Does economic self-interest determine public attitudes toward immigrants? An econometric case study in Japan

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Abstract:

We examine two economic self-interest hypotheses of the determinants of public attitudes towards immigrants: (1) labor market hypothesis, which states that the employment and wage impacts of immigration determine public attitudes and (2) the welfare state hypothesis, which states that natives negatively perceive immigrants for fear of straining the country's welfare budget. The first hypothesis predicts that natives' education will affect pro-immigrant attitudes more positively when the immigrants are from lower-income countries. The second hypothesis predicts that natives' income will affect the pro-immigrant attitudes more negatively when the immigrants are from lower-income countries. We use the Japanese General Social Survey, which asks respondents' tolerance toward immigrants from different countries, allowing us to remove the unobserved individual characteristics in a fixed effect estimation. Our results show no difference in education and income effects on pro-immigrant attitudes regardless of whether immigrants are from high- or low-income countries. We conclude that economic self-interests do not explain Japanese public attitudes towards immigrants. We discuss policy implications on how to improve public attitudes towards immigrants.

1. Introduction

The labor economic theory predicts that the employment and wages of native workers decrease when immigrants with *substitutable* skills flow in and increase when immigrants with *complementary* skills flow in. This indicates that the high-skilled natives might perceive high-skilled immigrants as a threat and thus view them negatively, but positively perceive low-skilled immigrants who are likely to be their complements. This is "the labor market hypothesis" of the determination of the natives' attitude towards immigrants.

Another economic channel through which natives' attitude is shaped is the anxiety that immigrants might strain the country's welfare budget. While studies such as Preston (2014) and Dustmann and Fratini (2014) found that the overall fiscal effects of immigrants are positive, immigrants abusing social welfare is a common narrative against immigrants. Regardless of whether such anxiety is warranted, if such a concern shapes perception towards immigrants, high-income natives would negatively perceive low-skilled immigrants since high income natives would pay a greater share of welfare budget due to the progressive personal tax, and low-skilled immigrants may be at risk of receiving social security benefits. The same argument also indicates that high-income natives may welcome high skilled immigrants, since they are likely to contribute to the welfare budget, relieving their tax burden. This is the welfare state hypothesis of the determination of natives' attitudes towards immigrants.

These two hypotheses constitute the economic self-interest hypotheses of the determinants of natives' attitudes towards immigrants. The labor market hypothesis was first tested by Scheve and Slaughter (2001), who used education as a proxy for skills. They found that in the US low-skilled natives are more likely to oppose immigration. Using data from several European countries, Mayda (2006) found that in countries where natives are more educated than the immigrants, a strong positive correlation exists between the natives' skills and support for immigration.[1] The welfare state hypothesis was first tested by Hanson et al. (2007), who found that richer natives are more likely to oppose immigration, supporting the welfare state hypothesis. Facchini and Mayda (2009) also found that natives' income is negatively correlated with pro-immigrant attitude when immigrants are unskilled.

One problem with using natives' education or income to test these hypotheses is that they are likely to be correlated with natives' unobserved characteristics. As d'Homber and

[1] O'Rourke and Sinnott (2006) used an International Labor Organization's skill classification and show that skilled workers are less likely to oppose immigration than unskilled workers.

Nunziata (2016) showed, education is likely to be positively correlated with one's preference towards cultural diversity. This endogeneity is likely to introduce a positive bias in estimated effects of education on natives' pro-immigrant attitudes. In contrast, a person's income is likely to be correlated with his or her political conservatism, which is likely to introduce a negative bias in the estimated effects of income on the native's pro-immigrant attitudes.

As such, subsequent development of the literature finds mixed evidence for the labor market hypothesis. Hainnmuller and Hiscox (2007 and 2010) found education to be correlated with a positive attitude toward *both* low- and high-skilled immigrants, contradicting the economic self-interest hypothesis. Biavaschi et al. (2018) used South African data where immigrants are *more* skilled than natives, and yet found that education to be positively correlated with pro-immigration attitudes, which is inconsistent with the labor market hypothesis. Facchini and Mayda (2012), however, showed that education is negatively correlated with natives' support for skilled immigrants, supporting the labor market hypothesis. The support for the welfare state hypothesis, in contrast, has been more consistent. For example, Dustman and Preston (2007) found that welfare state concern is the most dominant determinant of natives' attitude toward immigrants, with a similar result found by Boeri (2010).[2]

The goal of this study is, thus, to re-examine the two economic self-interest hypotheses while accounting for the aforementioned endogeneity problems. The dataset we use is the Japanese General Social Survey (JGSS). The 2008 JGSS asks information regarding natives' perceptions of immigrants from different countries or regions: China, South Korea, Taiwan, South East Asia, Europe, and North America. The labor market hypothesis predicts that education will have greater effects on the native's pro-immigrant attitudes if immigrants

[2]Fauvelle-Aymar (2014) found that educated natives are less favorable to migrants when they can potentially influence the welfare policy, that is, when they have the right to vote. In this study, education is used as a proxy for income.

were from low-income countries (that are likely to send low-skilled immigrants) than if they were from high-income countries (that are likely to send high-skilled immigrants). As the JGSS asks about the same individual's attitude towards immigrants from different countries, we can eliminate the unobserved characteristics using a method akin to the fixed effect estimation. The same method can be applied to test the welfare state hypothesis, where our focal relationship is between natives' income and their pro-immigrant attitude. We believe that this study is one of the first in the related literature to explicitly deal with endogeneity arising from individual level fixed effects.

