Explaining Mass Support for Agricultural Protectionism

Evidence from a Survey Experiment During the Global Recession

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**Abstract:** Why are citizens in advanced industrialized countries willing to accept high prices for agricultural products? Conventional wisdom suggests that agricultural interests secure government protection because producers are concentrated and better politically organized than diffused consumers. Due to its focus on producer capacity for collective action, however, the literature fails to account for the high levels of mass support for agricultural protectionism in advanced industrialized nations. This paper presents new evidence from a survey experiment in Japan conducted during the current global recession (December 2008) that accounts for this puzzle. Using randomly assigned visual stimuli, the experiment activates respondents’ identification with either producer or consumer interests and proceeds to ask attitudinal questions regarding food imports. The results suggest that consumer-priming has no reductive or additive effects on the respondents’ support for liberalizing food imports. Surprisingly, the producer-priming increases respondents’ opposition to food imports, particularly among those who fear future job insecurity. We further disentangle the puzzling finding that consumers think like producers on the issue of food import along two mechanisms: “sympathy” for farmers and “projection” of their own job insecurity. The results lend strong support to the projection hypothesis.

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Introduction

Why are citizens in advanced industrialized nations willing to accept the high price of agricultural products? Despite a massive decline in the number of agricultural workers and active farmland over time, agricultural protectionism is well and alive among developed economies.\(^1\) The OECD estimates that, on average, consumers in advanced industrialized countries spend 10% of their annual consumption on agricultural products to support farmers. In countries such as Switzerland, Norway, Japan and South Korea more than 40% of consumers’ expenditures on domestically produced commodities went to support farmers during the world-wide recession in 2009.\(^2\)

Not only are the actual levels of agricultural protection high among OECD countries, but a series of public opinion surveys, which directly measures individual preferences for regulating food imports, suggests that around half of the citizens seem to be willing to bear this cost even during the current global recession. 43% of U.S. citizens in March 2009 think “it is the wrong thing” that the Obama administration will cut down agricultural subsidies, while 44% of them think “it is the right thing”.\(^3\) 50% of European respondents in the Eurobarometer (fall of 2007) support the status-quo level of tariffs and quota protection for agricultural commodities, while 37% oppose it. 55.6% of Japanese citizens in a nationally-representative survey we conducted in February 2009 think “We should not accept import liberalization of agricultural products in order to protect Japanese agriculture,” while 37.8% think “We should accept import liberalization of agricultural products in order to maintain Japanese manufacturing export.”\(^4\)

Two common explanations for agricultural protectionism are unhelpful in making sense of this puzzle. The first focuses on the collective action capacity of interest groups:

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\(^1\) Davis 2003; Gawande and Hoekman 2006; Park and Jensen 2007.
\(^2\) OECD, 2009. The estimate is a percentage of Consumer Support Estimate (CSE) per total expenditures on domestically produced commodities. CSE is “an indicator of the annual monetary value of gross transfers from consumers of agricultural commodities, measured at the farm gate (first consumer) level, arising from policy measures which support agriculture.” OECD, ibid.
\(^3\) Pew Research Center 2009.
\(^4\) Waseda University Global COE Program (2009). Farmers constitute 3.9% of the total respondents; among farmers, 90% support protectionism.
producers (i.e., farmers) are concentrated and better politically organized than diffused and unorganized consumers. The second focuses on political mobilization by elites: legislators exchange trade protection and subsidies for rural and agricultural votes. Due to their focus on producer power, however, the literature simply makes assumptions about consumers’ preferences for free trade: consumers want free trade, but cannot act on it due to the collective action problem. The two conventional accounts do not help us understand why the public seems to be willing to accept high-priced agricultural products to support farmers.

This paper presents new evidence from a survey experiment in Japan conducted in December 2008 that challenges the assumption of free-trading consumers. The experiment randomly assigns visual stimuli to activate respondents’ identification with either producer or consumer interests and proceeds to ask attitudinal questions regarding food imports. The results suggest that consumer-priming has no systematic effect on respondents’ attitudes toward food import. Surprisingly, the producer-priming increases respondents’ opposition to food import, particularly among those who fear for their own future job security.

We further test two possible mechanisms to explain why thinking about jobs and production activities makes respondents more supportive of agricultural protectionism: “sympathy” for farmers and “projection” of their own job insecurities onto farmers. The results lend strong support to the projection hypothesis: those who fear future job insecurity and loss of income are the ones who become more supportive of agricultural protectionism with the activation of a producer perspective. This emergence of a ‘coalition of losers’ is paradoxical as workers with high job insecurity should be the prime beneficiaries of cheaper food imports.

Our results help us solve the paradox of persisting mass support for agricultural protectionism in the midst of the world-wide recession. They also force scholars to move beyond the dichotomous conceptualization of producer and consumer interests in the

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5 Olson 1965.
political economy literature and pay due attention to why consumers often align with producers to support protectionism even if it burdens them financially. Our finding of a ‘coalition of losers’ which cross-cuts producer and consumer interests pushes forward the long-standing research on coalition politics in the global economy which are mostly about class or sectoral alliance.\(^7\) Our approach echoes recent research by Mansfield and Mutz (2009), which demonstrate that, due to exposure to media and the elite discourse on trade’s effect on the national economy, U.S. citizens form their attitudes toward trade socio-tropically rather than based on individual occupational profiles. Yet we differ from them in two respects: by theorizing how citizens’ perceived similarities and differences with other sectors determine their attitudes toward protecting a declining sector and by paying due attention to consumer interests in the global economy.

