Pre-analysis Plan for Study of the Impact of Refugee Arrivals on Natives' Attitudes in Greece

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Summary

The goal of this study is to assess the impact of refugee arrivals on natives' attitudes in 95 Greek islands in the Aegean Sea. In particular, we are interested if respondents from municipalities/townships with many refugee arrivals exhibit higher levels of i) anti-asylum-seeker; ii) anti-immigrant; iii) anti-Muslim; and iv) general exclusionary attitudes and are v) more likely to vote for Golden Dawn.

Empirical strategy

In order to identify the causal effect of refugee arrivals on attitudes, we leverage the distance to the Turkish coast as an instrument to estimate the following two-stage least squares regression:

$$T = \alpha + \beta Z + \nu$$

$$Y = \gamma + \delta T + \upsilon$$

Where T is a binary or continuous treatment indicator for refugee arrivals, Z is the respondents' logged distance from the Turkish coast, and Y is the outcome. In order to obtain an unbiased estimate of the treatment effect $\boldsymbol{\delta}$, we make the usual assumptions about the validity of our instrumental variable (see Angrist, Imbens and Rubin 1996).

Instrument

Following the procedure detailed in Dinas et al. (2016), we use Google Maps (google.com/maps/) to calculate the distance of each respondent's island (using the centroid) to the Turkish coast. For all analyses, we will use the logged distance which has been shown to fit the relationship between T and Z well (Dinas et al. 2016).

Treatment

We use island-level monthly arrival data between January 1, 2015 and January 1, 2017 provided by the UNHCR[1] to construct two different treatment indicators. First, a binary indicator that takes on value 1 if the UNHCR has registered any asylum-seekers on the island a respondent lives over the course of the study period and 0 otherwise. Second, we construct a continuous treatment indicator that measures the total number of arrivals divided by the number of voters per island. Following Dinas et al. (2016), we top-code this ratio for *Agathonisi*, an extreme outlier, to 25. For the regression using vote choice in the September 2015 election as an outcome, we use the same island-level monthly arrival data, but only for the period January 1, 2015 and August 31, 2015. Following Dinas et al. (2016), we top-code *Agathonisi* for this period to a value of 5. While we do know from various media reports that the small island of *Leipsoi* has received a positive number of asylum seekers, the UNHCR does not provide any data for this island (but lumps it together with other small islands). Hence, we code this island as treated for the binary instrument but will exclude it from the analysis when using the continuous instrument.

Outcomes

In order to collect the outcome information, we hired a Greek survey company to conduct a CATI survey according to our sampling plan. The sampling frame instructs the survey company to sample 1000 respondents from islands without refugee arrivals proportional to the number of registered voters, and another 1000 respondents from islands with arrivals proportional to the number of registered voters.

To minimize measurement error, we will use polychoric principal component analysis to extract the first principal component of each of the five item categories, which is then used for subsequent analysis. In addition, we will also show the effects on the underlying measures separately. Below, we detail the question in each category that we use to construct the outcome measures.

Anti-asylum-seeker attitudes:

> *Q8: Do you think Greece should increase or decrease the number of people it grants asylum to?*
>
> *Q9. Children of asylum-seekers in Greece should be allowed to study in Greek schools.*

[1] http://data.unhcr.org/mediterranean/country.php?id=83

Q10. Asylum-seekers are a burden on our country because they take our jobs and social benefits.

Q11. Asylum-seekers in our country are more to blame for crime than other groups.

Q12. Asylum-seekers will increase the likelihood of a terrorist attack in our country.

Anti-immigrant attitudes:

Q13. Protect the borders of the country against the entry of immigrants without documents.

Q14. Do you think Greece should increase or decrease the number of economic immigrants it admits?

Q16: Thermometer Christian Greeks - Christian immigrants

Q16: Thermometer Muslim Greeks - Muslim immigrants

Anti-Muslim attitudes:

Q15: In general, do you think that the representation of the Muslim minority in the Greek Parliament should be increased or decreased?

