

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

Sung Eun Kim<sup>†</sup>

## Abstract

While the rules of international trade regimes prevent governments from employing protectionist instruments, other less visible means are available to governments seeking to protect domestic industries. This paper 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. I assess the home bias in Chinese news media using an original dataset comprising 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 reveal 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 but rules out the alternative hypothesis that home bias simply reflects the nationalist sentiment of readers. I show that this home bias in news coverage has meaningful impact on actual consumer behavior, combining automobile sales data and information on recall-related web searches.

---

\*I thank Andrew Cheon, Shigeo Hirano, Xian Huang, Florence Larocque, Yotam Margalit, Tamar Mitts, Andrew Nathan, Pablo Pinto, Johannes Urpelainen, Joonseok Yang, and Boliang Zhu as well as workshop or conference participants at presentations at APSA, Columbia Political Economy Breakfast, the Penn Symposium on Contemporary China, and MPSA for useful comments and suggestions.

<sup>†</sup>Ph.D. candidate, Department of Political Science, Columbia University. E-mail: [sk3400@columbia.edu](mailto:sk3400@columbia.edu)

# 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.

This paper argues 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.<sup>1</sup>

Testing this claim, however, raises an empirical challenge. Recent developments in automated text analysis substantially reduce the costs of analyzing large collections of texts,

---

<sup>1</sup>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 .

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 argument 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 gov-

ernment 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.<sup>2</sup> 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 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 paper 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 paper expands the discussion of non-tariff barriers by illuminating an indirect protectionist mechanism through which the governments affect the flow 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 paper, 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 rela-

---

<sup>2</sup>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.

tions, 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 paper 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.

## 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.

### 2.1 The Argument: Manipulation of 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 subsidies. 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.

## **2.2 Alternative Explanation: Nationalist Sentiments of Newspaper Readers**

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).<sup>3</sup> According

---

<sup>3</sup>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 reflect

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.

### **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 focuses on reader discontent toward foreign companies. To distinguish between these two explanations,

---

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.

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.

### **3 Empirical Strategy**

#### **3.1 Empirical Scope of Analysis: 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.

### 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.<sup>4</sup> 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 omissions: 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.

---

<sup>4</sup>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).

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.

### 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.<sup>5</sup> 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

---

<sup>5</sup> I choose this time period due to the data availability. Recall announcements in China are available at [www.qiche365.org.cn](http://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.

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.<sup>6</sup>

Table 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 paper is news coverage of auto recalls by Chinese newspapers. I examine news coverage by 121 daily general-interest 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

---

<sup>6</sup>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: Summary Statistics of Recalls Announced in China

	Domestic Cars		Joint Venture Cars		Foreign Cars	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b>Recall Size</b>						
Affected Cars	25,470	49,194	87,794	182,782	6,599	25,465
<b>Recall Type</b>						
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
<b>Observations</b>	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.

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's* 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.<sup>7</sup>

For each newspaper, I collected information on the newspaper's ownership to identify the degree to which it is party-controlled.<sup>8</sup> 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 con-

<sup>7</sup>The dataset does not cover Hong Kong, Macau, Guizhou Province, the Inner Mongolia Autonomous Region, or the Tibet Autonomous Region.

<sup>8</sup>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.

sumed 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 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 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

Table 2: Summary Statistics of Auto-Recall News Reporting

	<b>Min.</b>	<b>Mean</b>	<b>Max.</b>
<b>Total</b>	0.0%	14.7%	66.1%
<b>By Manufacturer</b>			
Domestic	0.0%	12.2%	58.2%
Joint Venture	0.0%	18.5%	70.4%
Foreign	0.0%	13.7%	67.1%
<b>By Recall Size</b>			
# < 10,000	0.0%	13.1%	64.9%
# > 10,000	0.0%	20.7%	69.4%
<b>By Recall Type</b>			
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.

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.<sup>9</sup> 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.<sup>10</sup> I also acquired data on the annual province-level newspaper advertising revenue variable from the

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

<sup>10</sup>Detailed information about the database is available at <http://www.eiu.com/public/accesschina/marketing.aspx>.

*China Advertising Yearbook* (*Zhongguo guang gao nian jian*) series to account for the overall level of newspaper commercialization in each province.

## 4 Empirical Analysis

### 4.1 Media Bias against Foreign Firms: 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 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:

$$\Pr(Y_{ijkt} = 1) = \Phi(\alpha + \beta_1 \textit{Foreign}_k + \beta_2 \textit{Official}_i + \beta_3 \textit{Official} * \textit{Foreign}_{ik} + \delta \mathbf{Z}_k + \mu_j + \tau_t)$$

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;  $\mu$  is a vector of province fixed effects; and  $\tau$  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.<sup>11</sup>

<sup>11</sup>I also estimate the models separating purely domestic companies from joint-venture companies, as presented in the Appendix.

The main parameter of interest is  $\beta_3$ . 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  $\beta_3$  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 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 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

Table 3: Probit Models Estimating News Coverage Probability of Auto Recalls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign	0.036** (0.013)	0.026+ (0.014)	0.024+ (0.013)		0.035** (0.013)	0.026+ (0.014)	0.024+ (0.013)	
Official	-0.011** (0.004)	-0.029** (0.006)	-0.041** (0.006)					
Official * Foreign		0.031** (0.009)	0.030** (0.009)	0.033** (0.009)				
Central Party Official					0.021* (0.009)	-0.034** (0.012)		
Central Party Official * Foreign						0.103** (0.021)	0.098** (0.020)	0.141** (0.033)
Regional Party Official					-0.017** (0.004)	-0.027** (0.006)	-0.009 (0.006)	
Regional Party Official * Foreign						0.018* (0.009)	0.020* (0.009)	0.020* (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).

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

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.<sup>12</sup> 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 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.