Beyond the literature on trade policy preferences and coalitions, the results have broader implications for the study of inequality and redistribution in the global economy, preference formation of mass public over economic policy, and understanding how people form “self-interest” and inferences about others’ needs in a social context.

**Why Experiment? Priming without Framing**

While standard trade literature assumes consumer’s preference for free trade, the emerging research suggests various parameters beyond price sensitivity that make some consumers more protectionist than others: the type of consumption basket,\(^8\) safety and quality concerns,\(^9\) ethical concerns,\(^10\) the love-of-variety,\(^11\) and community and family concerns.\(^12\) The complexity of consumer preferences poses several major issues that have stalled inquiry into how producer and consumer interests shape trade policy. The first is the dual – and often conflicting – perspectives citizens have toward globalization as producers.

\(^7\) Gourevitch 1986; Rogowski 1989; Hiscox 2002.
\(^8\) Baker 2005; 2009.
\(^9\) Vogel 1999; Kono 2006.
\(^12\) Goldstein, Margalit, and Rivers 2009.
versus consumers. Because the majority of citizens engage in both production (i.e., income-earning) and consumption activities, a key question is not whether consumers’ interests matter more than producers’; rather, we need to ask whether citizens’ support for agricultural protectionism differs when they assess their positions in the global economy as producers versus consumers. This question calls for an experimental research design that randomly primes citizens to think about globalization as a producer or as a consumer.

Second, in light of studies that suggest consumers’ preferences are indeterminate and complex, we should not frame respondents to think about the positive or negative consequences of food import when we ask about their attitudes toward it. For instance, Hiscox’s framing experiments gave a different introductory statement to randomly assigned treatment groups: “Many people believe that increasing trade with other nations creates jobs and allows Americans to buy more types of goods at lower prices” or “Many people believe that increasing trade with other nations leads to job losses and exposes American producers to unfair competition.” This framing potentially poses a double-barreled problem as it simultaneously primes respondents to think about trade from consumer vs. producer perspective and frames them to think of trade’s positive or negative distributional consequences. Instead, we need to design an experiment that primes respondents to think about food import from a consumer vs. producer perspective without framing its distributional consequences.

**Research Design and Method**

We conducted an on-line survey experiment in Japan with a sample of 1200 respondents between the ages of 20 and 65 during the first week of December 2008, when media coverage of the world financial crisis and the rise of unemployment among the

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14 Hiscox 2006.
temporary workers was extensive.\textsuperscript{15} Japan is an appropriate case for our research as the public strongly support agricultural protection despite the fact more than 40\% of food expenditures goes to support farmers through agricultural subsidies and the prevalent form of this protection is price support, which directly burdens consumers.\textsuperscript{16} To understand the sources of support for agricultural protectionism, we randomly assigned visual stimulus to three experimental groups. The experiment consists of two groups that receive the treatment (“stimulus”) and another control group without any stimulus (400 respondents each).

The producer-priming group is shown three photographs – a typical white-collar office, a car factory, and rice field. The images were chosen so that they represent three major sectors of the economy (service, manufacturing and agriculture) to activate respondents’ consciousness as producers (or, their occupational interests) [Group 1 Photos here]. The consumer-priming group is shown three photographs – a supermarket with food, a consumer electronics retail store, and a large-scale casual clothing store. These images encompass three areas of basic consumer goods that citizens purchase regularly regardless of their income, gender, family status, and age. These visual stimuli are intended to activate respondents’ consciousness as consumers [Group 2 Photos here]. The control group receives no stimulus. The treated and control groups are balanced in their key demographic characteristics such as age, gender, income and respondents’ self-assessed difficulty finding a comparable job as shown in Table 1.

Using images to prime respondents has two advantages over framing experiments which supply respondents with opinions about how trade affects consumers and producers.\textsuperscript{17} First, priming differs from framing in that the former makes some issues more salient than others and thus influences the standards by which the subject is

\textsuperscript{15} The representativeness of our sample is checked by asking the exact same questions on attitudes toward food import in a nationally-representative GLOPE survey conducted during February of 2009.

\textsuperscript{16} Davis and Oh 2007.

\textsuperscript{17} Hiscox 2006.
evaluated, while framing characterizes issues negatively or positively. This characteristic of priming allows us to manipulate respondents’ “standards” by which food import is judged (i.e., producer vs. consumer) without imposing on them the judgment itself (i.e., food import is good or bad for producers/consumers). This is critical for the purpose of our study as we do not yet know whether activation of a consumer perspective uniformly leads to lower or higher support for agricultural protectionism. Instead, the visual stimuli simply prime respondents to think of themselves as consumers vs. producers. Second, our visual stimuli do not explicitly convey information either about trade or globalization. This is appropriate for the purpose of our study, as not all production and consumption activities are linked, in reality or in citizens’ minds, to trade or globalization. After the treatment, we proceeded to ask attitudinal questions about food import and general trade issues. The survey instruments are described in the results section below.

The potential weakness of priming using visual images is uncertainty about whether these visual images indeed achieve the intended effects – in this context, making respondents think about jobs vs. consumption. In order to ensure that respondents indeed receive the treatment, we embedded the following enforcement questions and direct test of priming effects in designing our survey.

