Seeing the Lexus for the Olive Trees? Public Opinion, Economic Interdependence, and Interstate Conflict

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Abstract

Many scholars argue that economic interdependence and more extensive economic ties between countries decreases the risk of violent conflict between them. However, despite considerable research on the “capitalist peace” at the macro or dyadic level, there has been less attention to its possible individual-level microfoundations or underpinnings. We argue that public perceptions about economic ties with other states and the costs of conflict should influence the expected constraints on the use of force for leaders. Actual high interdependence and potential economic costs may not suffice to create political constraints on the use of force if people are unaware of the degree of interdependence, or fail to understand the benefits of trade and the likely economic costs of disruptive conflict. We examine the linkages between individual perceptions about economic interdependence and their views on conflict and peace through a survey experiment, where we ask respondents in Japan about approval for belligerent actions in a territorial dispute with China, varying information about economic ties. Our findings indicate that greater knowledge and information about economic interdependence affects attitudes about territorial disputes and increases support for peaceful solutions with China.

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The idea of a capitalist peace, where interdependence and open economies have a pacifying
effect on interstate conflicts, has returned to prominence after the Cold War and the growing
interest in the democratic or liberal peace (Friedman 1999; Schneider and Gleditsch 2013). In
this article, we shift from the conventional focus on the aggregate dyadic relationship between
trade and conflict to possible individual microfoundations. We argue that citizens’ perceptions
about economic interdependence and the benefits of trade influence attitudes towards the use
of force and thus the potential political constraints for leaders. We note that most postulated
mechanisms relating interdependence and conflict imply that mass public opinion and percep-
tions of opportunity costs can play an important role in shaping the incentives and constraints of
leaders on the use of force. This in turn means that whether interdependence constrains leaders
from using force depends not just on the actual degree of interdependence or likely opportunity
costs but also on public opinion and how widely economic interdependence is perceived.

We provide a first analysis of how individual perceptions about interdependence and the
benefits of trade affect attitudes on the use of force. We conduct a survey experiment in Japan
about respondents’ support for the government’s hypothetical belligerent action against China
in an ongoing territorial dispute where we vary information about economic interdependence.
Our results indicate that Japanese respondents are less likely to approve of belligerent actions
against China when provided with information on more extensive interdependence and likely
costs. Our study complements dyadic studies of economic interdependence, and highlights
how public perceptions of interdependence are an important and potentially in part independent
factor in understanding how opportunity costs of conflict can constrain the use of force.

Interdependence and Peace through the Lens of Public Opin-
ion

Many studies examine how more extensive and higher valued economic ties between coun-
tries can decrease the risk of militarized interstate conflict (see, e.g., Mansfield and Pollins
2001, 2003; Oneal and Russett 1997; Oneal, Oneal, Maoz and Russett 1996; Rosecrance 1986;
Rummel 1983, 1985; Russett and Oneal 2001). This line of research is of course not with-
out critics; Some question whether interdependence actually moderates conflict, or question the direction of the causal arrow,¹ while others debate the relative importance of interdependence against other liberal factors such as democracy.² Still, most accept the basic finding that economic interdependence and peace tend to go together, even if the specific mechanisms producing the relationship remain more contested.

Most research so far focuses on aggregate interdependence at the state level and its implications for interstate conflict. However, whether the lay public perceives the importance of trade interdependence and prefers peace is in our view essential for the underlying logic of many arguments of the capitalist peace. Most arguments highlight objective opportunity costs, and assume that greater expected economic costs of conflict will translate into political disincentives to use force, since the benefits of trade will be lost in the event of a disruptive conflict (see Anderton, Anderton and Carter 1999; Schneider 2014; Simmons 2002, 2005).

There is little dispute in modern economic theory about the welfare enhancing effects of trade and voluntary exchange (see Copeland 2015, 19). However, this does not mean that the benefits of exchange are obvious and easy to understand. Although Adam Smith (1979/1776) emphasized the value of markets, trade between countries was commonly thought to be beneficial only under absolute advantage until David Ricardo (1911/1817) developed the concept of comparative advantage. In brief, Ricardo showed that trade could increase total welfare, even if one party lacked an absolute advantage for any commodity, as long as the parties specialized according to their comparative advantage on goods they could produce relatively more efficiently.

Research on interstate conflict has traditionally focused on states as unitary actors (highlighting either individual leaders or collectives acting as a unit), and a number of theoretical models formalize the constraining effect on conflict of higher opportunity costs to states under interdependence.³ Theories of constraints through opportunity costs can be extended to

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¹Barbieri (1996) argues that high economic interdependence increases the likelihood of interstate conflicts, although other scholars have criticized her empirical analysis (Gartzke and Li 2003; Xiang, Xu and Keteku 2007). Keshk, Reuveny and Pollins (2010) argue that it is primarily conflict which inhibits trade, and that the remaining effect of dyadic economic interdependence on the likelihood of conflict is negligible. Barbieri, Keshk and Pollins (2009) emphasize the impact of data and auxiliary assumptions on inferences on the relationship between international trade and conflict.

²See, for example, the debate between Gartzke (2007) and Dafoe (2011).

