that legislators can serve as information providers who evaluate the likely outcome of trade policy on their constituents, on behalf of voters, and inform them about why a given policy would or would not serve their interests. However, it should also be noted that this pattern hinges on the extent to which legislators take voter interests into account. If legislators respond more resolutely to concentrated interests–such as trade associations or corporations–rather than diffuse voter interests, and then try to sway voters toward a position in line with the concentrated interests, the end result may reflect more of those concentrated interests.

Bibliography

Ahlquist, John, Amanda B. Clayton, and Margaret Levi. 2014. "Provoking Preferences: Unionization, Workers' Attitudes toward International Trade, and the ILWU puzzle." *International Organization* 68 (1): 33–75.

Ahlquist, John, and Margaret Levi. 2013. *In the Interests of Others: Leaders, Governance, and Political Activism in Membership Organizations*. Princeton: Princeton University Press.

Alesina, Alberto, and Eliana La Ferrara. 2005. "Preferences for Redistribution in the Land of Opportunities." *Journal of Public Economics* 89 (5): 897–931.

Altonji, Joseph G, Todd E Elder, and Christopher R Taber. 2005. "Selection on Observed and Unobserved Variables: Assessing the Effectiveness of Catholic Schools." *Journal of Political Economy* 113 (1): 151–184.

Anderson, Simon P, and Nicolas Schmitt. 2003. "Nontariff Barriers and Trade Liberalization." *Economic Inquiry* 41 (1): 80–97.

Baker, Andy. 2005. "Who Wants to Globalize? Consumer Tastes and Labor Markets in a Theory of Trade Policy Beliefs." *American Journal of Political Science* 49 (4): 924–938.

Baron, David P. 2006. "Persistent Media Bias." *Journal of Public Economics* 90 (1): 1–36.

Bartels, Larry M. 2009. *Unequal Democracy: The Political Economy of the New Gilded Age*. Princeton University Press.

Baumgartner, Frank R, Jeffrey M Berry, Marie Hojnacki, Beth L Leech, and David C Kimball. 2009. *Lobbying and Policy Change: Who Wins, Who Loses, and Why*. University of Chicago Press.

Beaulieu, Eugene, Ravindra A Yatawara, and Wei Guo Wang. 2005. "Who Supports Free Trade in Latin America?" *The World Economy* 28 (7): 941–958.

Besley, Timothy, and Andrea Prat. 2006. "Handcuffs for the Grabbing Hand? Media Capture and Government Accountability." *The American Economic Review* 96 (3): 720–736.

Broockman, David E, and Daniel M Butler. 2015. "The Causal Effects of Elite Position-Taking on Voter Attitudes: Field Experiments with Elite Communication." *American Journal of Political Science* . DOI: 10.1111/ajps.12243.

Broz, J Lawrence. 2005. "Congressional Politics of International Financial Rescues." *American Journal of Political Science* 49 (3): 479–496.

Broz, J Lawrence, and Michael Brewster Hawes. 2006. "Congressional Politics of Financing the International Monetary Fund." *International Organization* 60 (02): 367–399.

Bullock, John G. 2011. "Elite Influence on Public Opinion in an Informed Electorate." *American Political Science Review* 105 (03): 496–515.

Burgoon, Brian, and Damian Raess. 2006. "Dogs that Sometimes Bark: Globalization and Works Councils in Germany." *European Journal of Industrial Relations* 12 (3): 287–309.

Cameron, A Colin, Jonah B Gelbach, and Douglas L Miller. 2011. "Robust Inference with Multiway Clustering." *Journal of Business & Economic Statistics* 29 (2): 238–249.

Campbell, Angusu, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The American Voter*. Chicago: The University of Chicago Press.

Caves, Richard E. 1976. "Economic Models of Political Choice: Canada's Tariff Structure." *Canadian Journal of Economics* pp. 278–300.

Chang, Pi-Chuan, Michel Galley, and Christopher D Manning. 2008. Optimizing Chinese Word Segmentation for Machine Translation Performance. In *Proceedings of the Third Workshop on Statistical Machine Translation*. Association for Computational Linguistics pp. 224–232.

Chaudoin, Stephen, Jeffrey Kucik, and Krzysztof Pelc. 2013. "Do WTO Disputes Actually Increase Trade?" APSA 2013 Annual Meeting Paper; American Political Science Association 2013 Annual Meeting. Available at SSRN: http://ssrn.com/abstract=2299651.

Chong, Dennis, and James N Druckman. 2007. "Framing Public Opinion in Competitive Democracies." *American Political Science Review* 101 (4): 637–55.

Cohen, Geoffrey L. 2003. "Party over Policy: The Dominating Impact of Group Influence on Political Beliefs." *Journal of Personality and Social Psychology* 85 (5): 808–822.

Collins, Benjamin. 2012. "Right to Work Laws: Legislative Background and Empirical Research." Congressional Report for Congress.

Davis, Christina L, and Sarah Blodgett Bermeo. 2009. "Who Files? Developing Country Participation in GATT/WTO Adjudication." *The Journal of Politics* 71 (3): 1033–1049.

Djankov, Simeon, Caralee McLiesh, Tatiana Nenova, and Andrei Shleifer. 2003. "Who Owns the Media?" *Journal of Law and Economics* 46 (2): 341–382.

Druckman, James N, and Arthur Lupia. 2000. "Preference Formation." *Annual Review of Political Science* 3 (1): 1–24.

Druckman, James N., and Arthur Lupia. 2016. "Preference Change in Competitive Political Environments." *Annual Review of Political Science* 19 (1).

Facchini, Giovanni, and Anna Maria Mayda. 2009. "Does the Welfare State Affect Individual Attitudes toward Immigrants? Evidence across Countries." *The Review of Economics and Statistics* 91 (2): 295–314.

Facchini, Giovanni, Anna Maria Mayda, and Prachi Mishra. 2011. "Do Interest Groups Affect US Immigration Policy?" *Journal of International Economics* 85 (1): 114–128.

Ferejohn, John. 1990. "Information and the Electoral Process." In *Information and Democratic Processes*, ed. John Ferejohn, and James Kukli. University of Illinois Press pp. 3–19.

Freeman, Richard B, and James L Medoff. 1984. *What Do Unions Do*. New York: Basic Books.

Friebel, Guido, and Matthias Heinz. 2014. "Media Slant against Foreign Owners: Downsizing." *Journal of Public Economics* 120: 97–106.

Frieden, Jeffry, and Lisa L Martin. 2002. "International Political Economy: Global and Domestic Interactions." In *Political Science: The State of the Discipline*. WW Norton New York pp. 118–146.

Gabel, Matthew, and Kenneth Scheve. 2007. "Estimating the Effect of Elite Communications on Public Opinion Using Instrumental Variables." *American Journal of Political Science* 51 (4): 1013–1028.

Gais, Thomas L, and Jack L Walker Jr. 1991. "Pathways to influence in American politics." *Mobilizing interest groups in America* 103: 104–11.

Gentzkow, Matthew, and Jesse M. Shapiro. 2006. "Media Bias and Reputation." *Journal of Political Economy* 114 (2): 280–316.

Gentzkow, Matthew, and Jesse M. Shapiro. 2008. "Competition and Truth in the Market for News." *Journal of Economic Perspectives* 22 (2): 133–154.

Gentzkow, Matthew, and Jesse M. Shapiro. 2010. "What Drives Media Slant? Evidence from U.S. Daily Newspapers." *Econometrica* 78 (1): 35–71.

Gerth, Karl. 2012. *Globalization and Economic Nationalism in Asia*. Oxford: Oxford University Press chapter A New Brand of Chinese Economic Nationalism:From China Made to China Managed, pp. 202–223.

Goldstein, Judith L, and Richard H Steinberg. 2008. "Negotiate or Litigate? Effects of WTO Judicial Delegation on US Trade Politics." *Law and Contemporary Problems* pp. 257–282.

Grafton, Steven M, George E Hoffer, and Robert J Reilly. 1981. "Testing the Impact of Recalls on the Demand for Automobiles." *Economic Inquiry* 19 (4): 694–703.

Green, John Clifford. 2007. *The Faith Factor: How Religion Influences American Elections*. Greenwood Publishing Group.

Grimmer, Justin. 2013. "Appropriators Not Position Takers: The Distorting Effects of Electoral Incentives on Congressional Representation." *American Journal of Political Science* 57 (3): 624–642.

Grimmer, Justin, and Brandon M Stewart. 2013. "Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts." *Political Analysis* 21 (3): 267–297.

Grimmer, Justin, Solomon Messing, and Sean J Westwood. 2012. "How Words and Money Cultivate a Personal Vote: The Effect of Legislator Credit Claiming on Constituent Credit Allocation." *American Political Science Review* 106 (04): 703–719.

Grose, Christian R, Neil Malhotra, and Robert Van Houweling. 2015. "Explaining Explanations: How Legislators Explain Their Policy Positions and How Citizens React." *American Journal of Political Science* 59 (3): 724–743.

Guisinger, Alexandra. 2009. "Determining Trade Policy: Do Voters Hold Politicians Accountable?" *International Organization* 63 (03): 533–557.

Hacker, Jacob S, and Paul Pierson. 2011. *Winner-Take-All Politics: How Washington Made the Rich Richer–and Turned Its Back on the Middle Class*. Simon and Schuster.

Hacker, Jacob S, Philipp Rehm, and Mark Schlesinger. 2013. "The Insecure American: Economic Experiences, Financial Worries, and Policy Attitudes." *Perspectives on Politics* 11 (1): 23–49.

Hainmueller, Jens, and Michael J Hiscox. 2006. "Learning to Love Globalization: Education and Individual Attitudes toward International Trade." *International Organization* 60 (2): 469–498.

Hainmueller, Jens, Michael J Hiscox, and Yotam Margalit. 2015. "Do Concerns about Labour Market Competition Shape Attitudes Toward Immigration? New Evidence from U.S. Workers." *Journal of International Economics* 97 (1): 193–207.

Hicks, Raymond, Helen V Milner, and Dustin Tingley. 2014. "Trade Policy, Economic Interests, and Party Politics in a Developing Country: The Political Economy of CAFTA-DR." *International Studies Quarterly* 58 (1): 106–117.

Hiscox, Michael J. 2006. "Through a Glass and Darkly: Attitudes toward International Trade and the Curious Effects of Issue Framing." *International Organization* 60 (3): 755–780.

Iversen, Torben, and David Soskice. 2015. "Information, Inequality, and Mass Polarization Ideology in Advanced Democracies." *Comparative Political Studies* Forthcoming.

Jarrell, Gregg, and Sam Peltzman. 1985. "The Impact of Product Recalls on the Wealth of Sellers." *The Journal of Political Economy* pp. 512–536.

Jurka, Timothy P, Loren Collingwood, Amber E Boydstun, Emiliano Grossman, and Wouter van Atteveldt. 2013. "RTextTools: A Spervised Learning Package for Text Classification." *The R Journal* 5 (1): 6–12.

Kim, Moonhawk. 2015. "Enduring Trade Disputes: Disguised Protectionism and Duration and Recurrence of International Trade Disputes." *The Review of International Organizations* pp. 1–28.
URL: *http://dx.doi.org/10.1007/s11558-015-9230-z*

Kollman, Ken. 1998. *Outside Lobbying: Public Opinion and Interest Group Strategies*. Princeton University Press.

Kono, Daniel Y. 2006. "Optimal Obfuscation: Democracy and Trade Policy Transparency." *American Political Science Review* 100 (3): 369–384.

Kono, Daniel Yuichi, and Stephanie J Rickard. 2014. "Buying National: Democracy, Public Procurement, and International Trade." *International Interactions* 40 (5): 657–682.

Kriner, Douglas, and Francis Shen. 2014. "Responding to War on Capitol Hill: Battlefield Casualties, Congressional Response, and Public Support for the War in Iraq." *American Journal of Political Science* 58 (1): 157–174.

Lau, Richard R, and David P Redlawsk. 2006. *How Voters Decide: Information Processing in Election Campaigns*. Cambridge University Press.

Leighley, Jan E, and Jonathan Nagler. 2007. "Unions, Voter Turnout, and Class Bias in the US Electorate, 1964–2004." *The Journal of Politics* 69 (2): 430–441.

Lenz, Gabriel S. 2009. "Learning and Opinion Change, Not Priming: Reconsidering the Priming Hypothesis." *American Journal of Political Science* 53 (4): 821–837.

Lucas, Christopher, Richard A Nielsen, Margaret E Roberts, Brandon M Stewart, Alex Storer, and Dustin Tingley. 2015. "Computer-Assisted Text Analysis for Comparative Politics." *Political Analysis* . DOI: 10.1093/pan/mpu019.

Lupia, Arthur. 1994. "Shortcuts versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections." *American Political Science Review* 88 (1): 63–76.

Maggi, Giovanni. 1999. "The Role of Multilateral Institutions in International Trade Cooperation." *American Economic Review* 89 (1): 190–214.

Mansfield, Edward D, and Diana C Mutz. 2009. "Support for Free Trade: Self-Interest, Sociotropic Politics, and Out-Group Anxiety." *International Organization* 63 (03): 425–457.

Mansfield, Edward D, Diana C Mutz, and Laura R Silver. 2015. "Men, Women, Trade, and Free Markets." *International Studies Quarterly* 59 (2): 303–315.

Mansfield, Edward D, Helen V Milner, and B Peter Rosendorff. 2000. "Free to Trade: Democracies, Autocracies, and International Trade." *American Political Science Review* 94 (02): 305–321.

Mansfield, Edward D, Helen V Milner, and B Peter Rosendorff. 2002. "Why Democracies Cooperate More: Electoral Control and International Trade Agreements." *International Organization* 56 (3): 477–513.

Mansfield, Edward D, and Marc L Busch. 1995. "The Political Economy of Nontariff Barriers: A Cross-National Analysis." *International Organization* 49 (4): 723–749.

Margalit, Yotam. 2012. "Lost in Gobalization: International Economic Integration and the Sources of Popular Discontent." *International Studies Quarterly* 56 (3): 484–500.

Margalit, Yotam. 2013. "Explaining Social Policy Preferences: Evidence from the Great Recession." *American Political Science Review* 107 (1): 80–103.

Masters, Marick F, and John T Delaney. 2005. "Organized Labor's Political Scorecard." *Journal of Labor Research* 26 (3): 365–392.

Masters, Marick F, and John Thomas Delaney. 1987. "Union Political Activities: A Review of the Empirical Literature." *Industrial and Labor Relations Review* 40: 336–353.

Mayda, Anna Maria, and Dani Rodrik. 2005. "Why Are Some People (And Countries) More Protectionist than Others?" *European Economic Review* 49 (6): 1393–1430.

McKibben, Heather Elko, and Timothy W. Taylor. 2014. "Politicization and Framing of Foreign Trade Policy: Cross-National Evidence from Trade in the GATT/WTO." Working Paper, University of California, Davis.