First, we asked a follow-up question immediately after showing each image that drew respondents’ attentions to production versus consumption activities. For example, after showing the picture of car factory, we asked: “What type of car do you think they are producing?” Respondents choose from five options such as a racing car, a hybrid car, or a

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19 Scheufele 2000.
20 Framing by words is not free from this uncertainty either as word such as “agriculture” can provoke different meanings and associations for different respondents.
21 Political methodologists have been advocating for scholars to directly check framing/priming effects (‘manipulation check’) instead of inferring them from the final survey responses. This advocacy began recently (Horiuchi et al. 2007) and the majority of published survey experiment works in political science have continued to indirectly infer from survey responses how framing/priming worked. An exception to this is Dunning and Harrison (2010), which provides a manipulation check that is very similar to our enforcement follow-up questions. This paper is one of the few that embedded both an enforcement check and a direct test of priming in the survey experiment.
regular car. After showing the photograph of supermarket, we asked, “What type of grocery shop do you think this is?” in which respondents choose from five options including a large supermarket, an organic and natural food store, and small mom-and-pop shops. The idea is not to test the facts about these images, but rather to ensure that respondents see these photos and think of them either from the job-related or the consumption-related perspective. More than 70% (for the white-collar office photo) to 96% (for the rice field image) of respondents converged on the same answers to these questions, confirming their reception of the stimuli.

Second, after the treatments and attitudinal questions about food import, we also conducted a direct test of priming effects. We asked respondents to take positions on whether they think mass media tends to side with producers or consumers in their reporting. Respondents answered on a five-point scale: 1. consumers, 2. more or less consumers, 3. can’t say one or the other, 4. more or less producers, and 5. producers. The idea is to measure respondents’ strength of identification with producer or consumer interests by using respondents’ perception about media reporting as an anchor (‘benchmark’). Without this anchoring vignette, the comparability of responses on a conceptual question such as ‘identity’ is in question.\(^\text{22}\) We infer that those with strong identification with producer interests are more likely to think that the media tends to side with consumers (i.e., media should report more from a producer perspective) and those with strong identification with consumer interests are more likely to think that the media tends to side with producers (i.e., media should report more from consumer perspective).

If our priming worked in the way we suggested, we would expect to see (1) producer-priming increases the proportion of respondents who think that the media takes consumers’ side, and consumer-priming increases the proportion of respondents who think that media takes the side of producers compared to the control group,\(^\text{23}\) and (2) the proportion of neutral responses (‘can’t say one or the other’) is higher in the control group.

\(^{22}\) King et al. 2004.
\(^{23}\) We assume that respondents’ predisposition toward media is randomly distributed across three experimental groups. Expectations are strictly regarding how respondents’ perception toward media reporting differs from a control group when they view the treatments.
than the producer or consumer-priming group. Figure 2 summarizes the priming effects among three subgroups of respondents who strengthened their producer identity with the producer treatment.\textsuperscript{24} The three groups turn out to be the respondents with high job insecurity: the low-income group, factory and construction workers, and retail workers.\textsuperscript{25} They constitute 48\% of our sample. It shows that our priming worked in expected directions for all of the three subgroups. Producer-priming increases the respondents’ identification with producers and the substantive impact ranges from an increase of 7.1 percentage points (low-income group) to 19 percentage points (retail workers). Consumer-priming also increases the respondents’ identification with consumers in all three subgroups, and the substantive impact ranges from 2.9 percentage point (retail workers) to 14.1 percentage points (factory & construction workers).\textsuperscript{26} The proportion of neutral responses is substantially higher for the control groups than the treatment groups for all three sub-groups. Thus, the visual images we used have the intended priming effects.

**The Results: Aggregate Effects of Priming**

Figures 1-a and b summarize the distribution of responses for questions on food imports and general trade. The former question is “Food import from foreign countries has been increasing in the past. What is your opinion on this?” and the latter is “Import from foreign countries has been increasing in the past. What is your opinion on this?” Respondents choose answers from a five-point scale (very good, good, can’t say one or the

\textsuperscript{24} The results for the three groups are presented either because (i) the difference-in-means tests show a statistically significant difference between the producer treatment groups and the control groups (factory & construction workers and retail workers), or, (ii) the probit analysis suggests that belonging to a given subgroup significantly strengthens producer identity when viewing the producer treatment (e.g., low income group).

\textsuperscript{25} Subgroup analysis is appropriate as the effect of priming is heterogeneous across subgroups (‘treatment heterogeneity’: Horiuchi \textit{ibid}). Retail workers constitute a hard test because the producer-priming photo does not contain an image of retail workers and the consumer-priming contains three photos of retail stores. These photos of retail stores could potentially provoke retail workers’ identification with producer interests undermining the effect of consumer-priming. Yet retail workers increased their identification with producers when viewing of producer images.

\textsuperscript{26} The results of difference-in-means tests are discussed below Figure 2.
other, bad, and very bad).

For each experimental group, a black bar describes the proportion of protectionist responses (‘bad’ and ‘very bad’), a white bar describes the proportion of neutral responses, and a gray bar describes the proportion of respondents which supports increasing food imports (‘good’ and ‘very good’).