Studying Japanese case is interesting because there have been no academic studies on economic self-interest hypotheses in Japan. Japan has been a reluctant accepter of unskilled migrant workers despite the fact that it faced shortage of such workers time to time, including the current time. Japan's immigration law, the Immigration Control Act (ICA), was enacted in 1951, but until the most recent modification of this law in 2018, Japan had no work visa categories for unskilled workers. Unskilled migrant workers had been accepted through a back-door channel called a trainee system. This reluctance to admit unskilled workers is undoubtedly influenced by citizen's presumed negative attitudes toward low-skilled immigrant workers.[3] By understanding how the natives' attitudes towards immigrants are formed, the government can formulate a better policy to improve the citizens' attitudes towards immigrants.

The rest of the paper is organized as follows. Section 2 provides an overview of the Japanese immigration policies regarding low-skilled immigrants. Section 3 presents our econometric method and data. Section 4 presents our estimation results, while Section 5 concludes this paper with a discussion.

[3]See Facchini and Mayda (2008) for the evidence that public attitudes towards immigrants shape the immigration policies.

2. An overview of immigration policies regarding unskilled migrant workers in Japan

Japan's immigration law, ICA, was geared towards skilled immigrants and provided no legal channels for unskilled migrant workers to enter Japan for paid jobs until its most recent revision in 2018.[4] This policy of prohibiting the inflow of unskilled foreign labor became difficult to sustain when Japan experienced its first wave of labor shortage in the 1980s, particularly in the construction industry, following rapid economic growth.

This labor shortage was initially met by employing illegal migrant workers. These workers "initially enter Japan legally using tourists, student, or other types of nonworking visas (Spencer 1992, p764)." The number of immigrant workers apprehended for ICA violation increased from 6,830 in 1984 to 22,626 in 1989, an increase of 230% (Spencer 1992). The first major revision of the ICA was done in 1989 with this background. This revision was a compromise between the Japanese immigration policy's guiding principle of not admitting unskilled migrant workers and the reality of labor shortage for low-skilled workers. The 1989 revision established a "trainee system" where unskilled migrant workers can stay in Japan for one year in order to aquire skills through on-the-job training and then take the skills back to their countries. As the official purpose was skill transfer (from Japan to developing countries), the accepting companies were required to provide non-work training, such as Japanese language training, for at least one-third of the training period with strict limitation on the number of trainees a company can accept.[5]

The short duration and rigid requirements of the trainee system made it difficult for the accepting companies to recover the training costs, causing the accepting companies's

[4]There was a visa category for "persons who do not fall under any other status but are permitted to reside at the discretion of the Minister of Justice". However, given the Japanese government's stance against allowing unskilled foreign laborers, Spencer (1992) noted that the Japanese government steered away from this option of allowing unskilled migrant workers.

[5]For a company with 20 workers or less, the number of trainees was limited to three.

dissatisfaction to grow. In this background, the ICA was revised again in 1993, establishing the "technical intern training" system. Under this system, an immigrant completing the initial one-year of trainee program can apply to become a "technical intern trainee". Once accepted as a technical intern trainee, the immigrant can extend the stay for two more years.

A major difference between a trainee and a technical intern trainee was that, the latter was legally treated as a worker who could earn wages. The former was not legally a worker, and therefore, could not work for wages. Trainees were paid the "living expense allowance" instead of wages. However, the difference between wages and living expense allowance was not necessarily large. According to Nishioka (2004), the average after-tax wages for a technical intern trainee was about 100,000 yen, while the average living expense allowance, which was not taxed, was 83,000. Another difference was that companies were not allowed to let trainees work overtime, but there was no such restriction for technical intern trainees.[6]

As mentioned earlier, the official purpose of the trainee and technical intern trainee systems was to provide the immigrants opportunities to acquire valuable skills from Japan, and then transfer the skills back to their own countries. This system undoubtedly fostered such skill transfers. However, the trainee and technical intern trainee systems were also systems through which Japanese companies could hire temporary unskilled migrant workers. In 2010, 32% of foreign workers in Japan (including trainees and technical intern trainees) were trainees.[7] Insisting on the official purpose of skill transfers when these trainees were

[6]In terms of visa status, trainees and technical intern trainees were placed in the "Designated Activities" category. Designated Activities was the category for miscellaneous visas such as working holiday visa. This, however, changed in 2010, when the ICA was revised to create the "technical intern trainee" as a separate category, and the previous technical intern trainee system under designated activities was abolished. This allowed accepting companies to skip the 'trainee' period, and directly hire migrant workers as proper wage-earning workers, albeit still as trainees. The maximum duration that an intern can stay in Japan was three years.