Milner, Helen V. 1997. *Interests, Institutions, and Information: Domestic Politics and International Relations*. Princeton University Press.

Milner, Helen V, and B Peter Rosendorff. 1997. "Democratic Politics and International Trade Negotiations Elections and Divided Government As Constraints on Trade Liberalization." *Journal of Conflict Resolution* 41 (1): 117–146.

Milner, Helen V, and Dustin H Tingley. 2011. "Who Supports Global Economic Engagement? The Sources of Preferences in American Foreign Economic Policy." *International Organization* 65 (01): 37–68.

Milner, Helen V, and Keiko Kubota. 2005. "Why the Move to Free Trade? Democracy and Trade Policy in the Developing Countries." *International Organization* 59 (1): 107–143.

Murillo, María Victoria, Pablo M Pinto, and Martin Ardanaz. 2013. "Sensitivity to Issue Framing on Trade Policy Preferences: Evidence from a Survey Experiment." *International Organization* 67 (2): 411–437.

Naoi, Megumi. 2009. "Shopping for Protection: The Politics of Choosing Trade Instruments in a Partially Legalized World*." *International Studies Quarterly* 53 (2): 421–444.

Nelson, Phillip. 1970. "Information and Consumer Behavior." *Journal of Political Economy* 78 (2): 311–329.

Noble, Gregory W, John Ravenhill, and Richard F Doner. 2005. "Executioner or Disciplinarian: WTO Accession and the Chinese Auto Industry." *Business and Politics* 7 (2): 1–33.

Noël, Alain, and Jean-Philippe Thérien. 2008. *Left and Right in Global Politics*. Cambridge University Press.

Oh, Seung-Youn. 2013. "Fragmented Liberalization in the Chinese Automotive Industry: The Political Logic behind Beijing Hyundai's Success in the Chinese Market." *The China Quarterly* 216: 920–945.

O'Rourke, Kevin H., and Richard Sinnott. 2001. "The Determinants of Individual Trade Policy Preferences: International Survey Evidence." In *Brookings Trade Forum*, ed. Susan M. Collins, and Dani Rodrik. Washington, D.C.: Brookings Institution. pp. 157–206.

Oster, Emily. 2014. "Unobservable Selection and Coefficient Stability: Theory and Validation." NBER Working Paper No. 19054.
URL: *http://www.nber.org/papers/w19054.pdf*

Petersen, Mitchell A. 2009. "Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches." *Review of Financial Studies* 22 (1): 435–480.

Puglisi, Riccardo, and James M Snyder. 2011. "Newspaper Coverage of Political Scandals." *Journal of Politics* 73 (3): 931–950.

Qin, Bei, David Strömberg, and Yanhui Wu. 2014. "Media Bias in Autocracies: Evidence from China." Working Paper.
URL: *http://www-bcf.usc.edu/ yanhuiwu/MediaBias1.pdf*

Rankin, David M. 2001. "Identities, Interests, and Imports." *Political Behavior* 23 (4): 351–376.

Rho, Sungmin, and Michael Tomz. 2015. "Why Don't Trade Preferences Reflect Economic Self-Interest?" Working Paper, Stanford University.

Rickard, Stephanie J. 2012. "A Non-Tariff Protectionist Bias in Majoritarian Politics: Government Subsidies and Electoral Institutions1." *International Studies Quarterly* 56 (4): 777–785.

Rickard, Stephanie J, and Daniel Y Kono. 2014. "Think Globally, Buy Locally: International Agreements and Government Procurement." *The Review of International Organizations* 9 (3): 333–352.

Roberts, Margaret E, Brandon M Stewart, Dustin Tingley, Christopher Lucas, Jetson Leder-Luis, Shana Kushner Gadarian, Bethany Albertson, and David G Rand. 2014. "Structural Topic Models for Open-Ended Survey Responses." *American Journal of Political Science* 58 (4): 1064–1082.

Rodrik, Dani. 1997. "Has Globalization Gone Too Far?" Washington, DC: Institute for International Economics.

Rogowski, Ronald. 1989. *Commerce and Coalitions: How Trade Affects Domestic Political Alignments*. Princeton, N.J.: Princeton University Press.

Saikawa, Eri, and Johannes Urpelainen. 2014. "Environmental Standards as a Strategy of International Technology Transfer." *Environmental Science & Policy* 38: 192–206.

Scheve, Kenneth F, and Matthew J Slaughter. 2001*a*. "Labor Market Competition and Individual Preferences over Immigration Policy." *Review of Economics and Statistics* 83 (1): 133–145.

Scheve, Kenneth F, and Matthew J Slaughter. 2001*b*. "What Determines Individual Trade-Policy Preferences?" *Journal of International Economics* 54 (2): 267–292.

Schlozman, Kay Lehman, Sidney Verba, and Henry E Brady. 2012. *The Unheavenly Chorus: Unequal Political Voice and the Broken Promise of American Democracy*. Princeton University Press.

Staiger, Robert W. 2012. "Non-tariff Measures and the WTO." World Trade Organization Staff Working Paper ERSD-2012-01.

Stiglitz, Joseph E. 2002. *Globalization and its Discontents*. New York: WW Norton & Company.

Stockmann, Daniela. 2013. *Media Commercialization and Authoritarian Rule in China*. New York: Cambridge University Press.

Thompson, Samuel B. 2011. "Simple Formulas for Standard Errors that Cluster by Both Firm and Time." *Journal of Financial Economics* 99 (1): 1–10.

Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. Cambridge University Press.

Appendices

Appendix A for "Media Bias against Foreign Firms as a Veiled Trade Barrier: Evidence from Chinese Newspapers"

A.1 Data Description

A.1.1 List of Newspapers

Table A.1 presents the list of newspapers included in the analysis, their sponsoring institution and classification. Official newspapers are the ones sponsored by the party organizations at the central or the regional level and circulated among offices, classrooms, factory workshops and to government offices. Non-official newspapers include party evening papers that are sponsored by party organizations but that rely on sales at newsstands and subsidiary newspapers sponsored by other parent newspapers or press groups.

Table A.1: List of Newspapers Included in the Analysis

Newspaper	Classification	Sponsor
Central-Level Newspapers		
People's Daily (*Renmin Ribao)*	Official	CCP Central
Guangming Daily (*Guangming Ribao)*	Official	CCP Central Propaganda Department
Economic Daily (*Jingji Ribao)*	Official	CCP Central Propaganda Department
Legal Daily (*Fazhi Ribao)*	Official	CCP Political and Law Commission
Xinhua News Agency (*Xinhua She)*	Official	State News Agency
China Youth Daily (*Zhongguo Qingnian Bao)*	Official	Central Communist Youth League
Anhui		
Anhui Daily (*Anhui Ribao)*	Official	CCP Anhui Provincial Party Committee
Hefei Evening News (*Hefei Wanbao)*	Non-Official	CCP Hefei Municipal Party Committee
Anhui Commercial News (*Anhui Shang Bao)*	Non-Official	Anhui Daily Press Group
Jianghuai Morning Post (*Jianghuai Chenbao)*	Non-Official	Hefei Evening News

Table A.1 Continued

Newspaper	Classification	Sponsor
Beijing		
Beijing Daily (*Beijing Ribao*)	Official	CCP Beijing Municipal Party Committee
Beijing Youth Daily (*Beijing Qingnian Bao*)	Official	Communist Youth League (Beijing)
Beijing Times (*Jinghua Shibao*)	Non-Official	People's Daily
The Beijing News (*Xin Jing Bao*)	Non-Official	Guangming Daily Press Group
Beijing Evening News (*Beijing Wanbao*)	Non-Official	Beijing Daily Press Group
Beijing Daily Messenger (*Beijing Yule Xin Bao*)	Non-Official	Beijing Daily Press Group
Beijing Morning Post (*Beijing Chenbao*)	Non-Official	Beijing Daily Press Group
The First (*Jing Bao*)	Non-Official	Beijing Daily Press Group
The Mirror (*Fazhi Wanbao*)	Non-Official	Beijing Youth Daily
Chongqing		
Chongqing Economic Times (*Chongqing Shang Bao*)	Non-Official	Chongqing News Center
Chongqing Evening News (*Chongqing Wanbao*)	Non-Official	Chongqing Daily Press Group
Chongqing Morning Post (*Chongqing Chenbao*)	Non-Official	Chongqing Daily Press Group
Fujian		
Fujian Daily (*Fujian Ribao*)	Official	CCP Fujian Provincial Party Committee
Strait News (*Haixia Dushi Bao*)	Non-Official	Fujian Daily Press Group
Gansu		
Lanzhou Daily (*Lanzhou Ribao*)	Official	CCP Lanzhou Municipal Party Committee
Gan Su Daily (*Gansu Ribao*)	Official	CCP Gansu Provincial Party Committee
Lanzhou Morning Post (*Lanzhou Chenbao*)	Non-Official	Gansu Daily Press Group
Xi Bu Business (*Xibu Shang Bao*)	Non-Official	Gansu Daily Press Group
Lanzhou Evening News (*Lanzhou Wanbao*)	Non-Official	Lanzhou Daily
Guangdong		
Shan Tou Daily (*Shantou Ribao*)	Official	CCP Shan Tou Municipal Party Committee
Shenzhen Special Zone Daily (*Shenzhen Tequ Bao*)	Official	CCP Shenzhen Municipal Party Committee
Guangzhou Daily (*Guangzhou Ribao*)	Official	CCP Guangzhou Municipal Party Committee
Nan Fang Daily (*Nanfang Ribao*)	Official	CCP Guangdong Provincial Party Committee
Yangcheng Evening News (*Yangcheng Wanbao*)	Non-Official	CCP Guangdong Provincial Party Committee
Shan Tou Te Qu Evening Post (*Shantou Tequ Wanbao*)	Non-Official	CCP Shan Tou Municipal Party Committee
Shantou City Daily (*Shantou Dushi Bao*)	Non-Official	Shangtou SEZ Newspaper
Southern Metropolis Daily (*Nanfang Dushi Bao*)	Non-Official	Nan Fang Daily Press Group
Daily Sunshine (*Jing Bao*)	Non-Official	Shenzhen Press Group
Shenzhen Evening News (*Shenzhen Wanbao*)	Non-Official	Shenzhen Press Group
Shenzhen Economic Daily (*Shenzhen Shang Bao*)	Non-Official	Shenzhen Press Group
New Express Daily (*Xin Kuaibao*)	Non-Official	Yangcheng Evening Press Group
Information Times (*Xinxi Shibao*)	Non-Official	Guangzhou Daily Press Group
Panyu Daily (*Panyu Ribao*)	Non-Official	Guangzhou Daily Press Group
Baoan Daily (*Bao'an Ribao*)	Non-Official	Shenzhen Press Group
Securities Times (*Zhengquan Shibao*)	Non-Official	People's Daily
Private Economy News (*Minying Jingji Bao*)	Non-Official	Yangcheng Evening Press Group
Guangxi		
Guangxi Daily (*Guangxi Ribao*)	Official	CCP Guangxi Party Committee
Southern China Morning Post (*Nanguo Zaobao*)	Non-Official	Guangxi Daily
Modern Life Daily (*Dangdai Shenghuo Bao*)	Non-Official	Guangxi Daily
Nan Guo Jin Bao (*Nanguo Jin Bao*)	Non-Official	Guangxi Daily
Hainan		
Hainan Daily (*Hainan Ribao*)	Official	CCP Hainan Provincial Party Committee
Haikou Evening News (*Haikou Wanbao*)	Non-Official	CCP Haikou Municipal Party Committee
Hebei		
Shijiazhuang Daily (*Shijiazhuang Ribao*)	Official	CCP Shijiazhuang Municipal Party Committee
Yanzhao Evening News (*Yan Zhao Wanbao*)	Non-Official	Shijiazhuang Daily Press Group
Heilongjiang		
Harbin Daily (*Ha'erbin Ribao*)	Official	CCP Harbin Municipal Party Committee
Modern Evening Times (*Xin Wanbao*)	Non-Official	Harbin Daily Press Group
Henan		
Henan Daily (*Henan Ribao*)	Official	CCP Henan Provincial Party Committee
Dahe Daily (*Dahe Bao*)	Non-Official	Henan Daily Press Group
Henan Business Daily (*Henan Shang Bao*)	Non-Official	Henan Daily Press Group
Hubei		
Changjiang Daily (*Changjiang Ribao*)	Official	CCP Wuhan Municipal Party Committee