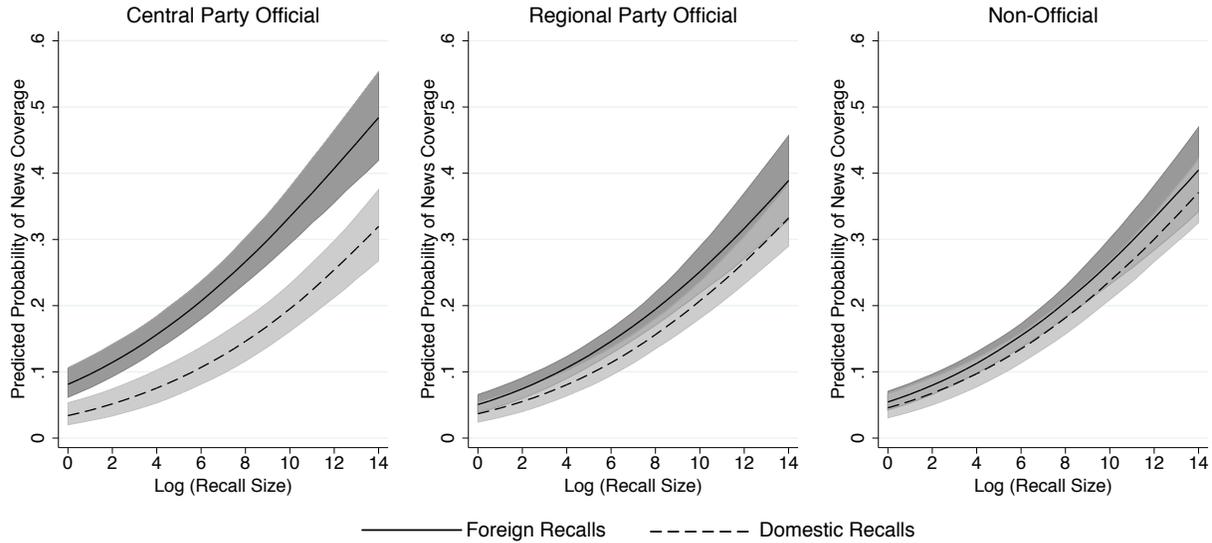
I assess the substantive effects of an automaker being foreign across three types of newspapers. Figure 1 describes the predicted probability that each type of newspaper covers a recall event depending on the recall size and the domestic/foreign classification.<sup>13</sup> As the figure illustrates, 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 domes-

---

<sup>12</sup>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.

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

Figure 1: Predicted Probability of News Coverage of a Recall Event by Newspaper Type



tic 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 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.<sup>14</sup> 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,  $\mu$ , and a vector of half-year fixed effects,  $\tau$ , are also included to account for any newspaper-specific and temporal factors that influence the length of articles.

Table 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 <sup>+</sup> (15.697)	25.328 (15.496)	31.220 <sup>+</sup> (16.159)	16.177 (14.936)	16.237 (14.605)	9.924 (14.926)	5.882 (8.493)	6.952 (8.223)	3.390 (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).

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

<sup>14</sup>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 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.

## **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 paper 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:

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

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.<sup>15</sup> 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 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 fol-

---

<sup>15</sup>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](http://www.bjgzw.gov.cn/QtCommonAction.do?method=xxcx&type=0000006010&flag_qt=6), which includes Beijing Automotive Group.

lowing 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 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 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 gov-

Table 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 <sup>+</sup>	0.029*	
	(0.013)	(0.013)	(0.013)	(0.013)	(0.014)	(0.015)	
Officials with Auto	0.060**	0.036**	-0.003	-0.003	-0.006	-0.004	
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	
Officials without Auto	-0.107**	-0.099**	-0.026**	-0.025*	-0.029**	-0.013	
	(0.005)	(0.008)	(0.010)	(0.010)	(0.011)	(0.014)	
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)	(0.013)
Officials without Auto * Foreign		-0.019	-0.015	-0.014	-0.009	-0.021	-0.009
		(0.014)	(0.013)	(0.013)	(0.015)	(0.017)	(0.016)
Regional GDP, logged				0.142**	0.004	-0.111	-0.110
				(0.051)	(0.068)	(0.088)	(0.093)
Population				-0.000	0.000	-0.030**	-0.016**
				(0.001)	(0.002)	(0.005)	(0.006)
FDI Inflows, % of GDP				0.000	0.003	0.018**	0.014*
				(0.004)	(0.005)	(0.005)	(0.006)
Advertising Revenue in Province, logged					0.003	-0.001	-0.001
					(0.003)	(0.003)	(0.003)
Car Ownership						0.020**	0.014**
						(0.003)	(0.004)
Retail Sales of Automobile, logged						-0.077**	-0.078**
						(0.020)	(0.020)
Passenger Cars Production, logged						-0.012	-0.004
						(0.011)	(0.012)
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	No
Recall FE	No	No	No	No	No	No	Yes
Observations	33455	33455	33455	33455	27575	24313	22704

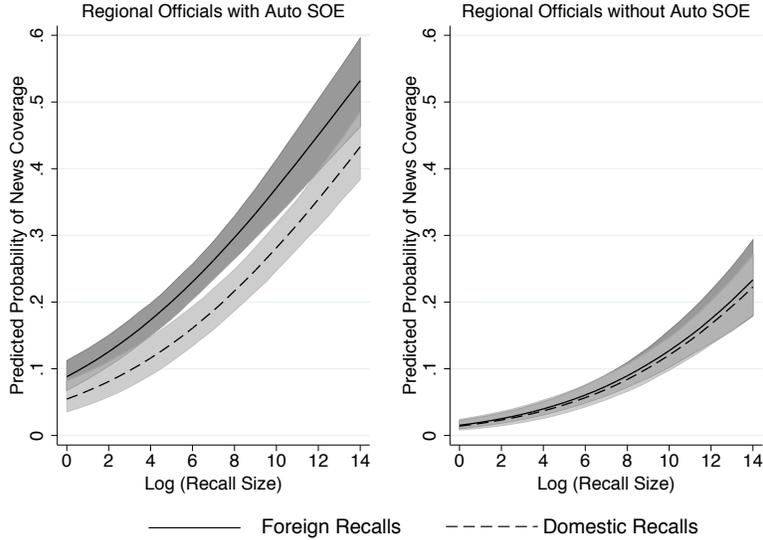
Marginal effects; Standard errors clustered by recalls in parentheses

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).