[7]Based on Zairyu Gaikokujin Toukei (Foreign Residents Statistics) published by Immigration Service Agency of Japan. We include in foreign workers the following visa categories: (1) professors, (2) artists, (3) Religious activities, (4) Journalists, (5) business managers, (6) Legal/Accounting services, (7) Medical services, (8) Researcher, (9) Instructor, (10) Engineer/Specialists in humanities/international services, (11) Intra-company transferee, (12) Nursing care, (13) Entertainer, (14) Skilled labor, (15) trainees/technical

actually unskilled migrant workers caused problems. By insisting on the official purpose, the government had to ensure that the skill acquisition be conducted according to a consistent plan under the same employer. Thus, the trainees (including technical intern trainees) were not allowed to change their employers, and this often lead to abusive work environments (Suuchi 2019). As for employers, the procedure to accept trainees was onerous (Kamibayashi 2009), and the restriction on number of workers meant that they could not employ a desired number of trainees (Kamibayashi 2019).

The second wave of shortage for unskilled workers in Japan resulted from aging of the population and low inflow of immigrants. In 2010, Japan's fertility rate was 1.3, one of the lowest among OECD countries. Japan's share of foreign born population in the total population was 1.8%, which is again one of the lowest in the OECD countries.[8] Given this background the ICA was revised in 2018 to create a new category of work visa for unskilled workers, called Specific Skill Visas (Tokutei Ginou Visa). This visa is restricted to 14 industries such as care workers, building cleaning, and agriculture.[9] The initial duration of the visa is five years, and if the worker passes a skill test during this period, the visa can be extended up to another five years. For the initial period of five years, workers are not allowed to bring their families, but for the next five years, they can bring their families. This visa is available only to migrants from nine countries: Vietnam, Philippines, Cambodia, China, Indonesia, Thailand, Myanmar, Nepal, and Mongolia. There is also a cap for the number of accepting workers: 345,000 (Kamibayashi 2019).

intern trainees. The percentage is based on the authors computation.

[8]This compares to 6.9% of the US, 9.29 of the UK, and 7% of the OECD average.

[9]The full list includes care workers; building cleaning; machine parts and tooling industry; industrial machinery; electric, electronics and information industry; construction industry; automobile repair and maintenance; aviation industry; accommodation industry; agriculture; fishery and aquaculture; manufacture of food and beverages; and food industry.

3. Empirical method and data

We use the 2008 wave of the JGSS. The JGSS is the Japanese counterpart of the General Social Survey in the US and Europe for international comparisons. The sample is representative of men and women aged 20 to 89 in Japan. Although the JGSS is now available up to the 2012 wave in the University of Michigan's data sharing site ICPSR, we use only the 2008 wave of the data for the reason described below.[10]

In the 2008 wave of the data, the measure of respondents' attitudes toward immigration is based on the answer to the following question:

Question: How would you feel about having neighbors who are from the following countries or regions? Can you accept the people who are from each of the following countries or regions?

The countries and regions listed in the question are China, South Korea, Taiwan, South East Asia, Europe, and North America (US and Canada). For each country or region, respondents answer either: "yes" or "no". Thus, this question elicits the attitudes of a respondent toward immigrants from different countries, allowing us to eliminate individual-level unobservables using a method akin to fixed-effects estimation. Unfortunately, the 2008 wave is the only one that asks this question, and therefore our data is restricted to this wave.[11]

Now, let us explain our method. Based on the survey question mentioned above, let $Tolerance_{c,i}$ be a dummy equal to 1 when the respondent i says "yes" to immigrants from country or region c. Then, consider the following linear probability regression,

$$Tolerance_{c,i} = \beta_{c,0} + \delta_c Education_i + \gamma_c Income_i + \beta_c' Z_i + a_i + u_{c,i} \quad (1)$$

[10] Waves that are available in English in are, 2000, 2001, 2002, 2003, 2005, 2006, 2008, 2010, and 2012.

[11] We mention, however, that in all the data waves, the following question is asked: *'Are you for or against an increase in the number of foreigners in your community?'* Respondents answer either "for" or "against". Unfortunately, this question does not require respondents to report their attitude by the country of origin of the immigrants.

where Z_i is the vector of variables that are expected to directly affect $Tolerance_{c,i}$, coefficients δ_c and γ_c show the effects of natives' education and income on tolerance toward immigrants from country or region c, $u_{c,i}$ is the usual error term uncorrelated with any of the explanatory variables, and a_i is individual respondent's unobserved characteristics such as one's cultural openness or political conservatism. As cultural openness is likely to be positively correlated with the respondent's education level, an ordinary least square (OLS) estimate of δ_c is likely to be positively biased. Political conservatism is likely to be positively correlated with one's income, with a possible negative effect on tolerance. This may negatively bias the OLS estimate of γ_c. Having said so, income can also be correlated with an array of other factors. For example, higher income might allow one to live in cosmopolitan areas, resulting in a more liberal views toward immigrants. Thus, the direction of the bias for γ_c is not certain.

Now, let us explain how we test the labor market hypothesis while taking into account the endogeneity stemming from the unobservables. The (unbiased) value of δ_c depends on the skill mix of immigrants from country c. If all the immigrants from country c are non-skilled workers, we expect δ_c to be positive because non-skilled immigrants are the complement for high-skilled natives. Similarly, if all the immigrants from country c are skilled-workers, we expect δ_c to be negative since skilled immigrants are the substitute for the skilled natives.