Table A.1 Continued

Newspaper	Classification	Sponsor
Hubei Daily (*Hubei Ribao*)	Official	CCP Hubei Provincial Party Committee
Wuhan Evening News (*Wuhan Wanbao*)	Non-Official	Changjiang Daily Press Group
Wuhan Morning Post (*Wuhan Chenbao*)	Non-Official	Changjiang Daily Press Group
Chutian Metropolis Daily (*Chu Tian Dushi Bao*)	Non-Official	Hubei Daily Press Group
Sanxia Evening News (*Sanxia Wanbao*)	Non-Official	Hubei Daily Press Group
Chu Tian Golden Newspaper (*Chu Tianjin Bao*)	Non-Official	Hubei Daily Press Group
Hunan		
Changsha Evening Newspaper (*Zhangsha Wanbao*)	Non-Official	CCP Changsha Municipal Party Committee
Jiangsu		
Nanjing Daily (*Nanjing Ribao*)	Official	CCP Nanjing Municipal Party Committee
Wuxi Daily (*Wuxi Ribao*)	Official	CCP Wuxi Municipal Party Committee
Jinling Evening News (*Jinling Wanbao*)	Non-Official	Xinhua Daily Press Group
Jiang Nan Evening News (*Jiangnan Wanbao*)	Non-Official	Wuxi Daily
YangTse Evening News (*Yangzi Wanbao*)	Non-Official	Xinhua Daily Press Group
Jiang Nan Times (*Jiangnan Shibao*)	Non-Official	People's Daily
Jiangxi		
Nanchang Daily (*Nanchang Ribao*)	Official	CCP Nanchang Municipal Party Committee
Jiangxi Daily (*Jiangxi Ribao*)	Official	CCP Jiangxi Provincial Party Committee
Information Daily (*Xinxi Ribao*)	Non-Official	Jiangxi Daily
Jiang Nan City Daily (*Jiangnan Dushi Bao*)	Non-Official	Jiangxi Daily
Jilin		
Cheng Shi Wan Bao (*Chengshi Wanbao*)	Non-Official	Jilin Daily Press Group
Liaoning		
Dalian Daily (*Dalian Ribao*)	Official	CCP Dalian Municipal Party Committee
Shenyang Daily (*Chenyang Ribao*)	Official	CCP Shenyang Municipal Party Committee
Liaoning Daily (*Liaoning Ribao*)	Official	CCP Liaoning Provincial Party Committee
Dalian Evening News (*Dalian Wanbao*)	Non-Official	Dalian Daily Press Group
Peninsula Morning (*Bandao Chenbao*)	Non-Official	Liaoning Daily Press Group
Liao Shen Evening News (*Liao Chen Wanbao*)	Non-Official	Liaoning Daily Press Group
Shenyang Evening News (*Chenyang Wanbao*)	Non-Official	Shenyang Daily Press Group
Ningxia		
Yinchuan Evening News (*Yinchuan Wanbao*)	Non-Official	CCP Yinchuan Municipal Party Committee
Qinghai		
Qinghai Daily (*Qinghai Ribao*)	Official	CCP Qinghai Provincial Party Committee
Xining Evening News (*Xining Wanbao*)	Non-Official	CCP Xining Municipal Party Committee
XiHai DuShi Bao (*Xihai Dushi Bao*)	Non-Official	Qinghai Daily
Shaanxi		
Xi An Daily (*Xi'an Ribao*)	Official	CCP Xi'an Municipal Party Committee
Xi'an Evening News (*Xi'an Wanbao*)	Non-Official	CCP Xi'an Municipal Party Committee
San Qin Du Shi Bao (*San Qin Dushi Bao*)	Non-Official	Shaanxi Daily
Shandong		
Jinan Daily (*Jinan Ribao*)	Official	CCP Jinan Municipal Party Committee
Qingdao Daily (*Qingdao Ribao*)	Official	CCP Qingdao Municipal Party Daily
Dazhong Daily (*Dazhong Ribao*)	Official	CCP Shandong Provincial Party Committee
QiLu Evening News (*Qilu Wanbao*)	Non-Official	Dazhong Press Group
Bandao Metropolis (*Bandao Dushi Bao*)	Non-Official	Dazhong Press Group
Shanghai		
Jiefang Daily (*Jiefang Ribao*)	Official	CCP Shanghai Municipal Party Committee
Youth Daily (*Shanghai Qingnian Bao*)	Official	Shanghai Municipal Communist Youth League
Oriental Morning Post (*Dongfang Zaobao*)	Non-Official	Wenhui Xinmin United Press Group
Shanghai Morning Post (*Xinwen Chenbao*)	Non-Official	Jiefang Daily Press Group
Shanghai Evening Post (*Xinwen Wanbao*)	Non-Official	Jiefang Daily Press Group
Wen Hui Daily (*Wenhuibao*)	Non-Official	Wenhui Xinmin United Press Group
XinMin Evening News (*Xinmin Wanbao*)	Non-Official	Wenhui Xinmin United Press Group
News Times (*Tiantian Xin Bao*)	Non-Official	Wenhui Xinmin United Press Group
Shanxi		
Shanxi Daily (*Shanxi Ribao*)	Official	CCP Shanxi Provincial Party Committee
Sichuan		
Chengdu Daily (*Chengdu Ribao*)	Official	CCP Chengdu Municipal Party Committee
Sichuan Daily (*Sichuan Ribao*)	Official	CCP Sichuan Provincial Party Committee
Chengdu Evening News (*Chengdu Wanbao*)	Non-Official	Chengdu Daily Press Group

Table A.1 Continued

Newspaper	Classification	Sponsor
Western China Metropolis Daily (*Huaxi Dushi Bao)*	Non-Official	Sichuan Daily Press Group
Chengdu Business Daily (*Chengdu Shang Bao)*	Non-Official	Chengdu Daily Press Group
Tianjin		
Tianjin Daily (*Tian Jinribao)*	Official	CCP Tianjin Municipal Party Committee
Today Evening Post (*Jin Wanbao)*	Non-Official	Jinwan Media Group
Morning Post (*Mei Ri Xin Bao)*	Non-Official	Tianjin Daily Press Group
Yunnan		
Kunming Daily (*Kunming Ribao)*	Official	CCP Kunming Municipal Party Committee
Yunnan Daily (*Yunnan Ribao)*	Official	CCP Yunna Provincial Party Committee
Chunchen Evening News (*Chuncheng Wanbao)*	Non-Official	Yunnan Daily Press Group
Du Shi Shi Bao (*Dushi Shibao)*	Non-Official	Kunming Daily
Zhejiang		
Zhejiang Daily (*Zhejiang Ribao)*	Official	CCP Zhejiang Provincial Party Committee
Qianjiang Evening News (*Qian Jiang Wan Bao)*	Non-Official	Zhejiang Daily Press Group
Morning Express (*Jin Ri Zaobao)*	Non-Official	Zhejiang Daily Press Group

A.1.2 Examples of Newspaper Articles Included in the Analysis

I present below two newspaper articles on auto recall incidents as examples of newspaper articles included in the analysis. The first article, published by *Beijing Daily* (*Beijing Ribao*) on May 15, 2009 is on a recall by Dongfeng Motor Corporation, a Chinese state-owned automotive firm. The second article, published by *Guangzhou Daily* (*Guangzhou Ribao*) on August 18, 2010 is on a recall by BMW, a Germany-based automotive firm.

- "Dongfeng to Recall 153,065 Teana Sedans, Starting Next Month," *Beijing Daily* (*Beijing Ribao*), May 15, 2009

  In accordance to Administrative Regulation on Recall of Defective Motor Vehicles, Dongfeng Motor Co., Ltd. submitted recall report to the General Administration of Quality Supervision, Inspection and Quarantine of the PRC(GAQSIQ). In the report, Dongfeng decided to recall 153,065 Teana sedans built between July 1, 2004 and April 18, 2008 due to the engine defects since June 12. Affected Teana sedans are equipped with VQ engines. An air tube inside the engine may become disconnected as it was found to have substandard heat-resistance, which may lead to unstable running or flameout of the engine, hence affect driving safety. Dongfeng promised to exchange engine air tubes and clasps of all defective sedans for free to eliminate risks. For parts preparation, recall will take place since June 12. Fault found before that date can be fixed in Dongfeng workshops for free. Detailed information can be found on the website of GAQSIQ www.aqsiq.gov.cn or the hotline of Defective Product Administrative Center 010-59799616.

- "Late Recall in China: BMW Made Recall Announcement in China One Month Later than in the US," *Guangzhou Daily* (*Guangzhou Ribao*), August 18, 2010

  Yesterday, BMW China Automotive Trading Ltd submitted recall report to the General Administration of Quality Supervision, Inspection and Quarantine. It decided to recall part of the imported 2010 BMW 5 series GT cars (535i, 550i) built between January 12, 2010 and June 30, 2010. The action would start from August 20, 2010, and the number of affected cars in mainland China is 5,308, according to BMW's estimation.
  Does the car company treat Chinese market differently? Owners of BMW 5 series in China have finally received the recall announcement from the company half a month after the same announcement was released in the US (reported by Guangzhou Daily on July 27, on Page AII7). Some owners suspect: why do multinational car companies always recall in other countries earlier than in China? If an accident happened because of the defect, will the car company be responsible? We have interviewed lawyers regarding this matter.
  Same recall reason as in the US Yesterday, this reporter heard that BMW China Automotive Trading Ltd submitted recall report to the General Administration of Quality Supervision, Inspection and Quarantine to recall 5,308 affected cars in mainland China. This reporter studied that as early as July 21, BMW has announced to recall 6,080 series 5 cars in the US, because of the same reason as the recall in China. The reason of the recall is manufacture fault. The detector in the fuel tank could be stuck by the air tube, hence couldn't detect the lower fuel level. The dashboard won't be able to tell when the fuel has run out. The problem could stall the engine without warning and the engine might not restart following this flameout, causing safety risks.

  Late recall caused query On the time difference, BMW didn't explain why the recall in China happened almost one month later than in the US. As a matter of fact, the late action by BMW has caused an anxiety from Chinese owners. Reporter checked the reports on China Car Recall website where owners have raised criticism since July 29. One owner raised a question: "I'm an owner of a BMW series 5 car. I heard BMW has recalled series 5 cars in the US. But why not in China? The cars in China have better quality than in the US?" An expert from the website comforted: "If the defect exists in China, BMW will surely recall in China." The Chinese market has become the largest automobile market in the world surpassing the U.S. For BMW, China is the third largest market in the world following Germany and North America. However, the recall announcement made yesterday still shows a discrimination against Chinese market.

Lawyer: Unequal announcement will be considered as malicious act.

From the incidents of Toyota oversea recalls and BMW recalls, there's possibility of discrimination, said Beiyuan Chen, senior partner of Dacheng Law Offices in Guangzhou, who is consistently following the consumers' right. "When there is a quality problem, oversea companies normally consider protecting the US consumers first. These incidents happen not only in automobile industry, but also in medical and other industries. These companies have divided the world into several regions, and they treat these regions differently." As the Chinese automobile market have developed quickly, these car companies should treat us more importantly. But in fact, since the lack of consumers' right protection and communication channels, multinational companies still overlook Chinese market chronically. Accidents happened during this period, should be considered as malicious act by the car company, Beiyuan Chen added. "The biggest pressure of the companies is not from consumers, but the reputation, which affect their real sales records." He suggests China to make further effort on improving consumers' right protection system.

A.2 Robustness

I present the robustness analysis of recall reporting pattern. All models are variation of the original Model 3 and Model 7 from Table 3 and Model 6 from Table 5 presented in the main paper. Each table contains three sub-tables: the first sub-table presents the results of the models that distinguish official newspapers from non-official ones; the second sub-table presents the results of the models that make a distinction between central party-controlled official newspapers and regional party-controlled official newspapers, and the final sub-table presents the results of the models that estimate the effect of regional governmental stake in the automobile industry. The main findings remain robust.

Auto Prices Control Imported cars are more expensive than domestic cars on average, and this price difference may account for the reporting pattern if official newspapers target luxury models instead of imported cars. I account for price difference by estimating the models controlling for the price of recalled cars (Model 1), controlling for luxury models (Model 2), and excluding luxury models from the observations (Model 3) as

presented in Table A.2. I collected information on automobile prices from the website http://car.bitauto.com/. As the price varies depending on different options within the same car model, I choose to use the lowest price for each model. When one recall involves several car models, I take the average of the lowest prices of all involved models. As the price of all recalled cars is not available, I additionally created a binary variable indicating luxury cars (i.e. automobiles manufactured by the following makers: Aston Mading, Audi, Bentley, BMW, Cadillac, Ferrari, Infiniti, Land Rover, Lamborghini, Lexus, Maserati, Mercedes-Benz, Porsche, Rolls-Royce, Volvo). The results demonstrate that the price difference between domestic and imported cars does not drive the main results.

Recall Frequency Control In order to account for the difference in the frequency of recalls between domestic and foreign cars, I control for the cumulative number of recalls by each manufacturer from 2005 to the time of recall under analysis. Table A.3 shows that the main results remain robust to the inclusion of this additional control.

Regional Exclusions I estimate the models successively excluding major provinces or province-level cities from the sample. In Table A.4, I exclude all newspapers with headquarters in the specific region, from Beijing, Guangdong, Hubei, and Shanghai to Sichuan.

Country Exclusions I also estimate the models successively excluding recalls cars of manufacturers of specific countries from the sample. Table A.5 presents the results from excluding from France, Germany, Japan, and the U.S. to the U.K., one by one.

Different Clustering Table A.6 presents the estimation results of the models with two different clustering – one with clustering by newspapers and another with clustering by two-dimensions: recall-newspapers.

Different Coding of Official Newspapers In Table A.7, I experiment with different coding of official newspapers by treating semi-official newspapers as official newspapers.

A.2.1 Auto Prices Control

Table A.2: Robustness Analysis of Recall Reporting with Auto Prices Control

	(1) Auto Price Control	(2) Luxury Model Control	(3) Non-Luxury Only
The Effect of Government Control over Newspapers on Recall Reporting			
Foreign	0.029*	0.023+	0.013
	(0.014)	(0.013)	(0.016)
Official	-0.041**	-0.041**	-0.044**
	(0.006)	(0.006)	(0.006)
Official * Foreign	0.027**	0.030**	0.031**
	(0.010)	(0.009)	(0.011)
Observations	29834	35246	23168
The Effect of Central Party Control over Newspapers on Recall Reporting			
Foreign	0.028*	0.023+	0.012
	(0.014)	(0.013)	(0.016)
Central Party Official	-0.139**	-0.132**	-0.137**
	(0.006)	(0.006)	(0.007)
Regional Party Official	-0.008	-0.009	-0.013*
	(0.007)	(0.006)	(0.007)
Central Party Official * Foreign	0.096**	0.098**	0.115**
	(0.022)	(0.020)	(0.027)
Regional Party Official * Foreign	0.017+	0.020*	0.019
	(0.010)	(0.009)	(0.012)
Observations	29834	35246	23168
The Effect of Regional Party Interest in Auto Industry on Recall Reporting			
Foreign	0.029+	0.025+	0.015
	(0.016)	(0.015)	(0.019)
Officials with Auto	-0.056**	-0.055**	-0.056**
	(0.008)	(0.007)	(0.008)
Officials without Auto	-0.008	-0.013	-0.023
	(0.016)	(0.014)	(0.015)
Officials with Auto * Foreign	0.043**	0.047**	0.046**
	(0.012)	(0.011)	(0.015)
Officials without Auto * Foreign	-0.027	-0.022	-0.026
	(0.019)	(0.017)	(0.023)
Observations	21698	25810	16545

Marginal effects; Standard errors clustered by recall in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for province and half year as well as recall-level controls: the logarithm of recall size and binary indicators for recall type. Models for estimating the effect of regional party interest in the auto industry include additional province-level controls as in the Model (6) of Table 5.

A.2.2 Recall Frequency Control

Table A.3: Robustness Analysis of Recall Reporting with Recall Frequency Control

	(1) Recall Frequency Control
The Effect of Government Control over Newspapers on Recall Reporting	
Foreign	0.024^{+}
	(0.013)
Official	-0.030**
	(0.005)
Official * Foreign	0.012^{+}
	(0.007)
Observations	35057
The Effect of Central Party Control over Newspapers on Recall Reporting	
Foreign	0.019
	(0.014)
Central Party Official	-0.132**
	(0.006)
Regional Party Official	-0.009
	(0.006)
Central Party Official * Foreign	0.099**
	(0.020)
Regional Party Official * Foreign	0.020*
	(0.009)
Observations	35246
The Effect of Regional Party Interest in Auto Industry on Recall Reporting	
Foreign	0.016
	(0.015)
Officials with Auto	-0.056**
	(0.007)
Officials without Auto	-0.013
	(0.014)
Officials with Auto * Foreign	0.047**
	(0.011)
Officials without Auto * Foreign	-0.022
	(0.017)
Observations	25810

Marginal effects; Standard errors clustered by recall in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for province and half year as well as recall-level controls: the logarithm of recall size and binary indicators for recall type. Models for estimating the effect of regional party interest in the auto industry include additional province-level controls as in the Model (6) of Table 5.