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

ernments seeking to protect the domestic automotive industry 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.

Figure 2: Predicted Probability to Report the Recall Event by Auto SOE Ownership



In order to better illustrate the result, Figure 2 describes the predicted probability of reporting a foreign versus a domestic recall.<sup>16</sup> 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.

## 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 3 and Model 6 from Table 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

<sup>16</sup>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*.

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.

## **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.

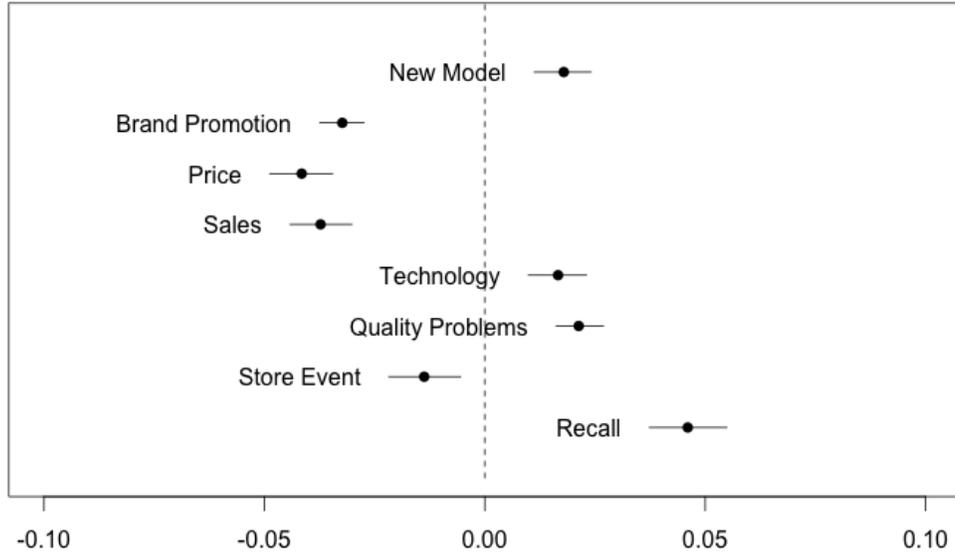
More importantly, official newspaper readers do not differ from non-official newspaper readers in their nationalistic sentiments. According to the 2004 Beijing Area Studies survey data that included detailed questions on media consumption patterns, official newspaper readers on average have higher income 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.

## **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.

To conduct this analysis, I collected newspaper articles that contain the name of an

Figure 3: Difference in Topic Proportions: Domestic (-) vs. Foreign (+)



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 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.

## 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.

### 8.1 Recall-Related Web Searches

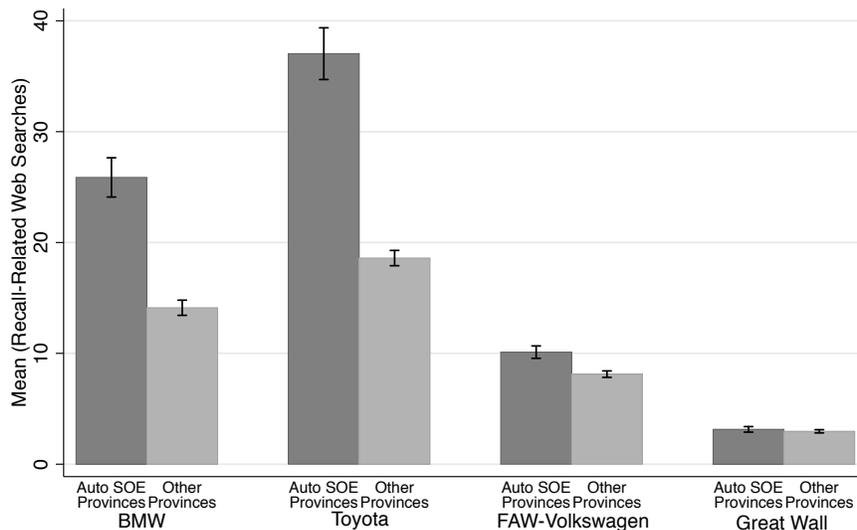
I examine how the biased news reporting pattern is associated with individual awareness of recalls by relying on web query data provided by Baidu, the largest search engine in China with more than 80% of market share. If the media's home bias were to affect consumer behavior, we should first observe 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.<sup>17</sup> I collected this data for recall-related web searches for different automakers (e.g. Great Wall recall, FAW-Volkswagen recall, or BMW recall).

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, particularly in regions where governments own auto SOEs. Figure 4 that compares the average web-search volume for four different automakers across provinces is consistent with this expectation. First, the

---

<sup>17</sup>For more information about the Baidu Index, see [index.baidu.com](http://index.baidu.com).

Figure 4: Recall-Related Web Searches by Automaker and Auto SOE Ownership



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%),<sup>18</sup> this difference cannot be explained by the difference in market share.<sup>19</sup> 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.

## 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 auto-

<sup>18</sup>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*).

<sup>19</sup>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.

mobile 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 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.<sup>20</sup> 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:

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

The dependent variable is the yearly change in sales, measured as the logged number of cars sold or imported for an automaker  $i$ .<sup>21</sup> 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

---

<sup>20</sup>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.

<sup>21</sup>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*).

estimated because I include a vector of firm fixed effects,  $\mu$ , throughout the models. A yearly time trend  $\tau$ , 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 6: Regression Models Estimating Effect of Recalls on Sales: Foreign vs. Domestic

	(1)	(2)	(3)
Number of Recalls (t-1)	-0.002 (0.025)	0.008 (0.025)	0.020 (0.045)
Foreign * Number of Recall (t-1)	-0.127** (0.049)	-0.117* (0.050)	-0.106 (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

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 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 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 analysis 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.

## 9 Conclusion

This paper has demonstrated that newspapers in China, especially those under strict government control, exhibit systematic bias against foreign automakers. The disadvantage 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 paper 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 paper'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 paper 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.