In reality, each country sends both skilled and unskilled workers. If the labor market hypothesis holds, as the skill mix of immigrants tilts toward unskilled workers, δ_c will increase because more of the immigrants are substitutes of educated natives. This implication can be tested. Suppose that there are two countries, one low-income and the other high-income. Then, $\delta_L > \delta_H$, where L denotes a low-income country, and H denotes a high-income country. We then use the following notation: $\Delta Tolerance_{L-H,i} = Tolerance_{L,i}$ -

$Tolerance_{H,i}$. Now, we have;

$$\begin{aligned} \Delta Tolerance_{L-H,i} &= (\beta_{L,0} - \beta_{H,0}) + (\delta_L - \delta_H) Education_i \\ &+ (\gamma_L - \gamma_H) Income_i + (\beta_L - \beta_H)' Z_i + (u_{L,i} - u_{H,i}) \end{aligned} \tag{2}$$

This equation eliminates the bias stemming from the presence of unobserved characteristics. If the attitude toward immigrants is determined according to economic self-interest, then the coefficient for education should be positive, that is δ_L- δ_H>0. This is our test of the labor market hypothesis.

The same logic applies to testing of welfare state hypothesis. Richer natives would perceive immigrants from poorer countries more negatively than they would perceive immigrants from richer countries, because immigrants from poor countries are perhaps more likely to be the beneficiaries of the welfare system. This indicates that $\delta_L < \delta_H$. Thus, if the welfare state hypothesis is correct, we expect δ_L- δ_H<0. We classify Taiwan, Korea, North American, and Europe under high-income countries and regions while China and South East Asia under low-income countries and regions.[12]

The variables and their summary statistics are listed in Table 1. We control for the individual characteristics that would affect one's attitude toward immigrants. Our focal explanatory variables are the years of education and the respondent's family income. We include a dummy for unemployed workers since being unemployed might make one feel more vulnerable to an increased competition. In contrast, those who are not seeking jobs might be indifferent about an increased competition, and thus we include a dummy for home makers.

We control for one's stated political orientation, conservative or progressive, with nei-

[12]As of 2008, Japan's GDP per capita was US$39,393. Taiwan's GDP per capita (USD$18,081) was much lower than that of Japan, though it was nearly 6 times higher than that of China's US$3,394, and 12 times higher than the South East Asian's average US$1,445. Korea's GDP per capita as of 2008 was slightly higher than that of Taiwan's US$21,294. North American average was USD$47,53), and European Union average was US$38,572. All the data are derived from OECD statistics except for the EU statistic, which was derived from the eurostat (https://ec.europa.eu/eurostat/en/).

ther conservative nor progressive as the base category. Interactions with foreigners reduces prejudices (Pettigrew and Tropp, 2006), and therefore we include whether one interact sometime or frequently with foreigners. The base category is those who seldom or never encounter foreigners. Similarly, we include dummies for whether one has studied abroad, and whether one has visited one of our focal countries of regions. We also include dummies for whether one has acquaintances from one of our focal countries or regions. We included a dummy for whether one has experienced robbery (by force or threat) or burglary this year, as increasing crimes is another common narrative against immigrants. We control for size of the cities within Japan by including dummies for (1) large cities, (2) medium cities, (3) small cities, and (4) towns and villages.[13].

After eliminating observations with missing variables, we have 1,996 observations. The average tolerance varies with the immigrants' countries or regions of origins. In an ascending order, 63.5 percent of respondents said that they will accept neighbors from China, 67.1 percent in case of South East Asia, 68.7 percent in case of Korea, 70.8 percent in the case of Taiwan, 74.6 in the case of Europe and 75.2 in the case of North America. Thus, the tolerance is generally higher for immigrants from wealthier regions.

The respondents' average education is 12.7 years, and average age is 52 years. While Japan is known to be an insular country, a fair share of respondents interact with foreigners frequently (13%) or sometimes (34.5%). A substantial share of respondents has visited our focal countries or regions; this ranges from 12.5% visiting Taiwan to 24% visiting North America. Not a negligible share of respondents have acquaintances in these countries and regions, ranging from 4% in Taiwan to 9% in North America.

[13]The large cities are Sapporo, Sendai, Saitama, Chiba, Tokyo Metropolitan Area, Yokohama, Kawasaki, Niigata, Shizuoka, Hamamatsu, Nagoya, Kyoto, Osaka, Sakai, Kobe, Hiroshima, Kitakyushu, and Fukuoka. Medium-sized cities are those with a population of 200,000 or more. Small cities are those with population less than 200,000. Towns and villages are smaller than small cities and are the base category.

4. Empirical results

Before showing our main results obtained using the pair-wise difference in attitude, we present our results obtained from a simpler model using tolerance toward immigrants from a particular country or region, $Tolerance_{c,i}$, as the dependent variable. Table 2 presents the results. The coefficients for education are positive and statistically significant for all the countries and regions, ranging from 0.2 to 0.22. As explained earlier, these coefficients are likely to be biased upward due to the presence of unobserved factors, such as cultural openness.

Household income has a small and statistically insignificant coefficients for all the Asian countries and regions. However, it has positive and marginally significant coefficient for Europe and North America. A positive coefficient for wealthy regions is consistent with the welfare state hypothesis, although we expect these parameters to be biased due to the presence of unobserved respondent characteristics.