A.2.3 Regional Exclusions

Table A.4: Robustness Analysis of Recall Reporting with Region Exclusions

	(1) Beijing	(2) Guangdong	(3) Hubei	(4) Shanghai	(5) Sichuan
The Effect of Government Control over Newspapers on Recall Reporting					
Foreign	0.013	0.022^{+}	0.027*	0.021^{+}	0.025*
	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
Official	-0.001	-0.062**	-0.012*	-0.013*	-0.009
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Official * Foreign	0.039**	0.025**	0.033**	0.029**	0.031**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Observations	31741	27874	32814	31819	32996
The Effect of Central Party Control over Newspapers on Recall Reporting					
Foreign	0.013	0.022^{+}	0.027*	0.021^{+}	0.025*
	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
Central Party Official	0.422**	0.400**	0.451**	0.429**	0.445**
	(0.065)	(0.066)	(0.065)	(0.065)	(0.065)
Regional Party Official	0.006	-0.052**	-0.005	-0.005	-0.002
	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)
Central Party Official * Foreign	0.102**	0.093**	0.095**	0.097**	0.097**
	(0.019)	(0.019)	(0.020)	(0.020)	(0.020)
Regional Party Official * Foreign	0.027**	0.007	0.021*	0.016^{+}	0.018^{+}
	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)
Observations	31741	27874	32814	31819	32996
The Effect of Regional Party Interest in the Auto Industry on Recall Reporting					
Foreign	0.019	0.027*	0.033*	0.027^{+}	0.028^{+}
	(0.013)	(0.013)	(0.015)	(0.014)	(0.015)
Officials with Auto	0.029**	-0.076**	-0.002	0.004	-0.005
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Officials without Auto	-0.016	-0.017	-0.011	-0.013	-0.014
	(0.012)	(0.012)	(0.016)	(0.014)	(0.015)
Officials with Auto * Foreign	0.037**	0.031*	0.031**	0.028*	0.035**
	(0.012)	(0.016)	(0.012)	(0.012)	(0.012)
Officials without Auto * Foreign	-0.011	-0.015	-0.017	-0.022	-0.020
	(0.015)	(0.015)	(0.019)	(0.017)	(0.018)
Observations	21494	18509	22469	21572	24063

Marginal effects; Standard errors clustered by recall in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for province and half year as well as recall-level controls: the logarithm of recall size and binary indicators for recall type. Models for estimating the effect of regional party interest in the auto industry include additional province-level controls as in the Model (6) of Table 5.

A.2.4 Country Exclusions

Table A.5: Robustness Analysis of Recall Reporting with Country Exclusions

	(1) France	(2) Germany	(3) Japan	(4) US	(5) UK
The Effect of Government Control over Newspapers on Recall Reporting					
Foreign	0.028*	0.007	0.021	0.026*	0.027*
	(0.013)	(0.013)	(0.015)	(0.013)	(0.013)
Official	-0.040**	-0.042**	-0.040**	-0.041**	-0.040**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Official * Foreign	0.031**	0.033**	0.031**	0.030**	0.026**
	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)
Observations	33604	29427	28750	33460	32224
The Effect of Central Party Control over Newspapers on Recall Reporting					
Foreign	0.027*	0.006	0.020	0.026+	0.027*
	(0.013)	(0.014)	(0.015)	(0.013)	(0.013)
Central Party Official	-0.132**	-0.134**	-0.132**	-0.135**	-0.131**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Regional Party Official	-0.009	-0.010	-0.009	-0.010	-0.009
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Central Party Official * Foreign	0.104**	0.109**	0.091**	0.099**	0.099**
	(0.021)	(0.022)	(0.021)	(0.021)	(0.021)
Regional Party Official * Foreign	0.020*	0.022*	0.023*	0.020*	0.015+
	(0.009)	(0.010)	(0.010)	(0.009)	(0.009)
Observations	33604	29427	28750	33460	32224
The Effect of Regional Party Interest in Auto Industry on Recall Reporting					
Foreign	0.030*	0.021	0.022	0.032*	0.031*
	(0.015)	(0.016)	(0.016)	(0.015)	(0.015)
Officials with Auto	-0.003	-0.005	-0.004	-0.005	-0.003
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Officials without Auto	-0.015	-0.013	-0.012	-0.015	-0.013
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Officials with Auto * Foreign	0.031**	0.037**	0.038**	0.034**	0.034**
	(0.012)	(0.013)	(0.012)	(0.012)	(0.012)
Officials without Auto * Foreign	-0.018	-0.015	-0.018	-0.023	-0.036*
	(0.018)	(0.019)	(0.019)	(0.018)	(0.017)
Observations	23119	20456	19968	22908	22258

Marginal effects; Standard errors clustered by recall in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for province and half year as well as recall-level controls: the logarithm of recall size and binary indicators for recall type. Models for estimating the effect of regional party interest in the auto industry include additional province-level controls as in the Model (6) of Table 5.

A.2.5 Different Clustering

Table A.6: Robustness Analysis of Recall Reporting with Different Clustering

	(1) Clustering by Newspaper	(2) Two-way Clustering
The Effect of Government Control over Newspapers on Recall Reporting		
Foreign	0.024**	0.024^{+}
	(0.006)	(0.013)
Official	-0.041	-0.041**
	(0.028)	(0.006)
Official * Foreign	0.030*	0.030**
	(0.014)	(0.008)
Observations	35246	35246
The Effect of Central Party Control over Newspapers on Recall Reporting		
Foreign	0.024**	0.024^{+}
	(0.006)	(0.013)
Central Party Official	-0.132**	-0.132**
	(0.029)	(0.008)
Regional Party Official	-0.009	-0.009
	(0.028)	(0.006)
Central Party Official * Foreign	0.098**	0.098**
	(0.017)	(0.002)
Regional Party Official * Foreign	0.020	0.020*
	(0.013)	(0.004)
Observations	35246	35246
The Effect of Regional Party Interest in Auto Industry on Recall Reporting		
Foreign	0.029**	0.029*
	(0.007)	(0.015)
Officials with Auto	-0.004	-0.004
	(0.043)	(0.008)
Officials without Auto	-0.013	-0.013
	(0.025)	(0.014)
Officials with Auto * Foreign	0.035*	0.035**
	(0.014)	(0.011)
Officials without Auto * Foreign	-0.021	-0.021
	(0.020)	(0.018)
Observations	24313	24313

Marginal effects; Standard errors clustered by newspaper (1) and by recall-newspaper (2) in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for province and half year as well as recall-level controls: the logarithm of recall size rand binary indicators for recall type. Models for estimating the effect of regional party interest in the auto industry include additional province-level controls as in the Model (6) of Table 5.

A.2.6 Different Coding of Official Newspapers

Table A.7: Robustness Analysis with Different Coding of Official Newspapers

	(1) Different Coding of Official Newspapers
The Effect of Government Control over Newspapers on Recall Reporting	
Foreign	0.025*
	(0.013)
Official	-0.012*
	(0.005)
Official * Foreign	0.027**
	(0.008)
Observations	35246
The Effect of Central Party Control over Newspapers on Recall Reporting	
Foreign	0.024^{+}
	(0.013)
Central Party Official	0.442**
	(0.065)
Regional Party Official	-0.009
	(0.006)
Central Party Official * Foreign	0.098**
	(0.020)
Regional Party Official * Foreign	0.020*
	(0.009)
Observations	35246
The Effect of Regional Party Interest in Auto Industry on Recall Reporting	
Foreign	0.032*
	(0.014)
Officials with Auto	-0.004
	(0.008)
Officials without Auto	-0.012
	(0.014)
Officials with Auto * Foreign	0.020^{+}
	(0.011)
Officials without Auto * Foreign	-0.025
	(0.015)
Observations	24313

Marginal effects; Standard errors clustered by recall in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for province and half year as well as recall-level controls: the logarithm of recall size and binary indicators for recall type. Models for estimating the effect of regional party interest in the auto industry include additional province-level controls as in the Model (6) of Table 5.

A.3 Distinguishing Joint Venture from Domestic Automakers

In the main analysis, I broadly classified automobiles into two categories: domestic and foreign. The domestic category includes cars produced by China's indigenous brand as well as joint-venture companies. Here, I examine if and how newspapers treat joint-venture automobiles differently from domestic ones by creating a separate binary indicator for joint-venture cars and an interaction variable of this indicator and official newspapers. In Table A.8, I present the estimation results for the sample of all newspapers including central-party and regional-party controlled officials and non-official newspaper in Models (1) and (2), for a subset of regional newspapers located in provinces where regional governments have their own automotive SOEs in Models (3) and (4), and for a subset of newspapers in the rest of regions in Models (5) and (6).

Throughout the models, the coefficients for *Foreign* and for *Joint Venture* appear to be positive and statistically significant. This suggests that both foreign and joint-venture automotive manufactures, compared to domestic ones, are discriminated by Chinese newspapers in their recall coverage. When it comes to official newspapers with stakes in the automotive industry (Models 1-4), foreign automotive companies are particularly more subject to biased coverage as demonstrated by positive and statistically significant coefficients on the interaction term *Official * Foreign*, but joint-venture companies are not subject to this additional bias from official newspapers as shown by coefficients on the interaction term *Official * Joint* that are close to zero and far from being significant at the conventional level. Official newspapers' bias against foreign companies is also not found in regions where governments do not own automotive SOE (Models 5 and 6).

Table A.8: Distinguishing Joint Venture from Domestic Automakers

	(1)	(2)	(3)	(4)	(5)	(6)
	All Newspapers		Regions with Auto		Regions without Auto	
Foreign	0.057**	0.060**	0.074**	0.082**	0.033*	0.026+
	(0.007)	(0.007)	(0.023)	(0.022)	(0.015)	(0.015)
Joint Venture	0.049**	0.058**	0.059*	0.067**	0.030+	0.030+
	(0.009)	(0.009)	(0.026)	(0.026)	(0.018)	(0.017)
Official	-0.025**	-0.006	-0.004	0.011	-0.028**	-0.034**
	(0.008)	(0.008)	(0.012)	(0.011)	(0.007)	(0.011)
Official * Foreign	0.025**	0.021*	0.033*	0.029*	-0.004	0.013
	(0.010)	(0.010)	(0.013)	(0.014)	(0.010)	(0.014)
Official * Joint Venture	-0.008	-0.012	-0.002	-0.011	-0.007	0.010
	(0.011)	(0.011)	(0.015)	(0.014)	(0.011)	(0.015)
Province FE	No	Yes	No	Yes	No	Yes
Halfyear FE	No	Yes	No	Yes	No	Yes
Observations	35246	35246	19317	19317	14138	14138

Marginal effects; Standard errors clustered by recalls in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models control for the logarithm of recall size and binary indicators for recall type.

A.4 Comparison of Newspaper Readership: Official vs. Non-Official

I describe the readership characteristics of official and non-official newspapers in order to provide counter evidence to an alternative mechanism that official newspapers exhibit home bias because their readers are more nationalistic than readers of non-official newspapers. Using the 2004 Beijing Area Studies survey data, I compare nationalistic attitudes as well as socio-economic characteristics of individuals of different newspapers. I analyze the 2004 survey data because the questions about respondents' news consumption pattern were included only in 2004 but removed from the following years.

Table A.9 describes the characteristics of survey respondents by news media consumption pattern. Based on the list of newspapers each individual reads, I classify individuals into four groups: 1) those who only read official newspapers, 2) those who only read non-official newspapers, 3) those who read both types of newspapers, and 4) those who do not read newspapers at all. Individuals do not differ in age or education level

across different types of newspapers although official newspaper readers, on average, have higher income and include more members of the Chinese Communist Party (CCP). Yet, most importantly, on the two questions measuring nationalistic attitudes of respondents, readers of different types of newspapers do not show distinctive difference. When respondents were asked to choose from 1 (strongly disagree) to 4 (strongly agree) to the statement that they want to be born again as Chinese citizens, the average score appears to be very similar across different groups, ranging from 3.4 to 3.6. To the statement that China is a better country than most of other countries, the average score again appears to be very similar across different groups, ranging from 3.2 to 3.3. This demonstrates that nationalistic attitudes are quite prevalent among Chinese citizens regardless of their news consumption pattern. Thus, differences between official and non-official newspaper readers are unlikely to account for the reporting pattern of official and non-official newspapers presented in the main analysis.

Table A.9: Descriptive Statistics of Beijing Citizens by Media Consumption Pattern

	Official Newspapers	Non-Official Newspapers	Both Types	Do Not Read Newspapers
Age	50.2	47.4	48.2	47.4
Years of Education	11.9	11.0	12.4	10.0
Monthly Income (Yuan)	2038.5	1248.7	2336.5	1356.4
Female (%)	47.4%	42.3%	36.9%	50.4%
CCP Members (%)	36.8%	23.7%	36.9%	11.8%
Nationalism, Born again as PRC Citizen (1-4)	3.6	3.5	3.5	3.4
Nationalism, China Better than Others (1-4)	3.3	3.2	3.2	3.2
Number of Respondents	57	241	198	119

A.5 Estimation of Structural Topic Model

I collected additional news articles on all auto-related issues, and estimated the Structural Topic Model (STM) (Roberts et al., 2014). This section provides a detailed description on data collection, model estimation, and estimation result.

A.5.1 Data Collection

To explore the existence of media bias beyond recall reporting, I collected additional news articles that contain the names of automakers that have at least 0.5% of market share according to the sales data in the 2014 *China Auto Market Almanac* (*Zhongguo qiche shichang nianjian*). I used 55 keywords containing the name of automakers and searched for newspaper articles that have these keywords in their headlines through *WiseNews*. I did not use the names of joint ventures as keywords when the part of their names is already included in other keywords (e.g. FAW-Toyota (*yiqi fengtian*), Shanghai Volkswagen (*shanghai dazhong*), or Dongfeng Honda (*dongfeng bentian*)). Due to the large number of articles that satisfy this condition, I restricted the sample of newspapers to four newspapers with headquarters in Beijing (*Beijing Daily*, *Beijing Youth Daily*, *Beijing Morning Post*, and *Beijing Evening News*) that *WiseNews* provides a full coverage from 2000 to 2014. Also, I restricted the sample to those news articles that contain the word car (*che*) or the measure word that counts cars (*liang*) to sort out auto-related news articles because some automakers' brand names are not unique proper nouns in Chinese (e.g. Great Wall (*changcheng*), or Hyundai (*xiandai*), which means modern in Chinese).

A.5.2 Model Estimation

With 15,141 collected newspaper articles, I estimated the STM with 25 topics. Before estimating the model, I preprocessed texts following a standard approach (see Lucas et al.

(2015) for detailed information on processing and analyzing textual data). I segmented texts into words using the Stanford Word Segmenter (Chang, Galley, and Manning, 2008) because Chinese language does not have spaces between words. I then removed punctuation and stop words that frequently occur but do not convey important meaning to the text such as *de* (of) or *shi* (be). I additionally removed the name of automakers in order to avoid text being classified according to automobile brands. Once I completed all preprocessing, I constructed a document-term matrix (DTM) where each row represents a document and each column represents a unique word, with each cell indicates the number of times the word occurs in the document. To build the DTM, I used the Python/Lucene-based application `txtorg` developed by Lucas et al. (2015).