³Some approaches highlighting signaling are skeptical of whether observable opportunity costs by themselves
individuals by highlighting how actors with sufficient vested interests in maintaining trade and avoiding conflict will seek to influence government policy. Opportunity costs that individuals incur should create particularly strong incentives for leaders to avoid violent conflict when they are held accountable through competitive elections, as leaders may lose office if trade disruption from conflicts affects their support base (Baum and Potter 2008; Russett and Oneal 2001). However, the same incentives should also apply for many autocrats with high interdependence, especially if core constituencies stand to lose economically from military conflict (see Weeks 2008).

The standard accountability model simply assumes that high economic opportunity costs under interdependence will translate into political incentives to avoid conflict. There are a number of factors that could undermine this. First, not all actors stand to gain from trade, and those that do not may favor trade disrupting policies. The fact that trade is welfare enhancing in the aggregate does not mean that the gains are equally distributed, or that all people care exclusively about material benefits and welfare relative to other “national interest” concerns. There is a large literature on special interest groups and trade policies that suggest possible political challenges to free trade, although most of this line of research does not focus on the implications for militarized conflict (see Hiscox 2006; Rickard 2012; Scheve and Slaughter 2001).4

Second, some actors may not be sufficiently sensitive to the implied economic costs to be persuaded to oppose conflict. The perceived economic costs of conflicts also needs to be considered relative to the widespread economic illiteracy detected in many empirical studies. Caplan (2007) shows that the lay public often has a weak understanding of even basic economic issues and dramatically different beliefs about the benefits of markets and free trade than professional economists. Most individuals have at best weakly founded positions on trade, and face difficulties in processing complex information. Lay respondents also tend to display a

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4In addition to interest groups, consumers may be opposed to free trade due to other reasons ranging from consumer tastes and skills (Baker 2005), public health and safety concerns (Kono 2006) to sympathy for producers (Naoi and Kume 2011), even if they stand to benefit from cheaper imported goods.
consistent bias against foreigners, and even respondents that claim to be “pro-market” are often skeptical about the alleged benefits of globalization and trade with “other countries.”

In addition to trade, citizens generally have a weak grasp of international affairs and facts. Many Americans believe that more than a quarter of the national budget goes to foreign aid, even though it only accounts for about 1% (Kaiser Family Foundation 2013), and Berinsky (2007) shows that most individuals have a poor factual understanding of even major events such as World War II and the Second Iraq war. There is also some evidence that public ignorance goes together with systematic differences in policy preferences. Dropp, Kertzer and Zeitoff (2014) asked American respondents to locate Ukraine on a map after the 2014 conflict, and found that only about 15% of Americans could locate Ukraine correctly. Moreover, the least knowledgable respondents were also more likely to be in favor of military intervention, possibly as a result of a more limited understanding of the consequences and likely costs.

Economic literacy and ignorance about foreign affairs is not limited to the so-called ignorant masses. Krugman (1995, 10) notes how many ideas completely inconsistent with standard economic theory have become “the conventional wisdom among policymakers, decisionmakers, and influential intellectuals.” In short, actual high interdependence and high potential economic costs may not suffice to bring about constraints on the use of force if people are unaware of the degree of interdependence, or fail to understand comparative advantage or the benefits of international trade and the likely economic costs of disruptive conflict.

Rather than assuming that individuals have fixed or static attitudes and beliefs, we think that it is useful to examine variation in beliefs and information about interdependence. Public opinion will not promote either capitalism or peace if a large share of the population is either unaware of or remains unconvinced of the benefits of trade with other countries. We argue that individuals who perceive (or are told about) greater trade are more likely to become cognizant of potential costs of conflict and thus reluctant to approve of the use of force. Conversely, individuals who either remain unaware of the extent of interdependence, or recognize few benefits from trade, are less likely to consider opportunity costs a persuasive counter-argument against the use of force.

Beyond variation in actual material interests, differences in public opinion could also arise
from information and issue framing. Caplan (2007) highlights how economists are more likely to be in favor of markets and free trade, while Irwin (2009) reports that individuals with more education are more likely to be positive to free trade. The lay public is also susceptible to whether experts present an issue in a positive or negative light. Hiscox (2006) finds that anti-trade framing in a survey questionnaire lowers support for free trade, while endorsement of free trade by economists substantially increases support for trade liberalization (see also Ehrlich and Maestas 2010). Irwin (2009, 26) shows that respondents in polls are more willing to accept increased international trade driven by anonymous forces such as advances in technology, but hesitate to support trade driven by specific policy initiatives such as free trade agreements. Taken together, the literature on public opinion and trade suggests that the political role of interdependence is unlikely to be fully contained by measures of actual interdependence, as many individuals have little information about the true state of interdependence and costs if disrupted through conflict.