## References

- 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.
- Barboza, David, and Nick Wingfield. 2013. "Pressured by China, Apple Apologizes for Warranty Policies." *New York Times* on April 1, 2013.  
**URL:** [http://www.nytimes.com/2013/04/02/technology/apples-chief-tim-cook-apologizes-to-china-over-warranty-policy.html?\\_r=0](http://www.nytimes.com/2013/04/02/technology/apples-chief-tim-cook-apologizes-to-china-over-warranty-policy.html?_r=0)
- Baron, David P. 2006. "Persistent Media Bias." *Journal of Public Economics* 90 (1): 1–36.
- Besley, Timothy, and Andrea Prat. 2006. "Handcuffs for the Grabbing Hand? Media Capture and Government Accountability." *The American Economic Review* 96 (3): 720–736.
- Burkitt, Laurie. 2011. "Foreign Firms Feel China's Heat." *The Wall Street Journal* on October 19, 2011.  
**URL:** <http://www.wsj.com/articles/SB10001424052970203658804576638943198743366>
- 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.
- 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>.
- 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.

- Friebel, Guido, and Matthias Heinz. 2014. "Media Slant against Foreign Owners: Downsizing." *Journal of Public Economics* 120: 97–106.
- 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.
- Jarrell, Gregg, and Sam Peltzman. 1985. "The Impact of Product Recalls on the Wealth of Sellers." *The Journal of Political Economy* pp. 512–536.
- 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>
- 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.
- Maggi, Giovanni. 1999. "The Role of Multilateral Institutions in International Trade Cooperation." *American Economic Review* 89 (1): 190–214.

- 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 Globalization: International Economic Integration and the Sources of Popular Discontent." *International Studies Quarterly* 56 (3): 484–500.
- 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.
- 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.
- 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.
- 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>
- 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.
- Saikawa, Eri, and Johannes Urpelainen. 2014. "Environmental Standards as a Strategy of International Technology Transfer." *Environmental Science & Policy* 38: 192–206.
- 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.
- Takada, Kazunori, and Samuel Shen. 2013. "China Media Train Fire on U.S. Food Giants over Chicken Scare." Reuters on January 17, 2013.
- Thompson, Samuel B. 2011. "Simple Formulas for Standard Errors that Cluster by Both Firm and Time." *Journal of Financial Economics* 99 (1): 1–10.

# Supplementary Appendix

- A1 Data Description** **APP-2**
  - A1.1 List of Newspapers . . . . . APP-2
  - A1.2 Examples of Newspaper Articles Included in the Analysis . . . . . APP-5
  
- A2 Robustness** **APP-8**
  - A2.1 Auto Prices Control . . . . . APP-9
  - A2.2 Recall Frequency Control . . . . . APP-10
  - A2.3 Regional Exclusions . . . . . APP-11
  - A2.4 Country Exclusions . . . . . APP-12
  - A2.5 Different Clustering . . . . . APP-13
  - A2.6 Different Coding of Official Newspapers . . . . . APP-14
  
- A3 Distinguishing Joint Venture from Domestic Automakers** **APP-15**
  
- A4 Comparison of Newspaper Readership: Official vs. Non-Official** **APP-16**
  
- A5 Estimation of Structural Topic Model** **APP-17**
  - A5.1 Data Collection . . . . . APP-17
  - A5.2 Model Estimation . . . . . APP-17
  - A5.3 Estimation Result . . . . . APP-18

# A1 Data Description

## A1.1 List of Newspapers

Table A1 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 A1: List of Newspapers Included in the Analysis

Newspaper	Classification	Sponsor
<b>Central-Level Newspapers</b>		
<i>People's Daily (Renmin Ribao)</i>	Official	CCP Central
<i>Guangming Daily (Guangming Ribao)</i>	Official	CCP Central Propaganda Department
<i>Economic Daily (Jingji Ribao)</i>	Official	CCP Central Propaganda Department
<i>Legal Daily (Fazhi Ribao)</i>	Official	CCP Political and Law Commission
<i>Xinhua News Agency (Xinhua She)</i>	Official	State News Agency
<i>China Youth Daily (Zhongguo Qingnian Bao)</i>	Official	Central Communist Youth League
<b>Anhui</b>		
<i>Anhui Daily (Anhui Ribao)</i>	Official	CCP Anhui Provincial Party Committee
<i>Hefei Evening News (Hefei Wanbao)</i>	Non-Official	CCP Hefei Municipal Party Committee
<i>Anhui Commercial News (Anhui Shang Bao)</i>	Non-Official	Anhui Daily Press Group
<i>Jianghuai Morning Post (Jianghuai Chenbao)</i>	Non-Official	Hefei Evening News
<b>Beijing</b>		
<i>Beijing Daily (Beijing Ribao)</i>	Official	CCP Beijing Municipal Party Committee
<i>Beijing Youth Daily (Beijing Qingnian Bao)</i>	Official	Communist Youth League (Beijing)
<i>Beijing Times (Jinghua Shibao)</i>	Non-Official	People's Daily
<i>The Beijing News (Xin Jing Bao)</i>	Non-Official	Guangming Daily Press Group
<i>Beijing Evening News (Beijing Wanbao)</i>	Non-Official	Beijing Daily Press Group
<i>Beijing Daily Messenger (Beijing Yule Xin Bao)</i>	Non-Official	Beijing Daily Press Group
<i>Beijing Morning Post (Beijing Chenbao)</i>	Non-Official	Beijing Daily Press Group
<i>The First (Jing Bao)</i>	Non-Official	Beijing Daily Press Group
<i>The Mirror (Fazhi Wanbao)</i>	Non-Official	Beijing Youth Daily
<b>Chongqing</b>		
<i>Chongqing Economic Times (Chongqing Shang Bao)</i>	Non-Official	Chongqing News Center
<i>Chongqing Evening News (Chongqing Wanbao)</i>	Non-Official	Chongqing Daily Press Group
<i>Chongqing Morning Post (Chongqing Chenbao)</i>	Non-Official	Chongqing Daily Press Group
<b>Fujian</b>		
<i>Fujian Daily (Fujian Ribao)</i>	Official	CCP Fujian Provincial Party Committee
<i>Strait News (Haixia Dushi Bao)</i>	Non-Official	Fujian Daily Press Group
<b>Gansu</b>		
<i>Lanzhou Daily (Lanzhou Ribao)</i>	Official	CCP Lanzhou Municipal Party Committee
<i>Gan Su Daily (Gansu Ribao)</i>	Official	CCP Gansu Provincial Party Committee
<i>Lanzhou Morning Post (Lanzhou Chenbao)</i>	Non-Official	Gansu Daily Press Group
<i>Xi Bu Business (Xibu Shang Bao)</i>	Non-Official	Gansu Daily Press Group
<i>Lanzhou Evening News (Lanzhou Wanbao)</i>	Non-Official	Lanzhou Daily
<b>Guangdong</b>		
<i>Shan Tou Daily (Shantou Ribao)</i>	Official	CCP Shan Tou Municipal Party Committee
<i>Shenzhen Special Zone Daily (Shenzhen Tequ Bao)</i>	Official	CCP Shenzhen Municipal Party Committee

