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Trade Policy Preferences and Cross-Regional Differences: Evidence from individual-level data of Japan*

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Abstract

This study examines the determinants of individuals' preferences for trade policies, using micro data of 10,000 individuals selected from Japan's general population. In particular, we focus on the role of regional factors that influence trade policy preferences, considering the fact that there is a significant difference in preferences among regions. The results of the binary choice model reveal that local characteristics affect people's views on trade policy even after controlling for labor market and non-economic attributes. Specifically, people residing in a region with a high share of agricultural workers are likely to support import restrictions even if they do not engage in agriculture, which is the most protected sector in Japan. Moreover, there is a strong correlation between the probability of supporting the protectionist trade policy and the share of local agricultural workers for people not considering migration, suggesting that inter-regional immobility of workers affects their trade policy preferences.

Keywords: Trade policy, Policy preferences, Agriculture, Regional economy

JEL Classifications: F13, Q17, R10

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1. Introduction

Building a consensus for advancing trade liberalization among people is difficult as experienced by many countries. People's views on trade policies are different because trade liberalization does not equally benefit all people. For instance, in Japan, although public opinion polls indicate that the majority of people are in favor of free trade, statistics reveal that 20% to 30% of the population, mainly in local areas, objects free trade policies. Currently, it is likely that regional factors are one of the important determinants of trade policy preferences in Japan as dissenting opinions are heavily concentrated in rural areas. The common perception is that people engaged in the agricultural sector oppose free trade because of its long history of government protectionism.¹ However, it is not only those in the agricultural industry that object, considering that the agricultural industry comprises only 1% of the total GDP and the agricultural workforce is only 3% of the total.² Although people are not agricultural workers, it is believed that they object to further trade liberalization for the fear of being indirectly affected by a declining regional economy. If this is the case, in addition to individuals' labor market attributes, such as education and industry affiliation, which have been examined by previous studies, regional characteristics are likely to be correlated with people's preferences for trade policy. Regardless of whether people work in the agricultural sector and whether they are currently employed or retired, people might be more likely to support protectionism if they reside in a region with a high share of agricultural workers and a high unemployment rate. The significant effect of regional factors could correspond to the inter-regional immobility of workers, which has not been explicitly analyzed in existing studies. This study focuses on the role of these local characteristics in determining trade policy preferences.

Previous studies at the individual level have focused on the role of labor market attributes in determining trade policy preferences, based on the predictions of trade theory (Scheve and Slaughter, 2001; Beaulieu, 2002a; Mayda and Rodrik, 2005; Blonigen, 2011).³ They examined whether individuals' skill endowments, such as education or industry affiliation, could explain their trade policy preferences.⁴ Although they found a correlation between individuals' labor market attributes and trade policy preferences, other than labor market attributes, it is shown that some other

¹ According to the *World Tariff Profiles 2014*, Japan's average most favored nation (MFN) applied tariff rate on agricultural products is 19%, which is relatively higher than that of the European Union (13.2%) or the United States (5.3%).

² Despite the declining share in population, agricultural protectionism is observed in many developed countries, as referenced, for example, in the study by Davis (2004).

³ Earlier studies on the origins of protectionist trade policy based on political economy have focused on the role of lobbying and campaign contributions of specific interest groups in maintaining protectionist trade policies (Magee, 1980; Grossman and Helpman, 1994; 2005). Some empirical evidence suggests a positive correlation between protectionism and lobbying (Goldberg and Maggi, 1999; McCalman, 2004; Evans, 2009; Fredriksson, 2010).

⁴ Similarly, Kaempfer and Marks (1993), Baldwin and Magee (2000), and Beaulieu (2002b) examined the determinants of votes for trade liberalization bills by Members of Congress, introducing both endowment and industry variables in their representative districts.

variables, which have not been considered by conventional trade theory, had a strong correlation with trade policy preferences. For example, Scheve and Slaughter (2001) and Blonigen (2011) reported significant asset effects on trade policy preferences. They hypothesized that people who reside in a region wherein comparatively disadvantaged industries are dominant are likely to face negative demand shocks in the housing market after trade liberalization. Therefore, it is foreseen that housing prices will decline in these areas. Their results indicate that homeowners tend to support trade protection more as the level of concentration of comparatively disadvantage sectors increases in their regions. Moreover, this result suggests that not only individual characteristics but also regional factors influence trade policy preferences. However, the literature on the origins of protectionism has not focused on the direct relationship between regional characteristics and individuals' trade policy preferences till today.

This study empirically examines the association between regional factors and people's trade policy preferences. In addition, this study clarifies the factors leading to protectionism support, using micro data of 10,816 individuals selected from the general population all over Japan. To the best of our knowledge, the size of our sample is the largest compared to that of previous studies.⁵ We use the binary choice model to determine the probability of supporting import restrictions. The main results of this study are threefold. First, it is confirmed that trade policy preferences are heterogeneous depending on the region even after controlling for labor market and non-economic attributes. Individuals residing in a region with a high share of agricultural workers and unemployment rate tend to support a protectionist trade policy even if they do not engage in that sector. Second, for people who are considering residing in the region, the probability of supporting a protectionist trade policy increases as the proportion of agricultural workers increases. However, there is no correlation between the probability of supporting a protectionist trade policy and the regional agricultural workers ratio for people considering migration. Third, people who do not own a house in areas with a low unemployment rate are likely to support a protectionist trade policy; however, if the unemployment rate increases, the probability of supporting protectionism decreases. In contrast, people who own houses exhibit a higher probability of supporting a protectionist trade policy as the unemployment rate rises. These results suggest that inter-regional worker's immobility affects individuals' trade policy preferences. Our results are robust to a multi-level mixed logistic model, which enables us to control for unobserved region-specific factors and examine the difference in the influence of covariates on trade policy preferences, depending on the regions.

The remainder of this study is organized as follows. Section 2 presents an empirical framework to explain the probability of choosing trade policy preferences and describes data on

⁵ The exception is a cross-country analysis by Mayda and Rodrik (2005) that used 28,456 observations distributed over 23 countries. As a single country study, 5,224 observations in Blonigen (2011) was the largest sample till date.

trade policy preferences. Section 3 presents the results of the logistic regression. Section 4 presents the results of the multi-level model. Section 5 concludes the study.

2. Empirical framework and data

2.1. Binary choice model

We empirically examine whether an individual supports a protectionist or free trade policy under the binary choice model. U_{ij}^P denotes the utility when an individual i who lives in a region j faces a protectionist trade policy. U_{ij}^F denotes the utility when an individual faces a free trade policy. Individuals are expected to support a protectionist trade policy when the utility from the protectionist trade policy is greater than that from the free trade policy, namely, $U_{ij}^P > U_{ij}^F$. We consider the difference in the utility between the two as a latent variable y_{ij}^* , which is linearly related with covariates as below:

$$y_{ij}^* = \mathbf{X}_{ij}\boldsymbol{\beta} + e_{ij}, \quad (1)$$

where \mathbf{X}_{ij} is a set of firm-specific regressors, and $\boldsymbol{\beta}$ is a vector of coefficients. The latent variable y_{ij}^* is defined as an observable binary variable that equals 1 if individual i located in region j supports a protectionist trade policy, and 0 otherwise. e_{ij} is the error term distributed as a logistic function:

$$y_{ij} = \begin{cases} 1: \text{protectionist} & \text{if } y_{ij}^* > 0 \\ 0: \text{free trade} & \text{if } y_{ij}^* \leq 0 \end{cases}$$

The probability of choosing a protectionist trade policy ($y_{ij} = 1$) is expressed as the following:

$$p_{ij} = \Pr(y_{ij} = 1) = F(\mathbf{X}_{ij}\boldsymbol{\beta}) = \frac{\exp(\mathbf{X}_{ij}\boldsymbol{\beta})}{\{1 + \exp(\mathbf{X}_{ij}\boldsymbol{\beta})\}}, \quad (2)$$

where F denotes the cumulative distribution function of the logistic distribution. The probability of supporting a free trade policy is written as $1 - p_{ij} = 1/\{1 + \exp(\mathbf{X}_{ij}\boldsymbol{\beta})\}$. Therefore, the odds ratio of both probabilities is formed as the following equation:

$$\ln\left(\frac{p_{ij}}{1-p_{ij}}\right) = \mathbf{X}_{ij}\boldsymbol{\beta}. \quad (3)$$

In the estimation results, we interpret the results by odds ratio after transforming the estimated coefficients obtained from the maximum likelihood estimation. Therefore, an odds ratio beyond unity implies a positive correlation between the probability of supporting a protectionist trade policy and the covariate, whereas an odds ratio less than unity indicates that it is positively related with the probability of supporting a free trade policy.

2.2. Trade policy preferences and regional attributes

This study employs micro data on trade policy preferences retrieved from the “Questionnaire Survey about Japanese Economy and International Trade with Foreign Countries,” undertaken by the Research Institute of Economy, Trade and Industry (RIETI) in October 2011.⁶ The survey was conducted with randomly selected people aged 20 to 79 years so that the proportions of ten regions and twelve age groups approximated those in the recent national population census. The number of respondents is 10,816 individuals located throughout Japan, which represents approximately one out of ten thousand of Japan’s total population.⁷ Regarding people’s views on trade policy, we asked the following question in the survey:⁸ *Answer what you think about the following opinion: “We should further liberalize imports to make wider varieties of goods available at lower prices.”* The responses for the five choices presented include the following: “strongly agree” (8.9%); “somewhat agree” (42.5%); “somewhat disagree” (26.9%); “strongly disagree” (4.6%); and “cannot choose or unsure” (17.1%). That is, if we aggregate responses that strongly or somewhat agree with the opinion that imports should be further liberalized as supporters of free trade, 51% are agreeable, whereas an aggregate of those who somewhat or strongly disagree comprise 32%. To overview the differences in trade policy preferences across regions, response distributions over 10 areas to the import liberalization question are illustrated in Figure 1. A difference is generally observed among metropolitan areas, such as *Keihin* (including Tokyo), *Keihanshin* (including Osaka), and rural areas, and the ratio of people who object to a free trade

⁶ Specifically, the survey was conducted by a commercial research company *Intage* under contract with RIETI for our research project.

⁷ The response rate of this survey was 31.1%. 97% of the responses were via internet, and the same questionnaire was printed and posted to people aged over 60 years to reach elderly people without internet access.

⁸ Survey questions from this survey and basic statistics on individual characteristics are available in the appendix of Tomiura et al. (2013).

policy, or reply “*cannot choose or unsure*” is relatively high in *Hokkaido, Tohoku, and Kyushu* where agriculture is relatively prosperous.

<Figure1. Response distribution of trade policy preferences by area>

From these five responses, we construct a binary variable that takes a value of 1 if people choose “*somewhat disagree*,” “*strongly disagree*,” or “*cannot choose or unsure*,” and 0 otherwise, considering these individuals as protectionists since they are not active supporters for trade liberalization and are likely to choose inaction. In addition, we verify the sensitivity of results when the response of “*cannot choose or unsure*” is excluded.

Regional factors are the key explanatory variables in this study. We employ the ratio of agriculture workforce at the city and town levels as a proxy for weight of comparatively disadvantaged industries on the basis of the view that indirect negative effects from structural changes due to trade liberalization are significant in an area with a high concentration of comparatively disadvantaged industries. Since people who reside in such areas are expected to support a protectionist trade policy, it is anticipated that the ratio of agricultural workforce is positively correlated with the probability of choosing a protectionist trade policy. The data are retrieved from the national census of 2010. Moreover, we add the unemployment rate at the city level to consider the structural differences in economic situation among regional economies.

If inter-regional movement is difficult for people residing in areas where these local characteristic values are high, it is predicted that the probability of supporting a protectionist trade policy increases. In contrast, people who have a high inclination of migrating are able to avoid structural adjustments after trade liberalization and may seek new employment opportunities in other areas. In the survey, we set the question item: “*Do you have a plan to move or want to move in future?*” to control for differences in trade policy preferences between those inclined and those not inclined to migrate. The responses to the four choices presented include the following: “*I’m going to do or I want to do*” (11.3%); “*I want to do if there is an opportunity*” (24.2%); “*I do not want to do if it is possible*” (18.8%); and “*I do not want to do*” (45.8%). From these results, we construct a dummy variable that takes a value of 1 for people who show a positive attitude toward moving and 0 otherwise. The sign of the mobility dummy variable is expected to be negative. Since it is anticipated that the impacts of regional characteristics are different between people considering migration and those who are not, we also examine whether interaction terms of the mobility dummy and regional variables are significant. It is predicted that the effects of local characteristics on the probability of supporting import restrictions is small or insignificant for people considering migration.

2.3. Labor market attributes

Conventionally accepted factors that influence trade policy preference described in previous studies are labor market attributes, such as education, occupation, and industry affiliation. According to the Stolper–Samuelson theorem of the Heckscher–Ohlin theory, which assume that workers are mobile among industries, trade liberalization in skill abundant country increases the income of skilled workers, but decreases the income of unskilled workers. Therefore, a protectionist trade policy is likely to be supported by less skilled workers in developed countries. Referring to previous studies that have used education level as a proxy for individual skill endowment, we asked for individuals' educational attainment records. We categorize individuals into four groups and construct dummy variables around their educational experience: junior high school, junior college or technical college, in college, college or graduate school. In our survey, personal annual income is also available as categorical information in units of one million yen. As alternative measures of skill, we introduce a dummy variable for income level as well and expect that the higher the income level, the lower the probability of choosing a protectionist trade policy.

Alternatively, there is a view that industry characteristics are associated with trade policy preferences. This is based on the Ricardo–Viner model, which includes sector-specific workers. That is, a gain or loss from trade liberalization is industry dependent. Therefore, people who belong to a protected industry are likely to support a protectionist trade policy. In the survey, we asked about the industry at the two-digit level in which respondents work.⁹ For retired or unemployed people, we let them choose the industry in which they had worked the longest during their career. We examine industry variation in terms of trade policy preferences by adding industry dummy variables. Based on the specific factor model, industry dummies are expected to have explanatory power for trade policy preferences.

To enrich labor market attributes, we also consider variations of occupations and types of employment. Specifically, from the responses on the question with respect to current occupation or occupation that they have engaged for the longest period in their career, we construct dummy variables categorized by the following occupations: production and other operations (6.6%); sales, clerical, or services (35.9%); managerial occupation (12.5%); professional or technical occupation (28.4%); other occupations (13.6%); and never worked or in school (2.8%). The types of employment are categorized into the following six types: officer or executive (7.0%); regular

⁹ We asked about the following 20 industries: food, beverage, and tobacco manufacturing (2.4%); textile and apparel (1.5%); paper, pulp, lumber products, and printing (0.7%); chemical products (1.6%); metals and steel (1.3%); machinery (2.5%); miscellaneous manufacturing (9.2%); mining (0.1%); agriculture, fishery, and forestry (1.1%); construction (5.5%); electricity, gas, and water supply (1.2%); transportation and distribution (4.1%); telecommunication (5.3%); medical, welfare, and health care (7.5%); education (7.1%); wholesale and retail trade (10.8%); catering, restaurants, and lodging (4.3%); finance, insurance, and real estate (6.6%); miscellaneous services (18.8%); and government services (5.8%).

employee or public servant (44.9%); non-regular employee (29.4%); self-employment or profession (14.8%); and in school or no work experience (3.9%).

To control for current employment status, we add a dummy variable that takes a value of 1 if people are employed (61%). In addition, variations of the preferences among individuals according to inclination toward job change are also considered by a dummy that takes a value of 1 for a positive response to the question “*Do you have a plan to change your job or want to change in future?*” People who show an inclination toward job change are 32.3% of the sample and are expected to have a higher probability of supporting a free trade policy than those who do not.

2.4. Non-economic attributes

Previous studies found that people’s non-economic characteristics are strongly related to their trade policy preferences. Our model includes basic non-economic attributes, such as age, gender (female: 48.5%) and family status (having a child: 63.7%). In Japan, it is thought that people are concerned about food safety issues of imported food. Considering that this concern is likely to lead them to choose protectionism, we asked a question in the survey: “*When you usually purchase drink and food, do you check an additive and the place of origin?*” and introduce a dummy variable that takes the value of 1 for positive responses (68.9%). As examined by Scheves and Slaughter (2001) and Blonigen (2011), we also add a dummy variable for people who own a house or an apartment (72.6%) to examine asset effects of home ownership on trade policy preferences. Policy preferences may vary depending on ideological differences. In the survey, we set the question item “*How do you think about your country and culture, society, the tradition of the hometown?*” to surmise a degree of patriotism. The responses include the following: “*extremely proud*” (35.7%); “*somewhat proud*” (55.2%); “*cannot choose or unsure*” (5.6%); “*not somewhat proud*” (2.8%); and “*not proud at all*” (0.7%). From these responses, we add a dummy variable that takes a value of 1 for responses of “*extremely proud.*” People’s attitude toward risk are likely to have an explanatory power in the sense that risk aversion may increase the probability of choosing a protectionist trade policy. We define the risk aversion dummy variable for an individual who does not buy a safer lottery with a 50% chance to win (31.6) from the following lottery question: “*Would you buy a lottery ticket with a 1/2 chance to win 20,000 yen and a 1/2 chance to get nothing (sold at 2,000 yen)?*”

Further, we control people’s attitude toward the future of the Japanese economy from responses to the question: “*What do you think about the future of Japanese economy?*” Only 13.5% of respondents answered “*optimistic.*” Finally, the survey also asked about damage incurred by the Great East Japan Earthquake, which had occurred seven months prior to the survey. To control the possible disaster effects, we add a dummy variable that introduces a value of 1 for disaster victims (7.1%) into the model. The number of full observations with accurate information on the variables of

interest is 10,021. Table 1 presents the definition and descriptive statistics of variables. With respect to dummy variables for annual income, educational attainment record, industry affiliation, occupation, and type of employment, the category with the largest share is set to be the benchmark.