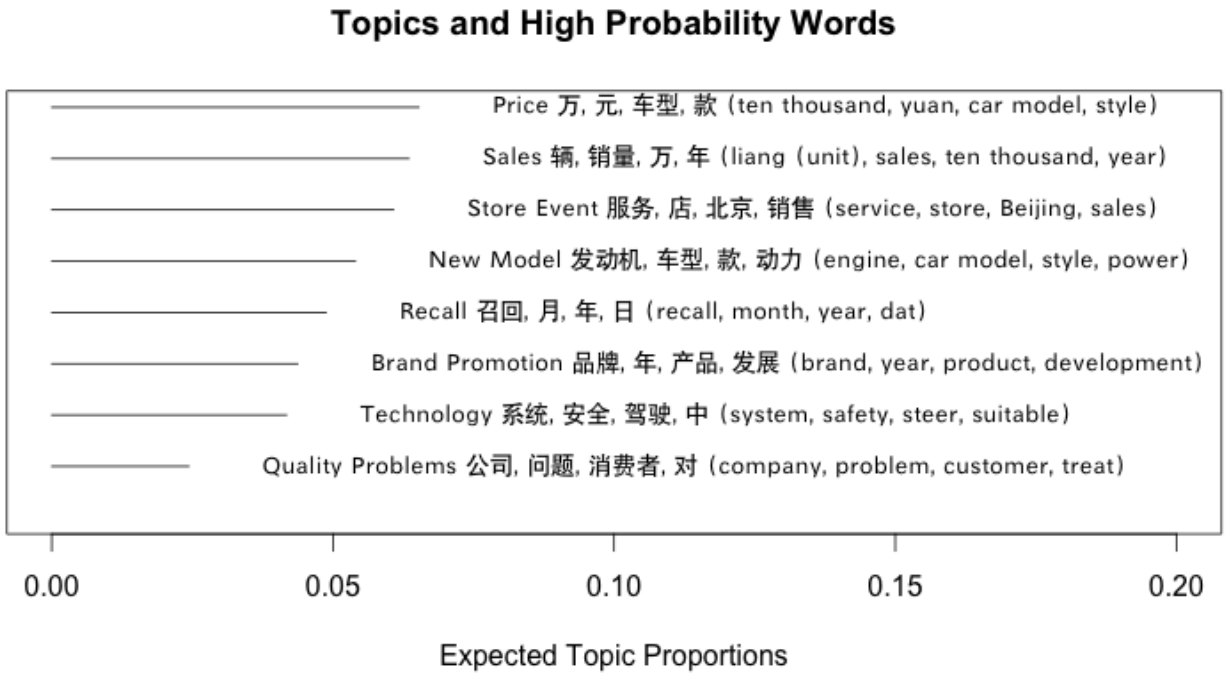
With the constructed DTM, I estimated a range of STM models using a varying number of topics from 10, 15, 20, 25, to 30. I present the estimation results with 25 topics. The models with the lower number of topics do not capture distinct topics, while the model with 30 topics does not provide additional categories that are meaningful for interpretation compared to the model with 25 topics. One key difference of the STM with other topic models is its ability to incorporate structural information into the analysis. As I am interested in exploring the difference between domestic and foreign automobiles in the news coverage, I included a binary indicator in the analysis as well as the year of news publication that may influence the proportion of topic in news articles.

A.5.3 Estimation Result

I present the expected topic proportions of selected topics and words highly associated with each topic. Among 25 topics, I only present the results for topics that are relevant to automobile products. I excluded topics that are irrelevant to automobile products. These are topics that are not relevant to automobiles at all but included in the sample due to the non-unique name of automaker. I also excluded topics that are related to

automobiles but not to automobile products such as car accidents, transportation, or car racing as well as topics on company-related news (i.e. company mergers, establishment of joint-venture). Figure A.1 presents the expected topic proportion of eight selected topics. Most frequent topics are price or sales-related news. These news articles do not explicitly convey positive or negative implication about automobile companies, but could contribute to improving brand awareness. While other topics also could contribute to promoting company products, two topics – recalls and quality problems – have negative implications on products. The calculated effect of being foreign on topic proportions is presented in Figure 3 in the main paper.

Figure A.1: Structural Topic Model Results from the Analysis of Automobile-related News Articles



Appendix B for "Informed Preferences? The Impact of Unions on Workers' Trade Preferences"

B.1 Survey Questions on Unions and Trade

The following survey items were used to measure members' views and knowledge about the position of their union on trade policy and the frequency with which the union communicated about the topic:

- Overall, where do you think the union stands on the question of whether trade with other countries should be expanded, reduced or kept at its current level?
- How familiar would you say you are with the union's view on trade with other countries? Do you think that trade with other countries is good or bad for you and your family?
- During the past year, approximately how often would you estimate the union has communicated with you about trade with other countries?

B.2 Matching Procedure and Diagnostics

We conduct a nearest-neighbor matching exercise to estimate the overall 'union effect' across all industries. We match each union member with non-unionized workers employed in the same industry and sector (private vs. public), and require that they are also of the same gender, ethnicity, martial status and education level (measured as a binary indicator denoting completion of a 4-year college degree). After the requirement for exact matching on these criteria is fulfilled, the matching algorithm is instructed to seek the closest observation in terms of income level and age. Each union member can be matched with up to ten non-unionized workers, conditional on the exact matching criteria being fully satisfied. We then estimate a probit regression model using the matched

data and calculate the average treatment effect of union membership on all three outcome variables, as presented in Figure 2.2. Matching diagnostics are presented here in Table B.1. As we impose the exact matching requirement for all the variables except income level and age, the matched data is perfectly balanced for those variables.

Table B.1: Matching Summary Statistics for the Union Effects

	Full Data (N=3991)			**Matched Data (N=2018)**		
	(Treated: 462, Control: 3449)			**(Treated: 421, Control: 1597)**		
Variable	**Mean Treated**	**Mean Control**	**Mean Difference**	**Mean Treated**	**Mean Control**	**Mean Difference**
Distance	0.121	0.118	0.003	0.121	0.121	0.000
Family Income	9.446	9.956	-0.510	9.437	9.311	0.126
Age	50.883	50.602	0.281	51.235	49.521	1.715
College Education	0.465	0.511	-0.046	0.444	0.444	0.000
Married	0.630	0.692	-0.062	0.637	0.637	0.000
Black	0.089	0.050	0.039	0.057	0.057	0.000
Hispanic	0.028	0.039	-0.010	0.024	0.024	0.000
White	0.786	0.841	-0.056	0.848	0.848	0.000
Female	0.400	0.362	0.038	0.382	0.382	0.000
Public Sector	0.394	0.065	0.329	0.352	0.352	0.000
Building Construction	0.093	0.091	0.002	0.100	0.100	0.000
Food Manufacturing	0.050	0.052	-0.003	0.055	0.055	0.000
Chemical Manufacturing	0.035	0.054	-0.019	0.033	0.033	0.000
Fabricated Metal Manufacturing	0.067	0.086	-0.019	0.069	0.069	0.000
Computer Electronics	0.009	0.088	-0.079	0.007	0.007	0.000
Transportation Equipment	0.097	0.056	0.041	0.100	0.100	0.000
Telecommunications	0.113	0.084	0.028	0.121	0.121	0.000
Data Processing	0.009	0.083	-0.074	0.005	0.005	0.000
Securities	0.004	0.097	-0.093	0.005	0.005	0.000
Educational Services	0.413	0.107	0.307	0.401	0.401	0.000
Ambulatory Health	0.054	0.106	-0.052	0.057	0.057	0.000
Nursing and Residential Care	0.056	0.097	-0.040	0.048	0.048	0.000
Nursing and Residential Care	0.057	0.096	-0.039	0.049	0.049	0.000

B.3 Calculation of the Union Protectionism Score

To measure a union's stance on trade policy we generated a new metric that is based on the union's lobbying activity and its official announcements on trade-related legislation. Focusing on the two years prior to the study, we coded the positions the unions took on trade-related bills and used this data to place the unions along a trade protectionist-

liberalizer scale. For every bill, we code the union's position along a seven-point scale that ranges from 'strongly protectionist' (+3) to 'strongly pro-trade' (-3).

B.3.1 Trade-related Bills

Our analysis focuses on the the position of each union on trade-related issues that were tied to a legislative bill during the period under examination. We only exclude bills that were purely industry-specific (e.g. the United Steelworkers lobbying on an antidumping case on coated paper), since such bills do not allow for a comparison with the position taken by unions outside the industry. Based on these criteria, we used the fourteen bills in Table B.2 to generate the unions' protectionism measure.

Table B.2: Congressional Bills on Foreign Trade Lobbied by Unions

Lobbied Bills Included for Measuring Union's Protectionist Stance	**Coding**
Trade Reform, Accountability, Development and Employment Act of 2009	protectionist
US-Colombia Trade Promotion Agreement	free trade
US-Panama Free Trade Agreement	free trade
US-Korea Free Trade Agreement	free trade
US-Peru Trade Promotion Agreement Implementation Act	free trade
Withdrawal of the US from NAFTA	protectionist
Reauthorizing Trade Adjustment Assistnace	protectionist
Currency Reform for Fair Trade Act; Currency Exchange Rate Oversight Reform Act of 2009	protectionist
Trade Enforcement Act of 2009	protectionist
Buy Amreican Provision in the American Recovery and Reinvestment Act of 2009	protectionist
Reciprocal Market Access Act of 2009	protectionist
Trade Agreement Benchmarks and Accountability Act	protectionist
Export Promotion Act of 2010	free trade

B.3.2 Coding Scheme

For the selected bills, we code each union's position along a seven-point scale based on the position expressed by the union (i.e., pro- or anti-liberalization) and the number of quarters it registered lobbying activity for or against the bill. For bills on which a union lobbied against liberalization for five quarters or more, the union's position is coded as 'strongly protectionist' (+3). If the lobbying took place for a shorter period of 1 to 4

quarters, we assign a 'protectionist' (+2) score; we code a union as 'weakly protectionist' (+1) score if it did not lobby on the bill but had expressed a protectionist stance on the issue in its official pronouncements. Conversely, we assign scores between -1 and -3 using the same coding criteria when the union takes a pro-liberalization stance. Finally, a 'neutral position' (0) is assigned if the union did not express any view on the issue nor conducted any related lobbying activity.[11] Importantly, when we revise the threshold to four or six quarters for distinguishing a strong position from a weak position, our results regarding the measured union stance remains robust.

With respect to the coding of unions' position on specific bills, we made the following determinations:

- We code support for the "Trade Reform, Accountability, Development and Employment Act" of 2009 as a protectionist stance, because the bill: i) Required a re-evaluation of US free trade agreements every two years; ii) Would have restricted the applicability of trade agreements with regard to trade in services, foreign investment, government procurement, IPR protection, trade remedies, among other areas; and iii) Required the President to submit to Congress a plan to renegotiate any trade agreement that does not meet the stated requirement already in effect.

- Support for the Trade Enforcement Act of 2009 and the Reciprocal Market Access Act of 2009 is coded as protectionist. The Trade Enforcement Act of 2009 proposes to apply countervailing duties to non-market economy countries. The Reciprocal Market Access Act proposes to limit the President's authority to reduce or eliminate tariffs pursuant to trade agreements until certain conditions are met, as well as to withdraw tariff concessions against trade partners who violated the trade agreement.

[11] In the few instances where information was provided only about the lobbying activity taking place but not about the actual stance taken by the union, the position value was coded as missing.

B.4 Measuring Alignment between the Union's Stance and Workers' Policy Preferences

Figure 5 in the main chapter graphically illustrates the alignment between a union's stance and the policy preferences of its members. It also shows the correlation between the *Average Protectionism Score* of unions in the industry and the policy preferences of union members and non-members working in the industry. We also examined this empirical relationship in a regression format that included a full set of controls. We estimated a probit model:

$$\begin{aligned} Probit(Y_i) =& \alpha + \beta_1 Industry\ Protectionism\ Score_i + \beta_2 Union\ Member_i \\ &+ \beta_3 Industry\ Protectionism\ Stance^{*} Union\ Member_i + \theta Controls_i + \epsilon_i, \end{aligned}$$

where Y_i is a binary measure of individual i's view on trade and *Average Protectionism Stance* is the average protectionism score for unions in i's industry of employment. *Union Member* is a binary indicator for union members, and *Industry Protectionism Stance*Union Member* is the key variable of interest, capturing the interaction between the two variables. The controls we include are education, age, income, gender, race and martial status.

Table B.3: Union Average Protectionism Stance and Worker's View on Trade

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trade Level			Trade on Self			Trade on US		
Industry Protectionism Score	-0.002	-0.004*	-0.003	0.001	-0.000	0.001	-0.000	-0.002	-0.000
	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.002)
Union Member	0.024	-0.063^{+}	-0.005	0.038^{+}	-0.015	0.019	0.057*	-0.023	0.018
	(0.024)	(0.035)	(0.043)	(0.021)	(0.032)	(0.038)	(0.023)	(0.033)	(0.040)
Industry Protectionism Score *Union Member		0.011**	0.007		0.007*	0.003		0.010**	0.006^{+}
		(0.004)	(0.004)		(0.003)	(0.004)		(0.003)	(0.004)
Demographic Controls	No	No	Yes	No	No	Yes	No	No	Yes
Observations	3194	3194	2911	3194	3194	2911	3194	3194	2911

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

The results of the estimation, presented as marginal effects in Table B.3, suggest that the unions' stance on trade has a notable impact on the attitudes of the union members, but not on the attitudes of the non-members. We find a positive and statistically significant coefficient for the interaction term β_3, but the coefficient for β_1 is in most specifications very small in magnitude and statistically indistinguishable from zero (When we include the full set of controls, the estimated effect remains positive and fairly large in magnitude but drops below the 95% confidence level). Union members thus exhibit attitudes on trade that are much closer to the position staked by the unions than the attitudes of the non-members employed in the same industry.

B.5 Robustness Tests

B.5.1 Cross-State Legal Differences and the Union Effect

We conduct a broad set of robustness tests for all the analyses reported in the main chapter. Below, we briefly describe each of these tests.

- **Estimating the Models Using Pre-processed Data**: We estimate the same models using pre-processed data from the matching exercise. We estimate the models with the subset of the data that includes individuals matched exactly on college education, industry, marital status, race, gender, and employment sector. Respondents are also additionally matched on income and age with the nearest neighbor technique. The results presented in Table B.4 show that the findings remain intact when using the pre-processed data.

- **Estimating the Models Using Weighted Data**: We re-estimate the same models using weighted data. Our main analyses use unweighted data because we do not aim to estimate the magnitude of the effects for the general US population.

Yet, we demonstrate here that our results are both substantively and statistically unchanged when we re-estimate all models with weights. The results are presented in Table B.5.