Table A1 Continued

<b>Newspaper</b>	<b>Classification</b>	<b>Sponsor</b>
<i>Guangzhou Daily (Guangzhou Ribao)</i>	Official	CCP Guangzhou Municipal Party Committee
<i>Nan Fang Daily (Nanfang Ribao)</i>	Official	CCP Guangdong Provincial Party Committee
<i>Yangcheng Evening News (Yangcheng Wanbao)</i>	Non-Official	CCP Guangdong Provincial Party Committee
<i>Shan Tou Te Qu Evening Post (Shantou Tequ Wanbao)</i>	Non-Official	CCP Shan Tou Municipal Party Committee
<i>Shantou City Daily (Shantou Dushi Bao)</i>	Non-Official	Shangtou SEZ Newspaper
<i>Southern Metropolis Daily (Nanfang Dushi Bao)</i>	Non-Official	Nan Fang Daily Press Group
<i>Daily Sunshine (Jing Bao)</i>	Non-Official	Shenzhen Press Group
<i>Shenzhen Evening News (Shenzhen Wanbao)</i>	Non-Official	Shenzhen Press Group
<i>Shenzhen Economic Daily (Shenzhen Shang Bao)</i>	Non-Official	Shenzhen Press Group
<i>New Express Daily (Xin Kuaibao)</i>	Non-Official	Yangcheng Evening Press Group
<i>Information Times (Xinxi Shibao)</i>	Non-Official	Guangzhou Daily Press Group
<i>Panyu Daily (Panyu Ribao)</i>	Non-Official	Guangzhou Daily Press Group
<i>Baoan Daily (Bao'an Ribao)</i>	Non-Official	Shenzhen Press Group
<i>Securities Times (Zhengquan Shibao)</i>	Non-Official	People's Daily
<i>Private Economy News (Minying Jingji Bao)</i>	Non-Official	Yangcheng Evening Press Group
<b>Guangxi</b>		
<i>Guangxi Daily (Guangxi Ribao)</i>	Official	CCP Guangxi Party Committee
<i>Southern China Morning Post (Nanguo Zaobao)</i>	Non-Official	Guangxi Daily
<i>Modern Life Daily (Dangdai Shenghuo Bao)</i>	Non-Official	Guangxi Daily
<i>Nan Guo Jin Bao (Nanguo Jin Bao)</i>	Non-Official	Guangxi Daily
<b>Hainan</b>		
<i>Hainan Daily (Hainan Ribao)</i>	Official	CCP Hainan Provincial Party Committee
<i>Haikou Evening News (Haikou Wanbao)</i>	Non-Official	CCP Haikou Municipal Party Committee
<b>Hebei</b>		
<i>Shijiazhuang Daily (Shijiazhuang Ribao)</i>	Official	CCP Shijiazhuang Municipal Party Committee
<i>Yanzhao Evening News (Yan Zhao Wanbao)</i>	Non-Official	Shijiazhuang Daily Press Group
<b>Heilongjiang</b>		
<i>Harbin Daily (Ha'erbin Ribao)</i>	Official	CCP Harbin Municipal Party Committee
<i>Modern Evening Times (Xin Wanbao)</i>	Non-Official	Harbin Daily Press Group
<b>Henan</b>		
<i>Henan Daily (Henan Ribao)</i>	Official	CCP Henan Provincial Party Committee
<i>Dahe Daily (Dahe Bao)</i>	Non-Official	Henan Daily Press Group
<i>Henan Business Daily (Henan Shang Bao)</i>	Non-Official	Henan Daily Press Group
<b>Hubei</b>		
<i>Changjiang Daily (Changjiang Ribao)</i>	Official	CCP Wuhan Municipal Party Committee
<i>Hubei Daily (Hubei Ribao)</i>	Official	CCP Hubei Provincial Party Committee
<i>Wuhan Evening News (Wuhan Wanbao)</i>	Non-Official	Changjiang Daily Press Group
<i>Wuhan Morning Post (Wuhan Chenbao)</i>	Non-Official	Changjiang Daily Press Group
<i>Chutian Metropolis Daily (Chu Tian Dushi Bao)</i>	Non-Official	Hubei Daily Press Group
<i>Sanxia Evening News (Sanxia Wanbao)</i>	Non-Official	Hubei Daily Press Group
<i>Chu Tian Golden Newspaper (Chu Tianjin Bao)</i>	Non-Official	Hubei Daily Press Group
<b>Hunan</b>		
<i>Changsha Evening Newspaper (Zhangsha Wanbao)</i>	Non-Official	CCP Changsha Municipal Party Committee
<b>Jiangsu</b>		
<i>Nanjing Daily (Nanjing Ribao)</i>	Official	CCP Nanjing Municipal Party Committee
<i>Wuxi Daily (Wuxi Ribao)</i>	Official	CCP Wuxi Municipal Party Committee
<i>Jinling Evening News (Jinling Wanbao)</i>	Non-Official	Xinhua Daily Press Group
<i>Jiang Nan Evening News (Jiangnan Wanbao)</i>	Non-Official	Wuxi Daily
<i>YangTse Evening News (Yangzi Wanbao)</i>	Non-Official	Xinhua Daily Press Group
<i>Jiang Nan Times (Jiangnan Shibao)</i>	Non-Official	People's Daily
<b>Jiangxi</b>		
<i>Nanchang Daily (Nanchang Ribao)</i>	Official	CCP Nanchang Municipal Party Committee