<Table 1. Descriptive statistics and definition of variables>

3. Estimation results

3.1 Baseline results

Table 2 reports the baseline results of the logistic regression analysis to examine the association between the covariates and the odds ratio. The results are expressed as odds ratios by taking the exponent of the coefficients for each covariate, which means that an odds ratio greater than unity indicates a positive effect on the probability of choosing a protectionist trade policy whereas an odds ratio less than unity indicates a negative effect.

The variable we focus on here is the share of agricultural workers in a city. If individuals are concerned about possible indirect influences of structural adjustment and cannot move to another area, we would expect that people living in the city with a high concentration of agricultural workers would favor import restrictions. The results show that the share of agricultural workers is positively correlated with the probability of supporting a protectionist trade policy. Although the effect turns weak in the model when prefecture dummy variables are included, the results indicate that the coefficient is statistically significant at the 1% level even after controlling for labor market and non-economic attributes. According to the magnitude of the odds ratio, a one percentage point increase in the ratio of agriculture workforce is associated with a 1.7% increase in the probability of supporting a protectionist trade policy. Considering that two times standard deviation of the agriculture workers ratio is eight percentage points, there exists an approximately 14% difference in the probability of supporting a protectionist trade policy between cities and towns with high shares and those with low shares and thus the difference is not negligible. A one percentage increase in the unemployment rate is related to a 3.5%–4.3% increase in the probability of supporting a protectionist trade policy. It is shown that a difference of approximately 13% of the probability exists between an area having a high unemployment rate and an area with a low rate if we consider two times standard deviation. These results indicate that people's preferences for trade policy are different according to regional economic environments. Simultaneously, significant effects of regional factors suggest inter-regional immobility of workers. This result is consistent with the finding of Autor et al. (2013) that there is no significant regional population adjustment in local labor markets with substantial exposure to imports from China in the U.S. This may be due to substantial moving costs as reported by Artuç et al. (2010).¹⁰

¹⁰ They estimated extremely high average moving costs that are several times the average annual

<Table 2. Results of logistic regression>

Concerning the connection with the trade theory, it was shown that labor market attributes, such as annual income, education, and industry affiliation, are significantly correlated with individuals' trade policy preferences. Based on the Stolper–Samuelson theorem, it is predicted that annual income or educational attainment as proxies for skill endowment are positively associated with the probability of supporting a free trade policy. The estimation results indicate that the lower the income the higher the probability of choosing a protectionist trade policy as predicted. Although the dummy for 6–7 million yen is insignificant, the odds ratio is less than unity and tends to be small as for dummy variables above 3–4 million yen. Particularly, the probability of supporting a protectionist trade policy for people whose income is less than 1 million yen is almost two times larger than people whose income is 7–8 million yen ($1/0.517 = 1.934$). Regarding the dummy variables for educational attainment, junior college or technical college and a college or graduate school show a statistically significant sign. People whose educational attainment is high school are more likely to support a protectionist trade policy than people who graduated from a junior college, a technical college, a college, or graduate school. Inverted, the odds ratio indicates that the probability of supporting the protectionist trade policy is 17% ($1/0.858 = 1.1655$) higher than people who graduated from a junior or technical college, and 29% ($1/0.773 = 1.293$) higher than people who graduated from a college or graduate school. Interestingly, there is no difference in the probability between high school graduates and students in college, whereas graduation is positively related with a preference for a free trade policy. The positive correlation between higher educational attainment and free trade policy preference is consistent with the assumption of perfect factor mobility across sectors predicted by the Stolper–Samuelson theorem.

On the other hand, if a factor is sector specific as assumed by the Ricardo–Viner model, we would expect that industry dummy variables would be statistically significant. The results show that the probability of supporting import restrictions for people associated with agriculture, fishery, and forestry, telecommunication, education, and government services is higher than people who engage in miscellaneous services. It is remarkable that, in particular, the agricultural sector strongly supports protectionist trade policy as expected, and the odds ratio indicates that the probability of supporting it is three times higher than those who work in the miscellaneous services.¹¹ In general, these results suggest that the labor force moves between industries on the basis of the Stolper–Samuelson theorem and, at the same time, is sector specific on the basis of the Ricardo–Viner model.

wages for moving after trade shocks from one broadly aggregated sector of the economy to another.

¹¹ Using the same data, we also found that people working in agriculture tend to favor not only protection but also reciprocity in trade liberalization (Tomura et al., 2014).

This mixed result is consistent with Beaulieu's (2002) finding that both individuals' skills and industrial affiliations are connected to trade policy preference based on the data of Canadian individuals' responses to the U.S. and Canada free trade agreement in 1989 that suggest a certain level of factor movement across sectors. It is also in line with the cross-country evidence reported in the study Mayda and Rodrik (2005), which used cross-country individuals' policy preferences data retrieved from the International Social Survey Programme (ISSP) in 23 countries.

In our model, we also consider possible differences in preferences in terms of occupation and employment type. However, the results of occupation and type of employment dummy variables are not robust to the full model, including the non-economic attributes. Only the managerial occupation dummy is still significant even if all the other factors are considered. People who are engaged in managerial occupations are likely to support a free trade policy relative to people who are engaged in other occupations. From the odds ratio, for the other occupation workers, the likelihood of favoring a protectionist trade policy is 40% higher than people working in managerial occupations ($1/0.714 = 1.400$). It is likely that non-regular employees are more likely to favor a protectionist trade policy because they are easily affected by structural adjustments due to trade liberalization in comparison with regular employees protected by strict restrictions on dismissal. Contrary to expectations, the dummy for non-regular employees is not statistically significant, and therefore there is no difference in the likelihood of favoring import restrictions between regular and non-regular employees.

The non-economic characteristics show significant effects as reported in previous studies. As an illustration, the gender dummy is strongly significant with a positive sign, showing that females are more likely to prefer import restrictions than males. As a background, it is thought that there is concern about the safety of imported food. To control for the effects of that concern, we add a dummy variable for those who check additives and places of origin when purchasing food and beverages. The gender dummy is still significant, although the effect of gender turns small when the food check dummy is included. The odds ratio indicates that the probability of favoring import restrictions for females is 1.7 times larger than for males. The odds ratio for food checkers is 27% higher than for non-checkers. On the other hand, we find a negative correlation between age and support for import restrictions. A one-year increase in age increases the probability of supporting a free trade policy by 2%. Furthermore, people who have a child are likely to support a free trade policy. The probability of favoring import restrictions for people who do not have a child is about 12% higher than for those who have a child. It is suggested that people are likely to decide to support free trade policies when considering a next generation from a long-term perspective as expressed in a dynasty model.

Previous studies demonstrate that personal political thought is also associated with trade

policy preferences.¹² In our study, we add a dummy variable that takes a value of 1 for responses of “strongly proud of one’s own country and hometown.” The result shows that people strongly proud of their homeland are significantly more likely to favor import restrictions than others. There exists a difference in preferences depending on attitude toward risk.¹³ Risk-averse people who do not buy a lottery with a 50% chance to win tend to support import restrictions, possibly owing to the fear of uncertainty associated with structural adjustment after trade liberalization. People with a pessimistic view of Japan’s economy in the future are also likely to favor import restrictions. To control for an inclination toward moving or job change, the mobility and job change dummies are added in columns [5, 6]. As expected, people considering migration tend to support a free trade policy while the job change dummy is insignificant. The other control variables, such as currently employed, home ownership, and earthquake victim dummies, are not statistically significant. Overall, the strong correlation between non-economic characteristics and trade policy preferences is observed from the estimation results. Nevertheless, it is remarkable that the effects of regional factors are still significant even after non-economic characteristics are included in the model.

3.2. Interaction of regional factors

The influence of regional characteristics may be different depending on an individual’s attributes. Table 3 presents the results of interaction terms with respect to the ratio of agriculture workers and the unemployment rate. The results of the other irrelevant covariates are suppressed here. One may expect that the positive effect of the agricultural worker ratio in the region is more pronounced in people who engage in the agricultural industry. To examine this, the interaction term of the agricultural workers ratio and the industry affiliation dummy for agriculture industry is added into the full model. Column [1] indicates that the interaction term has no effect on the trade policy preferences, suggesting that people who reside in a region with a high concentration of agricultural workers tend to be protectionist even if they engage in other sectors.

<Table 3. Results of interaction terms>

On the other hand, interestingly, it is found that the effect of agricultural workers ratio is offset for people who are considering migration. This result can be seen in column [2], which includes the interaction of agricultural workers ratio with the mobility dummy. The coefficient of the interaction term is negative and significant, whereas the independent term of the agricultural workers ratio is still positively significant. The odds ratio indicates that for people who are not considering migration,

¹² As an illustration of this, Blonigen (2011) shows that democrats are more likely to favor a protectionist trade policy than republicans, using the U.S. individual-level data.

¹³ The effects of behavioral biases on trade policy preferences are further examined in Tomiura et al. (2013).

a one percentage point increase in the agricultural workers ratio is associated with a 2.5% increase in the probability of supporting a protectionist trade policy. In contrast, for people who are considering migration, the odds ratio turns out to be nearly a value of 1 from the calculation of the odds ratio of the interaction term multiplied by that of the independent term ($1.025 \times 0.998 = 0.994$). To visualize how the predicted probability differs according to the ratio of agricultural workers, Figure 2 shows predictive margins by the mobility dummy at levels of the agricultural workers ratio from 0 through 75% at intervals of 5%. The vertical axis indicates the probability of supporting the protectionist trade policy while the horizontal axis denotes the share of agricultural workers. As shown in the results of the interaction term, although the probability tends to be higher for people who are not considering migration, it does not change as a horizontal straight line for people who are considering migration. The different result with the mobility dummy indicates the effect that the share of agricultural workers in a region on people's preference of trade policy focuses on people who do not show an inclination toward migration.

<Figure 2. Predictive margins of mobility dummy given agricultural workers share>

Next, we introduce the interaction term between the home ownership dummy and the share of agricultural workers in a region into column [3] to examine possible heterogeneity of asset effects on trade policy preferences. However, such heterogeneity is not observed. Instead, it is found that the asset effects vary depending on the unemployment rate, as shown in column [5]. Simultaneously, the independent term of home ownership dummy shows the odds ratio less than a value of 1, and, on average, homeowners are likely to support a free trade policy when we calculate the odds ratio for homeowners ($0.489 \times 1.116 = 0.546$). On the other hand, the result of the interaction term suggests that a one percentage point rise in the unemployment rate increases the probability of supporting import restrictions by 12%. Figure 3 presents the predictive margins for homeowners and non-homeowners at unemployment rates from 0 through 21% at intervals of 1%. In a region with a low unemployment rate, people who do not own houses are more likely to favor a protectionist trade policy than people who own houses. However, the difference in the probability of supporting a protectionist trade policy decreases with an increasing unemployment rate, with the difference reversing when the unemployment rate is higher than approximately 7%. This interacted relation with the unemployment rate is not observed for the mobility dummy as examined in column [4]. Thus, the asset factor inducing a heterogeneous effect across regions is suggested to be the general economic situation of regional economies rather than the concentration of agricultural industry.

<Figure 3. Predictive margins of homeowner dummy given unemployment rate>

The above-mentioned results are based on a broad definition by which the individuals who answered “cannot choose or unsure” are assigned to those who support import restrictions. To check the consistency of these results, we also estimate the same equation based on an alternative definition, which excludes these individuals from the sample. As a result, 8,327 individuals remained in the sample. As shown in Appendix Tables A1 and A2, the main results are not changed. In addition, a similar result is obtained for interaction terms as drawn in Appendix Figures A1 and A2.

4. Robustness check: multilevel mixed logistic regression

In addition to the standard logistic regression, as a robustness check, we further estimate a multilevel mixed logistic regression that considers unobserved heterogeneity across regions. To control for regional heterogeneity, we can estimate by introducing the interaction of region dummy variables and covariates with region dummies. However, this is difficult to handle when many regions exist in the data. Furthermore, if trade policy preferences among individuals in the same region are similar, it is anticipated that potential endogeneity in the sense that regional factors in common with individuals in the same region are correlated with individual factors, generating biased coefficients. A multilevel model approach enables us to separate unobserved regional heterogeneity of trade policy preference from the error term by adding random effects into linear predictors. In the robustness check, we estimate the two-level model comprising individual-level and regional-level data. Regarding the regional level, we consider both prefecture-level and city-level data. Following Raudenbush and Bryk (2002), the two-level mixed logistic model is specified as below. At level 1, which is set at individual level, the latent variable is determined by the following equation:

$$y_{ij}^* = \beta_{0j} + \beta_1 x_{ij} + \gamma_j z_{ij} + e_{ij}, \quad (4)$$

where x_{ij} is a set of variables and its coefficients are assumed to be fixed across all individuals, whereas the intercept β_{0j} and coefficients of z_{ij} randomly vary across regions. Hence, the second level of the two-level model is written as

$$\beta_{0j} = \beta_0 + u_{0j}, \quad (5)$$

$$\gamma_j = \gamma_1 + u_{1j}, \quad (6)$$

where β_0 is the intercept that is common across individuals and u_{0j} is the random intercept

that varies across regions. Similarly, γ_1 is the fixed coefficient for all individuals while u_{1j} is a random coefficient, which can be different depending on the region. The random effects are assumed to be independent and identically distributed across regions and independent of the covariates. The error term in the first level is assumed to be a logistic distribution. Combining the two-level equations, the model for the latent variable can be specified as a mix of fixed and random effects:

$$y_{ij}^* = \beta_0 + \beta_1 x_{1,ij} + \gamma_1 z_{ij} + u_{0j} + u_{1j} z_{ij} + e_{ij}. \quad (7)$$

Various models are included in the estimation. As for the random coefficients model, because random coefficients are not known beforehand, we estimate them individually and examine the statistical significance of the random coefficient by the likelihood ratio test. The insignificance of random coefficients supports that the fixed effects are plausible. The fixed effects can be interpreted by the odds ratio as the standard logistic regression.¹⁴

The results of the random intercept model are reported in Table 4. The models have a random intercept at the prefecture level as a two-level model, except for column [5], which includes a random intercept at both the prefecture and city levels as a three-level model. As for fixed effects, the figures in the table show that the odds ratio can correspond to a one unit change in the explanatory variable. The results of the likelihood ratio tests for model selection support the multilevel model rather than logistic regression model while the estimated coefficients are similar to those from the standard logistic regression model. It is remarkable that the regional factors, the share of agricultural workers, and the unemployment rate still have a positive and significant relationship with the probability of supporting a protectionist trade policy.

<Table 4. Results of multilevel mixed logistic regression>

After estimating the random intercept model, the result from the estimated standard deviation of random intercept shows that individuals' trade policy preferences are different among prefectures. In contrast, the heterogeneity of trade policy preferences across cities is not observed from the results of the three-level model, which has a random intercept at the prefecture and city levels. Figure 4 shows how different the random intercepts are depending on the prefectures.

¹⁴ The multilevel mixed logistic model is estimated by maximum likelihood estimation. However, since the joint probability includes the integral of random effects, the model does not have a closed-form solution. We apply the Gauss–Hermite quadrature approximation to the random effect to replace the continuous density by a discrete distribution.

Although the multilevel model suggests that unobserved prefecture-specific factors affect individuals' trade policy preferences, the results of an intra-class correlation coefficient in terms of residuals calculated as the proportion of variance explained are 0.006–0.01, showing that the magnitude of the random intercept at the prefecture level turns out to be marginal. This means that most of the variance can be explained by the fixed effects of the covariates.

<Figure 4. Unobserved heterogeneity in trade policy preferences across prefectures>

Next, we investigate the difference in the impacts of covariates across the prefectures. To identify the variable that has a random coefficient, we estimate a random coefficient model individually for each explanatory variable. As a result, it is found that a random coefficient model is appropriate only for two variables: mobility and home ownership dummies. Column [6] shows the result of the random intercept and random coefficient models in terms of the mobility dummy variable, and column [7] displays that for the home ownership dummy. These results uphold that the coefficient varies depending on prefecture, which is consistent with the results of the interaction terms with regional factors. It is interesting to see difference in the coefficient of the mobility dummy according to prefectures. Figure 5 displays the summation of the fixed coefficient and the random coefficient on the mobility dummy over prefectures. In most prefectures, people who are considering migration tend to support a free trade policy, although the magnitude is considerably different across them. It seems that the positive effect of an inclination toward migration on the probability of supporting a free trade policy is more pronounced for people who reside in a local area.

<Figure 5. Regional differences in effect of inclination toward moving>

Similarly, Figure 6 shows the total effect of the home ownership dummy according to prefectures. Interestingly, a significant variation in the random coefficient is observed. For example, in the Hokkaido and Tohoku areas, where agriculture is relatively active, homeowners tend to favor import restrictions; however, in the Tokyo area, homeowners are unlikely to be protectionists. This result suggests that the effect of home ownership on trade policy preferences differs greatly among prefectures and that people who own houses in regions where real estate prices are expected to increase are likely to support a free trade policy. Almost the same results are obtained from the sample when excluding individuals who answered “cannot choose or unsure” as reported in Appendix Table A3 and Figures A3, A4, and A5.