Q16: Thermometer Christian Greeks - Muslim Greeks

Q16: Thermometer Christian immigrants - Muslim immigrants

Q21: How many Muslims in our country support extremist groups

Q22: Most Muslims in our country today want to adopt our country's customs and way of life

General exclusionary attitudes:

Q16: Thermometer Christian Greeks - Jewish Greeks

Q16: Thermometer Christian Greeks - Muslim Greeks[2]

Q17: [For being truly Greek, it is important] To have been born in Greece.

Q18: [For being truly Greek, it is important] To be able to speak Greek.

Q19: [For being truly Greek, it is important] To be a Christian Orthodox.

Q20: [For being truly Greek, it is important] To share Greek customs and traditions.

Quasi-behavioral outcomes:

Q26: Should we inform the Members of Parliament on your behalf whether you want to increase or decrease the number of people Greece grants asylum to?

Q27: Petition to to push the government to provide housing for asylum-seekers

Q28: Donate to UNHCR

Voting behaviour:

Q23: Which party did you vote for in the September 2015 election

Q24: Which party did you vote for in the January 2015 election

Model specification

In order to adjust for potential pre-existing differences, we will control for Golden Dawn vote shares in the last election before the onset of the refugee crisis on January 25, 2015. In the main specification we include the vote share as a linear function of the outcome variable, but as a robustness test we will also present a more flexible specification based on five categories containing 20% of the sample each.

In an additional specification, we will also adjust for time-constant, categorical characteristics of the respondents: gender, a linear function of age, educational attainment (Elementary school / Middle school / High school / Tertiary education (2 years) / University degree (4 years) / Postgraduate degree / None of these).

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[2] Since we use this measure also in the block on anti-Muslim attitudes, we will show the estimates for general exclusionary attitudes with and without this item.

For these estimates we report robust standard errors clustered at the island and, as a robustness check, municipality level.

Weighting

For the main model specification, we will weight each respondent relative to the number of registered voters in her municipality. As a robustness test, we will also present the unweighted results and the results based on entropy weights that balance not only the size of the resident population but also their gender and age margins, which we obtain from the 2011 census.

Item nonresponse and missing data

Data for the treatment indicators is available for all observations. For missing covariate values, we will include a separate binary indicator. For missing outcome values, we will employ multiple imputation using chained equations (MICE) before conducting the PCA. We generate five imputed datasets, estimate the PCA and models on each of them and combine the results. For the imputation we condition on the entire survey dataset.

Additional analysis

Proximity to hotspots: Focusing on the subsample of treated islands, we will use variation in the respondents' proximity to a hotspot or a refugee center as a treatment variable. Information about the location of these facilities is also obtained from the UNHCR[3]. Controlling for island fixed effects and immutable or, at least, exogenous respondent characteristics (gender, a linear function of age, educational attainment indicators as above) we regress the outcomes detailed above on one of two within-island proximity indicators. First, a binary indicator equalling 1 if the respondent resided in a township with a hotspot/refugee camp. Second, a continuous measure of the logged and, for robustness checks, unlogged distance between the respondent' township and the hotspot/refugee camp. For these estimates, we report robust standard errors clustered at the township level. This additional test is inspired by the level-similarity shown in the parallel trends between control and treated townships in Dinas et al. (2016) and will, in all likelihood, provide suggestive rather than causal evidence on the impact of living in close proximity to a hotspot/refugee camp on attitudes.

Native migration: We use data from Eurostat and the Greek Statistical Agency (Elstat) to examine whether natives from treated islands are more likely to move away from their island than natives from control islands. Internal migration data is only available at the NUTS-3 level,

[3] http://data.unhcr.org/mediterranean/country.php?id=83

in some cases blending small treated and control islands. Hence, this analysis will have to rely on a subset of NUTS-3 units consisting of only treated or control islands.

Subgroup analysis: Using information on whether a respondent's income directly depends on tourism, we will split the sample in three subgroups (very / little / not at all) to estimate if the effect of the refugee crisis on attitudes is stronger among the first (two) subgroups.

References

Angrist, J. D., Imbens, G. W., & Rubin, D. B. (1996). Identification of causal effects using instrumental variables. *Journal of the American statistical Association*, *91*(434), 444-455.

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