The figure shows that, in all groups, the proportion of protectionist responses roughly doubles for the issue of food import compared to the issue of general trade. This is counter-intuitive in light of the two conventional approaches, one emphasizing individual occupational profiles of respondents and another looking at their ideological predisposition as determinants of trade attitudes. The former would predict a higher proportion of protectionist respondents in the issue of general trade than the issue of food import as the latter only affects the jobs and wages of farmers, which constitute 0.7% of our sample.

The latter would predict that respondents exhibit similar ideological predisposition for the import of goods in general and import of food. Yet, respondents clearly view import of goods in general differently from food imports: more than a half of respondents across the three groups think increasing food import is ‘bad’ or ‘very bad’. Why?

Possible explanations for stronger opposition to food import are protectionist sentiments that consumers might have such as food nationalism, safety and quality concerns, and food security concerns (e.g., food self-sufficiency ratio), which have been all observed in Japanese elite discourse. Yet, these accounts would predict that consumer-priming increases opposition to food import. Contrary to this prediction, Figure 1-a suggests that consumer-priming does not provoke higher or lower levels of opposition to food import than in the control group. On the other hand, producer-priming increases

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Note that this question asks respondents’ opinion about “increasing food import” not about protecting agriculture or farmers. We chose this form of question, instead of ‘trade policy’ questions (e.g., asking respondents’ opinions about subsidies, tariffs, or new limits on import) for three reasons: (i) it does not directly remind respondents about “jobs” (theirs or farmers) or “consumption”, (ii) the wording is less technical than asking about ‘tariffs’ or ‘subsidies,’ and thus is better suited to solicit a gut reaction from the public, and (iii) it parallels the survey instrument we used for the general trade issue which is similar to the one that was used for Pew Global Attitudes Survey and Hiscox (2006).

O’Rourke and Sinnott 2001; Hainmueller and Hiscox 2006.

Vogel 1999; Maclachlan 2001; Goudo 2006.
opposition to food import by nine percentage points compared to the control group and the difference is statistically significant at the 5% level.\textsuperscript{30}

This leads to two questions. First, why does the activation of a producer perspective lead to higher support for agricultural protectionism? Second, why do citizens think of agricultural trade differently from general trade? These questions force us to think beyond how individuals perceive their own interests, and pay due attention to how they perceive interests of ‘others’. Because our question concerns an uncompetitive sector in the economy, studies on mass support for income redistribution provide a useful starting point.

**Disentangling the Puzzle “Consumers think like Producers”**

We disentangle this puzzle along two possibilities suggested by experimental studies on mass support for income redistribution: sympathy in the public for “poor” and “hardworking” people (in our case, farmers), and the public’s projection of their own job insecurity onto a symbolic declining industry (i.e., agriculture). Both mechanisms force us to move beyond occupational theories of trade policy preferences, based on Stolper-Samuelson and Ricardo-Viner models, which derive individual policy preferences from their occupations’ relative positions in the international economy. Instead, we should consider how individuals perceive other occupations or sectors (i.e., agriculture) when forming their own attitudes toward trade.\textsuperscript{31} To do so, we analyze which subgroups of respondents are sensitive to producer- and consumer-priming and identify the direction of their attitudinal differences among the three experimental groups.

**Sympathy**

One possible explanation for the puzzle is that producer-priming provokes

\textsuperscript{30} Difference-in-means test suggest that the nine percentage point difference (0.09) has standard error of 0.035 and is statistically significant at $PR(|T|>|t|)=0.011$.

\textsuperscript{31} An alternative explanation is food nationalism. We tested the effect of respondents’ levels of exposure to protectionist discourse on food nationalism, safety and quality concerns, and food security and found no effects. See pages 17-18.
agricultural protectionism due to the sympathy that consumers have for farmers: the dominant occupational image of farmers is that they work hard for low pay in a declining industry. Indeed, despite the fact that the household income of farmers has exceeded that of the average employee since 1975, sociologists have found that farmers’ “occupational prestige scores,” in which citizens have ranked the socio-economic prestige of more than 80 occupations since 1955, have been extremely stable and low throughout 1990s. Citizens might perceive agricultural protectionism as a redistributive policy.

Experimental studies also lend support to this intuition by showing that the level of respondents’ income is only a partial predictor of attitudes. Survey experiments suggest that public support for redistribution increases when they sympathize with the recipients and feel that they “deserve” it due to bad luck and despite of hard work. Lu, Scheve and Slaughter also demonstrate that altruism accounts for why low-skill and labor-intensive industries, such as agriculture, receive high levels of protection across countries with different factor endowments such as the United States and China.

In order to identify whether sympathy is a source of support for protectionism, we asked the respondents to choose three words each that characterize their images and feelings toward producers and consumers before respondents received the visual stimuli. Among twenty word choices, the top-four producer images chosen were “responsibility” (48.3%), “sweat” (48.1%), “rural” (43%), and “factories” (36.7%). On the other hand, the