<Figure 6. Regional differences in home ownership effect>

5. Concluding remarks

Previous studies explored the determinants of individuals' trade policy preferences by focusing on individuals' skill endowments and industrial attributes to examine the mobility of workers across industries. It has been reported that these labor market attributes are related to individual's trade policy preferences; however, as noted by Blonigen (2011), it is difficult to explain trade policy preferences only by the labor market attributes. In this study, we conducted an empirical study on, in particular, the association between regional factors and trade policy preferences, which very few have attempted, and employed individual-level data from ten thousand people from a wide range of areas of Japan.

The results of binary choice model reveal that regional characteristics, such as the share of agricultural workers and the unemployment rate on protectionist trade policies, have a significant impact on trade policy preferences. More specifically, as the agricultural workers ratio and the unemployment rate increase, people tend to be protectionists even if they do not engage in agriculture. In Japan's local areas, where key industries include agriculture, other industries, such as food processing and manufacturing that produces agricultural equipment may be indirectly affected by structural reforms following trade liberalization. It is suggested that an individual chooses a trade policy preference by considering such industrial linkage effects in areas with a high concentration of import-competing industries. Interestingly, the positive impact of local agricultural workers share on a support for import restrictions is offset by people who are considering migration. These results are very stable even when we add labor market and non-economic attributes. Further, the results are robust to a multilevel mixed logistic regression model that considers unobserved region-specific factors. Taken together, it is concluded that people's trade policy preferences react to whether they are mobile between regions. Considering the fact that the effects of regional factors are remarkable, it is suggested that the inter-regional immobility can be an important factor in increasing the support for protectionist trade policies.

From our results, it is concluded that trade policy preferences react sensitively with inter-regional mobility. Until now, it has been highlighted that it is important to promote trade liberalization to increase the mobility of human resources in labor markets; however, a consensus on a free trade policy cannot be reached based only on the mobility of human resources between sectors, considering the difficulty of moving between regions. To build consensus for further trade liberalization, it is necessary to find ways to stimulate development of new or service industries in regions where comparatively disadvantaged tradable industries are concentrated.

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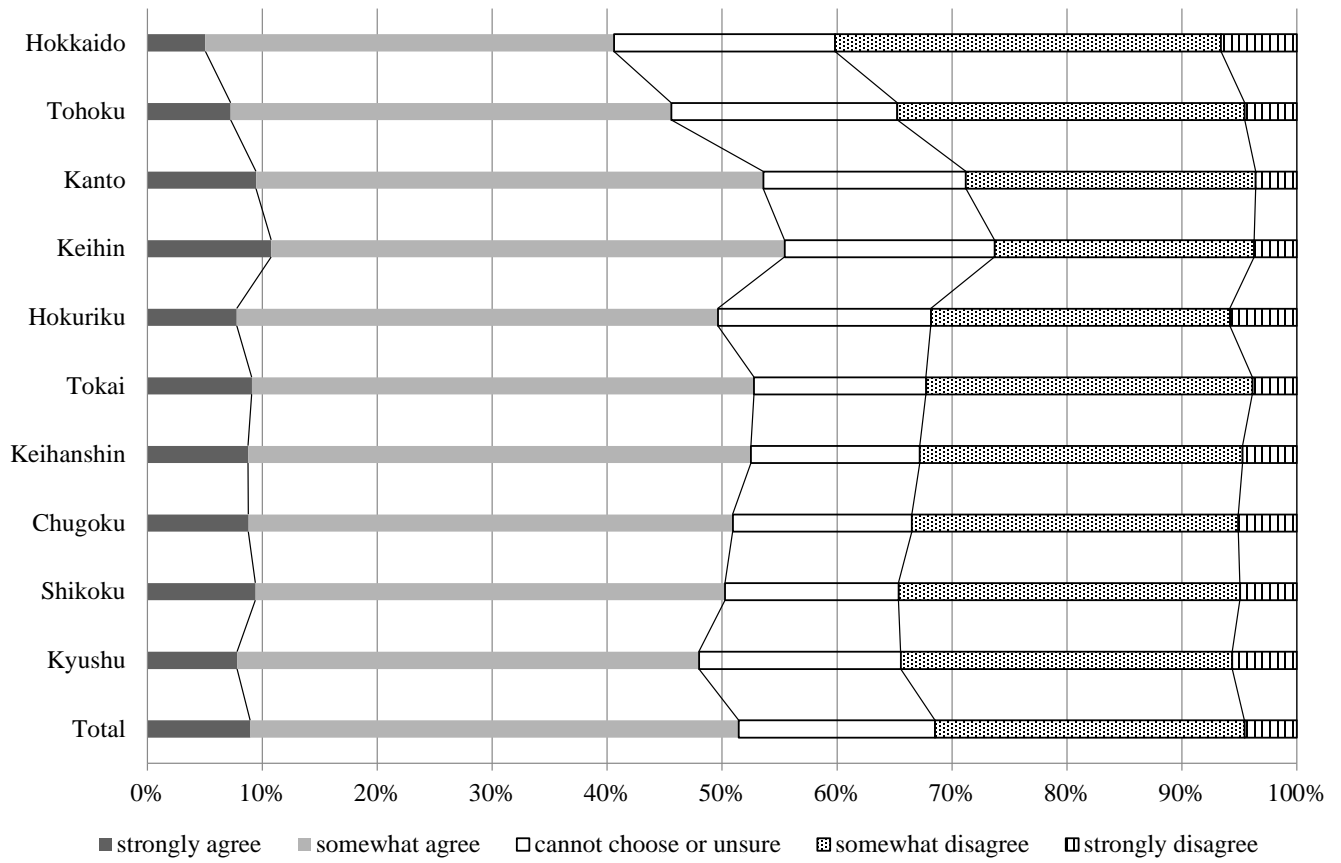


Figure1. Response distribution of trade policy preferences by area

Note: Figure shows the percentage of respondents to the question: What do you think about the following opinion; “We should further liberalize imports to make wider varieties of goods available at lower prices.”

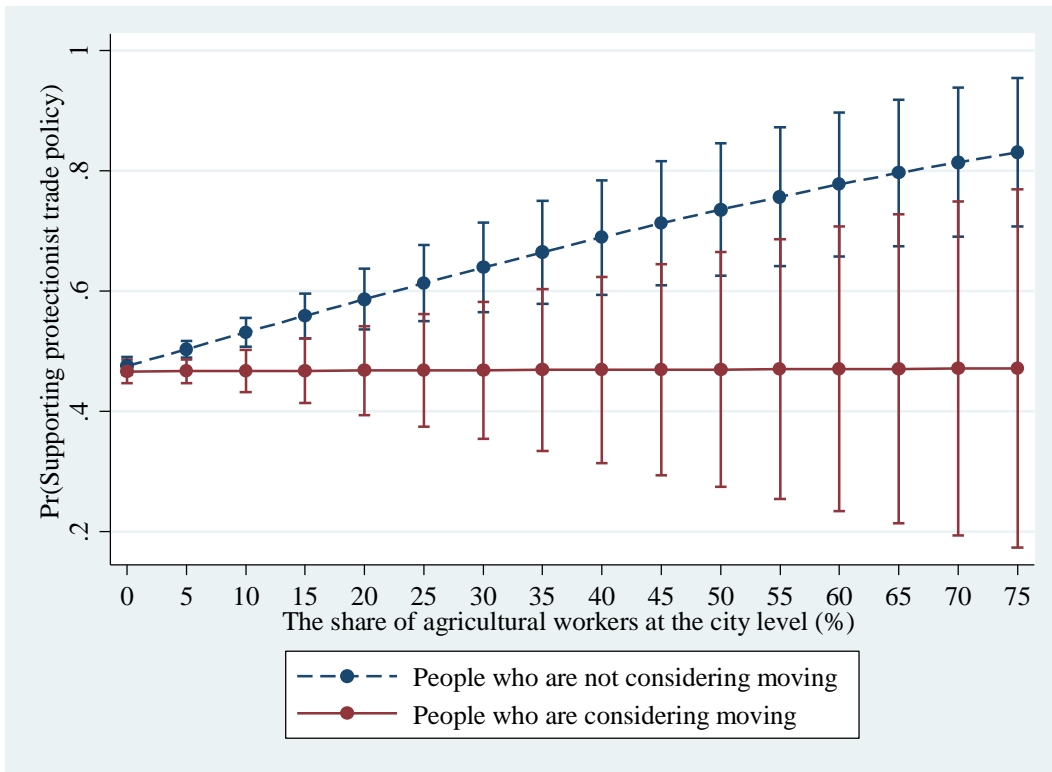


Figure 2. Predictive margins of mobility dummy given agricultural workers share

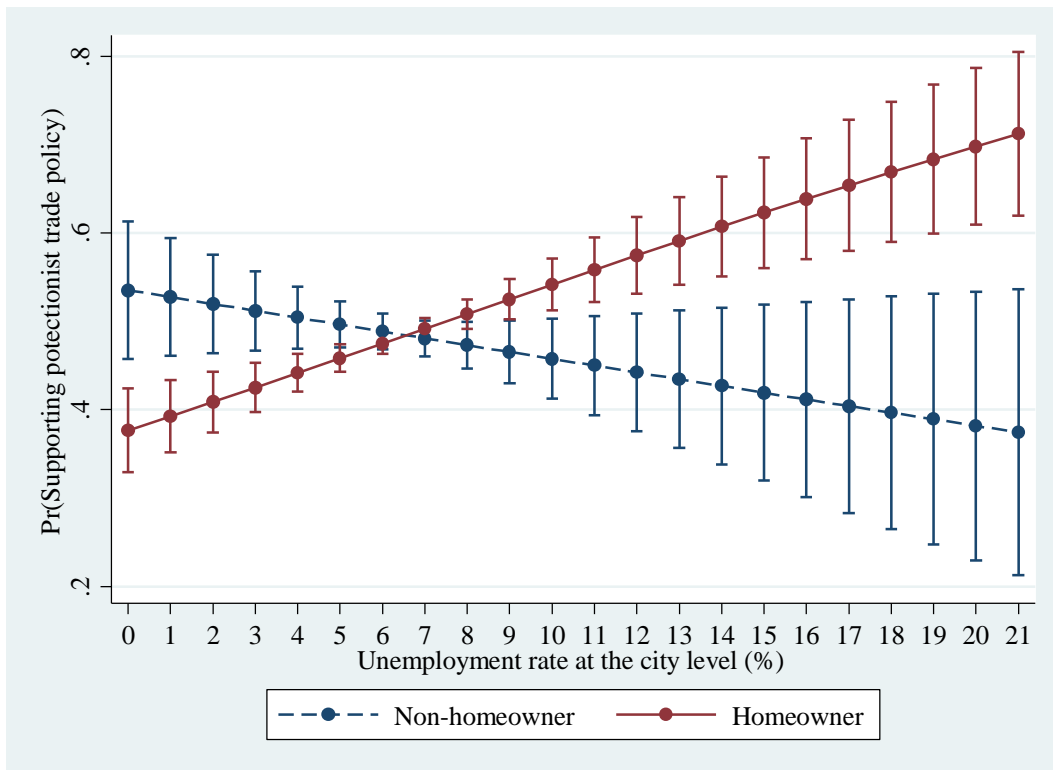


Figure 3. Predictive margins of homeowner dummy given unemployment rate

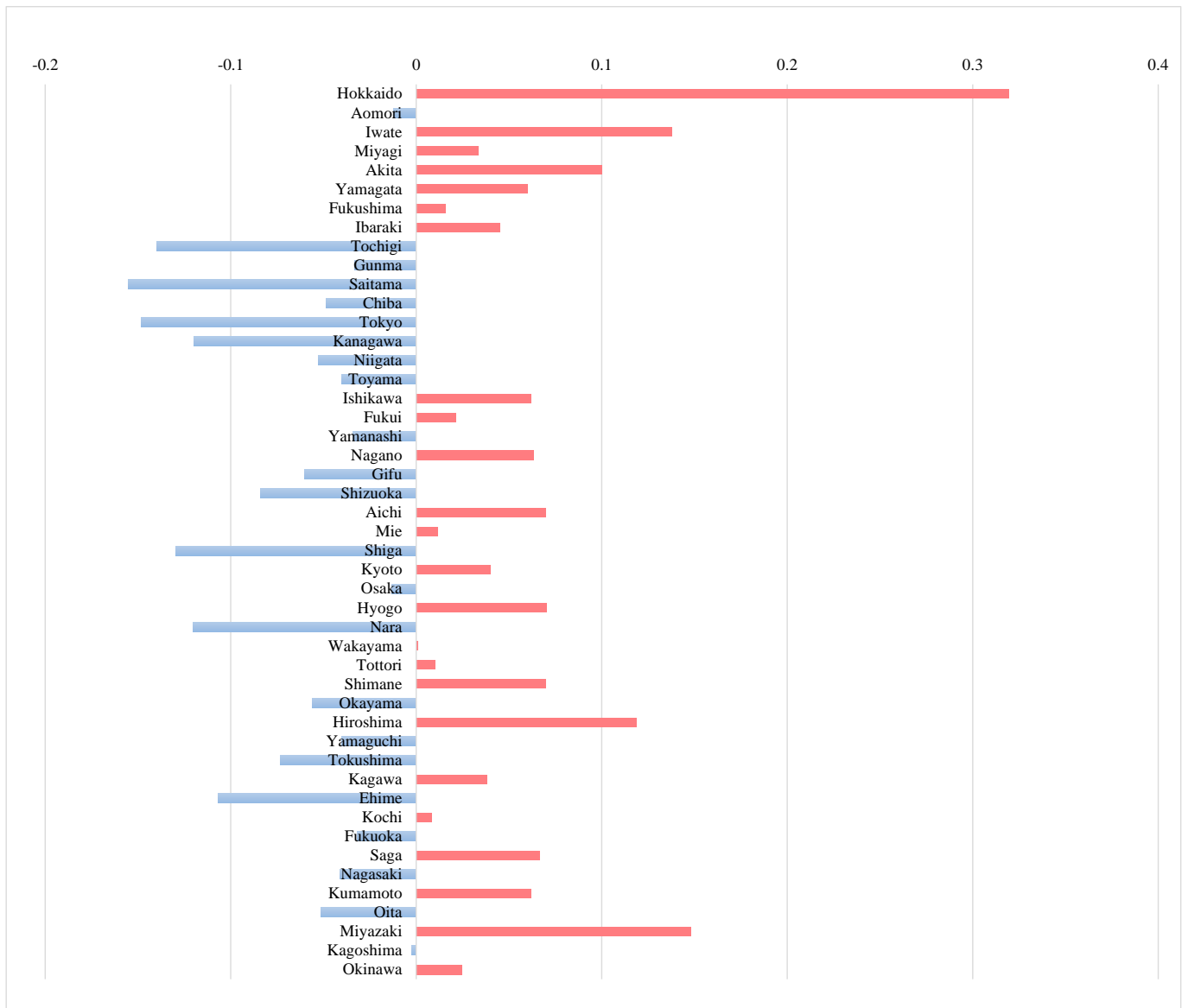


Figure 4. Unobserved heterogeneity in trade policy preferences across prefectures

Note: Random intercepts by prefectures are shown. Positive coefficients on the right-hand side indicate an increase in the probability of supporting a protectionist trade policy whereas negative coefficients on the left-hand side indicate an increase in the probability of supporting a free trade policy.

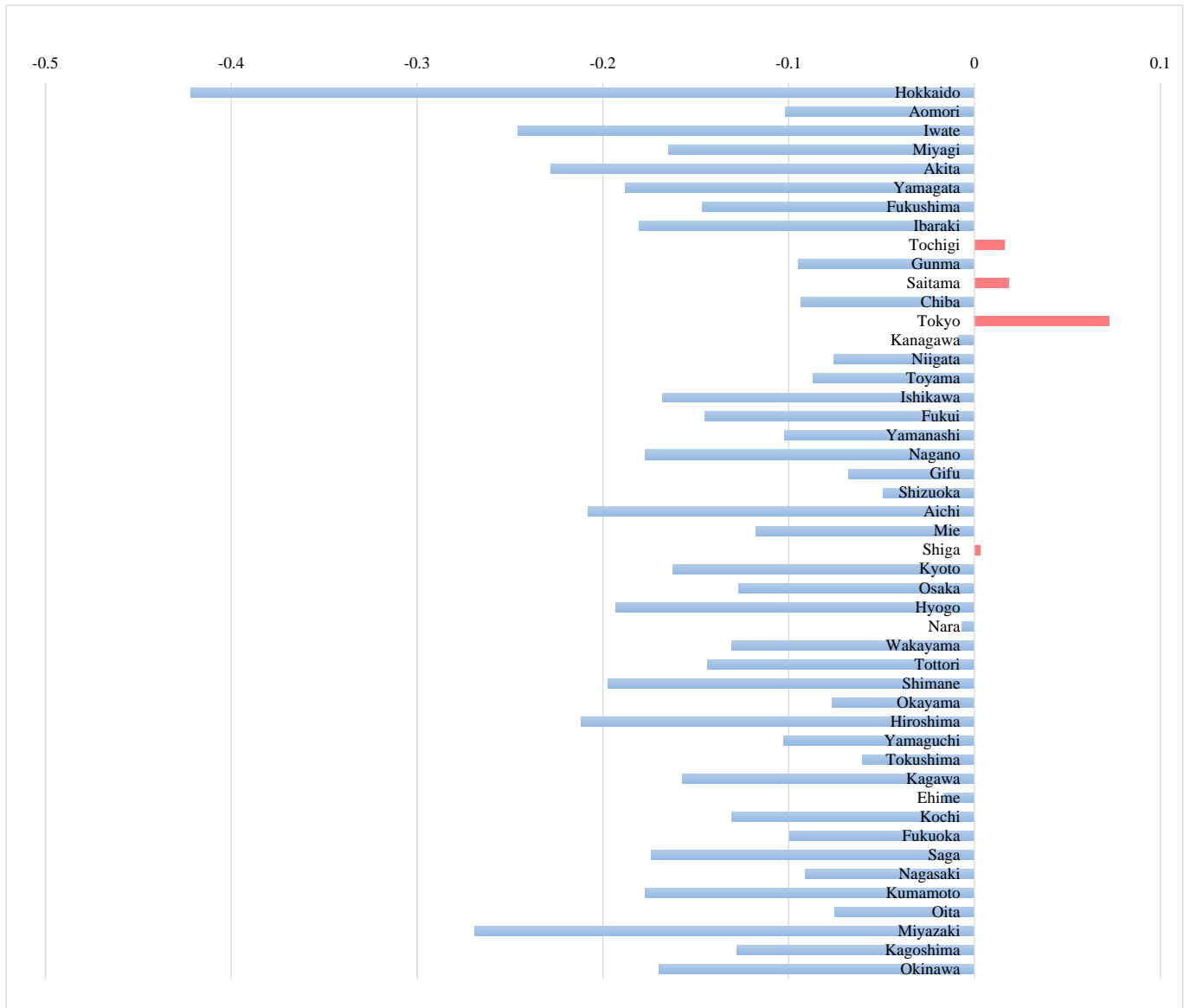


Figure 5. Regional differences in effect of inclination to migration

Note: Random coefficients of mobility inclination dummy by prefecture are shown. Positive coefficients on the right-hand side indicate an increase in the probability of supporting a protectionist trade policy whereas negative coefficients on the left-hand side indicate an increase in the probability of supporting a free trade policy.

