



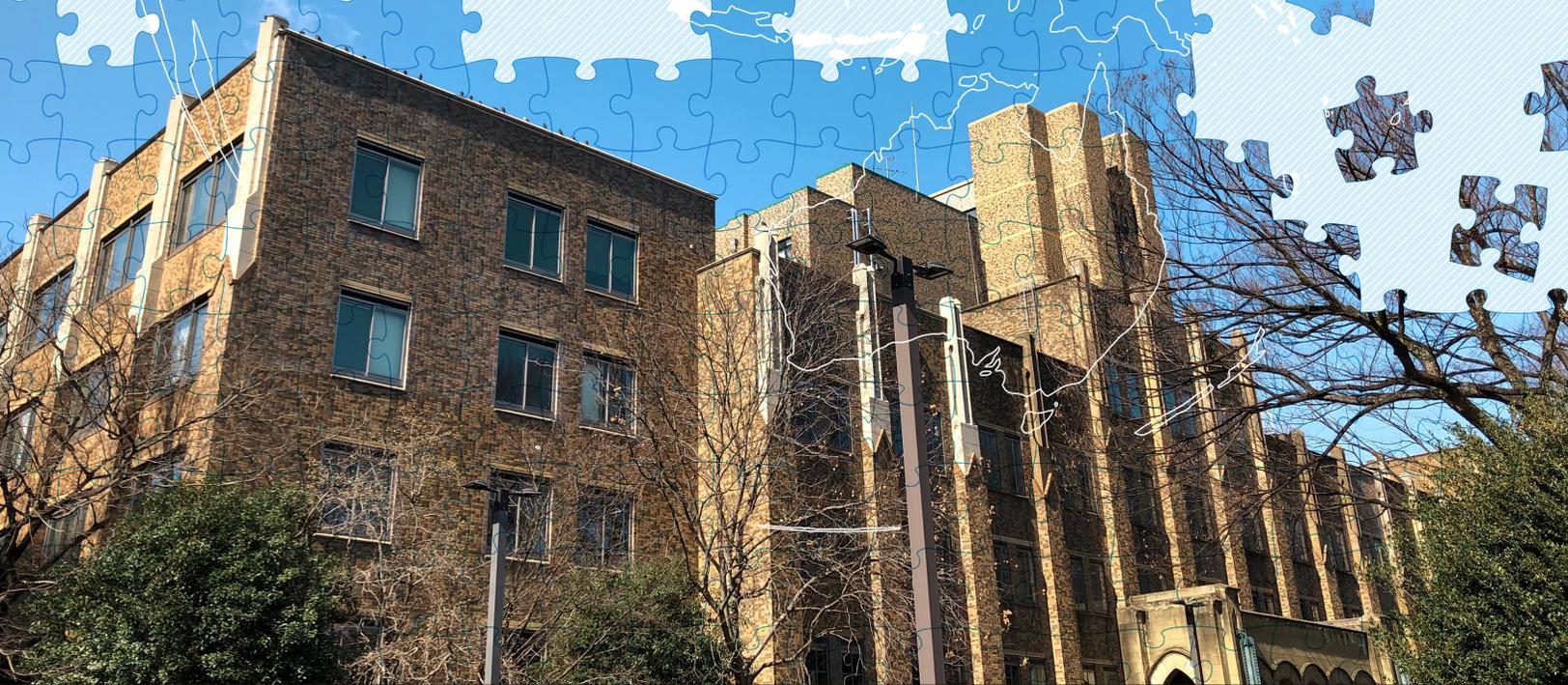
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CSRDA Discussion Paper

Information effect and preferences for migration policy: A preliminary note



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Information effect and preferences for migration policy: A preliminary note

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Abstract

This paper estimates policy preference on migration policy in Japan. Our approach is based on the full-randomized conjoint survey and information-choice experiments, which allows us to identify the rich relationship between policy preference and information provision. Estimation results clearly show clear associations between policy and information preferences.

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1 Introduction

This paper estimates the structure of policy preferences, particularly focusing on information treatments and preferences. Policy preferences naturally depend on respondents' social perceptions. Recently, some papers have examined the impact of information treatment on policy preferences (Alesina, Stantcheva, and Teso 2018; Cruces, Perez-Truglia, and Tetaz 2013; Karadja, Mollerstrom, and Seim 2017; Kuklinski et al. 2000; Kuziemko et al. 2015, 2014; Sides 2016)¹ with randomized information provision treatments.