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33 Naoi 1979; Hara 1999. The occupational prestige score for farmers (jisakunou) is 51, 43, 45, 46 for years 1955, 1965, 1975, and 1995 respectively. These scores are comparable to taxi drivers, workers at train stations (ekiin), and hair stylists (riyoushi) but much lower than white-collar employees.
34 Kabashima 1984; Calder 1988.
36 Lu, Scheve and Slaughter 2010.
37 The question is: “We call those who produce manufactured and agricultural products as well as those who provide service to customers ‘producers’ (seisansha), and call those who purchase these goods and consume ‘consumers’ (shohisha). Among the 20 words below, please each choose three images or feelings you have about producers and consumers: trust (shinrai), suspicion (utagai), urban (tokai), rural (inaka), money (okane), leisure (goraku), responsibility (sekinin), information (jouhou), weekdays (heijitsu), off days (kyujitsu), sweat (ase), factories (koujou), government (seifu), citizens (shimin), progressive (kakushin), conservative (hoshu), men (dansei), women (josei).”
top-four consumer images are “money” (57.9%), “citizens” (46.0%), “information” (28.6%) and “urban” (27.7%). We construct a variable Sweat which takes a value of one if a respondent chooses “sweat” as one of the three producer images and zero otherwise.38

The second variable is the respondents’ attitudes toward redistribution. We construct a variable Redistribution which takes a value of one if a respondent answers “agree” or “somewhat agree” to the following question: “What is your opinion about a policy to enhance the redistribution of wealth from the rich to the poor using taxation and the social insurance system?” Farm-to-Table is equal to one when respondents have used a “farm-to-table” service to buy food directly from farmers in the past year, and zero otherwise. We also test a popularly believed argument that consumers support agricultural protectionism because their family members are engaged in farming. Social Network takes a value of one if a respondent has a family member or relatives who engage in farming, including part-time farming, and zero otherwise.39

Projection

The second hypothesis we test is that citizens might support agricultural protectionism because they project their own job insecurities onto a symbolic declining industry, agriculture. Projection is a concept developed in social psychology to understand how people make inferences about ‘others’ using their own mental states as a benchmark.40 Ames (2004 a, b) develops “projection” and “stereotypes” as two strategies people use to infer what others want. With lab experiments, he demonstrates that when the perceived similarity between self (i.e., a perceiver) and others (i.e., a target) is high, respondents are more likely to use projection as a tool to infer others’ preferences. On the other hand, when the perceived similarity between self and others is low, respondents are more likely to use stereotypes as a mechanism of inference.

In the context of our research, this means that when the level of respondents’

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38 The word “sweat” symbolizes hard, physical work in Japanese. Alternatively, we also include an interaction term between “sweat” and “rural”. The results do not change.
39 37.4% of our respondents have family or relatives who engage in part-time or full-time farming.
40 Freud 1936; Ames 2004 a, b.
perceived similarity with farmers is high, respondents are more likely to project their own mental states (i.e., need for more government assistance) onto what farmers want regarding food import (i.e., protectionism). Based on conventional occupational images of farmers found in existing social surveys, we derive three potential similarities that respondents might perceive with agricultural workers: declining industry, high job insecurity (i.e., difficulty finding a comparable job), and older age.\textsuperscript{41} We expect to see respondents with high job insecurity or perceived risk of income loss in the future show higher support for agricultural protectionism with viewing of the producer treatment.

To test the projection hypothesis, we construct \textit{Difficulty Finding a Job} which takes a value of one if respondents choose “difficult” or “very difficult” to the following question and zero otherwise: “If you were to quit your current job, do you believe it would be difficult to find a similar job that pays a comparable salary?” Likewise, older respondents face a higher risk of income loss due to approaching retirement or increasing difficulty in finding their next job. Also, the average age of agricultural workers in Japan is 57.6 for all the farmers and 64.6 for farmers whose main source of income is farming.\textsuperscript{42} \textit{Age Over 50} takes a value of one if a respondent’s biological age is over 50 year old and zero otherwise. We trichotomize job status as three dummy variables to \textit{Fully Employed} for full-time employees, \textit{Temp} for part-time and temporary employees, and \textit{No Jobs} for the unemployed and those not in the labor force.\textsuperscript{43} We expect \textit{Temp} to increase opposition to food imports when they view the producer treatment.

\textit{Introducing Sub-Group Heterogeneity}

We conduct two sets of analysis. The first is subgroup analyses, in which (1) we

\textsuperscript{41} Hara 1999. In projection research, these perceived similarities are usually recorded before asking respondents to infer the targets’ positions. We did not do this, however, due to our concern that the similarity questions could risk priming respondents to think about farmers.


\textsuperscript{43} Ideally, we would want to differentiate unemployed respondents who are looking for jobs and those how are not in labor force ‘by choice’ (housewives and retirees). This was impossible due to the survey company bundling unemployed and retirees together as one category (7.2% of our total sample). We addressed this problem by controlling for housewives and age.
compare the proportion of protectionist responses across three experimental groups for a given subset of respondents and (2) conduct difference-in-means tests between the treatment and the control groups. If all the key co-variables are categorical and balanced across the three experimental groups, the subgroup analysis should suffice to test our hypotheses. To supplement the subgroup analysis, the second set of analysis pools all the data across the treatment and control groups and estimates the treatment effects by interacting the treatment group dummy for each experiment group (0-1) with co-variables for the two hypotheses (sympathy and projection).\textsuperscript{44} The model, estimated by ordered and binomial probit, has the following structure where Producer Treatment ($PT$) is a dummy variable one for producer-priming and zero otherwise and Consumer Treatment ($CT$) is a dummy variable one for consumer-priming and zero otherwise:

\begin{align*}
\text{Support for Agr Protectionism}_i &= \beta_0 + \beta_1 PT_i + \beta_2 CT_i + \beta_3 \text{Sympathy}_i + \beta_4 (PT_i \ast \text{Sympathy}_i) + \beta_5 (CT_i \ast \text{Sympathy}_i) + \beta_6 \text{Projection}_i + \beta_7 (PT_i \ast \text{Projection}_i) + \beta_8 (CT_i \ast \text{Projection}_i) + \text{Controls}_i
\end{align*}

Table 2 summarizes descriptive statistics for variables used in our analysis and the appendix discusses control variables included in the probit analyses.