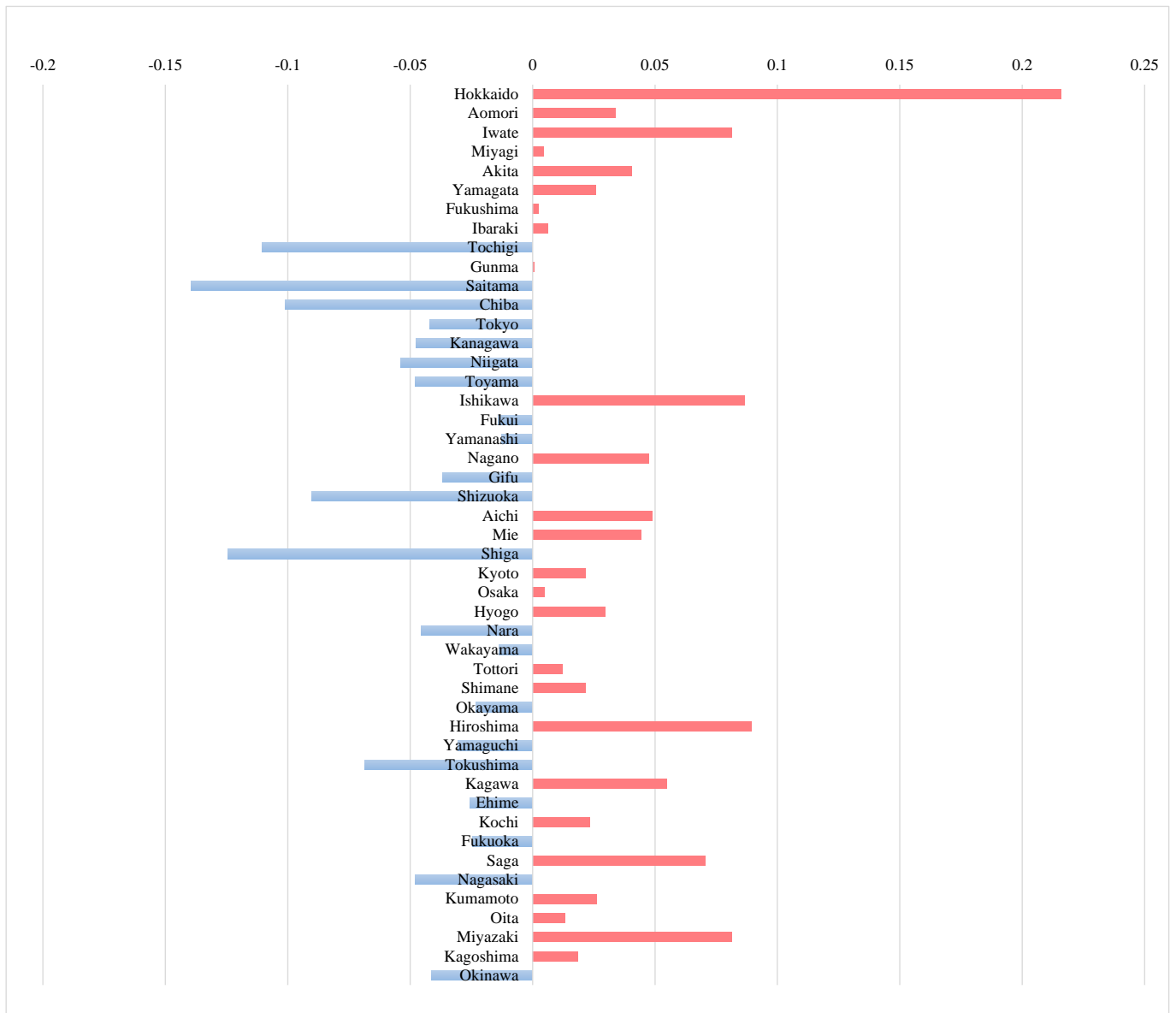


Figure 6. Regional differences in home ownership effect

Note: Random coefficients of home ownership dummy by prefecture are shown. Positive coefficients on the right-hand side indicate an increase in the probability of supporting a protectionist trade policy whereas negative coefficients on the left-hand side indicate an increase in the probability of supporting a free trade policy.

Table 1. Descriptive statistics and definition of variables (no. of obs. = 10,021)

| Definition of variables | Mean | S.D. | Min | Max |
|--|--------|--------|-------|--------|
| Policy preference (Protectionist or Not sure =1) | 0.483 | 0.500 | 0 | 1 |
| Policy preference (Protectionist =1) | 0.377 | 0.485 | 0 | 1 |
| The share of agricultural workers at the city level (% , 2010) | 2.778 | 4.030 | 0.007 | 75.145 |
| Unemployment rate at the city level (% , 2010) | 6.421 | 1.480 | 0.958 | 20.286 |
| Annual income: 0 | 0.094 | 0.291 | 0 | 1 |
| Annual income: under 1million yen | 0.166 | 0.373 | 0 | 1 |
| Annual income: 1-2million yen | 0.127 | 0.333 | 0 | 1 |
| Annual income: 2-3million yen | 0.144 | 0.351 | 0 | 1 |
| Annual income: 3-4million yen | 0.123 | 0.328 | 0 | 1 |
| Annual income: 4-5million yen | 0.088 | 0.284 | 0 | 1 |
| Annual income: 5-6million yen | 0.053 | 0.225 | 0 | 1 |
| Annual income: 6-7million yen | 0.034 | 0.181 | 0 | 1 |
| Annual income: 7-8million yen | 0.026 | 0.159 | 0 | 1 |
| Annual income: 8-9million yen | 0.015 | 0.121 | 0 | 1 |
| Annual income: 9-10million yen | 0.012 | 0.110 | 0 | 1 |
| Annual income: 10-12million yen | 0.011 | 0.106 | 0 | 1 |
| Annual income: 12-15million yen | 0.006 | 0.080 | 0 | 1 |
| Annual income: over 15million yen | 0.005 | 0.069 | 0 | 1 |
| Annual income: N.A. | 0.095 | 0.294 | 0 | 1 |
| Education: Graduated from a junior high school | 0.037 | 0.188 | 0 | 1 |
| Education: Graduated from a high school | 0.429 | 0.495 | 0 | 1 |
| Education: Graduated from a junior college or technical college | 0.126 | 0.331 | 0 | 1 |
| Education: Enrolling in college | 0.054 | 0.227 | 0 | 1 |
| Education: Graduated from a college or graduate school | 0.354 | 0.478 | 0 | 1 |
| Industry affiliation: Food, beverage, and tobacco manufacturing | 0.024 | 0.153 | 0 | 1 |
| Industry affiliation: Textile and apparel | 0.015 | 0.122 | 0 | 1 |
| Industry affiliation: Paper, pulp, lumber products, and printing | 0.007 | 0.082 | 0 | 1 |
| Industry affiliation: Chemical products | 0.016 | 0.124 | 0 | 1 |
| Industry affiliation: Metals and steel | 0.013 | 0.112 | 0 | 1 |
| Industry affiliation: Machine | 0.025 | 0.157 | 0 | 1 |
| Industry affiliation: Miscellaneous manufacturing | 0.092 | 0.289 | 0 | 1 |
| Industry affiliation: Mining | 0.001 | 0.032 | 0 | 1 |
| Industry affiliation: Agriculture, fishery, and forestry | 0.011 | 0.105 | 0 | 1 |
| Industry affiliation: Construction | 0.055 | 0.227 | 0 | 1 |
| Industry affiliation: Electricity, gas, and water supply | 0.012 | 0.109 | 0 | 1 |
| Industry affiliation: Transportation and distribution | 0.041 | 0.198 | 0 | 1 |
| Industry affiliation: Telecommunication | 0.053 | 0.224 | 0 | 1 |
| Industry affiliation: Medical, welfare, and health care | 0.075 | 0.264 | 0 | 1 |
| Industry affiliation: Education | 0.071 | 0.257 | 0 | 1 |
| Industry affiliation: Wholesale and retail trade | 0.108 | 0.310 | 0 | 1 |
| Industry affiliation: Catering, restaurants and lodging | 0.043 | 0.202 | 0 | 1 |
| Industry affiliation: Finance, insurance, and real estate | 0.066 | 0.249 | 0 | 1 |
| Industry affiliation: Miscellaneous services | 0.188 | 0.391 | 0 | 1 |
| Industry affiliation: Government services | 0.058 | 0.234 | 0 | 1 |
| Occupation: Production and other operations | 0.066 | 0.248 | 0 | 1 |
| Occupation: Sales, clerical, or services | 0.360 | 0.480 | 0 | 1 |
| Occupation: Managerial occupation | 0.125 | 0.331 | 0 | 1 |
| Occupation: Professional or technical occupation | 0.284 | 0.451 | 0 | 1 |
| Occupation: Other occupations | 0.136 | 0.343 | 0 | 1 |
| Occupation: Never worked or in school | 0.028 | 0.166 | 0 | 1 |
| Employment type: Officer or executive | 0.070 | 0.255 | 0 | 1 |
| Employment type: Regular employee or public servant | 0.449 | 0.497 | 0 | 1 |
| Employment type: Non-regular employee | 0.294 | 0.456 | 0 | 1 |
| Employment type: Self-employment or profession | 0.148 | 0.355 | 0 | 1 |
| Employment type: In school or no experience to work | 0.039 | 0.194 | 0 | 1 |
| Gender: Female=1 | 0.485 | 0.500 | 0 | 1 |
| Age | 49.153 | 16.293 | 20 | 79 |
| Employed: People who are employed=1 | 0.610 | 0.488 | 0 | 1 |
| Having a child: People who have a child=1 | 0.637 | 0.481 | 0 | 1 |
| Patriot: People who are strongly proud of one's own country and hometown=1 | 0.357 | 0.479 | 0 | 1 |
| Disaster victim: People who are damaged by the East Japan great earthquake=1 | 0.071 | 0.258 | 0 | 1 |
| Food checker: People who check an additive and the place of origin=1 | 0.689 | 0.463 | 0 | 1 |
| Risk averter: People who do not buy a lottery even with half of winning | 0.303 | 0.460 | 0 | 1 |
| Optimist: Optimistic about future prospect of Japanese economy=1 | 0.135 | 0.341 | 0 | 1 |
| Homeowner: People who own a house | 0.726 | 0.446 | 0 | 1 |
| Moving: People who plan or want to move=1 | 0.366 | 0.482 | 0 | 1 |
| Job change: People who plan or want to change one's job=1 | 0.323 | 0.468 | 0 | 1 |

Table 2. Basic results of logistic regression on trade policy preferences

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| Agricultural workers share | 1.020*** [0.00525] | 1.020*** [0.00535] | 1.017*** [0.00540] | 1.017*** [0.00557] | 1.017*** [0.00558] | 1.011* [0.00671] |
| Unemployment rate | 1.036** [0.0144] | 1.042*** [0.0144] | 1.035** [0.0145] | 1.043*** [0.0150] | 1.043*** [0.0151] | 1.049** [0.0209] |
| Annual income: 0 | 1.043 [0.0871] | | 1.021 [0.0871] | 0.89 [0.0824] | 0.889 [0.0823] | 0.892 [0.0832] |
| Annual income: 1-2million yen | 0.830** [0.0632] | | 0.865* [0.0671] | 0.947 [0.0760] | 0.951 [0.0764] | 0.965 [0.0780] |
| Annual income: 2-3million yen | 0.654*** [0.0483] | | 0.706*** [0.0552] | 0.856* [0.0714] | 0.859* [0.0718] | 0.865* [0.0728] |
| Annual income: 3-4million yen | 0.554*** [0.0431] | | 0.619*** [0.0521] | 0.753*** [0.0691] | 0.756*** [0.0694] | 0.765*** [0.0707] |
| Annual income: 4-5million yen | 0.464*** [0.0404] | | 0.538*** [0.0507] | 0.650*** [0.0667] | 0.648*** [0.0667] | 0.657*** [0.0681] |
| Annual income: 5-6million yen | 0.532*** [0.0549] | | 0.618*** [0.0681] | 0.780** [0.0930] | 0.779** [0.0930] | 0.779** [0.0938] |
| Annual income: 6-7million yen | 0.585*** [0.0714] | | 0.693*** [0.0898] | 0.903 [0.125] | 0.9 [0.125] | 0.917 [0.128] |
| Annual income: 7-8million yen | 0.356*** [0.0513] | | 0.423*** [0.0639] | 0.521*** [0.0829] | 0.517*** [0.0824] | 0.528*** [0.0848] |
| Annual income: 8-9million yen | 0.275*** [0.0540] | | 0.337*** [0.0685] | 0.433*** [0.0909] | 0.432*** [0.0909] | 0.449*** [0.0948] |
| Annual income: 9-10million yen | 0.272*** [0.0584] | | 0.357*** [0.0788] | 0.455*** [0.104] | 0.451*** [0.103] | 0.450*** [0.103] |
| Annual income: 10-12million yen | 0.273*** [0.0616] | | 0.386*** [0.0896] | 0.511*** [0.122] | 0.509*** [0.122] | 0.517*** [0.124] |
| Annual income: 12-15million yen | 0.212*** [0.0671] | | 0.304*** [0.0982] | 0.372*** [0.122] | 0.373*** [0.122] | 0.373*** [0.123] |
| Annual income: over 15million yen | 0.405*** [0.126] | | 0.522** [0.168] | 0.699 [0.230] | 0.694 [0.229] | 0.706 [0.234] |
| Annual income: N.A. | 0.829** [0.0685] | | 0.898 [0.0765] | 0.953 [0.0842] | 0.952 [0.0841] | 0.956 [0.0851] |
| Education: Junior high school | 0.859 [0.0946] | | 0.9 [0.101] | 0.969 [0.111] | 0.972 [0.112] | 0.965 [0.112] |
| Education: Junior college or technical college | 1.037 [0.0678] | | 0.998 [0.0662] | 0.856** [0.0583] | 0.858** [0.0584] | 0.861** [0.0590] |
| Education: Enrolling in college | 1.107 [0.105] | | 0.954 [0.118] | 0.877 [0.112] | 0.878 [0.112] | 0.879 [0.113] |
| Education: College or graduate school | 0.800*** [0.0386] | | 0.800*** [0.0403] | 0.767*** [0.0405] | 0.773*** [0.0408] | 0.782*** [0.0417] |
| Ind: Food, beverage, and tobacco | | 1.122 [0.162] | 1.125 [0.163] | 1.071 [0.158] | 1.073 [0.159] | 1.068 [0.159] |
| Ind: Textile and apparel | | 1.051 [0.182] | 0.946 [0.166] | 1.001 [0.179] | 0.993 [0.178] | 1 [0.180] |
| Ind: Paper, pulp, lumber products, and printing | | 1.018 [0.260] | 0.964 [0.247] | 1.013 [0.268] | 1.002 [0.265] | 0.999 [0.264] |
| Ind: Chemical products | | 0.824 [0.145] | 0.894 [0.161] | 0.962 [0.176] | 0.956 [0.175] | 0.978 [0.180] |
| Ind: Metals and steel | | 0.863 [0.167] | 0.85 [0.166] | 0.964 [0.192] | 0.956 [0.191] | 0.985 [0.198] |
| Ind: Machine | | 0.819 [0.116] | 0.892 [0.127] | 0.976 [0.143] | 0.968 [0.142] | 0.968 [0.143] |
| Ind: Miscellaneous manufacturing | | 0.941 [0.0830] | 0.989 [0.0883] | 1.068 [0.0979] | 1.056 [0.0970] | 1.063 [0.0985] |
| Ind: Mining | | 1.357 [0.879] | 1.469 [0.966] | 1.698 [1.180] | 1.72 [1.192] | 1.865 [1.303] |
| Ind: Agriculture, fishery, and forestry | | 2.698*** [0.597] | 2.805*** [0.627] | 3.133*** [0.713] | 3.109*** [0.708] | 3.169*** [0.729] |
| Ind: Construction | | 0.986 [0.0991] | 0.991 [0.101] | 1.034 [0.108] | 1.034 [0.108] | 1.008 [0.106] |
| Ind: Electricity, gas, and water supply | | 0.89 [0.173] | 0.944 [0.186] | 1.101 [0.221] | 1.096 [0.221] | 1.055 [0.214] |
| Ind: Transportation and distribution | | 0.97 [0.109] | 0.992 [0.112] | 1.075 [0.125] | 1.074 [0.125] | 1.086 [0.127] |
| Ind: Telecommunication | | 1.210* [0.123] | 1.261** [0.130] | 1.287** [0.136] | 1.292** [0.136] | 1.285** [0.137] |
| Ind: Medical, welfare, and health care | | 1.360*** [0.121] | 1.328*** [0.120] | 1.126 [0.105] | 1.122 [0.105] | 1.11 [0.104] |
| Ind: Education | | 1.225** [0.111] | 1.297*** [0.120] | 1.301*** [0.125] | 1.285*** [0.124] | 1.277** [0.124] |
| Ind: Wholesale and retail trade | | 1.049 [0.0841] | 1.066 [0.0862] | 1.144 [0.0948] | 1.137 [0.0943] | 1.126 [0.0941] |
| Ind: Catering, restaurants and lodging | | 1.047 [0.115] | 1.015 [0.113] | 1.005 [0.114] | 1.004 [0.114] | 1.035 [0.118] |
| Ind: Finance, insurance, and real estate | | 0.923 [0.0871] | 0.95 [0.0909] | 0.998 [0.0979] | 0.993 [0.0975] | 0.992 [0.0980] |
| Ind: Government services | | 1.271** [0.125] | 1.400*** [0.140] | 1.630*** [0.168] | 1.607*** [0.166] | 1.587*** [0.166] |