Table A1 Continued

<b>Newspaper</b>	<b>Classification</b>	<b>Sponsor</b>
<i>Jiangxi Daily (Jiangxi Ribao)</i>	Official	CCP Jiangxi Provincial Party Committee
<i>Information Daily (Xinxi Ribao)</i>	Non-Official	Jiangxi Daily
<i>Jiang Nan City Daily (Jiangnan Dushi Bao)</i>	Non-Official	Jiangxi Daily
<b>Jilin</b>		
<i>Cheng Shi Wan Bao (Chengshi Wanbao)</i>	Non-Official	Jilin Daily Press Group
<b>Liaoning</b>		
<i>Dalian Daily (Dalian Ribao)</i>	Official	CCP Dalian Municipal Party Committee
<i>Shenyang Daily (Chenyang Ribao)</i>	Official	CCP Shenyang Municipal Party Committee
<i>Liaoning Daily (Liaoning Ribao)</i>	Official	CCP Liaoning Provincial Party Committee
<i>Dalian Evening News (Dalian Wanbao)</i>	Non-Official	Dalian Daily Press Group
<i>Peninsula Morning (Bandao Chenbao)</i>	Non-Official	Liaoning Daily Press Group
<i>Liao Shen Evening News (Liao Chen Wanbao)</i>	Non-Official	Liaoning Daily Press Group
<i>Shenyang Evening News (Chenyang Wanbao)</i>	Non-Official	Shenyang Daily Press Group
<b>Ningxia</b>		
<i>Yinchuan Evening News (Yinchuan Wanbao)</i>	Non-Official	CCP Yinchuan Municipal Party Committee
<b>Qinghai</b>		
<i>Qinghai Daily (Qinghai Ribao)</i>	Official	CCP Qinghai Provincial Party Committee
<i>Xining Evening News (Xining Wanbao)</i>	Non-Official	CCP Xining Municipal Party Committee
<i>XiHai DuShi Bao (Xihai Dushi Bao)</i>	Non-Official	Qinghai Daily
<b>Shaanxi</b>		
<i>Xi An Daily (Xi'an Ribao)</i>	Official	CCP Xi'an Municipal Party Committee
<i>Xi'an Evening News (Xi'an Wanbao)</i>	Non-Official	CCP Xi'an Municipal Party Committee
<i>San Qin Du Shi Bao (San Qin Dushi Bao)</i>	Non-Official	Shaanxi Daily
<b>Shandong</b>		
<i>Jinan Daily (Jinan Ribao)</i>	Official	CCP Jinan Municipal Party Committee
<i>Qingdao Daily (Qingdao Ribao)</i>	Official	CCP Qingdao Municipal Party Daily
<i>Dazhong Daily (Dazhong Ribao)</i>	Official	CCP Shandong Provincial Party Committee
<i>QiLu Evening News (Qilu Wanbao)</i>	Non-Official	Dazhong Press Group
<i>Bandao Metropolis (Bandao Dushi Bao)</i>	Non-Official	Dazhong Press Group
<b>Shanghai</b>		
<i>Jiefang Daily (Jiefang Ribao)</i>	Official	CCP Shanghai Municipal Party Committee
<i>Youth Daily (Shanghai Qingnian Bao)</i>	Official	Shanghai Municipal Communist Youth League
<i>Oriental Morning Post (Dongfang Zaobao)</i>	Non-Official	Wenhui Xinmin United Press Group
<i>Shanghai Morning Post (Xinwen Chenbao)</i>	Non-Official	Jiefang Daily Press Group
<i>Shanghai Evening Post (Xinwen Wanbao)</i>	Non-Official	Jiefang Daily Press Group
<i>Wen Hui Daily (Wenhui Bao)</i>	Non-Official	Wenhui Xinmin United Press Group
<i>XinMin Evening News (Xinmin Wanbao)</i>	Non-Official	Wenhui Xinmin United Press Group
<i>News Times (Tiantian Xin Bao)</i>	Non-Official	Wenhui Xinmin United Press Group
<b>Shanxi</b>		
<i>Shanxi Daily (Shanxi Ribao)</i>	Official	CCP Shanxi Provincial Party Committee
<b>Sichuan</b>		
<i>Chengdu Daily (Chengdu Ribao)</i>	Official	CCP Chengdu Municipal Party Committee
<i>Sichuan Daily (Sichuan Ribao)</i>	Official	CCP Sichuan Provincial Party Committee
<i>Chengdu Evening News (Chengdu Wanbao)</i>	Non-Official	Chengdu Daily Press Group
<i>Western China Metropolis Daily (Huaxi Dushi Bao)</i>	Non-Official	Sichuan Daily Press Group
<i>Chengdu Business Daily (Chengdu Shang Bao)</i>	Non-Official	Chengdu Daily Press Group
<b>Tianjin</b>		
<i>Tianjin Daily (Tian Jinribao)</i>	Official	CCP Tianjin Municipal Party Committee
<i>Today Evening Post (Jin Wanbao)</i>	Non-Official	Jinwan Media Group
<i>Morning Post (Mei Ri Xin Bao)</i>	Non-Official	Tianjin Daily Press Group
<b>Yunnan</b>		
<i>Kunming Daily (Kunming Ribao)</i>	Official	CCP Kunming Municipal Party Committee

Table A1 Continued

Newspaper	Classification	Sponsor
<i>Yunnan Daily (Yunnan Ribao)</i>	Official	CCP Yunna Provincial Party Committee
<i>Chunchen Evening News (Chuncheng Wanbao)</i>	Non-Official	Yunnan Daily Press Group
<i>Du Shi Shi Bao (Dushi Shibao)</i>	Non-Official	Kunming Daily
<b>Zhejiang</b>		
<i>Zhejiang Daily (Zhejiang Ribao)</i>	Official	CCP Zhejiang Provincial Party Committee
<i>Qianjiang Evening News (Qian Jiang Wan Bao)</i>	Non-Official	Zhejiang Daily Press Group
<i>Morning Express (Jin Ri Zaobao)</i>	Non-Official	Zhejiang Daily Press Group

## A1.2 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 (东风下月起召回 15 万辆天籁轿车),” *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](http://www.aqsiq.gov.cn) or the hotline of Defective Product Administrative Center 010-59799616.