The main focus is the information preference-dependent heterogeneity, an important topic, especially in the internet environment. The information acquisition in the real world is endogenously determined. For instance, Lazarsfeld, Berelson, and Gaudet (1944) proposes the selective exposure hypothesis, which argues that we prefer information consisting of our existing opinions.

The paper aims to understand the relationships between information preference, information treatment, and policy preference. We first propose a survey experiment design combining the full-randomized conjoint experiment (Hainmueller, Hopkins, and Yamamoto 2014) and the treatment-choice experiment (Long, Little, and Lin 2008; Gaines and Kuklinski 2011; Knox et al. 2019).

2 Framework

This section first introduces survey design. After that, causal estimands are defined based on the potential outcome framework (Imbens and Rubin 2015), and identification results are then shown.

2.1 Survey design

Our survey design is based on the parallel design (Long, Little, and Lin 2008; Gaines and Kuklinski 2011). First, the respondents were randomly assigned into (1) a random information group and (2) a choice information group. In the random information group, treatment/control information was randomly shown to the respondents. The treatment information is numbers of foreign and their crime. The control information, which is less relevant with migration, is temperature and rainfall in Tokyo, Japan. In the choice information group, only the title of information was firstly shown, the respondents then chose one of two information.

After the respondents observed the information, the full-randomized conjoint survey experiment (Hainmueller, Hopkins, and Yamamoto 2014) was started. In the experiment, the respondents were asked to complete 10 choice tasks. For each choice task, two options of hypothetical migration policies were presented, and each respondent was asked whether she/he supported each of the two services.

Each migration policy is characterized by four attributes: (1) the target number of migrants, (2) the requirements for unskilled migrants, (3) the requirements for permanent residency, and (4) political rights. Following Hainmueller, Hopkins, and Yamamoto (2014), the levels of those attributes are randomly selected from the list of potential levels.

The list of potential attributes and their corresponding levels is presented below

Target numbers: (i) 270 thousand, (ii) 500 thousand, and (iii) 700 thousand.

Unskilled migrants: (i) No permit, (ii) Required language skill, and (iii) Required graduation from a Japanese university.

Permanent residency: (i) 5 years for skilled migrants only, (ii) 5 years for skilled and unskilled migrants, and (iii) 1 year for skilled migrants only.

Political right: (i) Permanent residents have voting rights, and (ii) Permanent residents do not have any voting rights.

The level of each attribute is independently and randomly determined.

¹Haaland, Roth, and Wohlfart (2020) provides a comprehensive literature review of information provision experiments

2.2 Concept framework

We next introduce the theoretical framework to interpret the experiment results. All causal estimates are defined by the potential outcome framework. The outcome variable of interest is a policy support, which is equal to one if the policy is supported by individual i and zero otherwise. Each policy is defined by a attribute vector $a = a_1, a_2, a_3, a_4$, where a_l is the level of l 's policy attribute. The status of information treatment is denoted by w , which is equal to 1 if the respondent observes the treatment information.

The potential outcome is defined as $Y_i(a, w)$. $Y_i(a, w) = 1$ if a policy a is supported by individual i who observes information treatment w . $Y_i(a, w) = 0$ if the individual does not support the policy.

We assume the following:

Assumption (Exclusive restriction): $E[Y_i(a, w)|T_i = R] = E[Y_i(a, w)|T_i = C] \equiv E[Y_i(a, w)]$,

where $T_i = R$ indicates that respondent i belongs to the randomized information group, while $T_i = C$ indicates that she/he belongs to the choice information group. The exclusive restriction then requires not only the randomness of T_i but also the information assignment mechanism has no direct impacts on policy preferences.

Assumption (Choice consistency): $W_i^{preferred} = w \iff W_i = w|T_i = C$,

where $W_i^{preferred}$ is a preferred information. The choice consistency requires respondents choose their preferred information if they can choose information.