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] |
|--|---------|----------|----------|-----------|-----------|-----------|
| (cont.) | | | | | | |
| Occupation: Production and other operations | | 0.832* | 0.828** | 0.92 | 0.922 | 0.927 |
| | | [0.0786] | [0.0793] | [0.0908] | [0.0911] | [0.0922] |
| Occupation: Managerial occupation | | 0.405*** | 0.501*** | 0.709*** | 0.714*** | 0.716*** |
| | | [0.0304] | [0.0390] | [0.0584] | [0.0589] | [0.0593] |
| Occupation: Professional or technical occupation | | 0.670*** | 0.748*** | 0.889* | 0.892* | 0.895* |
| | | [0.0386] | [0.0441] | [0.0548] | [0.0550] | [0.0555] |
| Occupation: Other occupations | | 0.779*** | 0.774*** | 0.895 | 0.895 | 0.889* |
| | | [0.0526] | [0.0529] | [0.0631] | [0.0631] | [0.0630] |
| Occupation: Never worked or in school | | 0.99 | 0.977 | 1.104 | 1.08 | 1.099 |
| | | [0.192] | [0.191] | [0.224] | [0.220] | [0.225] |
| Emp type: Officer or executive | | 0.808** | 0.841* | 0.947 | 0.944 | 0.932 |
| | | [0.0719] | [0.0759] | [0.0878] | [0.0876] | [0.0871] |
| Emp type: Non-regular employee | | 1.238*** | 0.972 | 0.903* | 0.917 | 0.925 |
| | | [0.0636] | [0.0550] | [0.0533] | [0.0544] | [0.0552] |
| Emp type: Self-employment or profession | | 0.941 | 0.854** | 0.944 | 0.946 | 0.947 |
| | | [0.0612] | [0.0571] | [0.0662] | [0.0664] | [0.0669] |
| Emp type: In school or no experience to work | | 1.666*** | 1.212 | 0.926 | 0.919 | 0.902 |
| | | [0.278] | [0.232] | [0.184] | [0.183] | [0.181] |
| Gender: Female=1 | | | | 1.680*** | 1.686*** | 1.697*** |
| | | | | [0.0934] | [0.0940] | [0.0953] |
| Age | | | | 0.980*** | 0.973*** | 0.977*** |
| | | | | [0.00191] | [0.00202] | [0.00203] |
| Currently employed | | | | 1.064 | 1.068 | 1.06 |
| | | | | [0.0657] | [0.0659] | [0.0659] |
| Having a child | | | | 0.904* | 0.894** | 0.893** |
| | | | | [0.0477] | [0.0475] | [0.0478] |
| Patriot | | | | 1.244*** | 1.247*** | 1.260*** |
| | | | | [0.0554] | [0.0556] | [0.0566] |
| Disaster victim | | | | 0.922 | 0.926 | 0.923 |
| | | | | [0.0759] | [0.0763] | [0.0889] |
| Food checker | | | | 1.263*** | 1.274*** | 1.274*** |
| | | | | [0.0607] | [0.0614] | [0.0618] |
| Risk averter | | | | 1.382*** | 1.373*** | 1.370*** |
| | | | | [0.0647] | [0.0644] | [0.0646] |
| Optimist | | | | 0.744*** | 0.741*** | 0.744*** |
| | | | | [0.0472] | [0.0470] | [0.0474] |
| Home owner | | | | | 0.989 | 0.998 |
| | | | | | [0.0523] | [0.0536] |
| Moving inclination | | | | | 0.900** | 0.902** |
| | | | | | [0.0466] | [0.0470] |
| Job change inclination | | | | | 0.907* | 0.906* |
| | | | | | [0.0469] | [0.0472] |
| Prefecture fixed effects | No | No | No | No | No | Yes |
| Constant | 1.103 | 0.787** | 1.235* | 1.536** | 1.816*** | 1.758*** |
| | [0.118] | [0.0868] | [0.157] | [0.264] | [0.329] | [0.360] |
| N of obs. | 10,021 | 10,021 | 10,021 | 10,021 | 10,021 | 10,021 |
| Log-likelihood | -6734 | -6737 | -6649 | -6441 | -6436 | -6399 |
| d.f. | 20 | 30 | 48 | 57 | 60 | 106 |
| Chi-squared statistic | 411.2 | 406.7 | 582.3 | 997.9 | 1009 | 1082 |

Note: This table shows the coefficients as odds ratio and standard errors as odds ratio are shown in parentheses.

*, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Table 3. Results of interaction terms from logistic regression

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] |
|--|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|----------------------|
| Agricultural workers share | 1.017*** [0.00569] | 1.025*** [0.00686] | 1.019 [0.0142] | 1.025*** [0.00686] | 1.025*** [0.00685] | 1.020** [0.00780] |
| Unemployment rate | 1.043*** [0.0151] | 1.043*** [0.0151] | 1.043*** [0.0151] | 1.061*** [0.0196] | 0.966 [0.0255] | 0.968 [0.0298] |
| Ind: Agriculture, fishery, and forestry | 2.956*** [0.940] | 3.076*** [0.702] | 3.064*** [0.699] | 3.074*** [0.701] | 3.068*** [0.700] | 3.116*** [0.716] |
| Home owner | 0.989 [0.0523] | 0.991 [0.0525] | 0.975 [0.0612] | 0.992 [0.0525] | 0.489*** [0.103] | 0.489*** [0.105] |
| Moving inclination | 0.900** [0.0466] | 0.961 [0.0575] | 0.956 [0.0580] | 1.273 [0.254] | 0.962 [0.0576] | 0.965 [0.0582] |
| Ind: Agriculture, fishery, and forestry × Agricultural workers share | 1.007 [0.0296] | | | | | |
| Moving inclination × Agricultural workers share | | 0.976** [0.0110] | 0.978* [0.0117] | 0.975** [0.0110] | 0.975** [0.0110] | 0.974** [0.0112] |
| Home owner × Agricultural workers share | | | 1.007 [0.0140] | | | |
| Moving inclination × Unemployment rate | | | | 0.957 [0.0282] | | |
| Home owner × Unemployment rate | | | | | 1.116*** [0.0352] | 1.118*** [0.0360] |
| Prefecture fixed effects | No | No | No | No | No | Yes |
| Constant | 1.818*** [0.329] | 1.765*** [0.320] | 1.792*** [0.330] | 1.587** [0.310] | 2.924*** [0.681] | 2.836*** [0.720] |
| N of obs. | 10,021 | 10,021 | 10021 | 10021 | 10021 | 10021 |
| Log-likelihood | -6436 | -6433 | -6433 | -6432 | -6427 | -6391 |
| d.f. | 61 | 61 | 62 | 62 | 62 | 108 |
| Chi-squared statistic | 1009 | 1014 | 1014 | 1016 | 1026 | 1098 |

Note: This table shows the coefficients as odds ratio and standard errors as odds ratio are shown in parentheses. The results of other variables are suppressed.

*, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Table 4. Results from multilevel mixed logistic regression

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] | [7] |
|---|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|----------------------|-----------------------|
| Agricultural workers share | 1.019*** [0.00557] | 1.016*** [0.00569] | 1.015** [0.00595] | 1.023*** [0.00715] | 1.023*** [0.00715] | 1.014** [0.00594] | 1.015*** [0.00587] |
| Unemployment rate | 1.036** [0.0157] | 1.036** [0.0158] | 1.041** [0.0166] | 0.962 [0.0266] | 0.962 [0.0266] | 1.038** [0.0165] | 1.038** [0.0160] |
| Annual income: 0 | 1.045 [0.0874] | 1.022 [0.0874] | 0.888 [0.0825] | 0.89 [0.0827] | 0.89 [0.0827] | 0.891 [0.0828] | 0.888 [0.0825] |
| Annual income: 1-2million yen | 0.833** [0.0635] | 0.868* [0.0674] | 0.957 [0.0770] | 0.959 [0.0772] | 0.959 [0.0772] | 0.959 [0.0773] | 0.957 [0.0771] |
| Annual income: 2-3million yen | 0.653*** [0.0484] | 0.706*** [0.0553] | 0.861* [0.0721] | 0.862* [0.0722] | 0.862* [0.0722] | 0.862* [0.0723] | 0.860* [0.0720] |
| Annual income: 3-4million yen | 0.554*** [0.0432] | 0.620*** [0.0522] | 0.759*** [0.0699] | 0.759*** [0.0700] | 0.759*** [0.0700] | 0.759*** [0.0699] | 0.758*** [0.0698] |
| Annual income: 4-5million yen | 0.464*** [0.0404] | 0.539*** [0.0508] | 0.652*** [0.0672] | 0.651*** [0.0672] | 0.651*** [0.0672] | 0.653*** [0.0675] | 0.651*** [0.0671] |
| Annual income: 5-6million yen | 0.531*** [0.0549] | 0.618*** [0.0682] | 0.781** [0.0935] | 0.774** [0.0929] | 0.774** [0.0929] | 0.783** [0.0938] | 0.780** [0.0934] |
| Annual income: 6-7million yen | 0.585*** [0.0715] | 0.694*** [0.0900] | 0.905 [0.126] | 0.904 [0.126] | 0.904 [0.126] | 0.906 [0.126] | 0.903 [0.125] |
| Annual income: 7-8million yen | 0.355*** [0.0513] | 0.423*** [0.0641] | 0.520*** [0.0832] | 0.517*** [0.0827] | 0.517*** [0.0827] | 0.518*** [0.0829] | 0.517*** [0.0827] |
| Annual income: 8-9million yen | 0.277*** [0.0544] | 0.340*** [0.0692] | 0.439*** [0.0925] | 0.440*** [0.0927] | 0.440*** [0.0927] | 0.443*** [0.0934] | 0.440*** [0.0927] |
| Annual income: 9-10million yen | 0.270*** [0.0582] | 0.356*** [0.0787] | 0.451*** [0.103] | 0.447*** [0.102] | 0.447*** [0.102] | 0.450*** [0.103] | 0.450*** [0.103] |
| Annual income: 10-12million yen | 0.272*** [0.0615] | 0.385*** [0.0895] | 0.511*** [0.122] | 0.508*** [0.122] | 0.508*** [0.122] | 0.514*** [0.123] | 0.513*** [0.123] |
| Annual income: 12-15million yen | 0.212*** [0.0671] | 0.305*** [0.0985] | 0.375*** [0.123] | 0.374*** [0.123] | 0.374*** [0.123] | 0.384*** [0.126] | 0.376*** [0.123] |
| Annual income: over 15million yen | 0.402*** [0.126] | 0.518** [0.167] | 0.694 [0.229] | 0.68 [0.225] | 0.68 [0.225] | 0.695 [0.230] | 0.699 [0.231] |
| Annual income: N.A. | 0.829** [0.0686] | 0.899 [0.0767] | 0.954 [0.0845] | 0.952 [0.0844] | 0.952 [0.0844] | 0.958 [0.0850] | 0.954 [0.0845] |
| Education: Junior high school | 0.857 [0.0945] | 0.898 [0.101] | 0.97 [0.112] | 0.969 [0.112] | 0.969 [0.112] | 0.972 [0.112] | 0.972 [0.112] |
| Education: Junior college or technical college | 1.037 [0.0679] | 0.999 [0.0664] | 0.858** [0.0585] | 0.859** [0.0586] | 0.859** [0.0586] | 0.857** [0.0585] | 0.857** [0.0584] |
| Education: Enrolling in college | 1.103 [0.105] | 0.951 [0.118] | 0.876 [0.112] | 0.869 [0.111] | 0.869 [0.111] | 0.878 [0.112] | 0.876 [0.112] |
| Education: College or graduate school | 0.801*** [0.0388] | 0.802*** [0.0406] | 0.776*** [0.0412] | 0.776*** [0.0412] | 0.776*** [0.0412] | 0.779*** [0.0414] | 0.776*** [0.0412] |
| Ind: Food, beverage, and tobacco | | 1.126 [0.164] | 1.073 [0.159] | 1.068 [0.158] | 1.068 [0.158] | 1.078 [0.160] | 1.073 [0.159] |
| Ind: Textile and apparel | | 0.95 [0.166] | 0.999 [0.179] | 0.999 [0.179] | 0.999 [0.179] | 0.998 [0.179] | 0.997 [0.179] |
| Ind: Paper, pulp, lumber products, and printing | | 0.966 [0.248] | 1.002 [0.265] | 1.005 [0.266] | 1.005 [0.266] | 0.999 [0.265] | 1.007 [0.266] |
| Ind: Chemical products | | 0.904 [0.163] | 0.969 [0.178] | 0.966 [0.178] | 0.966 [0.178] | 0.968 [0.178] | 0.961 [0.177] |
| Ind: Metals and steel | | 0.859 [0.168] | 0.967 [0.194] | 0.968 [0.194] | 0.968 [0.194] | 0.972 [0.195] | 0.969 [0.194] |
| Ind: Machine | | 0.893 [0.128] | 0.969 [0.142] | 0.977 [0.144] | 0.977 [0.144] | 0.971 [0.143] | 0.966 [0.142] |
| Ind: Miscellaneous manufacturing | | 0.993 [0.0889] | 1.061 [0.0978] | 1.062 [0.0980] | 1.062 [0.0980] | 1.064 [0.0982] | 1.06 [0.0976] |
| Ind: Mining | | 1.5 [0.988] | 1.774 [1.231] | 1.824 [1.270] | 1.824 [1.270] | 1.774 [1.235] | 1.754 [1.219] |
| Ind: Agriculture, fishery, and forestry | | 2.815*** [0.630] | 3.123*** [0.713] | 3.079*** [0.704] | 3.079*** [0.704] | 3.108*** [0.711] | 3.103*** [0.709] |
| Ind: Construction | | 0.985 [0.100] | 1.024 [0.107] | 1.023 [0.107] | 1.023 [0.107] | 1.024 [0.107] | 1.027 [0.107] |
| Ind: Electricity, gas, and water supply | | 0.936 [0.185] | 1.083 [0.218] | 1.081 [0.218] | 1.081 [0.218] | 1.079 [0.218] | 1.088 [0.219] |
| Ind: Transportation and distribution | | 0.998 [0.113] | 1.081 [0.126] | 1.08 [0.126] | 1.08 [0.126] | 1.083 [0.126] | 1.081 [0.126] |
| Ind: Telecommunication | | 1.259** [0.130] | 1.291** [0.136] | 1.286** [0.136] | 1.286** [0.136] | 1.293** [0.137] | 1.289** [0.136] |
| Ind: Medical, welfare, and health care | | 1.326*** [0.120] | 1.117 [0.104] | 1.118 [0.104] | 1.118 [0.104] | 1.115 [0.104] | 1.119 [0.104] |
| Ind: Education | | 1.294*** [0.120] | 1.280** [0.124] | 1.287*** [0.125] | 1.287*** [0.125] | 1.283** [0.124] | 1.279** [0.124] |
| Ind: Wholesale and retail trade | | 1.065 [0.0863] | 1.134 [0.0943] | 1.135 [0.0944] | 1.135 [0.0944] | 1.135 [0.0944] | 1.131 [0.0940] |
| Ind: Catering, restaurants and lodging | | 1.021 [0.113] | 1.011 [0.115] | 1.016 [0.116] | 1.016 [0.116] | 1.006 [0.114] | 1.006 [0.114] |
| Ind: Finance, insurance, and real estate | | 0.949 [0.0910] | 0.992 [0.0976] | 0.995 [0.0980] | 0.995 [0.0980] | 0.991 [0.0976] | 0.991 [0.0975] |
| Ind: Government services | | 1.396*** [0.140] | 1.597*** [0.166] | 1.594*** [0.166] | 1.594*** [0.166] | 1.593*** [0.166] | 1.598*** [0.166] |