**Results (2): Sympathy and Projection**

Figure 3 shows the results of the sub-group analysis. Overall, the results lend strong support to the projection hypothesis and weak support for the sympathy hypothesis. Among respondents who report that finding a comparable job is “difficult” or “very difficult,” the producer-priming increases their support for agricultural protectionism by 14.4 percentage points from 49.8% in the control group to 64.2%. Disaggregating further,

\textsuperscript{44} All the covariates, except for “Protectionist_info” are individual attributes that cannot be changed due to the priming. The priming might affect responses through changing the intermediate variable (“mediation effects”, see Imai et al. 2010) such as “Protectionist_info.” The distribution of responses to “Protectionist_info” does not differ, however, across the treatment and control groups. The mediation effects appear marginal.
sub-groups of respondents with high job insecurity during the current crisis, such as temporary workers and respondents over the age of 50, become more protectionist when they view the producer treatment. The magnitude of this effect is substantial, a 17.6 percentage point increase for temporary workers and a 12.1 percentage point increase for respondents whose age is over 50. These differences from the control groups are statistically significant at the 5% level as shown below Figure 3.

The power of producer-priming in mobilizing a protectionist coalition of losers is also evident when comparing the benchmark levels of protectionism observed in control groups. Perhaps due to price sensitivity, respondents with high job insecurity show a lower level of support for protectionism (49.8%) than those with low job insecurity (58.6%). Yet, this pattern reverses when they view the producer treatment: respondents with high job insecurity become more protectionist (64.2%) than those with low job insecurity (50.9%).

On the other hand, the sympathy hypothesis finds only partial support. Respondents with family or relatives engaging in farming show a 15.5 percentage point higher support for agricultural protectionism with viewing of the producer treatment and this difference is significant at the 1% level. However, neither producer nor consumer treatment affected other sub-groups of respondents for the sympathy hypothesis, such as Sweat, Farm-to-Table, and Redistribution.

Table 3 summarizes the results of an ordered probit and binomial probit analysis. A positive coefficient on an interaction variable indicates that with producer or consumer priming, a given subgroup’s support for agricultural protectionism increases. Negative coefficients indicate that, again, interacting with the producer or consumer priming, a given subgroup’s support for protectionism decreases. Model 1 only estimates the effect of treatments on aggregate level of support for protectionism and Models 2 to 5 introduce subgroup heterogeneity to test the two hypotheses.

The results again lend support to the projection hypothesis and weak support for the sympathy hypothesis. Respondents with high job insecurity (Difficulty Finding a Job)

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45 This 13.3 percentage point difference between high and low job insecurity respondents within the producer-priming group is statistically significant at Pr(|T| > |t|) = 0.057.
and temporary workers (Temp) become more protectionist (i.e., higher opposition to food import) when they view the producer-priming treatment. This result is robust across the four models (Models 2 to 5). Only in Mode 5 with dichotomized support for protectionism (0-1), with producer-priming, do respondents with a family member or relatives engaging in farming (Social Network) show higher support for agricultural protectionism than a control group. In summary, consumers with high job insecurity paradoxically align with farmers to support the high price of agricultural products even though such consumers should be the prime beneficiaries of cheaper food imports.

Control variables find very weak support for Stolper-Samuelson or Ricardo-Viner trade theorems. Income (Low and High Income) has no systematic effects on respondents’ attitudes toward food import.\textsuperscript{46} College degrees turn out to have no systematic effects. Respondents whose company or sector of employment does not export, import, or outsource production abroad, are more protectionist. Those who are not employed (No Jobs) have lower support for protectionism, which is consistent with our expectation that respondents who think primarily as consumers prefer lower prices.

On the other hand, respondents with children are more supportive of food import. This is probably driven by the price sensitivity. Married respondents are more protectionist, controlling for income and whether they have children or not. The finding is consistent with Goldstein, Margalit and Rivers who argue that married respondents are more protectionist.\textsuperscript{47} Co-op members are more protectionist. This finding suggests that ‘coalition of losers’ between consumers and farmers that we found at individual level might also exist at the level of organized interest groups.

The political mobilization argument also finds little support. LDP supporters are no more protectionist than other party supporters. This is contrary to the conventional wisdom that the LDP is pro-farmer, but the finding is in fact consistent with the results of

\begin{quote}
\textsuperscript{46} Respondents with the bottom 30\% of income are no more supportive of agricultural protectionism than a middle-income group. This is due to heterogeneous nature of ‘low income’ citizens, which include both respondents with low (part-time workers whose spouses are the main income earners) and high job insecurity (temporary factory workers). Controlling for job insecurity, low income turns out to have no effect, which is consistent with our projection hypothesis.
\textsuperscript{47} They attribute this to married respondents’ attitudes toward risk.
\end{quote}
our Lower-House legislator survey that LDP politicians are more pro-globalization and pro-food import than the Democratic Party of Japan’s politicians. Respondents’ level of exposure to elites’ protectionist discourse (Protectionist_Info) and their political activeness (Politically Active) turn out to have no systematic effects, either.