We develop specific expectations on how differences in perceptions of economic interdependence affect the willingness to support the use of force. We test these in an experiment with Japanese respondents framed around a territorial dispute with China, where we can manipulate the information respondents receive about trade interdependence and trace the impact of the manipulation on support for belligerent policies. We believe that greater attention to differences in individual attitudes can help shed light on ambiguous findings in existing research and help understand important historical trends. For example, claims that trade does not enhance peace under different degrees of interdependence and more asymmetric interdependence may reflect more differences in individual beliefs (see Barbieri 2002; Bell and Long 2014; Lu and Thies 2010). Variation in the prevailing views on interdependence and peace could also help account for the decline of violence (Pinker 2011), as a better understanding of markets and the benefits of trade may have help lower the willingness to support force. Gat (2009) highlights resource scarcity as the ultimate cause of war over history. However, whether resources are considered “scarce” is not just a function of direct control, but also our ability to find substitutes and expand supply through trade. In particular, we may see a move from traditional mercantilist conceptions of the national interest, highlighting direct resource control and ter-
ritorial conquest, to more liberal conceptions of the national interest, highlighting trade and lower support for the use of force (see also Holsti 2004).

**Propositions**

The capitalist peace proposition holds that higher economic costs of conflict under high trade interdependence should deter conflict between states (Russett and Oneal 2001). However, there are at least three outstanding questions about how this may translate to the individual level. First, are individuals who are aware of trade interdependence between two countries also more likely to oppose military action? Second, are there specific threshold levels of interdependence — both in terms of quantity and quality — that must be reached to constrain the willingness to endorse belligerent actions? Finally, does the negative relationship between interdependence and conflicts depend on self-interest or national-interest? We are unable to consider the third question explicitly here, but focus on the first two and develop propositions about the conditions under which individual perceptions about trade lead to their policy preferences on international disputes and, more specifically, affect the willingness to support the use of force.

As discussed above, one key feature of the capitalist peace argument is economic opportunity costs. We expect that individuals who are aware of a trade relationship between two countries are less willing to use force to solve an international dispute due to anticipated economic costs. By this logic, providing better information about the existence of trade interdependence with another country should decrease support for the government to take belligerent actions against that country. This constitutes our baseline hypothesis:

**H1: Interdependence.** *Individuals who perceive that there is trade with a country are more likely to oppose the government’s aggressive action against the trading partner.*

The baseline hypothesis only relies on the existence of mutual trade between two countries,\(^5\) Mansfield and Mutz (2009) find that individual attitudes towards trade are driven more by individual perceptions of how the national economy is affected by trade rather than by material self-interest.
and does not take into account variation in the magnitude or quality in the sense of what kind of trade countries have. Scholars have argued in favor of different types of dyadic interdependence that could have different consequences for the likelihood of violent conflict, including the degree of symmetry in trade dependence (see Barbieri 1996; Hegre 2004; Lu and Thies 2010; Oneal and Russett 1999, 2001). Bell and Long (2014) argues that interdependence has different impacts depending on the issues at stake. Based on this, we reason that individual respondents may react to differences in the quality and quantity of interdependence. Our following hypotheses test more specific conditions under which individuals react to trade information and formulate their policy preferences.

The first qualification pertains to the degree of interdependence. Lu and Thies (2010) find that we only observe a positive relationship between trade interdependence and peace when trade interdependence is very high. This suggests that providing individuals information of high trade interdependence should be more effective in activating economic cost-benefit considerations and a fear of possible economic loss derived from an international dispute. Thus, we expect that:

**H2: High interdependence.** Individuals who perceive that trade with a country is substantial are more likely to oppose the government’s aggressive action against the trading partner than individuals who perceive trade to be low.

Similarly, it is also possible that what activates individual fears of economic opportunity costs is not just the current levels, but perceptions about trends and whether the implication of conflicts for future gains are higher. Individuals who perceive that economic interdependence is increasing should thus be more likely to perceive higher opportunity costs and oppose military action. Thus, we expect that:

**H3: Increasing interdependence.** Individuals who perceive that trade with a country has increased over time are more likely to oppose the government’s aggressive actions.
The quality, not just quantity of trade, may carry additional weight with individuals. At the macro-level, Dorussen (2006) argues that different commodities have different effects on conflicts (see also Reuveny 2001; Reuveny and Kang 1998). In line with this, we expect that individuals may perceive dependence on a trading partner to be more important if two countries exchange crucial commodities and more likely to oppose aggressive actions as a result. Thus, we propose the following hypothesis:

**H4: Crucial vs. non-crucial trade.** *Individuals who perceive that trade with a country includes crucial commodities to their country are more likely to oppose the government’s aggressive action than individuals who perceive trade to include non-crucial commodities.*

Finally, we examine whether providing asymmetric (as opposed to symmetric) trade information influences support for the government’s belligerent action. Tests of the dyadic capitalist peace hypothesis often distinguish between the least and most dependent partner in a dyad and reason that the least interdependent state will determine the most important constraints on conflict. However, for individual perceptions about opportunity costs, it may suffice that respondents know that they are dependent on a trading partner and will suffer opportunity costs, even if the other states is relatively less trade dependent. Thus, we consider the following hypothesis about asymmetric dependence:

**H5: Asymmetric dependence.** *Individuals who perceive that their country is dependent on trade with another country that is less dependent on the trade relationship are more likely to oppose the government’s aggressive action against the trading partner.*

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6We also examine the opposite situation in which a trading partner is dependent on the country in terms of trade.
Research Design

China and Japan: Economic Interdependence and Territorial Conflict

We believe that a survey experiment in Japan with reference to China provides an ideal case to test differences attitudes towards conflict and individual perceptions about economic interdependence. This allows us to study the impact of providing information about economic interdependence on attitude in a setting where we have both high mutual interdependence and pre-existing territorial conflicts that entail a high risk of escalation to crises and serious military action.