Under the exclusive restriction, the observable choice can be interpreted as follows;

- $E[Y_{ij}|T_i = R, W_i = w, A_j = a] = E[Y_i(a, w)]$,
- $E[Y_{ij}|T_i = C, W_i = w, A_j = a] = E[Y_i(a, w)|W_i^{preferred} = w]$,

where A_j is a vector of policy attributes, and Y_{ij} is an indicator variable, which is equal to one if the policy j is supported by individual i and zero otherwise.

Our interest estimands and it's identification results can be summarized as follows;

- Average marginal means: $\mu(a_l) = \sum E[Y_i(a_l, a_{-l}, w)] \times f(a_{-l}, w)$
 - Identified by $E[Y_{ij}|T_i = R, A_{lj} = a_l]$
- Information-treatment conditional marginal effect: $\pi(a_l) = \sum E[Y_i(a_l, a_{-l}, 1) - Y_i(a_l, a_{-l}, 0)] \times f(a_{-l})$
 - Identified by $E[Y_{ij}|T_i = R, W_i = 1, A_{lj} = a_l] - E[Y_{ij}|T_i = R, W_i = 0, A_{lj} = a_l]$
- Information-preference conditional marginal difference: $\Pi(a_l) = \sum \{E[Y_i(a_l, a_{-l}, 1)|W_i^{preferred} = 1] - E[Y_i(a_l, a_{-l}, 0)|W_i^{preferred} = 0]\} \times f(a_{-l})$
 - Identified by $E[Y_{ij}|T_i = C, W_i = 1, A_{lj} = a_l] - E[Y_{ij}|T_i = C, W_i = 0, A_{lj} = a_l]$

A uniqueness of the treatment choice design is to identify the information-preference conditional marginal difference. The design allows us the choice-based identification of information preference, which may be more valid than the stated-preference-based identification.

3 Estimation results

3.1 Average marginal means

Estimated average marginal means report in Figure 1.

[Figure 1.]

The figure shows that “the voting right” has the highest correlation with policy preference. By changing the attribute from no voting rights to voting rights, the supporting probability is decreased by approximately 6.8%.

This figure also shows that while the negative effect of expanding the number of foreign residents, the respondents tended to have a positive reaction to increases in non-skilled foreign workers (with a requirement for language skills or a degree from a Japanese university). This result may mean respondents prefer foreign labor supply for low-skilled jobs.

3.2 Information-treatment conditional marginal effect

Estimated information-treatment conditional marginal effects report in Figure 2.

[Figure 2.]

The figure shows no clear information treatment effects.

3.3 Information-preference conditional marginal difference

Estimated information-preference conditional marginal differences report in Figure 3.

[Figure 3.]

The figure consistently shows clear differences with information preference. Those who prefer moderate migrant information are less supportive of migrant policies than those who prefer placebo information.

Comparison of point estimators shows the largest difference on a policy allowing non-skilled migrants with language skills. However, this is not statically clear because uncertainty is wider than the variation of point estimators.

4 Conclusion

This paper examine the relationship between policy attributes and information provision. We combine the full-randomized conjoint and the treatment-choice design and show the clear association between policy and information preferences.

In the next step, we should use more sophisticated estimates. Previous works (Long, Little, and Lin 2008; Gaines and Kuklinski 2011; Knox et al. 2019) propose the Wald estimators, which may apply in this paper’s setting.