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] | [7] |
|---|-----|-----------|-----------|-----------|-----------|-----------|-----------|
| (cont.) | | | | | | | |
| Occupation: Production and other operations | | 0.830* | 0.923 | 0.918 | 0.918 | 0.92 | 0.921 |
| | | [0.0796] | [0.0914] | [0.0910] | [0.0910] | [0.0913] | [0.0911] |
| Occupation: Managerial occupation | | 0.502*** | 0.715*** | 0.712*** | 0.712*** | 0.713*** | 0.716*** |
| | | [0.0391] | [0.0591] | [0.0589] | [0.0589] | [0.0590] | [0.0591] |
| Occupation: Professional or technical occupation | | 0.748*** | 0.894* | 0.892* | 0.892* | 0.891* | 0.891* |
| | | [0.0442] | [0.0552] | [0.0552] | [0.0552] | [0.0552] | [0.0550] |
| Occupation: Other occupations | | 0.773*** | 0.893 | 0.897 | 0.897 | 0.892 | 0.892 |
| | | [0.0528] | [0.0631] | [0.0634] | [0.0634] | [0.0631] | [0.0630] |
| Occupation: Never worked or in school | | 0.987 | 1.09 | 1.098 | 1.098 | 1.082 | 1.086 |
| | | [0.193] | [0.222] | [0.224] | [0.224] | [0.221] | [0.221] |
| Emp type: Officer or executive | | 0.836** | 0.938 | 0.939 | 0.939 | 0.938 | 0.937 |
| | | [0.0756] | [0.0873] | [0.0874] | [0.0874] | [0.0873] | [0.0872] |
| Emp type: Non-regular employee | | 0.974 | 0.921 | 0.918 | 0.918 | 0.922 | 0.92 |
| | | [0.0553] | [0.0547] | [0.0546] | [0.0546] | [0.0549] | [0.0546] |
| Emp type: Self-employment or profession | | 0.854** | 0.947 | 0.942 | 0.942 | 0.947 | 0.946 |
| | | [0.0571] | [0.0666] | [0.0664] | [0.0664] | [0.0667] | [0.0666] |
| Emp type: In school or no experience to work | | 1.207 | 0.912 | 0.9 | 0.9 | 0.919 | 0.915 |
| | | [0.232] | [0.182] | [0.180] | [0.180] | [0.184] | [0.183] |
| Gender: Female=1 | | | 1.692*** | 1.692*** | 1.692*** | 1.698*** | 1.691*** |
| | | | [0.0945] | [0.0946] | [0.0946] | [0.0950] | [0.0944] |
| Age | | | 0.978*** | 0.978*** | 0.978*** | 0.978*** | 0.978*** |
| | | | [0.00202] | [0.00202] | [0.00202] | [0.00202] | [0.00202] |
| Currently employed | | | 1.065 | 1.064 | 1.064 | 1.067 | 1.065 |
| | | | [0.0659] | [0.0659] | [0.0659] | [0.0661] | [0.0659] |
| Having a child | | | 0.894** | 0.894** | 0.894** | 0.895** | 0.895** |
| | | | [0.0476] | [0.0477] | [0.0477] | [0.0477] | [0.0476] |
| Patriot | | | 1.251*** | 1.251*** | 1.251*** | 1.249*** | 1.248*** |
| | | | [0.0559] | [0.0559] | [0.0559] | [0.0559] | [0.0558] |
| Disaster victim | | | 0.931 | 0.934 | 0.934 | 0.922 | 0.932 |
| | | | [0.0803] | [0.0807] | [0.0807] | [0.0790] | [0.0794] |
| Food checker | | | 1.274*** | 1.271*** | 1.271*** | 1.273*** | 1.272*** |
| | | | [0.0615] | [0.0614] | [0.0614] | [0.0616] | [0.0614] |
| Risk averter | | | 1.373*** | 1.374*** | 1.374*** | 1.371*** | 1.373*** |
| | | | [0.0645] | [0.0646] | [0.0646] | [0.0645] | [0.0645] |
| Optimist | | | 0.743*** | 0.742*** | 0.742*** | 0.743*** | 0.743*** |
| | | | [0.0472] | [0.0472] | [0.0472] | [0.0472] | [0.0472] |
| Home owner | | | 0.993 | 0.485*** | 0.485*** | 0.989 | 0.999 |
| | | | [0.0529] | [0.102] | [0.102] | [0.0527] | [0.0575] |
| Moving inclination | | | 0.901** | 0.963 | 0.963 | 0.883** | 0.902** |
| | | | [0.0467] | [0.0578] | [0.0578] | [0.0526] | [0.0468] |
| Job change inclination | | | 0.908* | 0.908* | 0.908* | 0.907* | 0.907* |
| | | | [0.0471] | [0.0472] | [0.0472] | [0.0471] | [0.0470] |
| Moving inclination × Agricultural workers share | | | | 0.975** | 0.975** | | |
| | | | | [0.0111] | [0.0111] | | |
| Home owner × Unemployment rate | | | | 1.118*** | 1.118*** | | |
| | | | | [0.0354] | [0.0354] | | |
| Constant | | 1.099 | 1.229 | 1.845*** | 3.018*** | 3.018*** | 1.907*** |
| | | [0.128] | [0.166] | [0.348] | [0.726] | [0.726] | [0.363] |
| Random intercept at the prefecture level | | 0.0915*** | 0.0888*** | 0.105*** | 0.106*** | 0.106*** | 0.154*** |
| | | [0.0337] | [0.0350] | [0.0342] | [0.0339] | [0.0339] | [0.0561] |
| Random intercept at the city level | | | | | | 3.76E-08 | |
| | | | | | | [0.0814] | |
| Random coefficient ([6]: Moving inclination, [7]: Home owner) | | | | | | 0.149*** | 0.118*** |
| | | | | | | [0.0390] | [0.0384] |
| N of obs. | | 10,021 | 10,021 | 10,021 | 10,021 | 10,021 | 10,021 |
| N of groups | | 47 | 47 | 47 | 47 | 47 | 47 |
| Log-likelihood | | -6733 | -6647 | -6433 | -6424 | -6424 | -6430 |
| d.f. | | 20 | 48 | 60 | 62 | 62 | 60 |
| Chi-squared statistic | | 376.4 | 520.6 | 872.7 | 884.5 | 884.5 | 866 |
| | | | | | | | 867 |

Note: This table shows the coefficients as odds ratio and standard errors as odds ratio are shown in parentheses.

*, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

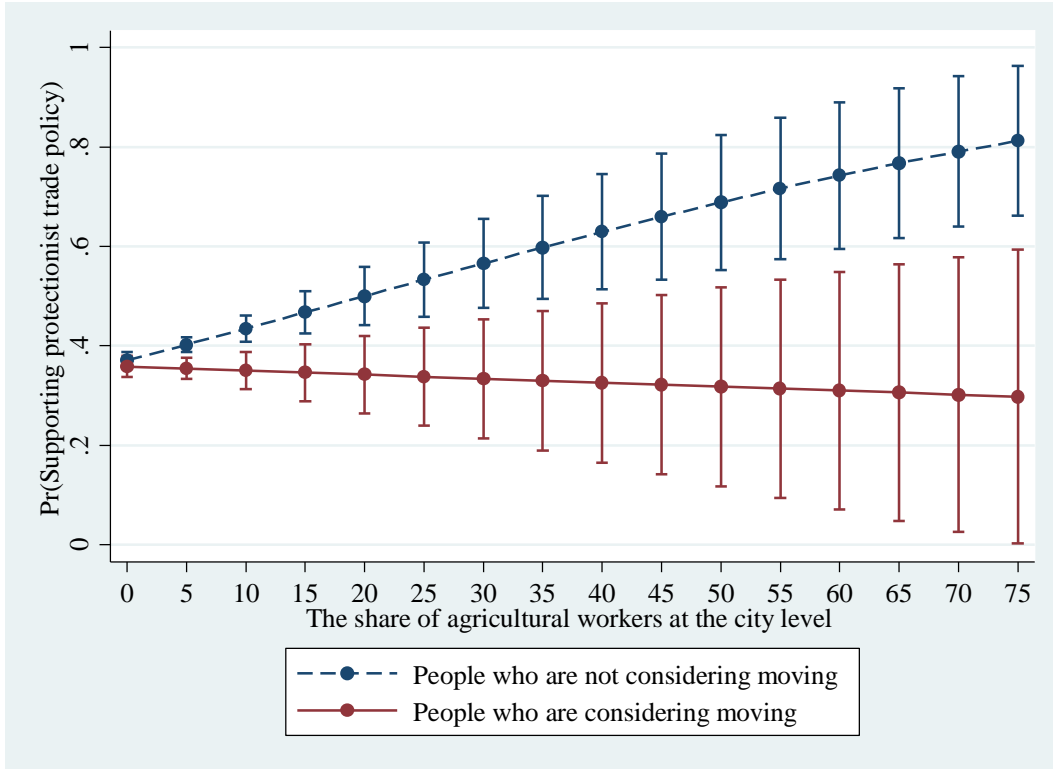


Figure A1. Predictive margins of mobility dummy given agricultural workers share
 (“cannot choose or unsure” excluded sample)

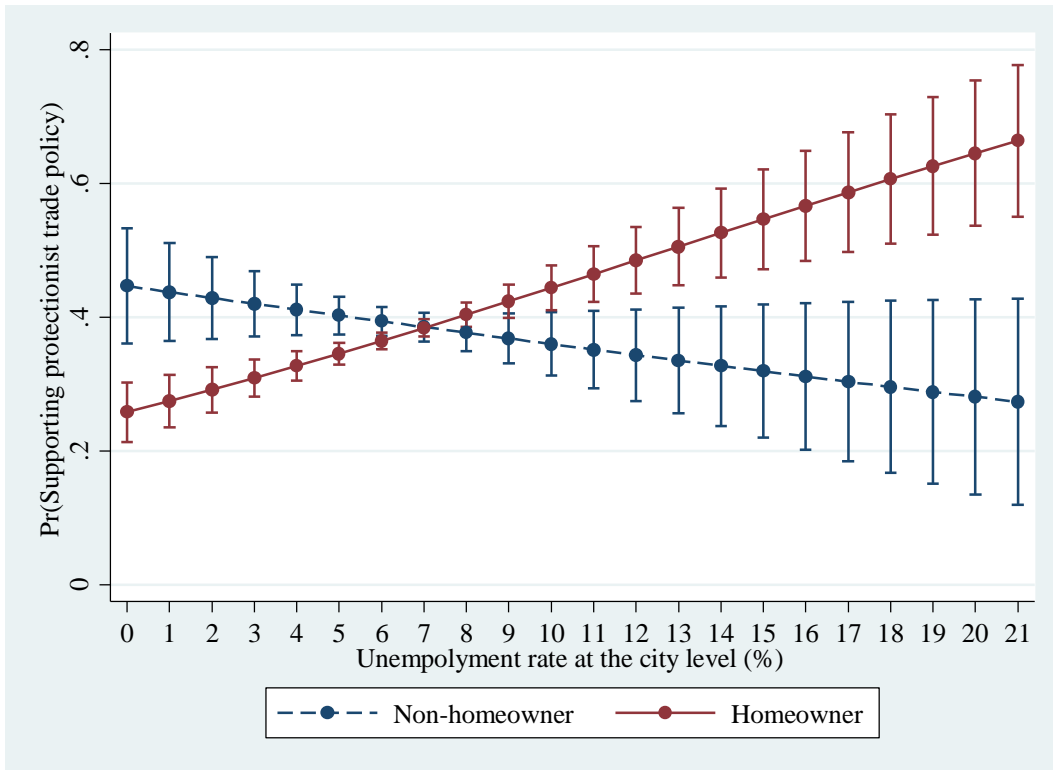


Figure A2. Predictive margins of homeowner dummy given unemployment rate
 (“cannot choose or unsure” excluded sample)

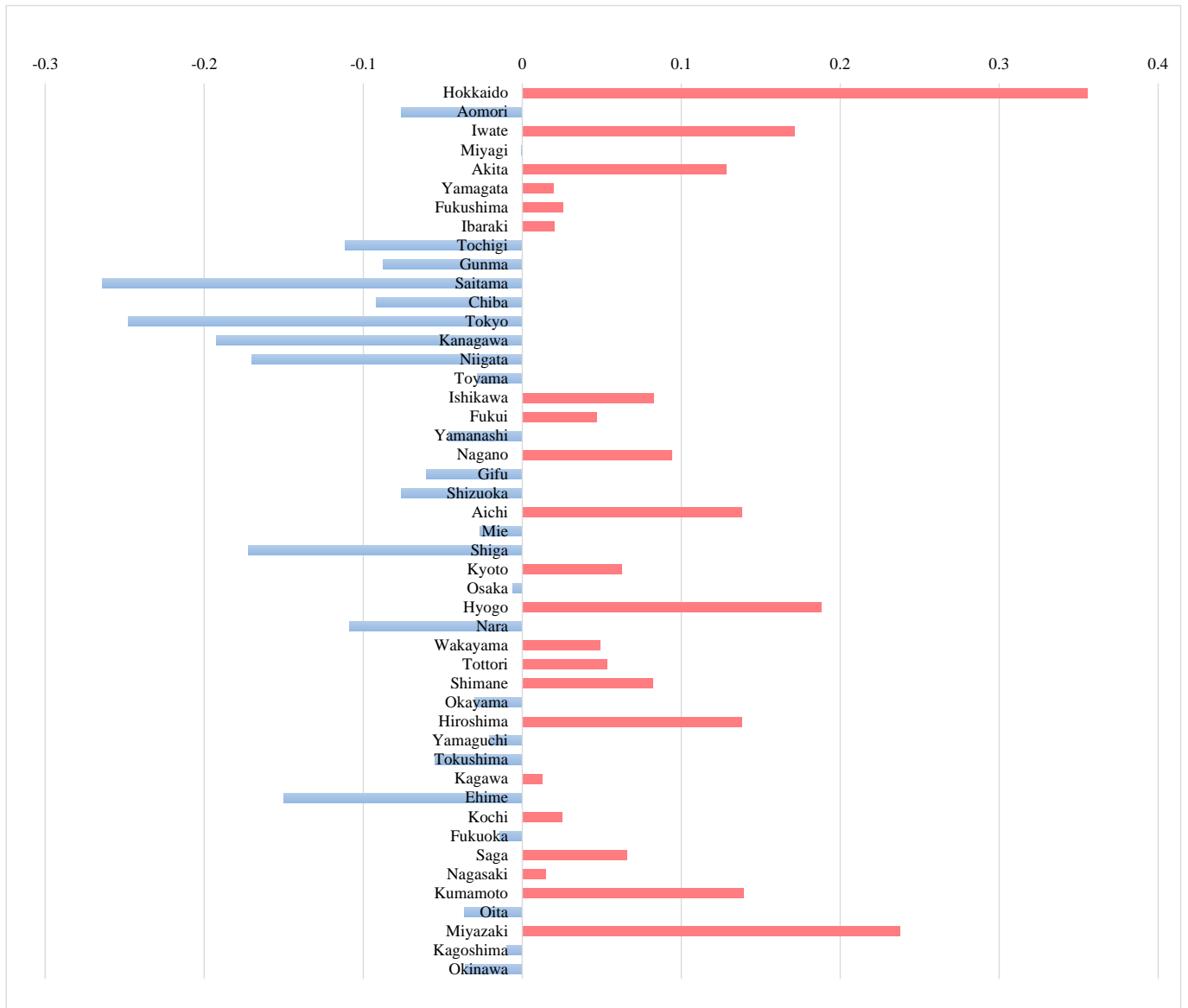


Figure A3. Unobserved heterogeneity in trade policy preferences across prefectures
 (“cannot choose or unsure” excluded sample)

Note: Random intercepts by prefectures are shown. Positive coefficients on the right-hand side indicate an increase in the probability of supporting a protectionist trade policy whereas negative coefficients on the left-hand side indicate an increase in the probability of supporting a free trade policy.