**Conclusion**

Persistent and high public support for agricultural protectionism in developed economies poses a puzzle for the occupational and ideological approaches to studying trade policy preferences. We have argued that these approaches fall short because they do not consider how citizens form preferences over trade policy for other sectors in the economy. What complicates this endeavor further is a duality of interests that citizens have as producers and consumers. These neglects warrant further study, since trade policy is a powerful tool by which governments redistribute wealth between citizens with diverse occupational and consumption profiles. This paper has sought to push this important research agenda forward in three ways.

First, observational studies face a challenge in identifying whether citizens form their opinions about protecting other economic sectors from the point of view of producers or consumers. With a randomized priming-without-framing survey experiment, we were able to disentangle occupational and consumption-related sources of individual attitudes toward food import. Our projection finding forces us to reconsider standard theories of trade policy preferences which are based on individuals’ occupational interests in the international economy.

Second, our projection finding may serve as an important step toward understanding how a coalition of diverse interests emerges in the politics of globalization and redistribution - a missing link between individual preferences and coalitional politics in IPE. The mechanism of projection gives rise to a new coalition of losers between

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48 “Min-Sha seisaku shikou ni chigai,” *Yomiuri Shimbun*, December 15, 2009. In another work, we show that DPJ supporters become more protectionist than the LDP supporters with viewing of the producer treatment. See Naoi and Kume 2011.
producers and consumers that sustains protection for uncompetitive sectors. This finding will advance the long-standing research on coalition politics in the global economy which mostly predicts class or sectoral alliances such as “the marriage of iron and rye” during Bismarck Germany (1871-1914) where the government protected both landowners and capitalists at the expense of workers (consumers) by politically sustaining the high price of grains.\footnote{Rogowski 1989.}

Third, we have demonstrated that citizen’ attitudes toward globalization and trade can differ dramatically depending on which aspect of their lives (work vs. home and social lives) is activated from their multifaceted and often conflicting attributes. Like other studies on the role of framing and information in public opinion formation, this finding implies the importance of elites in mobilizing the public. Yet our finding suggests that even subtle manipulation to draw citizens’ attention to one aspect of their lives can substantially change the landscape of coalitions in the global economy.

A promising line of future research, thus, is to investigate how elites – legislators, bureaucrats, and media –seek to activate the job vs. consumption-related interests of voters and which groups of voters are susceptible to such elite priming. The general election of 2009 in Japan might provide an opportunity to explore this question as the major opposition party, the Democratic Party of Japan, has extensively campaigned to appeal to consumers and improving their quality of lives (“seikatsu” and “kurashi”) and won a landslide victory over the long-standing governing party LDP, which has focused its campaigns on “creating jobs.”

Another promising line of research is to explore the external validity of our projection finding by bringing this experiment to racially and ethnically diverse societies such as the U.S. or India. Along the line of observational studies on racial diversity and income redistribution in U.S. cities by Alesina et al. (1999), we expect that the projection mechanism is prevalent in more homogenous societies (e.g. Japan) than heterogeneous societies (the U.S. and India). Another possible line of research is to test the ‘income
threshold’ of our projection hypothesis by bringing this research to developing economies with a comparative advantage in agriculture.
Bibliography


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25


Appendix for Table 3

Building on the existing work on individual attitudes toward globalization and food import, we include following covariates for models 4 and 5 of Table 3.

Low Income: a respondent in the a bottom 30% of the individual income distribution.
High Income: a respondent in the top 30% of the individual income distribution.
Mid Income is the base category.
College: equals to one for respondents who graduated from college or above and zero otherwise.
Female: equals one for women and zero otherwise.
Have Kids: a dummy variable “1” for respondents with children and zero otherwise.
Housewives: a dummy variable “1” for housewives and zero otherwise.
Co-op: a dummy variable “1” for a member of a consumer cooperative and zero otherwise.
LDP and Non-PartyID: indicate respondents’ party identification with then-incumbent Liberal Democratic Party or non-partisan identification, respectively.
Politically Active: an index of political participation which ranges from zero to six. This is the sum of the answers (0: not at all, 1: once or twice, 2: several times) to three questions about the frequency of political participation in the past: whether a respondent has been a member of a local candidate support group (koenkai), whether a respondent has helped a candidate run for an election, and whether a respondent has listened to politicians’ speeches on the street.

We also include the following novel covariates.

Protectionist_info: takes a value of one if a respondent heard and spoke about all of the following four protectionist terms and zero otherwise: “poisoned Chinese dumpling incident (chugoku doku gyoza jiken),” “food education (shokuiku),” “food sufficiency ratio (syokuryo jikyuritsu),” and “locally-grown, locally consume (chisan chisho).” Politicians and the media extensively use these four terms to either raise the barrier to trade or promote domestic production and consumption of agricultural products.

Protectionist_info directly measures respondents’ levels of exposure to elites’ protectionist discourse on trade policy, rather than proxing it with education.

50 We chose these terms by (i) examining the websites of members of parliament mentioning “agriculture (nougyo)” or “farmers (nouka)” and identifying common reasons they mention to make the case for protection; (ii) using questionnaires in the Ministry of Foreign Affairs’ public opinion surveys on Economic Diplomacy (Keizai Gaikou no Ishiki Chosa) conducted in 2004; and (iii) reflecting key legislation or policy (FTAs, Food Education Law in 2005) and events (poisoned dumpling in 2008) during the past five years.
51 We use a binary measure, instead of continuous one, due to bifurcation in data distribution.
*No Foreign Transaction:* takes a value of one when the company with which the respondent is employed or the business run by the respondent does not import, export or outsource its production activities abroad and zero otherwise.