- **Including Public Sector Workers in the Analysis**: Our main analysis focuses on private sector workers because the Right-to-Work laws do not cover some public sector workers. To assess whether this trimming of the sample affects our results, we reanalyze all the same models, this time including both private and public sector workers . Table B.6 presents the results and shows that all the findings of interest are unaffected by the the inclusion of the public sector workers.

- **Excluding Individuals in Management**: Managers and supervisors cannot join unions or be part of the bargaining unit because they are not protected by the National Labor Relations Act. As these individuals comprise about one fourth of non-union members in our dataset, the observed difference between members and non-members could in theory be driven by distinct characteristics of individuals in management. We therefore reanalyze all the original set of models while excluding all individuals in management. The results, reported in Table B.7, indicate that all the findings hold. In other words, the share of managers in the sample of non-members does not account for the sizable 'union effect' reported in the main chapter.

Table B.4: Effect of Union Membership on Attitudes toward Trade with Pre-processed Data

Strongly Protectionist Unions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Trade Levels				Trade on Self				Trade on US			
Union Member	0.104**	0.091*	0.093*	0.087+	0.074*	0.087*	0.089*	0.091*	0.134**	0.148**	0.151**	0.150**
	(0.039)	(0.044)	(0.045)	(0.045)	(0.035)	(0.040)	(0.040)	(0.041)	(0.038)	(0.044)	(0.044)	(0.044)
RTW	0.010	0.003	0.006	-0.145	0.007	0.014	0.021	0.209	0.022	0.029	0.038	-0.030
	(0.029)	(0.031)	(0.031)	(0.221)	(0.025)	(0.027)	(0.027)	(0.221)	(0.027)	(0.029)	(0.029)	(0.211)
RTW*Union Member		0.054	0.043	0.068		-0.050	-0.067	-0.076		-0.050	-0.066	-0.063
		(0.089)	(0.089)	(0.095)		(0.063)	(0.058)	(0.058)		(0.066)	(0.063)	(0.065)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1158	1158	1139	1139	1158	1158	1139	1139	1158	1158	1139	1132

Not Strongly Protectionist Unions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Trade Levels				Trade on Self				Trade on US			
Union Member	0.017	0.003	-0.009	-0.004	-0.010	0.008	-0.011	-0.005	-0.019	-0.016	-0.037	-0.031
	(0.065)	(0.067)	(0.067)	(0.065)	(0.054)	(0.058)	(0.058)	(0.057)	(0.058)	(0.061)	(0.061)	(0.061)
RTW	0.004	-0.003	-0.014	0.999**	0.015	0.025	0.013	0.046	0.010	0.011	0.000	0.422
	(0.048)	(0.049)	(0.049)	(0.001)	(0.040)	(0.042)	(0.042)	(0.326)	(0.043)	(0.044)	(0.044)	(0.357)
RTW*Union Member		0.253	0.241	0.193						-0.043	-0.021	-0.061
		(0.230)	(0.216)	(0.225)						(0.172)	(0.186)	(0.152)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	486	486	473	473	465	461	448	448	486	486	473	473

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for *Industry* as well as *Controls* (income, gender, race, age, education, and martial status).

Full Interactions include the demographic controls interacted with *RTW*.

Table B.5: Effect of Union Membership on Attitudes toward Trade with Sampling Weight

Strongly Protectionist Unions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Trade Levels				Trade on Self				Trade on US			
Union Member	0.100^{+}	0.112^{+}	0.114^{+}	0.110^{+}	0.061	0.109*	0.118*	0.123*	0.131*	0.159**	0.170**	0.171**
	(0.051)	(0.058)	(0.059)	(0.060)	(0.046)	(0.054)	(0.055)	(0.055)	(0.052)	(0.058)	(0.059)	(0.058)
RTW	0.025	0.030	0.035	-0.258	0.005	0.026	0.030	0.386^{+}	0.031	0.043	0.050	0.009
	(0.035)	(0.037)	(0.037)	(0.218)	(0.031)	(0.032)	(0.032)	(0.219)	(0.033)	(0.034)	(0.034)	(0.229)
RTW*Union Member		-0.049	-0.055	-0.039		-0.152**	-0.162**	-0.164**		-0.095	-0.106	-0.114
		(0.106)	(0.105)	(0.110)		(0.048)	(0.044)	(0.042)		(0.083)	(0.080)	(0.080)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1614	1614	1588	1588	1614	1614	1588	1588	1614	1614	1588	1588

Not Strongly Protectionist Unions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Trade Levels				Trade on Self				Trade on US			
Union Member	-0.010	-0.026	-0.034	-0.039	0.046	0.074	0.065	0.052	0.005	0.002	-0.010	-0.011
	(0.063)	(0.064)	(0.063)	(0.063)	(0.063)	(0.068)	(0.068)	(0.065)	(0.063)	(0.065)	(0.064)	(0.063)
RTW	0.017	0.014	0.010	0.157	-0.001	0.005	0.004	-0.197	-0.012	-0.013	-0.013	-0.134
	(0.029)	(0.029)	(0.029)	(0.216)	(0.023)	(0.023)	(0.023)	(0.136)	(0.025)	(0.025)	(0.026)	(0.172)
RTW*Union Member		0.240	0.229	0.258						0.042	0.051	0.032
		(0.252)	(0.248)	(0.248)						(0.234)	(0.240)	(0.230)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1810	1810	1778	1778	1810	1805	1773	1773	1810	1810	1778	1778

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for *Industry* as well as *Controls* (income, gender, race, age, education, and martial status).

Full Interactions include the demographic controls interacted with *RTW*.

Table B.6: Effect of Union Membership on Attitudes toward Trade with the Full Sample

Strongly Protectionist Unions												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Trade Levels				Trade on Self				Trade on US			
Union Member	0.097**	0.090*	0.096*	0.097*	0.070*	0.084*	0.084*	0.094*	0.130**	0.145**	0.146**	0.146**
	(0.037)	(0.042)	(0.043)	(0.044)	(0.033)	(0.038)	(0.039)	(0.040)	(0.036)	(0.042)	(0.042)	(0.042)
RTW	0.021	0.018	0.023	-0.076	-0.002	0.003	0.009	0.260	0.011	0.016	0.024	0.040
	(0.024)	(0.025)	(0.026)	(0.174)	(0.021)	(0.022)	(0.022)	(0.170)	(0.022)	(0.023)	(0.024)	(0.170)
RTW*Union Member		0.026	0.007	0.008		-0.053	-0.069	-0.086+		-0.049	-0.066	-0.063
		(0.082)	(0.081)	(0.083)		(0.058)	(0.054)	(0.050)		(0.062)	(0.059)	(0.060)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1634	1634	1607	1607	1634	1634	1607	1607	1634	1634	1607	1607
Not Strongly Protectionist Unions												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Trade Levels				Trade on Self				Trade on US			
Union Member	-0.013	0.018	0.017	0.010	0.012	0.024	0.019	0.011	0.010	0.008	0.002	-0.002
	(0.033)	(0.038)	(0.038)	(0.038)	(0.028)	(0.032)	(0.032)	(0.032)	(0.030)	(0.033)	(0.033)	(0.033)
RTW	-0.004	0.007	0.007	0.051	-0.004	0.000	0.000	-0.054	-0.017	-0.018	-0.017	0.054
	(0.020)	(0.021)	(0.021)	(0.152)	(0.017)	(0.018)	(0.018)	(0.116)	(0.018)	(0.019)	(0.019)	(0.139)
RTW*Union Member		-0.129*	-0.130*	-0.122*		-0.049	-0.047	-0.028		0.008	0.011	0.025
		(0.054)	(0.053)	(0.055)		(0.050)	(0.051)	(0.057)		(0.066)	(0.067)	(0.070)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	2196	2196	2160	2160	2196	2196	2160	2160	2196	2196	2160	2160

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for *Industry* as well as *Controls* (income, gender, race, age, education, and martial status).

Full Interactions include the demographic controls interacted with *RTW*.

Table B.7: Robustness Analysis with Individuals in Management Excluded

Strongly Protectionist Unions												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Trade Levels				Trade on Self				Trade on US		
Union Member (d)	0.124**	0.111*	0.112*	0.110*	0.082*	0.099*	0.097*	0.104*	0.150**	0.164**	0.167**	0.164**
	(0.040)	(0.045)	(0.046)	(0.047)	(0.036)	(0.042)	(0.042)	(0.043)	(0.039)	(0.045)	(0.045)	(0.046)
RTW (d)	0.020	0.014	0.023	-0.059	0.017	0.025	0.032	0.229	0.027	0.034	0.044	0.015
	(0.028)	(0.029)	(0.030)	(0.200)	(0.024)	(0.026)	(0.026)	(0.193)	(0.026)	(0.027)	(0.028)	(0.192)
RTW*Union Member (d)		0.050	0.032	0.040		-0.059	-0.077	-0.090+		-0.051	-0.070	-0.064
		(0.089)	(0.089)	(0.092)		(0.061)	(0.057)	(0.054)		(0.066)	(0.063)	(0.065)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1290	1290	1269	1269	1290	1290	1269	1269	1290	1290	1269	1269
Not Strongly Protectionist Unions												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Trade Levels				Trade on Self				Trade on US		
Union Member (d)	-0.027	-0.032	-0.040	-0.048	-0.024	-0.009	-0.020	-0.029	-0.025	-0.020	-0.031	-0.035
	(0.053)	(0.054)	(0.054)	(0.054)	(0.041)	(0.045)	(0.044)	(0.042)	(0.045)	(0.048)	(0.047)	(0.047)
RTW (d)	-0.004	-0.005	-0.006	0.205	-0.012	-0.009	-0.009	-0.106	-0.029	-0.028	-0.026	-0.069
	(0.024)	(0.024)	(0.024)	(0.191)	(0.019)	(0.020)	(0.020)	(0.128)	(0.021)	(0.021)	(0.021)	(0.157)
RTW*Union Member (d)		0.080	0.079	0.089						-0.068	-0.059	-0.070
		(0.197)	(0.194)	(0.190)						(0.135)	(0.143)	(0.133)
Party ID Control	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Full Interactions	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1626	1626	1595	1595	1626	1621	1590	1590	1626	1626	1595	1595

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for *Industry* as well as *Controls* (income, gender, race, age, education, and martial status.

Full Interactions include the demographic controls interacted with *RTW*.

B.5.2 Members' Preferences when the Union Changes Position

We also conduct the robustness tests for the analysis of the UAW's change in poisition on KORUS.

- **Estimating the Models Using Pre-processed Data**: We re-analyze the models using pre-processed data. The results are shown shown in Table B.8.
- **Estimating the Models Using Weighted Data**: We estimate the models using the weighted data. The results remain substantively unchanged, as shown in Table B.9.
- **Excluding Individuals in the Business and Management Sectors**: As discussed above, we reanalyze all the same models while excluding workers in the management and business sectors. The results presented in Table B.10 again show that our findings remain robust to the exclusion of these individuals.

Table B.8: Change in the Union's Policy Position and Members' Preferences with Pre-processed Data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Trade Level				Trade on Self		
Union Member	0.489**	0.396*	0.421*	0.401*	0.325*	0.168	0.262	0.206
	(0.138)	(0.167)	(0.166)	(0.180)	(0.151)	(0.176)	(0.189)	(0.205)
Post-Shift	-0.047	-0.085	-0.108	-0.051	-0.024	-0.039	-0.090	0.044
	(0.150)	(0.159)	(0.159)	(0.189)	(0.147)	(0.157)	(0.159)	(0.190)
Post-Shift*Union Member	-0.442**	-0.443**	-0.431**	-0.480**	-0.081	0.050	0.170	0.327
	(0.117)	(0.138)	(0.154)	(0.149)	(0.236)	(0.290)	(0.306)	(0.346)
Demographic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
News Consumption	No	No	Yes	Yes	No	No	Yes	Yes
Party ID	No	No	Yes	Yes	No	No	Yes	Yes
Auto States	No	No	No	Yes	No	No	No	Yes
Observations	81	81	80	80	81	81	80	80

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Demographic Controls: income, gender, race, age, education & martial status

News Consumption: A binary indicator taking a value of 1 if the respondent read a newspaper once a day or more.

Auto States: Michigan, Post-Shift*Michigan, Ohio, Post-Shift*Ohio

Table B.9: Change in the Union's Policy Position and Members' Preferences with Sampling Weight

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Trade Level				Trade on Self		
Union Member	0.608**	0.596**	0.534**	0.485**	0.691**	0.542**	0.715**	0.657**
	(0.095)	(0.107)	(0.117)	(0.126)	(0.097)	(0.149)	(0.172)	(0.184)
Post-Shift	0.122	-0.022	-0.064	-0.423^{+}	-0.067	-0.199	-0.204	-0.294^{+}
	(0.177)	(0.210)	(0.195)	(0.218)	(0.187)	(0.159)	(0.147)	(0.151)
Post-Shift*Union Member	-0.636**	-0.630**	-0.670**	-0.742**	-0.309*	-0.204	-0.185	-0.286*
	(0.093)	(0.110)	(0.094)	(0.063)	(0.153)	(0.183)	(0.179)	(0.115)
Demographic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
News Consumption	No	No	Yes	Yes	No	No	Yes	Yes
Party ID	No	No	Yes	Yes	No	No	Yes	Yes
Auto States	No	No	No	Yes	No	No	No	Yes
Observations	100	97	96	96	100	97	96	96

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Demographic Controls: income, gender, race, age, education & martial status

News Consumption: A binary indicator taking a value of 1 if the respondent read a newspaper once a day or more.

Auto States: Michigan, Post-Shift*Michigan, Ohio, Post-Shift*Ohio

Table B.10: Change in the Union's Policy Position and Members' Preferences with Individuals in Management Excluded

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Trade Level				Trade on Self		
Union Member	0.494**	0.439**	0.438**	0.428*	0.383**	0.267^{+}	0.390*	0.343^{+}
	(0.130)	(0.152)	(0.163)	(0.186)	(0.143)	(0.162)	(0.175)	(0.191)
Post-Shift	0.018	-0.076	-0.153	-0.488**	-0.065	-0.086	-0.106	0.040
	(0.150)	(0.163)	(0.165)	(0.178)	(0.144)	(0.156)	(0.160)	(0.219)
Post-Shift*Union Member	-0.485**	-0.495**	-0.507**	-0.588**	-0.063	-0.022	0.039	0.134
	(0.102)	(0.108)	(0.108)	(0.084)	(0.232)	(0.259)	(0.281)	(0.338)
Demographic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
News Consumption	No	No	Yes	Yes	No	No	Yes	Yes
Party ID	No	No	Yes	Yes	No	No	Yes	Yes
Auto States	No	No	No	Yes	No	No	No	Yes
Observations	84	82	81	81	84	82	81	81

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Demographic Controls: income, gender, race, age, education & martial status

News Consumption: A binary indicator taking a value of 1 if the respondent read a newspaper once a day or more.