Interactions with foreigners are positively correlated with the tolerance toward immigrants, although this correlation is only in "some interactions". Frequent interactions are not associated with positive attitudes toward immigrants. The reason could be that they represent different types of interactions. For example, "some interactions" might predominantly represent the natives' interactions with foreign language instructors, which is designed to provide a positive experience. "Frequent interactions" might represent more mundane interactions such as interactions at work or with shop keepers.

Having acquaintances from low-income countries is generally associated with a higher tolerance toward immigrants from all countries and regions. This association is not evident in the case of richer countries. This pattern might indicate that personally knowing foreigners from low-income countries removes the negative prejudice associated with immigrants

from such countries, leading to more liberal views toward immigration. It may also be that those with liberal attitude are more willing to travel to less wealthy countries or regions.

Now, we present our main results based on Equation (2), which uses a country-pair difference in tolerance as the dependent variable. Table 3 shows the results. As we have two low-income countries/regions and three high-income countries/regions, we have eight low-high pairs. Among them, we are particularly interested in the China-Taiwan pair, which is shown in Model 1. Immigrants speaking Chinese have an advantage in Japanese language acquisition as compared to those speaking other native languages because Japanese language makes extensive use of Chinese characters. Thus, even if China's GDP per capita is much lower than that of North America or Europe, educated Japanese natives might still consider Chinese workers to be a greater threat. A comparison of Chinese and Taiwanese immigrants would hold the language effect constant while allowing for comparing the attitudes towards low- and high-income immigrants.

Model 1 shows a very small and statistically insignificant coefficient for education, rejecting the labor market hypothesis. The coefficient for the household income is also small and statistically insignificant, rejecting the welfare state hypothesis. In fact, the coefficients for both education and household income are small and insignificant regardless of whether the comparison is within Asian countries (Model 1 to Model 4) or between Asian countries and European/North American countries (Model 5 to Model 8). Thus, we conclude that the two economic self-interest hypotheses do not explain the Japanese natives' attitudes towards immigrants. While many studies rejected the labor market hypothesis, the rejection of welfare state hypothesis is new to the literature.

Then, why does the economic self-interests not shape the Japanese citizens' attitudes towards immigrants? It could be that Japanese residents are acutely concerned about the labor shortage, and this concern dominates both the labor market and welfare state

concerns, resulting in no supporting evidence for the two hypotheses.

A more likely explanation, however, is that Japanese citizens are more concerned about non-economic factors such as the racial composition of their residential areas or cultural differences. In fact, one of the changes in the 1989 ICA revision indicates that the Japanese government understood this possibility. While the 1989 ICA revision allowed low-skilled immigrants to work in Japan very restrictively through a trainee system, another part of the revision created a new visa category that allowed low-skilled immigrants to work without any restriction–the Resident Visa. This visa allowed the second- or third-generation Japanese to work in Japan without restrictions.[14] By the end of 1992, there were 150 thousand of such immigrants, and the majority of them were the second- or third- generation Japanese from Brazil. Many of them worked as manual workers, for example, in the car and electric parts industries (Kamibayashi 2015, p.99).

Academic debates about public attitudes toward immigrants often center around whether economic impacts of immigration or perceived cultural impacts of immigration are more important determinants of public attitudes.[15] This study does not explicitly examine the cultural aspects of the determinants. However, our rejection of the two economic self-interest hypotheses seems to implicitly support the arguments that perceived cultural impacts can be more important determinants of public attitudes towards immigrants.

5. Discussion and conclusion

Using the attitudinal data of Japanese citizens, we tested two economic self-interest hypotheses on how natives' attitudes towards immigrants are shaped. First is the labor market hypothesis where natives perceive immigrants negatively for fear of increased competition

[14]The duration is three years, though it can be renewed.

[15]For the effects of non-economic factors on the public attitudes towards immigrants, see Hainmueller and Hopkins (2014), Card, Dustmann, and Preston (2005, 2012), Espenshade and Hempstead (1996), Citrin et al. (1997), and McDaniel et al. (2011)

for jobs and a possible downward pressure on wages. The second is the welfare state hypothesis where natives perceive immigrants negatively for fear of immigrants straining the country's welfare budget.

We dealt with the endogeneity of education and income stemming from individual unobservable characteristics such as one's cultural openness, by utilizing a method akin to fixed-effects estimation. From our estimation results, the two economic self-interest hypotheses do not explain the Japanese natives' attitudes towards immigrants. Thus, it is more likely that other issues such as culture or race play a larger role in shaping the attitude of Japanese natives'.

How do our results help improve the attitude Japanese natives' toward immigrants? Grigorieff et al. (2016) noted that people are consistently misinformed about immigrants, such as about the share of immigrants and their unemployment and incarceration, and showed that providing accurate information about immigrants improves the attitude. Igarashi and Ono (2020) showed that providing information about the beneficial aspects of immigration in economic, cultural, or security areas improves the natives' attitudes towards immigrants. Our results indicate that disseminating accurate information about the economic impacts of immigrants, such as accurate estimates of the impacts on wage or employment, may not help improve public attitudes because economic self-interests are not what drive public attitudes. It would be more beneficial to disseminate accurate information about the non-economic aspects of immigrations, such as their language proficiency or the incarceration rate. Showing immigration as an opportunity for cultural enrichment might be another way to improve public attitudes towards immigrants.