Appendix

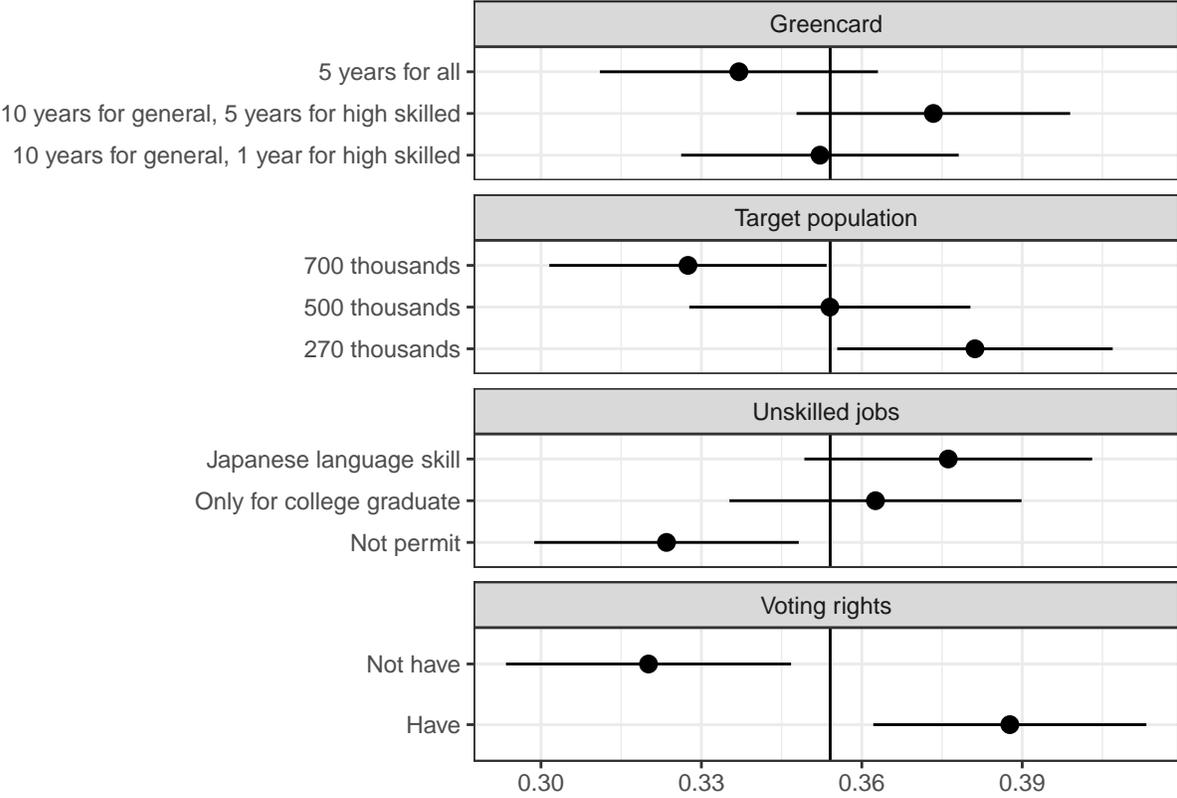


Figure 1: Average marignal means.