Japan is an advanced capitalist economy, highly dependent on trade with other countries. The volume of Japan-China trade is substantial; however, the diplomatic relationship between the two countries is problematic and strained. The ongoing territorial disputes makes the relationship a classical case of perceived rivalry (Goertz and Diehl 2000; Thompson 1999, 2001). Japan currently controls eight uninhabited islands within an area of about seven square kilometers in the East China Sea. These islands — called Senkaku in Japan, Diaoyu in China, and Tiaoyutai in Taiwan — are also claimed by China and Taiwan. In 2012, the Japanese government purchased and nationalized three of the islands from a private owner, which further aggravated the strained diplomatic relationship between Japan and China.

Focusing on a case with actual conflicts and interdependence provides a realistic setting for a survey experiment. Previous conflict has had clear and tangible economic effects. For example, when the Japanese government announced its intention to nationalize the disputed islands with China in 2012, Chinese consumers responded with a boycott of Japanese products. Bilateral trade decreased by 3.9% in the following year, which was the first drop in trade since the global financial crisis in 2008 (Japan Times, January 11, 2013). We surmise that Caplan (2007)’s finding that respondents tend to be antagonistic to trade with countries perceived as “more foreign” is even more prominent in a situation of ongoing territorial disputes and where many people hold nationalistic views, as is the case in the rivalry between Japan and China. In addition, since China is not a democracy, our study also allows us to examine effects of capitalism or interdependence on individual attitudes towards the use of force against antago-
nists separately from any possible effects of respondents preferring to avoid violence against countries that they see as democratic.

Survey Design

We designed a survey experiment to test our propositions on how information about economic interdependence affects the attitudes of respondents to the use of force, and conducted it with a nationally representative sample of adults in Japan in March 2015. The survey was carried out online, with a random sample of 1,751 respondents recruited through Internet-based sampling methods, by the survey firm Nikkei Research.

Before we explain our research design for the main survey experiment, we first show the result of another survey experiment embedded in the main survey experiment. We conducted this experiment to demonstrate that we examine a hard case, where many respondents in Japan have strong antipathy towards China amid the rivalry and strained diplomatic relationship between the two countries (see Iida, Kohno and Sakaiya 2012). Specifically, in addition to including simple perception questions about Chinese politicians and citizens, to deal with social desirability bias, we adapted a version of Akerlof’s (1970) lemon market experiment, where respondents are asked whether they purchase a PC from a Japanese trading company or Chinese trading company (Yamagishi, Cook and Watabe 1998). The control group respondents are told:

Suppose that there is a foreign company X’s NEW laptop. A Chinese trading company A (based in Japan) sells this exactly same NEW laptop 1,000USD, while a Japanese trading company B sells the same NEW laptop 1,500USD. Import cost is zero and exchange rate will not affect the transaction.

They are then asked “From which company will you buy the new laptop computer? No returns allowed.” By contrast, in the treatment group, we introduced uncertainty and switched the words describing the laptop from “NEW” to “OLD.” If the respondents decide based on simple economic cost/benefit analyses, they should be more likely to purchase a PC from the Chinese company regardless of the groups. Alternatively, if the respondents make a decision

7We controlled for a possible Japanese customer’s attachment to a Japanese product by using “a foreign company X.”
based on trust, those in the treatment group should be more likely to purchase an old PC from the Japanese company, due to the added uncertainty over the reliability of the used PC (i.e., a possible lemon), while those in the control group should be more likely to buy a new PC from the Chinese company without such concerns. However, given the prior high antipathy against China among Japanese respondents, we expect that most will not conduct a standard cost/benefit analyses or consider trust in quality of new versus old, but will purchase a PC from the Japanese company under any scenario.

As can be seen from the results in Table 1, the uncertainty treatment does not change the purchasing behavior of the respondents notably. More specifically, the table shows that over 70% of the respondents under either scenario prefer to buy the Japanese laptop, despite the $500 price surcharge over the Chinese laptop. The difference between the treatment and control groups is very small and not significant at the 1% level. This suggests that Japanese respondents have rather nationalistic or mercantilistic views on commerce with China. Thus, it is likely to be very difficult for information about economic interdependence between Japan and China to induce changes in attitudes about conflict due to opportunity costs in this case.\(^8\) This supports our claim that this constitutes a “hard” case, where it will be more difficult find evidence of information on interdependence changing individual attitudes.

\[\text{[Table 1 about here]}\]

Next, our main survey experiment tests whether providing information about trade interdependence to respondents really reduces support for belligerent action by the Japanese government against China, depending on different trade interdependence scenarios. We exploit the territorial dispute with China (i.e., the Senkaku/Diaoyu islands),\(^9\) and all respondents received a hypothetical scenario about a government decision and asked whether they support or oppose this. More specifically, all respondents were told that “Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” They were then asked “Do you approve of the Japanese government’s decision?” on a 5-point scale: “Strongly

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\(^8\)The antipathy result from the lemon experiment is also consistent with a question we posed to respondents about their feelings towards Chinese people and politicians, using a feeling thermometer from 0 to 100 (with higher values more positive). The average rates for Chinese people and politicians were 27.5 and 17.8 respectively.