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Table 1: Summary Statistics

Variable	Mean	Std Errors
Tolerance towards immigrants from:		
China	0.635	(0.482)
Korea	0.687	(0.464)
Taiwan	0.708	(0.455)
South East Asia	0.672	(0.470)
Europe	0.747	(0.435)
North America	0.752	(0.432)
Education (in years)	12.744	(2.332)
Household income (in 10,000 yen)	585.710	(331.527)
Age	52.009	(16.941)
Female	0.529	(0.499)
Married	0.704	(0.456)
Unemployed	0.018	(0.131)
Housework	0.195	(0.396)
Political orientation:		
Conservative	0.278	(0.448)
Progressive	0.221	(0.415)
Experienced being robbed this year	0.035	(0.184)
Interact with foreigner frequently	0.130	(0.336)
Interact with foreigner sometime	0.345	(0.476)
Ever studied aborad	0.054	(0.226)
Ever visited:		
China	0.143	(0.350)
Korea	0.193	(0.395)
Taiwan	0.128	(0.334)
South East Asia	0.185	(0.389)
Europe	0.180	(0.385)
North America	0.240	(0.427)
Countries other than above	0.221	(0.415)
Have acquaintance(s) from:		
China	0.119	(0.324)
Korea	0.107	(0.309)
Taiwan	0.042	(0.200)
South East Asia	0.071	(0.256)
Europe	0.055	(0.228)
North America	0.090	(0.287)
Countries other than above	0.066	(0.248)
City size:		
Large cities	0.218	(0.413)
Medium sized cities	0.238	(0.426)
Small cities	0.422	(0.494)
No of observations	1996	

Table 2: Determinants of tolerance towards immigrants from a particular country or a region: Dep Var=$Tolerance_{c,i}$

Variables	China	Korea	Taiwan	South East Asia	Europe	North America
Education (in years)	0.020***	0.021***	0.018***	0.022***	0.026***	0.023***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)
Household income/100	0.002	0.002	0.001	0.002	0.006**	0.004*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
age/10	0.063	0.035	0.057	0.022	-0.020	-0.006
	(0.044)	(0.040)	(0.041)	(0.041)	(0.037)	(0.038)
age squared/100	-0.008*	-0.006	-0.008**	-0.005	-0.001	-0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Female	0.010	-0.009	0.026	-0.002	-0.008	-0.003
	(0.025)	(0.023)	(0.023)	(0.024)	(0.021)	(0.021)
Married	0.011	-0.008	0.004	-0.011	0.009	0.006
	(0.027)	(0.024)	(0.025)	(0.026)	(0.023)	(0.023)
Unemployed	0.004	0.085	-0.021	0.063	0.089	0.081
	(0.083)	(0.059)	(0.076)	(0.068)	(0.054)	(0.055)
Housework	-0.043	-0.032	-0.031	-0.038	-0.015	-0.013
	(0.031)	(0.029)	(0.030)	(0.030)	(0.027)	(0.027)
Political orientation:						
Conservative	-0.027	-0.005	-0.010	-0.025	-0.013	-0.008
	(0.025)	(0.024)	(0.024)	(0.025)	(0.023)	(0.023)
Progressive	0.039	0.070***	0.049*	0.046*	0.045**	0.052**
	(0.027)	(0.024)	(0.025)	(0.025)	(0.022)	(0.022)
Experienced being robbed this year	-0.036	-0.128**	-0.090	-0.127**	-0.113**	-0.125**
	(0.057)	(0.058)	(0.057)	(0.058)	(0.056)	(0.056)
Interact with foreigner frequently	-0.022	0.010	-0.039	0.020	0.002	0.041
	(0.034)	(0.030)	(0.032)	(0.032)	(0.028)	(0.027)
Interact with foreigner sometime	0.043*	0.050**	0.048**	0.047**	0.052***	0.062***
	(0.023)	(0.021)	(0.022)	(0.022)	(0.020)	(0.020)
Ever studied aborad	0.017	-0.002	-0.010	-0.025	-0.039	-0.058*
	(0.045)	(0.038)	(0.042)	(0.043)	(0.033)	(0.034)
Ever visited:						
China	0.014	-0.006	-0.019	-0.015	-0.012	-0.000
	(0.034)	(0.030)	(0.033)	(0.032)	(0.029)	(0.029)
Korea	0.078***	0.047*	0.092***	0.065**	0.035	0.035
	(0.029)	(0.025)	(0.026)	(0.027)	(0.024)	(0.024)
Taiwan	0.009	0.046	0.022	0.006	-0.020	-0.012
	(0.036)	(0.032)	(0.034)	(0.034)	(0.031)	(0.030)
Soutn East Asia	0.036	0.047*	0.038	0.067**	0.054**	0.056**
	(0.030)	(0.026)	(0.028)	(0.028)	(0.024)	(0.024)
Europe	-0.049	0.015	-0.016	-0.011	0.021	0.015
	(0.031)	(0.027)	(0.029)	(0.029)	(0.025)	(0.024)
North America	0.009	0.017	0.005	0.009	0.037*	0.047**
	(0.027)	(0.024)	(0.025)	(0.026)	(0.022)	(0.022)
Countries other than above	0.001	0.015	-0.006	0.033	0.049**	0.058***
	(0.026)	(0.023)	(0.025)	(0.025)	(0.021)	(0.021)

Inside brackets are robust standard errors. *,**,***= significant at the 10%, 5%, and 1% levels.