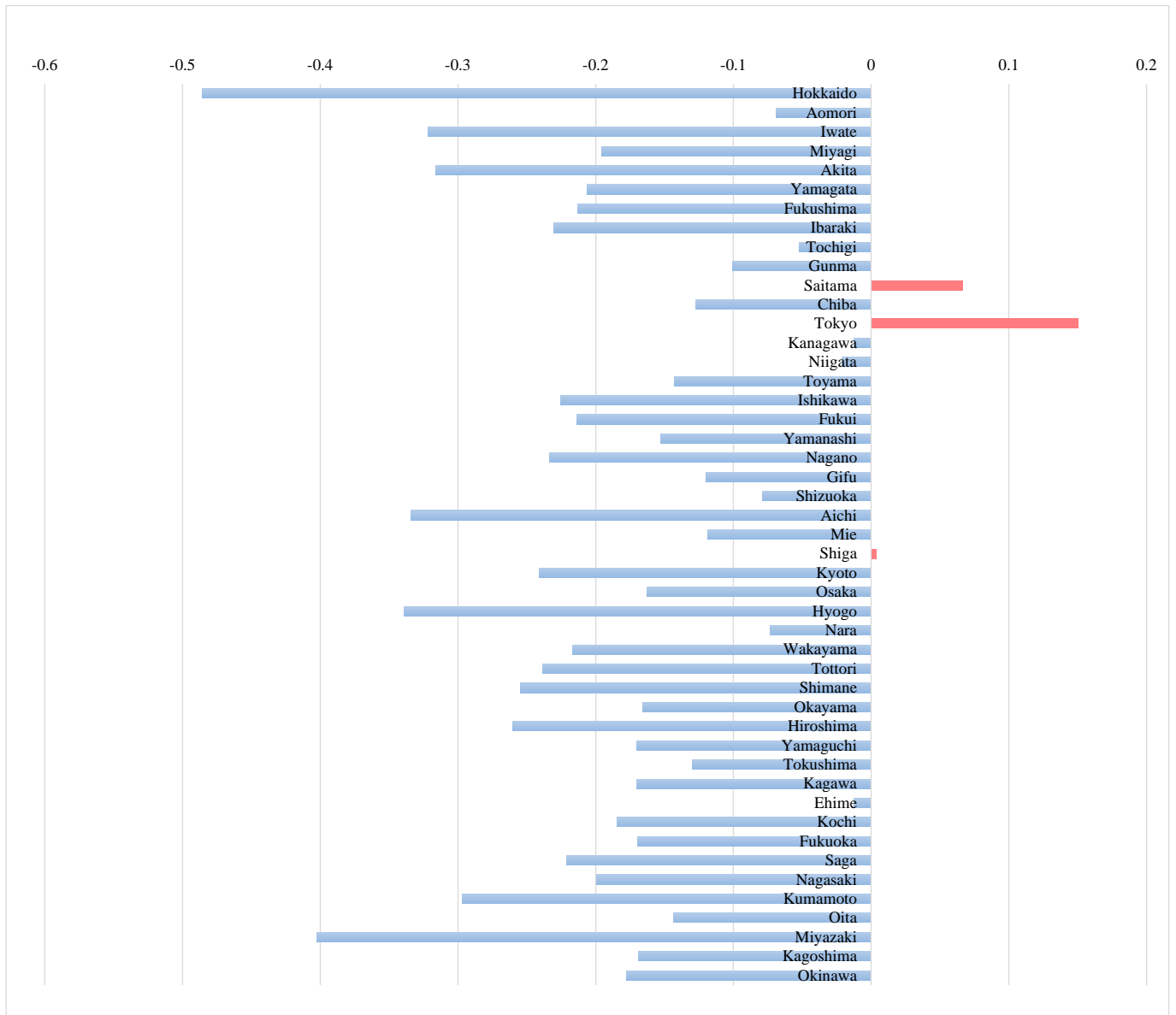


Figure A4. Regional differences in effect of inclination to migration
 (“cannot choose or unsure” excluded sample)

Note: Random coefficients of moving inclination dummy by prefectures are shown. Positive coefficients on the right-hand side indicate an increase in the probability of supporting a protectionist trade policy whereas negative coefficients on the left-hand side indicate an increase in the probability of supporting a free trade policy.

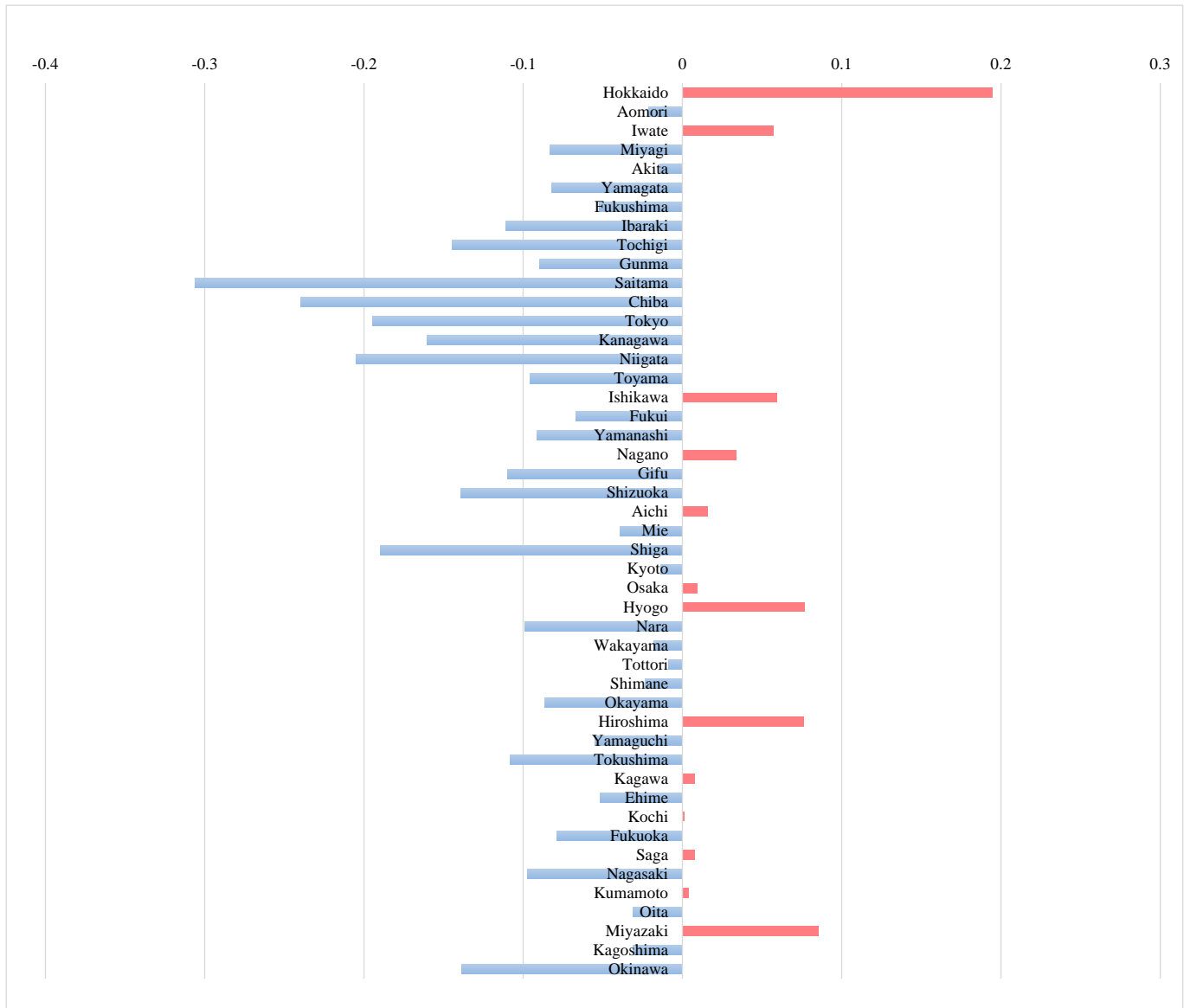


Figure A5. Regional differences in home ownership effect
 (“cannot choose or unsure” excluded sample)

Note: Random coefficients of home ownership dummy by prefectures are shown. Positive coefficients on the right-hand side indicate an increase in the probability of supporting a protectionist trade policy whereas negative coefficients on the left-hand side indicate an increase in the probability of supporting a free trade policy.

Table A1. Basic results of logistic regression (“cannot choose or unsure” excluded sample)

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| Agricultural workers share | 1.023*** [0.00596] | 1.022*** [0.00605] | 1.019*** [0.00612] | 1.019*** [0.00629] | 1.018*** [0.00631] | 1.011 [0.00762] |
| Unemployment rate | 1.044*** [0.0162] | 1.051*** [0.0164] | 1.044*** [0.0164] | 1.052*** [0.0169] | 1.052*** [0.0169] | 1.055** [0.0234] |
| Annual income: 0 | 0.987 [0.0925] | | 0.972 [0.0930] | 0.871 [0.0903] | 0.871 [0.0905] | 0.875 [0.0916] |
| Annual income: 1-2million yen | 0.882 [0.0746] | | 0.911 [0.0784] | 0.975 [0.0871] | 0.978 [0.0875] | 0.991 [0.0895] |
| Annual income: 2-3million yen | 0.695*** [0.0575] | | 0.739*** [0.0647] | 0.868 [0.0811] | 0.868 [0.0813] | 0.878 [0.0830] |
| Annual income: 3-4million yen | 0.596*** [0.0520] | | 0.656*** [0.0619] | 0.766*** [0.0788] | 0.767** [0.0790] | 0.774** [0.0804] |
| Annual income: 4-5million yen | 0.528*** [0.0511] | | 0.604*** [0.0634] | 0.697*** [0.0800] | 0.696*** [0.0801] | 0.704*** [0.0818] |
| Annual income: 5-6million yen | 0.600*** [0.0686] | | 0.690*** [0.0844] | 0.828 [0.110] | 0.828 [0.110] | 0.834 [0.112] |
| Annual income: 6-7million yen | 0.670*** [0.0899] | | 0.786* [0.112] | 0.976 [0.150] | 0.973 [0.149] | 1.004 [0.155] |
| Annual income: 7-8million yen | 0.365*** [0.0608] | | 0.421*** [0.0735] | 0.492*** [0.0905] | 0.491*** [0.0905] | 0.505*** [0.0940] |
| Annual income: 8-9million yen | 0.326*** [0.0710] | | 0.379*** [0.0855] | 0.465*** [0.109] | 0.466*** [0.109] | 0.488*** [0.115] |
| Annual income: 9-10million yen | 0.271*** [0.0691] | | 0.346*** [0.0900] | 0.418*** [0.112] | 0.417*** [0.112] | 0.421*** [0.114] |
| Annual income: 10-12million yen | 0.334*** [0.0828] | | 0.459*** [0.117] | 0.579** [0.152] | 0.581** [0.153] | 0.593** [0.157] |
| Annual income: 12-15million yen | 0.276*** [0.0936] | | 0.387*** [0.134] | 0.441** [0.155] | 0.444** [0.156] | 0.451** [0.160] |
| Annual income: over 15million yen | 0.428** [0.152] | | 0.496* [0.182] | 0.631 [0.236] | 0.626 [0.235] | 0.63 [0.239] |
| Annual income: N.A. | 0.658*** [0.0640] | | 0.713*** [0.0716] | 0.748*** [0.0775] | 0.749*** [0.0776] | 0.752*** [0.0786] |
| Education: Junior high school | 0.844 [0.106] | | 0.879 [0.112] | 0.939 [0.122] | 0.939 [0.123] | 0.925 [0.122] |
| Education: Junior college or technical college | 0.994 [0.0739] | | 0.955 [0.0721] | 0.831** [0.0643] | 0.832** [0.0645] | 0.834** [0.0652] |
| Education: Enrolling in college | 1.295** [0.133] | | 1.117 [0.150] | 0.999 [0.138] | 1.006 [0.139] | 1.017 [0.142] |
| Education: College or graduate school | 0.838*** [0.0455] | | 0.829*** [0.0469] | 0.781*** [0.0463] | 0.786*** [0.0467] | 0.800*** [0.0480] |
| Ind: Food, beverage, and tobacco | | 1.213 [0.196] | 1.225 [0.199] | 1.169 [0.193] | 1.174 [0.194] | 1.175 [0.196] |
| Ind: Textile and apparel | | 1.032 [0.207] | 0.946 [0.191] | 1.023 [0.211] | 1.008 [0.208] | 1 [0.208] |
| Ind: Paper, pulp, lumber products, and printing | | 1.218 [0.336] | 1.159 [0.321] | 1.241 [0.354] | 1.229 [0.350] | 1.219 [0.348] |
| Ind: Chemical products | | 1.073 [0.204] | 1.171 [0.225] | 1.225 [0.241] | 1.219 [0.240] | 1.269 [0.252] |
| Ind: Metals and steel | | 1.075 [0.226] | 1.062 [0.225] | 1.186 [0.257] | 1.181 [0.256] | 1.212 [0.264] |
| Ind: Machine | | 1.035 [0.159] | 1.118 [0.173] | 1.214 [0.193] | 1.207 [0.192] | 1.212 [0.194] |
| Ind: Miscellaneous manufacturing | | 0.971 [0.0980] | 1.011 [0.103] | 1.089 [0.114] | 1.082 [0.113] | 1.094 [0.116] |
| Ind: Mining | | 1.252 [0.926] | 1.391 [1.037] | 1.539 [1.181] | 1.548 [1.186] | 1.745 [1.342] |
| Ind: Agriculture, fishery, and forestry | | 3.192*** [0.754] | 3.300*** [0.787] | 3.511*** [0.852] | 3.507*** [0.851] | 3.632*** [0.891] |
| Ind: Construction | | 1.096 [0.124] | 1.091 [0.124] | 1.138 [0.133] | 1.141 [0.133] | 1.121 [0.132] |
| Ind: Electricity, gas, and water supply | | 0.918 [0.206] | 0.974 [0.221] | 1.146 [0.265] | 1.147 [0.265] | 1.089 [0.254] |
| Ind: Transportation and distribution | | 0.978 [0.127] | 0.978 [0.127] | 1.046 [0.139] | 1.044 [0.139] | 1.058 [0.142] |
| Ind: Telecommunication | | 1.222* [0.142] | 1.277** [0.149] | 1.299** [0.155] | 1.304** [0.156] | 1.305** [0.158] |
| Ind: Medical, welfare, and health care | | 1.445*** [0.145] | 1.423*** [0.144] | 1.239** [0.129] | 1.237** [0.129] | 1.215* [0.128] |
| Ind: Education | | 1.312*** [0.133] | 1.376*** [0.143] | 1.361*** [0.147] | 1.354*** [0.146] | 1.363*** [0.148] |
| Ind: Wholesale and retail trade | | 1.131 [0.103] | 1.141 [0.104] | 1.226** [0.115] | 1.221** [0.114] | 1.206** [0.114] |
| Ind: Catering, restaurants and lodging | | 1.053 [0.133] | 1.027 [0.130] | 0.99 [0.128] | 0.988 [0.128] | 1.016 [0.133] |
| Ind: Finance, insurance, and real estate | | 0.937 [0.103] | 0.962 [0.106] | 1 [0.113] | 1 [0.113] | 1.006 [0.115] |
| Ind: Government services | | 1.477*** [0.161] | 1.609*** [0.178] | 1.845*** [0.211] | 1.838*** [0.211] | 1.814*** [0.210] |

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] |
|--|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|
| (cont.) | | | | | | |
| Occupation: Production and other operations | | 0.881 [0.0935] | 0.879 [0.0944] | 0.969 [0.107] | 0.97 [0.107] | 0.974 [0.109] |
| Occupation: Managerial occupation | | 0.442*** [0.0378] | 0.523*** [0.0462] | 0.696*** [0.0649] | 0.700*** [0.0653] | 0.703*** [0.0660] |
| Occupation: Professional or technical occupation | | 0.740*** [0.0479] | 0.808*** [0.0534] | 0.931 [0.0641] | 0.934 [0.0643] | 0.941 [0.0653] |
| Occupation: Other occupations | | 0.754*** [0.0582] | 0.755*** [0.0588] | 0.870* [0.0698] | 0.869* [0.0698] | 0.867* [0.0701] |
| Occupation: Never worked or in school | | 1.046 [0.226] | 1.041 [0.227] | 1.161 [0.263] | 1.137 [0.258] | 1.186 [0.271] |
| Emp type: Officer or executive | | 0.872 [0.0873] | 0.906 [0.0916] | 0.997 [0.103] | 0.995 [0.103] | 0.975 [0.102] |
| Emp type: Non-regular employee | | 1.252*** [0.0726] | 1.014 [0.0649] | 0.946 [0.0632] | 0.955 [0.0640] | 0.967 [0.0654] |
| Emp type: Self-employment or profession | | 0.974 [0.0719] | 0.908 [0.0685] | 0.987 [0.0778] | 0.993 [0.0785] | 0.987 [0.0788] |
| Emp type: In school or no experience to work | | 1.867*** [0.347] | 1.26 [0.267] | 0.979 [0.215] | 0.991 [0.218] | 0.957 [0.212] |
| Gender: Female=1 | | | | 1.500*** [0.0939] | 1.511*** [0.0949] | 1.520*** [0.0963] |
| Age | | | | 0.981*** [0.00215] | 0.980*** [0.00227] | 0.980*** [0.00229] |
| Currently employed | | | | 1.069 [0.0743] | 1.073 [0.0746] | 1.068 [0.0749] |
| Having a child | | | | 0.915 [0.0545] | 0.912 [0.0547] | 0.908 [0.0549] |
| Patriot | | | | 1.455*** [0.0717] | 1.457*** [0.0718] | 1.478*** [0.0737] |
| Disaster victim | | | | 0.973 [0.0889] | 0.976 [0.0893] | 1.044 [0.112] |
| Food checker | | | | 1.411*** [0.0776] | 1.422*** [0.0783] | 1.414*** [0.0784] |
| Risk averter | | | | 1.342*** [0.0708] | 1.336*** [0.0706] | 1.337*** [0.0711] |
| Optimist | | | | 0.844** [0.0587] | 0.842** [0.0586] | 0.848** [0.0594] |
| Home owner | | | | | 0.928 [0.0550] | 0.935 [0.0564] |
| Moving inclination | | | | | 0.864** [0.0502] | 0.872** [0.0510] |
| Job change inclination | | | | | 0.969 [0.0562] | 0.971 [0.0567] |
| Prefecture fixed effects | No | No | No | No | No | Yes |
| Constant | 0.648*** [0.0777] | 0.433*** [0.0542] | 0.659*** [0.0941] | 0.732 [0.141] | 0.858 [0.173] | 0.786 [0.180] |
| N of obs. | 8,327 | 8,327 | 8,327 | 8,327 | 8,327 | 8,327 |
| Log-likelihood | -5389 | -5373 | -5321 | -5160 | -5156 | -5118 |
| d.f. | 20 | 30 | 48 | 57 | 60 | 106 |
| Chi-squared statistic | 260.6 | 291.5 | 396.2 | 717.4 | 725.6 | 802.4 |

Note: This table shows the coefficients as odds ratio and standard errors as odds ratio are shown in parentheses.

*, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Table A2. Results of interaction terms (“cannot choose or unsure” excluded sample)

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] |
|--|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|----------------------|
| Agricultural workers share | 1.018*** [0.00641] | 1.029*** [0.00767] | 1.02 [0.0162] | 1.030*** [0.00768] | 1.029*** [0.00767] | 1.022** [0.00878] |
| Unemployment rate | 1.052*** [0.0169] | 1.052*** [0.0169] | 1.052*** [0.0169] | 1.069*** [0.0221] | 0.961 [0.0280] | 0.961 [0.0327] |
| Ind: Agriculture, fishery, and forestry | 3.062*** [1.118] | 3.443*** [0.836] | 3.421*** [0.831] | 3.437*** [0.835] | 3.443*** [0.837] | 3.547*** [0.872] |
| Home owner | 0.928 [0.0550] | 0.93 [0.0552] | 0.908 [0.0641] | 0.93 [0.0552] | 0.398*** [0.0929] | 0.399*** [0.0950] |
| Moving inclination | 0.865** [0.0502] | 0.943 [0.0634] | 0.936 [0.0641] | 1.231 [0.274] | 0.944 [0.0636] | 0.953 [0.0647] |
| Ind: Agriculture, fishery, and forestry × Agricultural workers share | 1.018 [0.0365] | | | | | |
| Moving inclination × Agricultural workers share | | 0.968** [0.0125] | 0.971** [0.0135] | 0.967*** [0.0125] | 0.967*** [0.0125] | 0.966*** [0.0127] |
| Home owner × Agricultural workers share | | | 1.01 [0.0160] | | | |
| Moving inclination × Unemployment rate | | | | 0.96 [0.0315] | | |
| Home owner × Unemployment rate | | | | | 1.140*** [0.0398] | 1.141*** [0.0407] |
| Prefecture fixed effects | No | No | No | No | No | Yes |
| Constant | 0.861 [0.174] | 0.827 [0.168] | 0.846 [0.174] | 0.747 [0.163] | 1.501 [0.387] | 1.365 [0.386] |
| N of obs. | 8,327 | 8,327 | 8327 | 8327 | 8327 | 8327 |
| Log-likelihood | -5156 | -5153 | -5153 | -5152 | -5146 | -5108 |
| d.f. | 61 | 61 | 62 | 62 | 62 | 108 |
| Chi-squared statistic | 725.8 | 732.2 | 732.6 | 733.7 | 746.5 | 822.7 |

Note: This table shows the coefficients as odds ratio and standard errors as odds ratio are shown in parentheses. The results of other variables are suppressed.

*, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.

Table A3. Results from multilevel mixed model (“cannot choose or unsure” excluded sample)

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] | [7] |
|---|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|----------------------|----------------------|
| Agricultural workers share | 1.021*** [0.00644] | 1.017*** [0.00657] | 1.016** [0.00679] | 1.027*** [0.00806] | 1.027*** [0.00806] | 1.015** [0.00677] | 1.016** [0.00668] |
| Unemployment rate | 1.041** [0.0181] | 1.040** [0.0182] | 1.046** [0.0189] | 0.953 [0.0293] | 0.953 [0.0293] | 1.045** [0.0186] | 1.042** [0.0181] |
| Annual income: 0 | 0.99 [0.0931] | 0.974 [0.0935] | 0.872 [0.0909] | 0.87 [0.0908] | 0.87 [0.0908] | 0.874 [0.0912] | 0.871 [0.0908] |
| Annual income: 1-2million yen | 0.887 [0.0752] | 0.917 [0.0792] | 0.985 [0.0884] | 0.984 [0.0884] | 0.984 [0.0884] | 0.985 [0.0885] | 0.984 [0.0884] |
| Annual income: 2-3million yen | 0.697*** [0.0578] | 0.743*** [0.0653] | 0.874 [0.0821] | 0.873 [0.0821] | 0.873 [0.0821] | 0.874 [0.0822] | 0.87 [0.0817] |
| Annual income: 3-4million yen | 0.598*** [0.0522] | 0.659*** [0.0623] | 0.773** [0.0799] | 0.772** [0.0799] | 0.772** [0.0799] | 0.772** [0.0799] | 0.771** [0.0797] |
| Annual income: 4-5million yen | 0.528*** [0.0513] | 0.607*** [0.0639] | 0.702*** [0.0811] | 0.697*** [0.0806] | 0.697*** [0.0806] | 0.702*** [0.0813] | 0.699*** [0.0807] |
| Annual income: 5-6million yen | 0.602*** [0.0690] | 0.694*** [0.0851] | 0.835 [0.111] | 0.824 [0.110] | 0.824 [0.110] | 0.837 [0.112] | 0.833 [0.111] |
| Annual income: 6-7million yen | 0.675*** [0.0908] | 0.794 [0.114] | 0.989 [0.152] | 0.984 [0.152] | 0.984 [0.152] | 0.987 [0.152] | 0.982 [0.151] |
| Annual income: 7-8million yen | 0.366*** [0.0612] | 0.424*** [0.0743] | 0.497*** [0.0920] | 0.491*** [0.0909] | 0.491*** [0.0909] | 0.492*** [0.0912] | 0.491*** [0.0909] |
| Annual income: 8-9million yen | 0.331*** [0.0722] | 0.386*** [0.0872] | 0.478*** [0.112] | 0.478*** [0.112] | 0.478*** [0.112] | 0.482*** [0.113] | 0.478*** [0.112] |
| Annual income: 9-10million yen | 0.274*** [0.0699] | 0.349*** [0.0910] | 0.423*** [0.114] | 0.416*** [0.112] | 0.416*** [0.112] | 0.421*** [0.114] | 0.422*** [0.114] |
| Annual income: 10-12million yen | 0.333*** [0.0828] | 0.459*** [0.118] | 0.585** [0.154] | 0.581** [0.153] | 0.581** [0.153] | 0.589** [0.156] | 0.589** [0.155] |
| Annual income: 12-15million yen | 0.279*** [0.0949] | 0.393*** [0.136] | 0.453** [0.160] | 0.449** [0.159] | 0.449** [0.159] | 0.471** [0.166] | 0.458** [0.162] |
| Annual income: over 15million yen | 0.424** [0.152] | 0.493* [0.182] | 0.623 [0.235] | 0.605 [0.229] | 0.605 [0.229] | 0.625 [0.237] | 0.632 [0.239] |
| Annual income: N.A. | 0.660*** [0.0644] | 0.717*** [0.0721] | 0.753*** [0.0784] | 0.749*** [0.0780] | 0.749*** [0.0780] | 0.755*** [0.0787] | 0.752*** [0.0782] |
| Education: Junior high school | 0.839 [0.105] | 0.875 [0.112] | 0.934 [0.122] | 0.932 [0.122] | 0.932 [0.122] | 0.939 [0.123] | 0.939 [0.123] |
| Education: Junior college or technical college | 0.995 [0.0742] | 0.957 [0.0724] | 0.833** [0.0648] | 0.836** [0.0651] | 0.836** [0.0651] | 0.833** [0.0649] | 0.832** [0.0647] |
| Education: Enrolling in college | 1.296** [0.133] | 1.119 [0.151] | 1.009 [0.140] | 1 [0.139] | 1 [0.139] | 1.013 [0.141] | 1.01 [0.140] |
| Education: College or graduate school | 0.843*** [0.0460] | 0.834*** [0.0475] | 0.793*** [0.0473] | 0.794*** [0.0474] | 0.794*** [0.0474] | 0.796*** [0.0476] | 0.792*** [0.0473] |
| Ind: Food, beverage, and tobacco | 1.23 [0.201] | 1.176 [0.195] | 1.17 [0.194] | 1.17 [0.194] | 1.17 [0.194] | 1.183 [0.197] | 1.174 [0.195] |
| Ind: Textile and apparel | 0.944 [0.191] | 1.006 [0.208] | 1.001 [0.208] | 1.001 [0.208] | 1.001 [0.208] | 1.006 [0.209] | 0.998 [0.207] |
| Ind: Paper, pulp, lumber products, and printing | 1.16 [0.321] | 1.232 [0.351] | 1.235 [0.352] | 1.235 [0.352] | 1.235 [0.352] | 1.229 [0.351] | 1.235 [0.352] |
| Ind: Chemical products | 1.195 [0.231] | 1.245 [0.246] | 1.239 [0.245] | 1.239 [0.245] | 1.239 [0.245] | 1.241 [0.245] | 1.225 [0.242] |
| Ind: Metals and steel | 1.075 [0.228] | 1.194 [0.259] | 1.197 [0.260] | 1.197 [0.260] | 1.197 [0.260] | 1.199 [0.261] | 1.201 [0.261] |
| Ind: Machine | 1.118 [0.174] | 1.207 [0.192] | 1.223 [0.195] | 1.223 [0.195] | 1.223 [0.195] | 1.212 [0.193] | 1.208 [0.192] |
| Ind: Miscellaneous manufacturing | 1.017 [0.104] | 1.088 [0.114] | 1.088 [0.115] | 1.088 [0.115] | 1.088 [0.115] | 1.094 [0.115] | 1.091 [0.115] |
| Ind: Mining | 1.458 [1.090] | 1.643 [1.259] | 1.657 [1.278] | 1.657 [1.278] | 1.657 [1.278] | 1.637 [1.262] | 1.612 [1.240] |
| Ind: Agriculture, fishery, and forestry | 3.328*** [0.795] | 3.538*** [0.862] | 3.469*** [0.846] | 3.469*** [0.846] | 3.469*** [0.846] | 3.522*** [0.860] | 3.491*** [0.851] |
| Ind: Construction | 1.082 [0.124] | 1.129 [0.132] | 1.125 [0.132] | 1.125 [0.132] | 1.125 [0.132] | 1.13 [0.132] | 1.131 [0.132] |
| Ind: Electricity, gas, and water supply | 0.958 [0.218] | 1.125 [0.261] | 1.128 [0.262] | 1.128 [0.262] | 1.128 [0.262] | 1.121 [0.260] | 1.126 [0.261] |
| Ind: Transportation and distribution | 0.986 [0.129] | 1.054 [0.141] | 1.057 [0.141] | 1.057 [0.141] | 1.057 [0.141] | 1.055 [0.141] | 1.058 [0.141] |
| Ind: Telecommunication | 1.281** [0.150] | 1.308** [0.157] | 1.296** [0.156] | 1.296** [0.156] | 1.296** [0.156] | 1.302** [0.157] | 1.304** [0.157] |
| Ind: Medical, welfare, and health care | 1.415*** [0.144] | 1.227* [0.128] | 1.227* [0.129] | 1.227* [0.129] | 1.227* [0.129] | 1.226* [0.128] | 1.228** [0.128] |
| Ind: Education | 1.377*** [0.144] | 1.354*** [0.147] | 1.363*** [0.148] | 1.363*** [0.148] | 1.363*** [0.148] | 1.358*** [0.147] | 1.351*** [0.146] |
| Ind: Wholesale and retail trade | 1.137 [0.104] | 1.214** [0.114] | 1.216** [0.114] | 1.216** [0.114] | 1.216** [0.114] | 1.219** [0.115] | 1.212** [0.114] |
| Ind: Catering, restaurants and lodging | 1.032 [0.131] | 0.993 [0.129] | 0.993 [0.129] | 0.993 [0.129] | 0.993 [0.129] | 0.991 [0.129] | 0.988 [0.128] |
| Ind: Finance, insurance, and real estate | 0.963 [0.107] | 1.003 [0.114] | 1.004 [0.114] | 1.004 [0.114] | 1.004 [0.114] | 0.998 [0.114] | 0.998 [0.113] |
| Ind: Government services | 1.600*** [0.178] | 1.824*** [0.210] | 1.826*** [0.211] | 1.826*** [0.211] | 1.826*** [0.211] | 1.825*** [0.211] | 1.828*** [0.211] |

| Protectionist trade policy / Free trade policy | [1] | [2] | [3] | [4] | [5] | [6] | [7] |
|---|----------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| (cont.) | | | | | | | |
| Occupation: Production and other operations | | 0.879 [0.0946] | 0.969 [0.108] | 0.964 [0.107] | 0.964 [0.107] | 0.969 [0.108] | 0.968 [0.107] |
| Occupation: Managerial occupation | | 0.524*** [0.0464] | 0.703*** [0.0657] | 0.701*** [0.0657] | 0.701*** [0.0657] | 0.701*** [0.0657] | 0.704*** [0.0659] |
| Occupation: Professional or technical occupation | | 0.810*** [0.0536] | 0.937 [0.0647] | 0.938 [0.0649] | 0.938 [0.0649] | 0.936 [0.0648] | 0.934 [0.0645] |
| Occupation: Other occupations | | 0.753*** [0.0588] | 0.868* [0.0699] | 0.876 [0.0707] | 0.876 [0.0707] | 0.866* [0.0699] | 0.867* [0.0698] |
| Occupation: Never worked or in school | | 1.064 [0.233] | 1.163 [0.265] | 1.177 [0.268] | 1.177 [0.268] | 1.152 [0.263] | 1.16 [0.264] |
| Emp type: Officer or executive | | 0.897 [0.0910] | 0.984 [0.102] | 0.984 [0.102] | 0.984 [0.102] | 0.984 [0.103] | 0.984 [0.102] |
| Emp type: Non-regular employee | | 1.021 [0.0655] | 0.961 [0.0647] | 0.957 [0.0645] | 0.957 [0.0645] | 0.963 [0.0649] | 0.961 [0.0646] |
| Emp type: Self-employment or profession | | 0.907 [0.0686] | 0.993 [0.0788] | 0.987 [0.0785] | 0.987 [0.0785] | 0.994 [0.0790] | 0.992 [0.0788] |
| Emp type: In school or no experience to work | | 1.244 [0.264] | 0.974 [0.215] | 0.953 [0.211] | 0.953 [0.211] | 0.98 [0.217] | 0.975 [0.215] |
| Gender: Female=1 | | | 1.518*** [0.0957] | 1.521*** [0.0960] | 1.521*** [0.0960] | 1.525*** [0.0964] | 1.517*** [0.0956] |
| Age | | | 0.980*** [0.00228] | 0.980*** [0.00228] | 0.980*** [0.00228] | 0.980*** [0.00228] | 0.980*** [0.00228] |
| Currently employed | | | 1.07 [0.0746] | 1.067 [0.0745] | 1.067 [0.0745] | 1.073 [0.0750] | 1.07 [0.0746] |
| Having a child | | | 0.91 [0.0547] | 0.91 [0.0548] | 0.91 [0.0548] | 0.911 [0.0549] | 0.912 [0.0549] |
| Patriot | | | 1.465*** [0.0725] | 1.466*** [0.0727] | 1.466*** [0.0727] | 1.463*** [0.0725] | 1.460*** [0.0722] |
| Disaster victim | | | 1.007 [0.0976] | 1.011 [0.0981] | 1.011 [0.0981] | 0.983 [0.0952] | 1 [0.0956] |
| Food checker | | | 1.417*** [0.0783] | 1.416*** [0.0783] | 1.416*** [0.0783] | 1.417*** [0.0784] | 1.416*** [0.0782] |
| Risk averter | | | 1.337*** [0.0708] | 1.339*** [0.0710] | 1.339*** [0.0710] | 1.335*** [0.0708] | 1.338*** [0.0709] |
| Optimist | | | 0.845** [0.0590] | 0.844** [0.0590] | 0.844** [0.0590] | 0.847** [0.0592] | 0.848** [0.0591] |
| Home owner | | | 0.931 [0.0556] | 0.391*** [0.0919] | 0.391*** [0.0919] | 0.928 [0.0555] | 0.945 [0.0624] |
| Moving inclination | | | 0.867** [0.0505] | 0.948 [0.0641] | 0.948 [0.0641] | 0.841** [0.0580] | 0.867** [0.0505] |
| Job change inclination | | | 0.972 [0.0565] | 0.972 [0.0566] | 0.972 [0.0566] | 0.972 [0.0566] | 0.97 [0.0564] |
| Moving inclination × Agricultural workers share | | | | 0.966*** [0.0125] | 0.966*** [0.0125] | | |
| Home owner × Unemployment rate | | | | 1.144*** [0.0403] | 1.144*** [0.0403] | | |
| Constant | 0.666*** [0.0889] | 0.672** [0.104] | 0.886 [0.188] | 1.588* [0.427] | 1.588* [0.427] | 0.906 [0.193] | 0.911 [0.189] |
| Random intercept at the prefecture level | 0.123*** [0.0338] | 0.123*** [0.0345] | 0.133*** [0.0351] | 0.133*** [0.0344] | 0.134*** [0.0344] | 0.198*** [0.0617] | 0.187*** [0.066] |
| Random intercept at the city level | | | | | 4.75E-10 [0.0721] | | |
| Random coefficient ([6]: Moving inclination, [7]: Home owner) | | | | | | 0.190*** [0.0417] | 0.156*** [0.0388] |
| N of obs. | 8,327 | 8,327 | 8,327 | 8,327 | 8,327 | 8,327 | 8,327 |
| N of groups | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Log-likelihood | -5385 | -5317 | -5152 | -5141 | -5141 | -5147 | -5151 |
| d.f. | 20 | 48 | 60 | 62 | 62 | 60 | 60 |
| Chi-squared statistic | 230 | 346.8 | 625.3 | 641.2 | 641.2 | 619.8 | 615.8 |

Note: This table shows the coefficients as odds ratio and standard errors as odds ratio are shown in parentheses.

*, **, and *** indicate statistical significance at 10%, 5%, and 1%, respectively.