\(^9\)Since no Japanese military unit was stationed on the islands at the time of the survey, any military action could be reasonably considered as a belligerent action and an escalation of the conflict.
agree” (5); “Somewhat agree” (4); “Neither” (3); “Somewhat disagree” (2); “Strongly disagree” (1). As the Japanese government mainly uses coastal guards and do not have stationed military forces to patrol the islands, the hypothetical decision should be enough to aggravate the diplomatic and economic relationships between Japan and China.

In each scenario, we also randomly inserted a message about trade interdependence, manipulated the degrees and types of interdependence following the hypotheses above, while the control group received a scenario that did not mention trade between Japan and China. Comparing the respondents’ answers among groups with different levels of trade interdependence should allow us to estimate the effects of perceived economic interdependence on disapproval of belligerent acts in a conflict setting.

Table 2 shows the list of the treatment groups. First, we have the baseline treatment to test H1 (i.e., economic interdependence vs. no economic information, T1). Second, we differentiate the quantity of trade relationships to test H2 (i.e., high interdependence, T2a, and low interdependence, T2b). Third, within the symmetric interdependence framework, we manipulate the trend in interdependence and commodity types to test H3 (i.e., increasing trend, T3a, and constant trend, T3b) and H4 (i.e., crucial commodity trade, T4a, and non-crucial commodity trade, T4b). Finally, we switch between symmetric and asymmetric trade information (i.e., Japanese trade dependence on China, T5a, and Chinese trade dependence on Japan, T5b).

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10 We also asked “On a binary scale of 0 (oppose) and 1 (support), do you approve of the Japanese government’s decision?”

11 Note that we intentionally tried to choose a relatively mild action by the Japanese government as some respondents may worry that too strong action may result in an excessive Chinese counter-reaction (for example, they may see as the worst case scenario a loss of the disputed island after Chinese invasion).

12 The relative importance of specific commodities depends on the availability of substitutes (Ripsman and Blanchard 1996), and intra-industry versus inter-industry can pose different vulnerabilities (Peterson and Thies 2012). Since respondents in this survey may be ignorant on the relative importance of commodities, we deliberately emphasize to the T4a group that one commodity is crucial to produce another commodity. For group T4b, we do not link two commodities from both countries and choose commodities likely to be seen as labor-intensive and cheap, suggesting less important trade ties. The crucial commodities example uses semiconductors from Japan, which are key for the Chinese automobile industry, and aluminum from China key for the Japanese precision industry. For non-crucial commodities, we use paper bags from China and cardboard from Japan.

13 See Appendix B for full translated scripts and Appendix C for a figure of the treatment group summary.
Other Covariates

Since the research design is experimental, the treatment variables should be fully exogenous. However, we are also interested in whether some respondents are more likely to be sensitive to the treatment and change their perception. To consider this, we also collected other covariates, including gender, age, education level, income level, understanding of comparative advantage, and the level of trust towards the Chinese. We also collected information about occupation, since we should expect from the Heckscher-Ohlin theorem that high-skilled workers benefitting from trade interdependence will be more likely to oppose belligerent government actions (see Schneider 2014). We also collected attitudes about protectionism and free trade. Commenting on the famous Corn Laws, Ricardo (1815, 8) noted that “in the case of war, a combination of the continental powers may derive us of their accustomed supply.” Thus, those who believe in protectionism may be more likely to approve the government action despite interdependence. Still, relying on the experimental design, the following analysis does not include the covariates, and conducts a simple t-test to examine a statistical difference between two groups.14

Findings

Table 3 reports a breakdown of approval rates across all the treatment groups by each answer and shows that a majority of respondents (59.4%) supported the government’s aggressive act, that is the decision to station SDF’s destroyers on the Senkaku islands, and only 8.5% of the respondents clearly opposed the decision. This is consistent with the high levels of antipathy towards China demonstrated in the lemon market experiment. More specifically, for the control group in which respondents did not receive any trade information, the mean approval score is 3.84, close to the category “Somewhat agree.” This suggests that without trade information, respondents are, on average, more likely to support the government’s belligerent action.

[Table 3 about here]

14We show in Appendix A that randomization has succeeded in generating balanced across control and treatment groups on relevant demographic indicators such as age, gender, education, income, as well as knowledge level about trade.
However, despite the baseline antipathy towards China, Japanese respondents reacted to the trade interdependence treatment, and the treatment group decreases the score by 0.16. Using a regression analysis with a t-test, Figure 1 indicates that respondents who received information about economic interdependence with China were significantly more reluctant to endorse the government’s belligerent action. This suggests that knowledge about the economic interdependence between Japan and China has a pacifying impact, which is consistent with H1 and in line with a capitalist peace playing out on the individual level.\footnote{The result is similar even when we switch from economic interdependence to neutral economic information – relative to the no information group, those who received any kind of information about trade reduces their support to the government action to station SDF naval escorts (destroyers) on the Senkaku islands.}