记者昨天获悉，东风汽车有限公司按照《缺陷汽车产品召回管理规定》的要求，向国家质检总局递交了召回报告，决定从6月12日起，召回2004年7月1日至2008年4月18日期间生产的153065辆天籁轿车。被召回的汽车发动机存在缺陷。本次召回的天籁轿车搭载的VQ发动机空气管材质耐热性能不足，可能导致空气管的接合部在行驶振动中松脱，从而发生怠速不稳或熄火，影响行车安全。东风汽车公司将对召回范围内的车辆免费更换发动机空气管道和卡箍，以消除故障隐患。因备件准备原因，本次召回自6月12日起实施，在此之前如用户车辆出现上述故障现象，可到东风日产专营店先进行车辆免费检修。可登录国家质检总局网站 [www.aqsiq.gov.cn](http://www.aqsiq.gov.cn) 或拨打国家质检总局缺陷产品管理中心的热线电话010-59799616 了解召回详情。

- “Late Recall in China: BMW Made Recall Announcement in China One Month Later than in the US (跨国车企在华召回慢三拍美国发出召回令后宝马事隔近一个月后才知会中国车主),” *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 A117). 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 re-

gions 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.

昨天，记者获悉，宝马（中国）汽车贸易有限公司已向国家质量监督检验检疫总局递交了召回报告，将自 2010 年 8 月 20 日起召回部分 2010 款进口宝马 5 系 GT（535i、550i）轿车，车辆生产日期为 2010 年 1 月 12 日到 2010 年 6 月 30 日。据该公司统计，在中国大陆共涉及车辆 5308 台。

本报讯（文、图记者刘俊）汽车召回也中外有别？在美国率先发出召回公布后的近半个月后（可见本报 7 月 27 日 A117 版报道），中国宝马 5 系的车主终于盼来了宝马公司的一纸召回公告。有车主质疑，跨国车企为何总是先在国外发出召回消息？如果在这个时间差内自己驾驶的汽车因为缺陷出了事故，是否可以找厂家来负责？为此，本报采访了专门从事消费者权益保护的律师。

召回原因和美国一样 昨天，记者获悉，宝马（中国）汽车贸易有限公司已向国家质量监督检验检疫总局递交了召回报告，将在中国大陆共涉及车辆 5308 辆。记者了解到，早在 7 月 21 日宝马就在美国发出了召回 6080 辆 5 系轿车的公布，而且召回原因和昨日在中国公布的如出一辙。宝马召回主要是由于制造原因，车辆燃油箱内油位传感器浮臂可能被通气管卡住，造成浮臂不能随燃油箱内油面一同降低，当燃油耗尽时，仪表盘仍然会错误地显示有一定的燃油余量，可能造成无预警情况下的发动机熄火，熄火后车辆无法重新启动，存在安全隐患。

召回姗姗来迟遭质疑 对于两国时间差，宝马昨日并未解释为何对中国消费者发出的召回令要比在美国市场慢了将近一个月。事实上，宝马慢三拍的做法已经造成了中国车主的忧虑。记者翻查中国汽车召回网的查询记录，早在 7 月 29 日已有车主不满而提出了疑虑。“我是宝马 5 系车主，今天看到宝马在美国召回了 5 系车，为什么没有在中国召回？是不是出口到中国的宝马比出口到美国的质量更好呢？”对于这位车主的质疑，该网的在线专家也只能安慰：“如果涉及中国市场，宝马公司也将会在中国发布召回令。”目前，中国汽车市场已超过美国成为全球第一大车市，对宝马来说中国目前的销量仅次于德国、北美，成为它全球第三大市场，但从昨天召回令发出的效率上还是有点“厚此薄彼”。

律师：没平等披露造成事故算恶意行为

从丰田大规模海外召回事件，再到宝马的这次召回，一直关注消费者权益的大成律师事务所广州分所高级合伙律师陈北元对记者说，当中存在歧视性处理的可能。“在产品出现质量问题后，企业较优先考虑美国的消费者利益，而且情况不只局限在汽车，包括在药品等多种消费领域，这些公司把世界市场划分了很多片区，他们有优先处理的区域。” 按理说中国车市地位不断崛起的这种气势应该让跨国车企更加重视我们的市场，但是实际上，出于国内消费者的保护渠道和信息获取渠道的短板考虑，跨国企业仍有漠视习惯。陈北元说，因为信息披露不及时导致了事故在此期间出现，属于车企恶意造成的行为，因为厂家没有做到平等披露和一视同仁。“商家最大的压力还不是消费者的压力，而是商誉，是对实际销售数字的关注。”他指出，我国对消费者的保护体系还应该更加完善。

## A2 Robustness

In the following subsections, 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. As the tables demonstrate, the main findings remain robust to different specifications.

**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 A2. 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 A3 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 A4, 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 A5 presents the results from excluding from France, Germany, Japan, and the U.S. to the U.K., one by one.

**Different Clustering** Table A6 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 A7, I experiment with different coding of official newspapers by treating semi-official newspapers as official newspapers.

## A2.1 Auto Prices Control

Table A2: Robustness Analysis of Recall Reporting with Auto Prices Control

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

## A2.2 Recall Frequency Control

Table A3: Robustness Analysis of Recall Reporting with Recall Frequency Control

(1)	
Recall Frequency Control	
<i>The Effect of Government Control over Newspapers on Recall Reporting</i>	
Foreign	0.024 <sup>+</sup> (0.013)
Official	-0.030** (0.005)
Official * Foreign	0.012 <sup>+</sup> (0.007)
Observations	35057
<i>The Effect of Central Party Control over Newspapers on Recall Reporting</i>	
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
<i>The Effect of Regional Party Interest in Auto Industry on Recall Reporting</i>	
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

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

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.