Auto States: Michigan, Post-Shift*Michigan, Ohio, Post-Shift*Ohio

B.6 Moderators of the Union Effect

B.6.1 Ideology as a Moderator

We examine the effect of union membership conditional on respondents' partisan preference. We interact a 7-point measure of partisan preference (7 as strong Democrat and 1 as strong Republican) with a binary indicator for union membership. The analyses in this section use the full sample, including private and public sector workers, because we are not exploring the differential effect of the RTW laws in these analyses. The results, presented in Table B.11, show that the interactions among the strongly protectionist unions are positively signed across all the estimated models and are borderline significant. This is not conclusive evidence, but it suggests that Democratic-leaning individuals are more willing to embrace the union's message. As expected, we find a null effect among unions that are not strongly protectionist.

B.6.2 Economic Knowledge as a Moderator

We also examine the union effect conditional on economic knowledge. We measure economic knowledge with a binary indicator denoting whether the respondent had taken a college-level economics class. We interact this measure with a union membership indicator. The results, presented in Table B.12, show that the signs of the interaction terms are not consistent across different outcomes. Among union members, economic knowledge is associated with more support for trade level expansion and less negative views on the impact of trade on the US, yet with more negative views on the impact of trade on oneself. Moreover, the estimated effects are well below statistical significance and substantivelly small across the models. The results thus provide very limited evidence to suggest that prior economic knowledge is an important moderator of the union effect.

Table B.11: Effect of Union Membership Conditional on Partisan Stance

Strongly Protectionist Unions									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trade Levels			Trade on Self			Trade on US		
Union Member	0.089*	0.061	0.082	0.059^{+}	-0.038	-0.029	0.121**	-0.007	0.007
	(0.038)	(0.077)	(0.080)	(0.034)	(0.058)	(0.061)	(0.037)	(0.065)	(0.069)
Party ID	0.006	0.005	0.047	0.008	0.004	0.036	0.008	0.003	0.062
	(0.006)	(0.006)	(0.041)	(0.005)	(0.005)	(0.034)	(0.005)	(0.006)	(0.038)
Union Member * Party ID		0.006	0.001		0.023^{+}	0.020		0.028*	0.024^{+}
		(0.016)	(0.016)		(0.013)	(0.014)		(0.014)	(0.014)
Full Interactions	No	No	Yes	No	No	Yes	No	No	Yes
Observations	1588	1588	1588	1588	1588	1588	1588	1588	1588
Not Strongly Protectionist Unions									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trade Levels			Trade on Self			Trade on US		
Union Member	-0.020	0.266*	0.266*	-0.027	0.028	0.003	-0.035	0.040	0.022
	(0.051)	(0.132)	(0.132)	(0.040)	(0.108)	(0.101)	(0.043)	(0.116)	(0.114)
Party ID	-0.009^{+}	-0.007	-0.055	0.001	0.001	-0.066*	0.004	0.005	-0.087*
	(0.005)	(0.005)	(0.039)	(0.004)	(0.004)	(0.031)	(0.005)	(0.005)	(0.035)
Union Member * Party ID		-0.056*	-0.054*		-0.012	-0.007		-0.017	-0.012
		(0.024)	(0.023)		(0.020)	(0.020)		(0.021)	(0.022)
Full Interactions	No	No	Yes	No	No	Yes	No	No	Yes
Observations	1778	1778	1778	1778	1778	1778	1778	1778	1778

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for *Industry* as well as *Controls* (income, gender, race, age, education, and martial status).

Full Interactions include the demographic controls interacted with partisan stance.

Table B.12: Effect of Union Membership Conditional on Economic Knowledge

Strongly Protectionist Unions									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trade Levels			Trade on Self			Trade on US		
Union Member	0.079*	0.082^{+}	0.082^{+}	0.054	0.053	0.061	0.111**	0.116**	0.121**
	(0.037)	(0.045)	(0.045)	(0.033)	(0.039)	(0.040)	(0.036)	(0.043)	(0.044)
College Economics Course	-0.104**	-0.103**	-0.100	-0.073**	-0.074**	-0.237	-0.088**	-0.086**	-0.311*
	(0.028)	(0.029)	(0.170)	(0.024)	(0.025)	(0.147)	(0.026)	(0.027)	(0.158)
Union Members		-0.010	-0.007		0.004	-0.001		-0.013	-0.014
* College Economics Course		(0.072)	(0.073)		(0.064)	(0.064)		(0.064)	(0.064)
Full Interactions	No	No	Yes	No	No	Yes	No	No	Yes
Observations	1614	1614	1614	1614	1614	1614	1614	1614	1614
Not Strongly Protectionist Unions									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trade Levels			Trade on Self			Trade on US		
Union Member	-0.018	0.021	0.030	-0.016	0.020	0.031	-0.025	0.024	0.035
	(0.051)	(0.066)	(0.067)	(0.041)	(0.055)	(0.057)	(0.044)	(0.061)	(0.062)
College Economics Course	-0.036	-0.032	-0.027	0.006	0.010	0.015	-0.001	0.005	0.093
	(0.025)	(0.025)	(0.164)	(0.020)	(0.021)	(0.130)	(0.022)	(0.022)	(0.136)
Union Member		-0.106	-0.118		-0.097	-0.109*		-0.128*	-0.139**
* College Economics Course		(0.090)	(0.087)		(0.060)	(0.051)		(0.058)	(0.051)
Full Interactions	No	No	Yes	No	No	Yes	No	No	Yes
Observations	1810	1810	1810	1810	1810	1810	1810	1810	1810

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

All models include fixed effects for *Industry* as well as *Controls* (income, gender, race, age, education, and martial status).

Full Interactions include the demographic controls interacted with *College Economics Course.*

B.6.3 Economic Success of the Union as a Moderator

We test whether the more economically successful unions are more effective in shaping their members' views. We measure the union's success using union's spending power (total spending per capita in the previous year, logged)[12]. We the spending power and the protectionism score of the union to examine whether its economic success is a strong moderator of its influence on the members' views. We find some support for this conjecture. Table B.13 shows that the interaction term is positive and statistically significant with respect to the perceived impact of trade on self and on the US, but is substantively small and not statistically significant with respect to the trade levels question.

Table B.13: Union's Protectionism Stance and Members' View on Trade

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trade Levels			Trade on Self			Trade on US		
Protectionism Score	0.010**	-0.032	-0.043	0.011***	-0.097***	-0.100***	0.010**	-0.065*	-0.071*
	(0.005)	(0.035)	(0.038)	(0.004)	(0.031)	(0.035)	(0.004)	(0.034)	(0.037)
Union Spending	-0.012	-0.090	-0.089	0.010	-0.192***	-0.193**	0.016	-0.124*	-0.131*
	(0.035)	(0.073)	(0.084)	(0.031)	(0.066)	(0.075)	(0.033)	(0.070)	(0.079)
Protectionism Score		0.008	0.009		0.020***	0.020***		0.014**	0.014**
* Union Spending		(0.006)	(0.007)		(0.006)	(0.006)		(0.006)	(0.007)
Demographic Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Party ID	No	No	Yes	No	No	Yes	No	No	Yes
Observations	244	244	226	244	244	220	244	244	226

Marginal effects; Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
Demographic Controls: income, gender, race, age, education & martial status

[12]Data are from `www.unionfacts.com`.

B.7 Additional Information on the Analysis of Auto Sector Workers

This section provides additional information on the analysis of how the United Auto Workers' changing stance on trade policy affected the preferences of the workers.

B.7.1 Changes in the United States - Korea Free Trade Agreement

The United States and the Republic of Korea initially signed the free trade agreement on June 30, 2007, but later reached a new agreement that entailed revised provisions for the automotive sector on December 3, 2010. Below, we briefly describe the key revisions in the agreement.[13] Note that these revisions are highly technical in nature. We therefore contend that it is unlikely that the workers would read and understand these changes without the information communicated by their union.

- **Tariffs:** For motor vehicles principally designed for the transport of persons, the United States shall keep duties at the base rate during years one through four, and eliminate duties effective January 1 of year five. Korea will reduce duties to four percent *ad valorem* on the date KORUS enters into force and eliminate duties effective January 1 of year five.

- **Safety Standards:** "Korea shall provide that an originating motor vehicles of the United States produced by a manufacturer that sold no more than 25,000 originating motor vehicles in the territory of Korea during the previous calendar year shall be deemed to comply with Korean Motor Vehicle Safety Standards if the manufacturer certifies that the motor vehicle complies with U.S. Federal Motor Vehicle Safety Standards."

[13]The full legal texts are available here: `https://ustr.gov/trade-agreements/free-trade-agreements/korus-fta/legal-texts-reflecting-december-3-2010-agreement`.

- **Motor Vehicle Safeguards:** "Neither Party may apply a safeguard measure for a period exceeding two years, except that the period may be extended by up to two years if the competent authorities of the importing Party determine [...] that the measure continues to be necessary to prevent or remedy serious injury and to facilitate adjustment and that there is evidence that the industry is adjusting, provided that the total period of application of a safeguard measure, including the period of initial application and any extension thereof, shall not exceed four years."

- **Environmental Standards:** "With regard to Korea's new automobile fuel economy and greenhouse gas emissions regulation, [...] Korea will provide that, from 2012 to 2015, a manufacture that sold up to 4500 motor vehicles in the territory of Korea in calendar year 2009 shall be deemed to comply with the target level set forth in the regulations if either the average fuel economy or the average CO_2 emissions level for the vehicles the manufacturer sold in the territory of Korea during the relevant calendar year meets a target level that is 19 percent more lenient than the relevant target level provided in the regulation that would otherwise be applicable to that manufacturer."

B.7.2 Trade-Related Discussion among the UAW Members

Our analysis of the effect of the United Auto Workers (UAW)' stance on the preferences of workers focuses on the idea of a 'top-down' influence: the union communicated the meaning of the changes in KORUS to its members. However, the findings could also be consistent with a 'bottom up' story: members changed their preferences and pressured the union leadership to change its policy stance as well. As noted in Chapter 2, this is unlikely given the highly technical nature of the changes made to the revised agreement. We provide additional qualitative evidence against the bottom up explanation, by examining the online discussion among the UAW members regarding the agreement.

Figure B.1: Discussion on the Free Trade Agreement at the UAW Facebook Page

UAW International Union
December 7, 2010 ·

UAW: UAW statement on the proposed U.S.-Korea Free Trade Agreement
http://tinyurl.com/25d9ncb

Like Comment Share

Rich Ratliff How is making jobs in Korea saving ours? America has lost TOO MANY jobs already!
December 7, 2010 at 12:37am · Like · 2

Allan Paschal & they will be dumping more korean pieces of crap autos on us
December 7, 2010 at 12:57am · Like · 1

Michael C. Harrod How is it that these countries put tax and tariffs on our products coming into their country and we have to just say bring it in we will buy it. No to this and everyone needs to tell their elected offical that we want all this to stop! I have when are you going to do it to?
December 7, 2010 at 12:57am · Like · 1

Todd Jordan Yo, ho, haul together,
hoist the colors high.
Heave ho,... See More
December 7, 2010 at 1:03am · Like

John Harris Rich is right. How can one assume that getting a couple more thousand cars into S. Korea(an impoverished country where the majority can't afford said cars) get more jobs here? The reason Ford backed this plan up so adamantly was to allow the future tra... See More
December 7, 2010 at 1:04am · Like · 1

Allan Paschal I know several yrs ago we couldn't export American vehicles to korea
December 7, 2010 at 1:06am · Like

John Smith Burying the EFCA in committee was bad enough, but we definitely don't need another "free trade" agreement.
December 7, 2010 at 1:26am · Like

Michael C. Harrod All we need as a country is more jobs to be gone. NO TO THESE TRADE DEALS FOR THE NEXT 10 yrs. Also remove the ones we have. We need to invest in this country and make things here!
December 7, 2010 at 6:17am · Like · 2

Tony Tombrillo Jr. This agreement will be like all the rest that came before it. I wonder if we have any jobs left to give away? Thanks for selling out the UAW workers!
December 8, 2010 at 11:16am · Like

Teri Crial Norris This is all someone's sick idea of a joke..... or maybe we've become the punchline.....
Bob King -- what the hell are you doing?
Obama -- what the hell are you doing?
December 9, 2010 at 10:36am · Like

Tracey Purvis Hey thanks King! Maybe your bleeding heart for workers around the world can come back full circle when all of us UAW members here in the US are reduced to poverty and left with nothing!!! The health and safety in our plants have back slid! Our wages are back sliding, our benefits are going down! Are you blind!! We are working longer harder and for less!!! Great job Bob!!! You can't be this stupid can you??
December 10, 2010 at 6:01am · Like

Kurt Houghteling oh good they didnt remove it
December 10, 2010 at 11:41pm · Like

Ralph Lyke President Bob King is, in fact, fighting for our members and retirees. We have to be on the forefront of these trade agreements that already have eliminated enough UAW jobs.

It's time to pitch in a write our U.S. Representative and two Senators to ensure that this Korea Free Trade Agreement is fair.
December 13, 2010 at 3:28am · Like

One active online discussion forum among the UAW members was the union's Facebook page that had 72,986 subscribers. We examined the reactions of the members toward the union's statement anouncing its change in support for the KORUS Agreement. As presented in Figure B.1, the majority of the comments on the union's announcement are very negative, while the remaining few responses are not quite relevant. For sure, this forum may not be representative of entire membership of the union. Yet this limited evidence is clearly consistent with the thrust of our claim that the views of the members on the agreement were unlikely to have been the cause of the union's change in stance.

B.8 Unobservable Selection and Bounding of the Treatment Effect

The method advanced in Oster (2014) shows that we can identify the bounded set of the treatment effect using the regression values from uncontrolled and controlled regressions and assumptions about: (*i*) $\bar{\delta}$, the proportional selection between observables and unobservables related to the treatment and (*ii*) R_{max}, the R-squared of the full regression with the treatment, observable controls and unobservable controls.

The $\bar{\delta}$ captures the relative importance of the index of observed and unobserved variables in explaining the treatment. The bound $\bar{\delta} = 1$ means that the unobservables are as important as the observables. This is considered an appropriate upper bound because "researchers typically focus their data collection efforts (or their choice of regression controls) on the controls they believe *ex ante* are the most important" (Oster 2014: 11). It is thus quite unlikely that unobservables are more important than the whole set of observable controls that are relevant to the treatment. Regarding R_{max}, it is necessarily bounded between $\bar{R}$, the R-squared of the controlled regression, and 1. The simulated results suggest that the upper bound of $min\{2.2\bar{R}, 1\}$ is an appropriate assumption to make. We therefore calculated the lower bound of the "union effect" assuming $\bar{\delta} = 1$ and $2.2\bar{R}$.

Appendix C for "Who Speaks for Free Trade Matters: Elite Communications and Public Support for Free Trade"

C.1 Data Selection Procedure

This section provides a detailed description on the data selection procedure for press releases that are relevant to the topic of international trade. The procedure is summarized in Figure C.1.