We then examine whether the quantity and quality of interdependence makes a difference. We conduct a regression analysis with a separate treatment group to demonstrate the results of t-tests. Figure 2 reports the results for H2, H3, H4, and H5. As the figure suggests, we do not find statistically significant differences for neither the levels of interdependence (H2), interdependence trend (H3), commodity types (H4) or dependence information (H5) on support for the government’s decision. More specifically, Panel (a) reports that the treatment groups who receive information about high and low volumes of trade interdependence are not statistically different ($\hat{\mu}_{T2a} = 3.68, SE_{T2a} = 0.92; \hat{\mu}_{T2b} = 3.66, SE_{T2b} = 1.00$). Panel (b) shows that whether increasing or constant trends in bilateral trade has a similar effect on people’s support for the government’s decision ($\hat{\mu}_{T3a} = 3.73, SE_{T3a} = 0.88; \hat{\mu}_{T3b} = 3.72, SE_{T3b} = 0.95$). Panel (c) presents that two groups who receive information about crucial or non-crucial trade interdependence are not statistically different ($\hat{\mu}_{T4a} = 3.65, SE_{T4a} = 0.94; \hat{\mu}_{T4b} = 3.70, SE_{T4b} = 0.89$). Finally, panel (d) shows that whether a host country depends on a trading partner or vice versa does not make a difference to people’s support for the government’s decision ($\hat{\mu}_{T5a} = 3.75, SE_{T5a} = 0.98; \hat{\mu}_{T5b} = 3.76, SE_{T5b} = 0.88$).\footnote{We do not find significant results even when we use the control group as a reference category to estimate the impacts of the asymmetric trade information.}
These non-findings on more complex variation in interdependence are consistent with the idea that the lay public have limited knowledge of more complex facts and thus tend to use heuristics and information shortcuts (Berinsky 2007; Irwin 2009). The initial finding combined with the initial non-findings jointly suggests that individual perceived opportunity costs of conflict largely stem from interdependence itself, and do not vary clearly by the more detailed conditions outlined in existing research. Some may wonder whether the significant result of the first treatment could be due to a positive framing effect, derived from adding one more sentence to the control group. However, the fact that the other treatments with similar wordings fail to show significant results suggests that the effect comes from something else other than a positive framing effect. Still, we stress that our findings may be partly due to idiosyncrasies of the existing territorial conflict, and such variation could be more relevant in other settings.

Although the observed effect estimates for the more detailed interdependence treatments are very small relative to the effect of the simple interdependence treatment, skeptics may wonder whether the no-findings could be driven by low power to the reject the null, especially because the sample sizes are relatively small. The sample size of the current analyses in Figure 2 is (a) 323, (b) 345, (c) 468, and (d) 351, respectively, whereas the analysis in Figure 1 is based on a sample of 1316. To investigate this, we conducted more formal power analysis to see if the additional analyses had sufficient power to detect an effect of a similar magnitude to that displayed in Figure 1, given the sample size used and the observed standard deviations. This translates into a standardized effect size/Cohen’s $d$ of 0.2, which also corresponds to his suggested lower value for social science or psychological research where the stochastic element may be large (Cohen 1988). Although the power to reject the null at the 0.1 level is much higher for the larger sample considered in Figure 1 (power >0.99), our calculations show that power in the subsequent analyses with the more specialized conditions is consistently above 0.8, which is usually considered adequate. The only exception to this is the sample considered for Panel (a) in Figure 2, where power is 0.798, and thus formally below 0.8 if not rounded to two digits, yet this is still very close to 0.8. Thus, even if the sample sizes are relatively small, it seems

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17More specifically, we would need sample sizes above (a) 57,078, (b) 207,352, (c) 8,290, and (d) 214,512 for the observed differences to be statistical significance at the 10% level.

18The observed standard deviations in our subsample range between 0.85 and $\approx 1$, and our substantive conclusion from these analyses do not change if we use the overall sd for the data or the maximum.
unlikely that lower power due to the sample alone can be said to leave us at high risk of a type II error, or that our conclusions drawn from these analysis are overlooking potentially large substantive effects of the more complex variations in interdependence.

Of course, it may well be the case that the measures used in these experiments are not ideal for detecting these differences, and it would be worthwhile to consider alternatives in future research that may improve on possible weaknesses in our approach that we have failed to appreciate. Another possible explanation for the no-findings is heterogeneity across the groups in the sample, which, if present, could dampen the average treatment effect. It is also possible that unobserved characteristics are not balanced across groups in a way that too would affect the results. Finally, we have the usual problems of external validity and generalizations, especially with regards whether the findings are representative for other populations or rivalry situations. Future replications with other populations or other geographic settings may lead to identify such sources and their potential effects.

**Discussion and Conclusion**

Despite extensive research on interdependence and peace as well as public opinion about economic policy, little research so far has examined how individual perceptions or information about economic interdependence affects attitudes towards conflict and approval for the use of force. We have examined whether an appreciation of higher economic interdependence with a particular state, and hence greater opportunity costs of conflict, makes people more hesitant to endorse belligerent acts against that state. Using a survey experiment in Japan on a hypothetical conflict scenario with China and drawing on an ongoing territorial dispute, we find that individuals when provided information about economic interdependence become less likely to support belligerent acts. This is especially noticeable since we examine attitudes in a realistic climate of widespread antipathy and deteriorating diplomatic relationship between the two states.