*No Foreign Transaction* remedies the criticism that the conventionally-used ILO occupational classification is not an accurate approximation of skill-level or export vs. import-orientation. The self-reported position of a respondent’s job provides better data on how citizens perceive their job’s position in the global economy.\(^{52}\)

*Cheap shopper:* an index of the number of items a respondent owns from our list of discount stores and ranges from zero to five.\(^{53}\)

*Cheap shopper* captures consumer attributes of the respondents which are generally missing in standard public opinion surveys.

\(^{52}\) 16.25% of the respondents report they do not know whether their company or sector imports, exports, or outsources production activities abroad. This finding cautions that the link between respondents’ occupations and their attitudes toward globalization is not as obvious as conventionally thought.

\(^{53}\) These stores are: Louis Vuitton, Gucci, Armani, Prada, Chanel, Brooks Brothers, Ralph Lauren, Rolex, Tumi, Uniqlo, Muji, Gap, Ikea, Body Shop, and Aoki. Respondents’ ownership of items from the latter six stores are used to construct *Cheap Shopper.*
Tables and Figures

Table 1: The Balanced Demographics of Three Experiment Groups

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<td>0.363</td>
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Note: Mean values and standard errors in parentheses.
Table 2: Descriptive Statistics

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Table 3: Individual Support for Agricultural Protectionism

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Note: * Significant at 10%; ** Significant at 5%. Standard errors in
parentheses. Models 2 and 4 use a five-point scale (very good, good, neutral, etc) as the dependent variable and estimates it with an ordered probit, while Model 3 and 5 dichotomize the five-point scale to one (food import is “bad” or “very bad”) or zero otherwise and estimates it with a binomial probit. Demographic controls include female, college, low income, high income, and age over 50. Other co-variates are discussed in the appendix.
Note: The three photos above were used for the producer-priming. Before showing the photos, we asked: “Please carefully look at the photos below and answer the following questions.” (translated by the author(s)). Q2 is a follow-up, enforcement question for the first photo: “In what sector do you think people at this office work?” to which respondents choose from finance, manufacturing, publishing, public service, or other.
Group 2 Photos: Consumer-Priming (Pictures 4, 5, and 6)

Note: The three photos above were used for the consumer-priming. Before showing the photos, we asked: “Please carefully look at the photos below and answer the following questions.” (translated by the author(s)). Q5 is a follow-up, enforcement question for the first photo: “What type of grocery shop do you think this is?” in which respondents choose from a small mom-and-pop shop, convenience store, an organic and natural food store, a large supermarket or other.
Figure 1: The Effect of Priming in Aggregate

Note: The x-axis is three experimental groups and the y-axis is the proportion of total respondents (%) choosing each answer. The difference-in-means tests for protectionist responses (%) show that the difference between producer treatment and the control groups for food import issue is 0.09 (0<x<1, standard error 0.035) and statistical significance at PR(|T|>|t|)=0.011. The difference between consumer treatment and the control groups are 0.01 (standard error 0.035) and is not statistically significant.
Figure 2: Substantive Impact of Priming on Respondents’ Identification with Producer vs. Consumer in Three Sub-Groups of Respondents (%)

Note: The x-axis is three experimental groups and the y-axis is the proportion of respondents in each response category to a question on whether they think the media sides with producers or consumers. Dark gray bar indicates the proportion of respondents in “media sides with consumers (i.e., identification with producer).” The numbers in bar graphs are the percentage of respondents in each response category. Difference-in-means tests for mean estimates suggest that the difference between producer treatment and the control groups is statistically significant at 0.045 (factory & construction workers), 0.28 (low income) and 0.047 (retail workers).
Figure 3: Projection and Sympathy Hypotheses: Substantive Impact of Difficulty Finding a Comparable Job and Social Network on % Protectionist Responses

<table>
<thead>
<tr>
<th></th>
<th>Producer Treatment-Control</th>
<th>Consumer Treatment-Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficult Find A Job</td>
<td>0.143 (0.052)**</td>
<td>0.007 (0.043)</td>
</tr>
<tr>
<td>Temporary Workers</td>
<td>0.176 (0.079)**</td>
<td>0.064 (0.085)</td>
</tr>
<tr>
<td>Age over 50</td>
<td>0.122 (0.056)**</td>
<td>0.086 (0.059)</td>
</tr>
<tr>
<td>Social Network</td>
<td>0.155 (0.058)**</td>
<td>0.003 (0.058)</td>
</tr>
</tbody>
</table>

** Significant at 5%, *** at 1%.

Note: The x-axis is three experimental groups. The bars and numbers above indicate the proportion (%) of protectionist responses (increasing food import is “bad” or “very bad”) for each group. Table summarizes the results for difference-in-means tests. Numbers in left column indicate percentage point difference of protectionist responses (0<x<1) between producer treatment and the control groups for each sub-group. Numbers in right column indicate percentage point difference between consumer treatment and the control group. The standard error of estimate is in parentheses. Numbers in Figure and Table do not perfectly match due to rounding.