Appendix

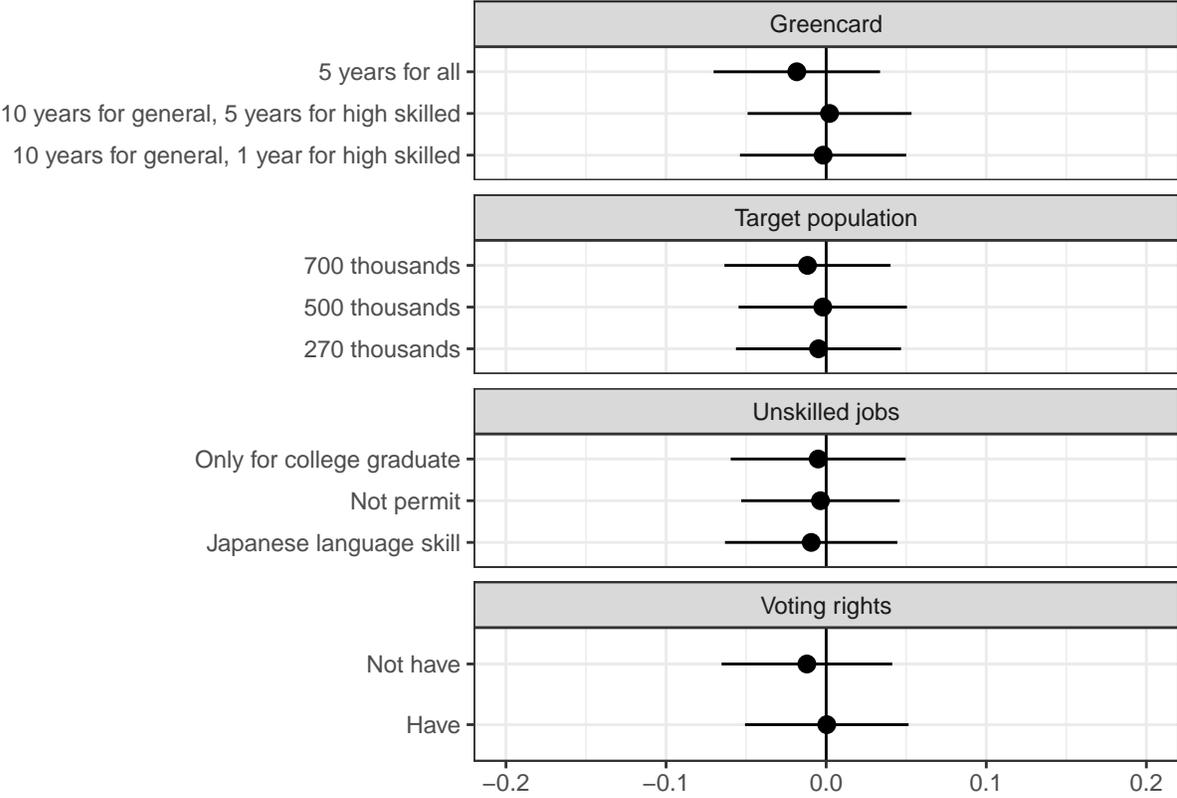


Figure 2: Information-treatment conditional marginal effect.

Appendix

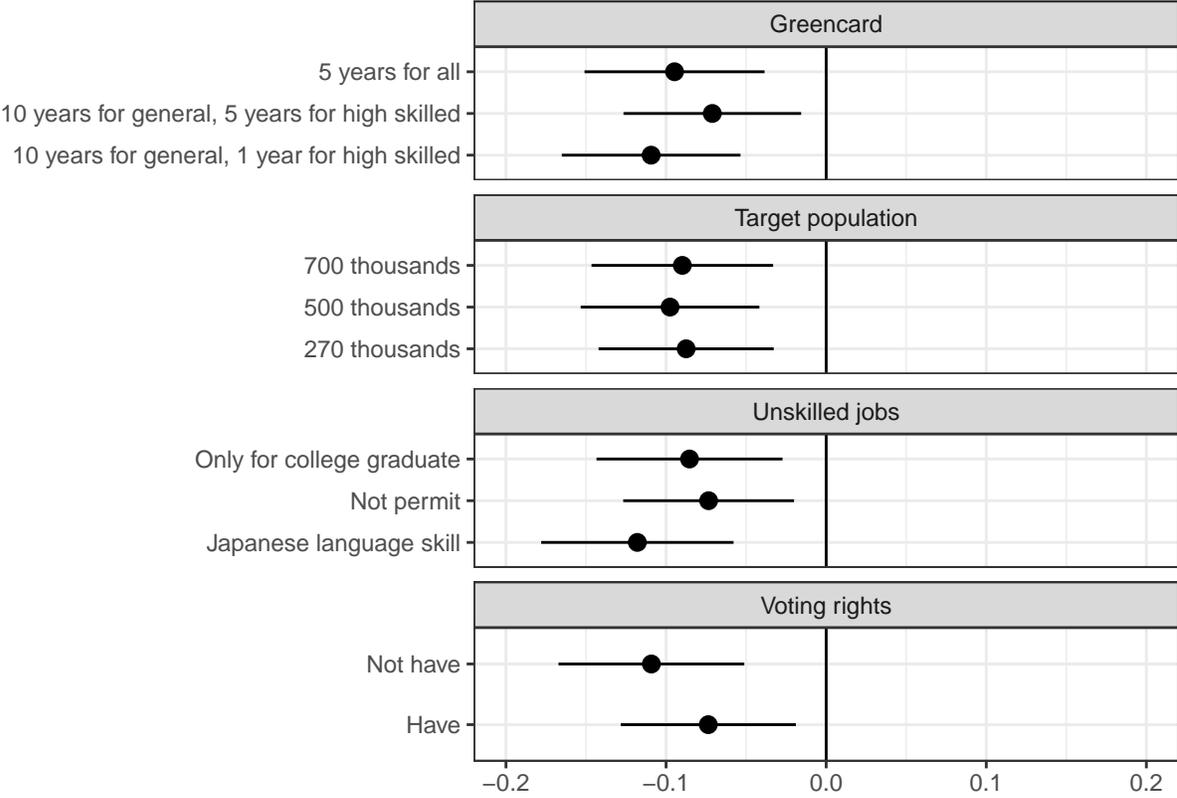


Figure 3: Information-preference conditional marginal difference.

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