Table 2 continued.

Variables	China	Korea	Taiwan	South East Asia	Europe	North America
Have acquaintance(s) from:						
China	0.132***	0.101***	0.099***	0.079***	0.074***	0.073***
	(0.031)	(0.026)	(0.028)	(0.030)	(0.023)	(0.023)
Korea	0.064*	0.031	0.105***	0.049	0.031	0.039
	(0.034)	(0.030)	(0.030)	(0.033)	(0.028)	(0.028)
Taiwan	-0.028	0.035	-0.034	0.037	0.031	0.017
	(0.053)	(0.040)	(0.048)	(0.047)	(0.036)	(0.038)
Soutn East Asia	0.113***	0.090***	0.078**	0.100***	0.050*	0.046
	(0.036)	(0.030)	(0.033)	(0.034)	(0.030)	(0.030)
Europe	0.019	0.021	0.037	0.051	0.049	0.042
	(0.045)	(0.037)	(0.040)	(0.041)	(0.030)	(0.031)
North America	0.004	0.006	0.022	0.017	0.008	0.008
	(0.037)	(0.033)	(0.034)	(0.035)	(0.029)	(0.029)
Countries other than above	0.074*	0.106***	0.102***	0.086**	0.096***	0.081***
	(0.040)	(0.030)	(0.034)	(0.036)	(0.027)	(0.028)
Large cities	0.035	0.019	0.020	0.018	0.044	0.035
	(0.040)	(0.036)	(0.038)	(0.037)	(0.034)	(0.034)
Medium sized cities	0.017	-0.020	-0.011	-0.009	-0.013	-0.001
	(0.039)	(0.036)	(0.037)	(0.037)	(0.035)	(0.035)
Small cities	0.068*	0.030	0.044	0.055	0.043	0.051
	(0.036)	(0.033)	(0.034)	(0.034)	(0.032)	(0.032)
Constant	0.148	0.344***	0.283**	0.315***	0.417***	0.425***
	(0.127)	(0.114)	(0.120)	(0.121)	(0.107)	(0.108)
No obs	1,996	1,996	1,996	1,996	1,996	1,996
R-squared	0.078	0.117	0.093	0.107	0.139	0.132

Inside brackets are robust standard errors. *,**,***= significant at the 10%, 5%, and 1% levels.

Table 3: Determinants of the difference in tolerance towards immigrants from low-income and high-income countries/regions: Dept Var = $Tolerance_{L-H,i}$

Variables	Model 1 China -Taiwan	Model 2 China -Korea	Model 3 SE Asia -Taiwan	Model 4 SE Asia Korea	Model 5 China -America	Model 6 China -Europe	Model 7 SE Asia -America	Model 8 SE Asia Europe
Education (years)	-0.001	0.002	0.001	0.004	-0.002	-0.006	-0.000	-0.004
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)
Household income/100	-0.0004	0.0004	0.0003	0.001	-0.003	-0.004	-0.002	-0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
age/10	0.029	0.007	-0.012	-0.035	0.070**	0.083**	0.029	0.042
	(0.027)	(0.024)	(0.022)	(0.029)	(0.035)	(0.033)	(0.028)	(0.027)
age squared/100	-0.001	0.000	0.001	0.003	-0.005	-0.006**	-0.002	-0.004
	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Female	0.020	-0.016	0.008	-0.028*	0.014	0.018	0.002	0.006
	(0.016)	(0.015)	(0.013)	(0.016)	(0.020)	(0.020)	(0.016)	(0.016)
Married	0.019	0.007	-0.003	-0.016	0.005	0.002	-0.017	-0.020
	(0.017)	(0.017)	(0.014)	(0.018)	(0.021)	(0.021)	(0.018)	(0.017)
Unemployed	-0.081	0.025	-0.021	0.084	-0.077	-0.085	-0.018	-0.025
	(0.065)	(0.033)	(0.040)	(0.062)	(0.065)	(0.071)	(0.050)	(0.049)
Housework	-0.011	-0.012	-0.007	-0.007	-0.030	-0.027	-0.025	-0.023
	(0.019)	(0.018)	(0.015)	(0.018)	(0.025)	(0.025)	(0.020)	(0.020)
Political orientation:								
Conservative	-0.022	-0.017	-0.020	-0.015	-0.019	-0.013	-0.017	-0.012
	(0.016)	(0.015)	(0.013)	(0.016)	(0.020)	(0.021)	(0.017)	(0.016)
Progressive	-0.031*	-0.011	-0.024	-0.003	-0.013	-0.007	-0.005	0.001
	(0.018)	(0.016)	(0.015)	(0.018)	(0.022)	(0.023)	(0.018)	(0.018)
Experienced being robbed this year	0.092***	0.053**	0.001	-0.038	0.089*	0.077	-0.002	-0.015
	(0.034)	(0.022)	(0.033)	(0.035)	(0.046)	(0.050)	(0.040)	(0.045)
Interact with foreigner frequently	-0.031	0.017	0.010	0.059**	-0.063**	-0.024	-0.021	0.018
	(0.025)	(0.020)	(0.018)	(0.024)	(0.027)	(0.028)	(0.022)	(0.020)
Interact with foreigner sometime	-0.007	-0.005	-0.003	-0.001	-0.019	-0.009	-0.015	-0.005
	(0.015)	(0.014)	(0.012)	(0.016)	(0.019)	(0.019)	(0.016)	(0.015)
Ever studied aborad	0.019	0.028	-0.024	-0.015	0.075*	0.056	0.032	0.014
	(0.037)	(0.036)	(0.026)	(0.033)	(0.042)	(0.041)	(0.029)	(0.031)
Ever visited:								
China	0.020	0.033*	-0.009	0.004	0.014	0.026	-0.014	-0.003
	(0.023)	(0.019)	(0.018)	(0.021)	(0.028)	(0.028)	(0.023)	(0.023)
Korea	0.031	-0.015	0.018	-0.027	0.042*	0.043*	0.030*	0.030*
	(0.019)	(0.018)	(0.015)	(0.018)	(0.024)	(0.024)	(0.018)	(0.017)
Taiwan	-0.037	-0.012	-0.040*	-0.016	0.021	0.029	0.017	0.025
	(0.026)	(0.024)	(0.024)	(0.027)	(0.030)	(0.031)	(0.025)	(0.025)
South East Asia	-0.011	-0.003	0.020	0.028	-0.020	-0.019	0.011	0.012
	(0.022)	(0.019)	(0.017)	(0.020)	(0.025)	(0.027)	(0.023)	(0.022)
Europe	-0.064***	-0.033	-0.026	0.005	-0.064**	-0.070**	-0.026	-0.032
	(0.023)	(0.020)	(0.018)	(0.022)	(0.026)	(0.027)	(0.023)	(0.023)
North America	-0.008	0.004	-0.007	0.004	-0.038*	-0.028	-0.038*	-0.027
	(0.018)	(0.017)	(0.016)	(0.019)	(0.022)	(0.022)	(0.019)	(0.019)
Other countries	-0.014	0.007	0.019	0.039**	-0.057***	-0.048**	-0.025	-0.016
	(0.017)	(0.014)	(0.014)	(0.018)	(0.022)	(0.022)	(0.019)	(0.019)