Our findings have strong implications for the prospects of a capitalist peace as well as some of its possible limitations. As long ago as 1795, Kant (2010/1795, 27) argued that “[t]he com-
mmercial spirit cannot co-exist with war, and sooner or later it takes possession of every nation. For, of all the forces which lies at the command of a state, the power of money is probably the most reliable.” Although we find that highlighting economic interdependence can decrease support for belligerent action, it is clear from the overall attitudes towards China in our sample of Japanese respondents that support for belligerent action actually can be very high, even in a situation of high interdependence. Hence, the commercial spirit still has some way to go in this case, and we suspect that this will be the case in many other rivalries, even if interdependence is high. Many have argued that globalization and free trade may not be secure if a largely ignorant public is persuaded by protectionists interests (Irwin 2009). High interdependence by itself may not suffice to bring about peace if the public remains ignorant about independence or its benefits, or provides greater representation to protectionist interests. Individual differences in opinions about interdependence are an important variable that needs to be systematically studied in different settings to understand the likely influence on government decisions and foreign policy. Finally, our experiment here disregards the role of institutions, or how responsive decision making is to public opinion in the first place. In particular, a low responsiveness to public opinion in foreign affairs in democracies or in autocratic states in general can obviously reduce the possible pacifying effects of public perceptions of interdependence.

However, there is also room for fundamental optimism. Our study shows that framing and informing people about the benefits of trade and likely costs of conflict can help decrease public support for the use of force, even in a climate dominated by strong hostilities. A more widespread commercial spirit can potentially decrease both contentious issues as well as increase incentives to find peaceful solutions, and promoting economic literacy can in this sense be an important avenue to a more peaceful world. The political incentives for conflict depend in particular on the attitudes of influential individuals, and there is some evidence that these appear to have undergone an important sea change in the present era of globalization, in ways that are likely to have important limiting effects on the use of force, even if much of the general public retain a willingness to support the use of force. Mueller (1999, 101) argues that economics has reached a consensus on some basic essentials ideas, thus leading to Truman’s proverbial call for a “one-handed economist,” and gained increasing recognition as a source
of authoritative advice, with the result that “the random government officials ... consulting the random economist is likely to benefit from the encounter”. In this sense, support for free trade seems better established among politicians and opinion leaders, and their influence can help make free trade much less vulnerable than suggested by some skeptics. Autocracies are also not immune to these influences. In this sense, our study can be seen as suggesting that economic factors and a greater appreciation of the benefits of trade can help transform rivalries and territorial conflict, and that rivalry termination may be possible even in the absence of major political change in autocracies if we see a major transformation of attitudes and public opinion (see Goertz and Diehl 2000, 214).

Although our study benefits from the strengths of a randomized experiment, we need to acknowledge that any single experiment will have limitations. There may be particular issues with the implementation of our study that have influenced our findings, and it would be helpful to have replications of the study in other settings. Moreover, the current study cannot speak to whether the differences that we find here are similar to what we would find among Chinese respondents or “elite” respondents. In our view, the theory of commercial peace suggests that economic literacy and an understanding of trade dependence and opportunity costs of conflict can also be better developed among elites. Here, we stress again that we believe that the test among Japanese respondents constitutes a hard test for identifying the effect of economic interdependence information leading to less support for belligerent actions. Thus, the fact that we find evidence among less sophisticated respondents is even more suggestive – if anything, we would expect to see a stronger pacifying effect by interdependence stimulus among elites. However, this is only a supposition at this point, worthy of further investigation, and we hope our study can inspire research along these lines.
References


### Tables and Figures

Table 1: Lemon Market Experiment results

<table>
<thead>
<tr>
<th></th>
<th>Chinese Company</th>
<th>Japanese Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>New PC</td>
<td>218 (27.7%)</td>
<td>568 (72.3%)</td>
</tr>
<tr>
<td>Old PC</td>
<td>189 (26.9%)</td>
<td>514 (73.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>407 (27.3%)</td>
<td>1,082 (72.7%)</td>
</tr>
</tbody>
</table>

Note: 262 respondents either did not want to answer the question or responded that they did not know.
<table>
<thead>
<tr>
<th>Group</th>
<th>Interdependence</th>
<th>Trend</th>
<th>Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>T1</td>
<td>Interdependence Information</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>T2a</td>
<td>High Interdependence</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>T2b</td>
<td>Low Interdependence</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>T3a</td>
<td>High Interdependence</td>
<td>Increase</td>
<td>NA</td>
</tr>
<tr>
<td>T3b</td>
<td>High Interdependence</td>
<td>Constant</td>
<td>NA</td>
</tr>
<tr>
<td>T4a</td>
<td>High Interdependence</td>
<td>NA</td>
<td>Crucial commodity trade</td>
</tr>
<tr>
<td>T4b</td>
<td>High Interdependence</td>
<td>NA</td>
<td>Non-crucial commodity trade</td>
</tr>
<tr>
<td>T5a</td>
<td>Host’s Dependence</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>T5b</td>
<td>Partner’s Dependence</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
### Table 3: Approval Rate of the Government Action to Send SDF Naval Escorts