- First, I collected press releases containing trade(s), export(s/ing/ed/ation), import(s/ing/ ed/ation), and tariff(s) anywhere in the documents.
- Second, I selected a set of bigrams that are directly related to international trade to exclude irrelevant ones (e.g. cap-and-trade, world trade center). After all texts are stemmed through the Porter Stemming Algorithm, I selected a set of bigrams among the top 50 bigrams associated with trad, export, import, and tariff. The list of bigrams is fully described in Table C.1.
- Third, I narrowed down the set of documents to that contain the selected 116 bigrams anywhere in the documents.
- Fourth, I examined a random selection of excluded documents (25%) to see whether any relevant documents are exlucded from the collection.
- Fifth, I additionally selected 11 keywords (ag export, agricultur trade, promot trade, trade repres, import product, import catfish, import steel, restrict export, rare earth export, drywall, drug import), and included the documents that contain these phrases.

Figure C.1: Summary of Text Collection Procedure

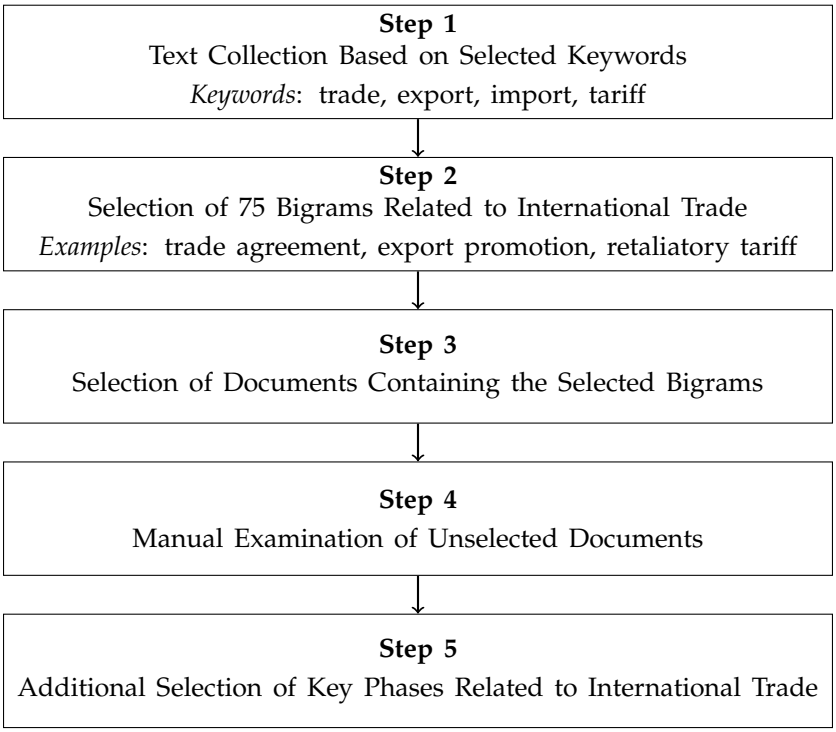


Table C.1: Top 50 Bigrams Associated with Selected Keywords

Trade	Export	Import	Tariff
trade agreement	**us export**	import from	tariff on
trade commiss	**export promot**	on import	**retaliatori tariff**
intern trade	**export market**	**chines import**	**miscellan tariff**
free trade	export council	import oil	**ethanol tariff**
world trade	**agricultur export**	import of	**mexican tariff**
trade adjust	**export assist**	import into	**import tariff**
unfair trade	**export control**	**import food**	**impos tariff**
trade practic	**dairi export**	**increas import**	these tariff
trade deficit	**export opportun**	**tire import**	**tariff suspens**
fair trade	**export initi**	**subsid import**	**tariff relief**
trade polici	**increas export**	**poultri import**	**invert tariff**
trade center	export to	oil import	**tariff bill**
trade repres	**chines export**	**foreign import**	percent tariff
trade partner	**poultri export**	**import surg**	**elimin tariff**
us trade	**export incent**	import deterr	tariff prefer
trade organ	**export good**	**import ethanol**	**centpergallon tariff**
feder trade	**export subsidi**	**paper import**	**high tariff**
and trade	and export	import water	tariff benefit
proprietari trade	**beef export**	radioact import	**limit tariff**
trade act	**largest export**	import or	**harmon tariff**
trade barrier	**doubl export**	**beef import**	secondari tariff
futur trade	export seminar	import terrorist	smoothawley tariff
frequenc trade	**american export**	**import drywal**	steep tariff
trade law	**nation export**	**octg import**	feedin tariff
trade the	**promot export**	**import duti**	the tariff
our trade	**pork export**	casein import	tariff impos
trade pact	export of	import fossil	tariff rate
trade imbal	presid export	**food import**	to tariff
commerc trade	export and	**tube import**	**tariff schedul**
trade to	**busi export**	**import tariff**	**addit tariff**
trade enforc	**export financ**	**import seafood**	**fabricyarn tariff**
trade deal	export their	import gasolin	tariff would
trade of	our export	current import	**tariff reduct**
pend trade	export cheaper	import 20000	**colombian tariff**
deriv trade	their export	drug import	**suspend tariff**
trade prefer	export the	**import relief**	**unnecessari tariff**
publicli trade	**boost export**	import assault	**korean tariff**
drug trade	**export strategi**	**import good**	**tariff equiti**
trade associ	**state export**	import fdaapprov	includ tariff
trade relationship	**wine export**	**ethanol import**	tariff the
trade remedi	**export enhanc**	safe import	tariff invert
trade agenda	**expand export**	import lowerpr	tariff shrank
trade subcommitte	**subsid export**	import the	**tariff concess**
trade a	export over	**import chines**	**magnesium tariff**
trade system	**export restraint**	to import	**preliminari tariff**
highfrequ trade	**paperboard export**	**import wood**	**gallon tariff**
trade and	**ash export**	**dump import**	**tariff mexico**
global trade	**potato export**	**grape import**	averag tariff
trade mission	arm export	**import quota**	**advalorem tariff**
trade issu	export abroad	ban import	tariff are

Note: The table lists the 50 most frequent bigrams associated with each term (trade, export, import, and tariff). I reviewed the top 50 bigrams from the initial selection of documents, and selected the ones that are closely related to trade. Selected ones are written in bold.

C.2 Supervised Learning Method

I classified the collected press releases using the supervised learning method. I first decided on the number of categories through a systematic reading of randomly selected documents (25% of documents), and manually coded those documents into a set of categories. I then tested five algorithms with the coded documents to compare the performance of each algorithm. The coded documents are partitioned into 10 sets. Each algorithm learns the classification rule from 9 of 10 sets (training sets) and classifies the rest of documents (testing set).

I then assess the performance of each algorithm by comparing the machine coding and the human coding. Table C.2 summarizes the overall algorithm accuracy of five tested algorithms. Precision refers to a proportion of correctly classified documents among the documents that an algorithm classifies as a given category. Recall refers to a proportion of correctly coded documents among the documents within a given category. F-scores produce a weighted average of both precision and recall, which could range from 0 to 1 with a higher value indicating better performance (Jurka et al. 2013). Table C.2 shows that three algorithms (maximum entropy, support vector machine, and general linearized models) outperform the other two (random forests and decision trees).

Table C.2: Overall Algorithm Accuracy

Algorithm	Precision	Recall	F-score
Maximum Entropy	0.77	0.75	0.75
Support Vector Machine	0.80	0.71	0.73
General Linearized Models	0.80	0.65	0.69
Random Forests	0.73	0.49	0.53
Decision Trees	0.49	0.48	0.47

I therefore decided to classify the rest of documents relying on the three mechanisms (maximum entropy, support vector machine, and general linearized models). Table C.3

shows that at least two out of three algorithms agree on the classification for 98 percentage of documents, yet in such casees, recall rate is 0.86. When all three mechanisms make the same prediction, the coverage is down to 0.77 but the recall rate reaches 0.84, which is comparable to human coding. To enhance the accuracy of classification, I follow the machine classification only when the three algorithms agree on the classification. The rest of documents where the three algorithms make a different prediction, I recoded documents manually for the accuracy of classification.

Table C.3: Ensemble Agreement Coverage and Recall

	Coverage	Recall
n>=2	0.98	0.86
n>=3	0.77	0.94

C.3 Document Classification Results

With the supervised learning methods, the documents are classified into seven categories: i) pro-free trade, ii) protectionist, iii) trade adjustment assistance, iv) export assistance, v) trade barriers of foreign countries against the US, vi) other trade-related, and vii) unrelated. Figure C.2 describes the 20 most frequent bigrams in each of category, excluding the unrelated category. Bigrams are listed in the order of their frequency with their size proportional to the frequency as well. The figure shows that press releases in the pro-free trade category frequently use the terms such as "trade agreement," "free trade," "create job," "us export," and "new market," while press releases in the protectionist category frequently use the terms such as "currency manipulation," "buy american", "level playing field," and "trade deficit."

Figure C.2: Most Frequent Bigrams in Each Classified Category

Note: The figure lists the 20 most frequent bigrams in each classified category. The bigger the size of a given bigram in the column, the more frequently it appears in each category.

C.4 Supporting Evidence for Empirical Strategy

My empirical strategy exploits the different electoral cycles of senators, which creates the difference in the degree of voter attention to incumbent representatives. In the states where incumbent senators seek for reelection, media and voter attentions are diverted to senators while representatives receive a relatively lesser degree of attention. In other states where incumbent senators retire or have more time in their electoral cycles, incumbent representatives receive relatively more attention from media and voters.

C.4.1 Senate Electoral Cycle and Voter Attention to Representatives

In order to empirically validate this claim, I analyze the web-searching pattern of individuals in different states using the Google trend data. I collected the weekly index for all senators and representatives who were in the office as of June 2010 in each state.

Specifically, I have an index value for House Representative Don Young, Senator Mark Begich, and Senator Lisa Murkowski from the Google-searching data of individuals living in Alaska. I collected all the weekly index values from July to December 2010 (when the survey was being conducted) for representatives and senators for all the states.[14] With the average value for each legislator as a dependent variable, I estimate the model:

$$\begin{aligned} Y_{ij} &= \alpha + \beta \textit{House Representative}_i \\ &+ \gamma \textit{House Representative * Reelection-Seeking Senator in State}_{ij} + \theta \textit{State}_j + \epsilon_{ij}. \end{aligned}$$

House Representative is coded 1 if i is a member of House and 0 if a senator. *Reelection-Seeking Senator in State* is a binary indicator for whether state j had a senator seeking for reelection in the 2010 mid-term election, and this variable is interacted with *House Representative*. As I include state fixed effects for the model, *Reelection-Seeking Senator in State*$_j$ is not included. The estimation result presented in Table C.4 suggests that representatives receive less attention in general, compared to senators, but this tendency becomes stronger when incumbent senators seek for reelection in a given state.

Table C.4: Googling Senators and House Representatives

	(1)
House Representative	-6.909^{+}
	(3.566)
House Representative * Reelection-Seeking Senator in State	-14.240**
	(5.113)
State FE	Yes
Observations	535

Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

[14] As Google does not provide an absolute value for index, all the values are relative to each other. As only five terms are allowed to be directly compared, I set a reference value for one senator in each state and adjusted the value for other senators and representatives in the same state. The original value ranges from 0 to 100, but the adjusted value ranges from 0 to 238.

C.4.2 Senate Electoral Cycle and District Characteristics

I also examine whether the socio-economic and political characteristics of districts are similar across the two types of states – one type with reelection-seeking senators and another type without such senators. As presented in Table C.5, the two types of states appear to be comparable across a series of pertinent dimensions. High information environment denotes the states without reelection-seeking ssenators, where representatives receive more attention, and low information denotes the states where incumbent senators seek reelection, where voter attention is diverted to senators. As the shares of press releases with pro-free trade and protectionist messages indicate, the communication stategy of representatives appears to be comparable. Districts also appear to be similar in terms of the share of high-skill population, foreign born population, agriculture production, and the overall income level.

Table C.5: Political Information Environment and District Characteristics

	High Information			Low Information		
	mean	sd	count	mean	sd	count
Free Trade Press Releases, %	0.11	0.51	216	0.09	0.43	217
Protectionist Press Releases, %	0.34	1.24	216	0.32	1.03	217
Difference in Free-Trade and Protectionist Measure	-0.23	1.36	216	-0.23	1.11	217
High Skill, %	34.86	6.40	216	35.40	7.80	219
Foreign Born Population, %	10.73	9.69	216	14.27	12.10	219
Agriculture Products, $1B	0.67	1.46	216	0.69	1.18	219
Median Income, Log	10.80	0.25	216	10.85	0.26	219
Unemployment Rate, %	10.07	3.03	216	9.94	2.41	219
Republican Vote Share, %	44.31	23.39	216	40.26	23.36	219
Black Population, %	11.79	14.08	216	12.12	14.95	219
Population over 65, %	13.31	3.11	216	12.57	2.61	219
Observations	435					

Note: High information denotes the states witout reelection-seeking senators where voter attention is focused on representatives; Low information denotes the states with reelection-seeking senators where voter attention is diverted to senators.

C.5 Additional Test

I further explore the effect of elite communications conditional on the presence of reelection-seeking senators by including a three-way interaction term of *High Information*, *Pro-Free Trade*, and *Copartisanship*. The estimation results are presented in Table C.6. The coefficient on the three-way interaction term is consistently negative across the estimated models. While the coefficient is less substantial with respect to individual perception on self/family and the US, the difference in the effect is more clearly demonstrated for individual support for trade reduction as shown in the estimation results of the first two models.

Table C.6: Pro-Trade Messages from Representatives and Public Attitudes toward Trade

	Trade Reduction		Trade on Self		Trade on US	
	(1)	(2)	(3)	(4)	(5)	(6)
Pro-Free Trade by Representative	0.010		0.014*		0.009	
	(0.008)		(0.006)		(0.007)	
Copartisanship w/ Representative	-0.007	-0.003	-0.002	0.000	0.025	0.041+
	(0.023)	(0.027)	(0.020)	(0.024)	(0.022)	(0.025)
Pro-Free Trade * Copartisanship	-0.016	-0.014	-0.021	-0.024	-0.010	-0.009
	(0.016)	(0.019)	(0.013)	(0.016)	(0.014)	(0.015)
High Information * Pro-Free Trade	-0.006		0.001		-0.007	
	(0.012)		(0.011)		(0.011)	
High Information * Copartisanship	-0.000	0.008	-0.021	-0.023	-0.037	-0.043
	(0.032)	(0.037)	(0.026)	(0.031)	(0.027)	(0.030)
High Information * Pro-Free Trade * Copartisan	-0.037	-0.058*	-0.015	-0.027	-0.010	-0.028
	(0.023)	(0.027)	(0.018)	(0.022)	(0.020)	(0.023)
State FE	Yes	No	Yes	No	Yes	No
District FE	No	Yes	No	Yes	No	Yes
Observations	3679	3401	3667	3103	3668	3275

Marginal effects; Robust standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
All models include industry FE and *Controls* (income, gender, race, age, education, martial status, and union membership).