Inside brackets are robust standard errors. *,**,***= significant at the 10%, 5%, and 1% levels.

Table 3 continued.

Variables	China -Taiwan	China -Korea	SE Asia -Taiwan	SE Asia Korea	China -America	China -Europe	SE Asia -America	SE Asia Europe
Have acquaintance(s)								from
China	0.031	0.033	-0.022	-0.020	0.059**	0.058**	0.006	0.006
	(0.023)	(0.022)	(0.018)	(0.023)	(0.029)	(0.026)	(0.023)	(0.022)
Korea	0.034	-0.040*	0.019	-0.055**	0.025	0.033	0.011	0.019
	(0.023)	(0.024)	(0.019)	(0.027)	(0.031)	(0.029)	(0.024)	(0.022)
Taiwan	-0.063	0.007	0.001	0.071	-0.045	-0.059	0.020	0.005
	(0.046)	(0.042)	(0.033)	(0.045)	(0.046)	(0.049)	(0.039)	(0.041)
South East Asia	0.023	0.036*	0.009	0.022	0.067*	0.063*	0.054**	0.049**
	(0.025)	(0.021)	(0.023)	(0.028)	(0.035)	(0.034)	(0.021)	(0.021)
Europe	-0.002	-0.018	0.030	0.014	-0.023	-0.030	0.009	0.002
	(0.035)	(0.030)	(0.028)	(0.034)	(0.042)	(0.042)	(0.033)	(0.034)
North America	-0.002	-0.017	0.010	-0.005	-0.004	-0.004	0.008	0.009
	(0.026)	(0.025)	(0.019)	(0.020)	(0.033)	(0.031)	(0.023)	(0.023)
other countries	-0.032	-0.029	-0.020	-0.017	-0.007	-0.023	0.005	-0.010
	(0.031)	(0.032)	(0.025)	(0.027)	(0.035)	(0.036)	(0.028)	(0.029)
Large cities	0.016	0.015	-0.001	-0.002	-0.000	-0.009	-0.017	-0.026
	(0.025)	(0.023)	(0.021)	(0.024)	(0.031)	(0.031)	(0.025)	(0.026)
Medium sized cities	0.037	0.028	0.011	0.002	0.019	0.030	-0.008	0.004
	(0.023)	(0.021)	(0.020)	(0.023)	(0.030)	(0.029)	(0.024)	(0.024)
Small cities	0.038*	0.024	0.026	0.011	0.017	0.025	0.004	0.012
	(0.021)	(0.019)	(0.018)	(0.020)	(0.028)	(0.027)	(0.022)	(0.022)
Constant	-0.196**	-0.135*	-0.029	0.032	-0.277***	-0.269***	-0.110	-0.102
	(0.080)	(0.072)	(0.067)	(0.083)	(0.105)	(0.099)	(0.083)	(0.079)
No. obs	1996	1996	1996	1996	1996	1996	1996	1996
R-squared	0.037	0.019	0.014	0.026	0.035	0.039	0.015	0.018

Inside brackets are robust standard errors. *,**,***= significant at the 10%, 5%, and 1% levels.