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Neither</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency</strong></td>
<td>332</td>
<td>708</td>
<td>478</td>
<td>117</td>
<td>32</td>
<td>84</td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
<td>19.0%</td>
<td>40.4%</td>
<td>27.3%</td>
<td>6.7%</td>
<td>1.8%</td>
<td>4.8%</td>
</tr>
</tbody>
</table>


Figure 1: T-test: Interdependence information vs. No trade information

Note: The dot shows a treatment effect and the bar indicates 90% confidence intervals.
Figure 2: T-tests: Quality and Quantity of Economic Interdependence

(a) High vs. Low Interdependence

(b) Increasing vs. Constant

(c) Crucial vs. Non-crucial

(d) Asymmetric Dependence

Note: The dots show a treatment effect and the bars indicate 90% confidence intervals.
Appendix

A Balancing Test

Table A: Balancing Test

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>T1</th>
<th>T2a</th>
<th>T2b</th>
<th>T3a</th>
<th>T3b</th>
<th>T4a</th>
<th>T4b</th>
<th>T5a</th>
<th>T5b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample size</td>
<td>180</td>
<td>1136</td>
<td>172</td>
<td>151</td>
<td>172</td>
<td>173</td>
<td>313</td>
<td>155</td>
<td>164</td>
<td>187</td>
</tr>
<tr>
<td>Age</td>
<td>45.05</td>
<td>45.45</td>
<td>44.84</td>
<td>46.12</td>
<td>44.79</td>
<td>45.49</td>
<td>45.30</td>
<td>46.42</td>
<td>45.99</td>
<td>44.95</td>
</tr>
<tr>
<td>Male</td>
<td>0.52</td>
<td>0.48</td>
<td>0.51</td>
<td>0.46</td>
<td>0.49</td>
<td>0.48</td>
<td>0.46</td>
<td>0.47</td>
<td>0.49</td>
<td>0.55</td>
</tr>
<tr>
<td>University</td>
<td>0.50</td>
<td>0.55</td>
<td>0.52</td>
<td>0.52</td>
<td>0.59</td>
<td>0.49</td>
<td>0.57</td>
<td>0.60</td>
<td>0.56</td>
<td>0.58</td>
</tr>
<tr>
<td>Income</td>
<td>2.98</td>
<td>2.99</td>
<td>3.06</td>
<td>3.03</td>
<td>2.97</td>
<td>3.10</td>
<td>2.98</td>
<td>2.79</td>
<td>2.79</td>
<td>2.93</td>
</tr>
<tr>
<td>Comparative advantage</td>
<td>2.71</td>
<td>2.73</td>
<td>2.70</td>
<td>2.65</td>
<td>2.79</td>
<td>2.70</td>
<td>2.76</td>
<td>2.72</td>
<td>2.80</td>
<td>2.64</td>
</tr>
<tr>
<td>Interdependence perception</td>
<td>0.58</td>
<td>0.58</td>
<td>0.57</td>
<td>0.64</td>
<td>0.53</td>
<td>0.59</td>
<td>0.58</td>
<td>0.59</td>
<td>0.56</td>
<td>0.59</td>
</tr>
</tbody>
</table>
B Scripts

Control group (C)

“Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”

Interdependence group (T1)

“For Japan, China is a trading partner, and for China, Japan is a trading partner as well. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”

High interdependence group (T2a)

“For Japan, China is the top trading partner, and for China, Japan is the top trading partner as well. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”

Low interdependence group (T2b)

“For Japan, China is the 9th largest trading partner, and for China, Japan is the 9th largest trading partner as well. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”

High interdependence, increasing trend group (T3a)

“For Japan, China is the top trading partner, and for China, Japan is the top trading partner as well. In addition, the trade between Japan and China has dramatically increased since 2008. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do
you approve of the Japanese government’s decision?”

**High interdependence, constant trend group (T3b)**

“For Japan, China is the top trading partner, and for China, Japan is the top trading partner as well. However, the trade between Japan and China has remained stagnant since 2008. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”

**High interdependence, crucial commodity group (T4a)**

“For Japan, China is the top exporter of aluminum that is key for Japanese precision industry, while for China, Japan is the top exporter of semiconductor that is key for Chinese automobile industry. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”

**High interdependence, non-crucial commodity group (T4b)**

“For Japan, China is the top exporter of paper bags, and for China, Japan is the top exporter of cardboard. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”

**Host’s dependence group (T5a)**

“For Japan, China is the 9th largest trading partner, while for China, Japan is the top trading partner. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”

**Partner’s dependence group (T5b)**
“For Japan, China is the top trading partner, while for China, Japan is the 9th largest trading partner. Today, the Japanese government decided to station SDF (self defense forces)’s destroyers on the Senkaku islands.” “Do you approve of the Japanese government’s decision?”
C Illustrated Summary of Treatment Groups

- Economic Treatments or Not
  - Control
  - Economic Treatments
    - Dependence (T5a vs. T5b)
    - Interdependence (T1) (T2a vs. T2b)
    - Trends (T3a vs. T3b)
    - Commodity type (T4a vs. T4b)