## A2.3 Regional Exclusions

Table A4: Robustness Analysis of Recall Reporting with Region Exclusions

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

Marginal effects; Standard errors clustered by recall in parentheses

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

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.

## A2.4 Country Exclusions

Table A5: Robustness Analysis of Recall Reporting with Country Exclusions

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

## A2.5 Different Clustering

Table A6: Robustness Analysis of Recall Reporting with Different Clustering

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

## A2.6 Different Coding of Official Newspapers

Table A7: Robustness Analysis of Recall Reporting with Different Coding of Official Newspapers

(1)	
Different Coding of Official Newspapers	
<i>The Effect of Government Control over Newspapers on Recall Reporting</i>	
Foreign	0.025* (0.013)
Official	-0.012* (0.005)
Official * Foreign	0.027** (0.008)
Observations	35246
<i>The Effect of Central Party Control over Newspapers on Recall Reporting</i>	
Foreign	0.024 <sup>+</sup> (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
<i>The Effect of Regional Party Interest in Auto Industry on Recall Reporting</i>	
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 <sup>+</sup> (0.011)
Officials without Auto * Foreign	-0.025 (0.015)
Observations	24313

Marginal effects; Standard errors clustered by recall in parentheses

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

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.

### A3 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 A8, 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 A8: Distinguishing Joint Venture from Domestic Automakers

	(1)	(2)	(3)	(4)	(5)	(6)
	All Newspapers		Auto SOE Regions		Other Regions	
Foreign	0.057** (0.007)	0.060** (0.007)	0.074** (0.023)	0.082** (0.022)	0.033* (0.015)	0.026+ (0.015)
Joint Venture	0.049** (0.009)	0.058** (0.009)	0.059* (0.026)	0.067** (0.026)	0.030+ (0.018)	0.030+ (0.017)
Official	-0.025** (0.008)	-0.006 (0.008)	-0.004 (0.012)	0.011 (0.011)	-0.028** (0.007)	-0.034** (0.011)
Official * Foreign	0.025** (0.010)	0.021* (0.010)	0.033* (0.013)	0.029* (0.014)	-0.004 (0.010)	0.013 (0.014)
Official * Joint Venture	-0.008 (0.011)	-0.012 (0.011)	-0.002 (0.015)	-0.011 (0.014)	-0.007 (0.011)	0.010 (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.

## A4 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 A9 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 A9: 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

## A5 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.

### A5.1 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 (一汽丰田, *yiqi fengtian*), Shanghai Volkswagen (上海大众, *shanghai dazhong*), or Dongfeng Honda (东风本田, *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 (车, *che*) or the measure word that counts cars (辆, *liang*) to sort out auto-related news articles because some automakers' brand names are not unique proper nouns in Chinese (e.g. Great Wall (长城, *changcheng*), or Hyundai (现代, *xiandai*), which means modern in Chinese).

### A5.2 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 的 (*de*, of) or 是 (*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).

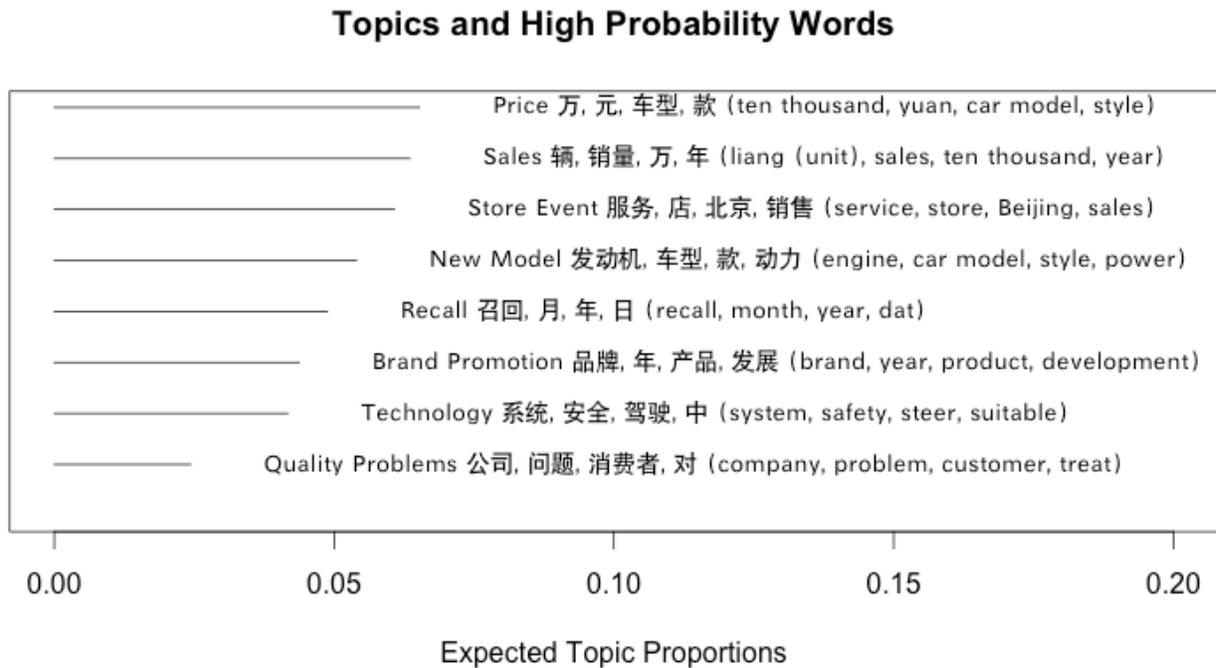
With the constructed DTM, I estimated a range of STM models using a varying number of topics from 10, 15, 20, 25, to 30. I present the estimation results with 25 topics. The models with the lower number of topics do not capture distinct topics, while the model with 30 topics does not provide additional 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.

### A5.3 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 A1 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 A1: Structural Topic Model Results from the Analysis of Automobile-related News Articles



## Supplementary Appendix: References

- 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.
- 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.
- 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.