Pre-Analysis Plan: What drives refugees' location choices? Evidence from a conjoint experiment among Ukrainian refugees.*

Joop Adema - LMU Munich and ifo Institute
Lasha Chargaziia - LMU Munich and ifo Institute
Yvonne Giesing - LMU Munich, ifo Institute, CESifo, and IZA
Panu Poutvaara - LMU Munich, ifo Institute, CESifo, CReAM, and IZA

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1 Introduction

1.1 Abstract

Knowing how refugees choose their destination country helps to plan humanitarian assistance and integration policies. This Pre-Analysis Plan describes how we are going to study the relative importance of networks, social benefits, labor market opportunities, housing costs, knowledge of potential destination country language, and proximity to home in refugees' destination country choice. We compare choices in forced-choice conjoint experiments among Ukrainian refugees in various European countries with their actual choices. Surveying Ukrainian refugees is well suited to compare stated and revealed preferences as they are given equal rights to temporary protection and labor market access in all EU countries.

1.2 Motivation

Refugees fleeing conflict often leave their countries without carefully planning and preparing for life in a foreign country. At the same time, using networks and modern communication technologies, they can quickly gather information about potential destination countries and travel options. As other migrants, refugees face trade-offs in the relative attractiveness of different potential destination countries, compounded by differences in migration costs and opportunities for regular and irregular migration. These trade-offs give rise to a distribution of refugees across destination countries.

Understanding refugees' location choices is important for both refugees and host countries, as well as for countries of origin in case these later aim to attract refugees to return. Refugees and host countries benefit as such understanding could help to predict future refugees' destination choices, allowing for better planning of emergency accommodation and other support at the time of acute crisis, and housing and integration courses in medium term. Such information would be valuable also to the European Union that is aiming to coordinate humanitarian policies; attempts to settle refugees in a country they do not want to live in is unlikely to prove to be a sustainable solution. For countries of origin that want their citizens to later return, like Ukraine, knowing what aspects were important in their destination choices would help to target assistance to potential returnees' needs and interests.

The literature has emphasized the importance of social networks and the role of destination-country policies. However, the literature has not been able to causally assess the (relative) importance of several relevant factors, because of the lack of isolated variation that is uncorrelated to other (unobserved) characteristics of potential destination countries. Survey experiments offer a way to estimate the role

played by isolated factors. Here, we set out to estimate the role of various (i) destination country-level characteristics, (ii) destination country-level policies, and (iii) individual-country specific factors.

Russia invaded Ukraine on a large scale on 24th of February 2022, after illegally annexing Crimea in 2014 and waging a proxy war in Eastern Ukraine since 2014. Russian troops initially made advances in large parts of Ukraine, leading to many (temporarily) displaced people, more than 6 million of whom are abroad as of 19 October, 2023 (UNHCR, 2023). As the outflow of Ukrainians is one of the largest refugee movements in recent history, studying Ukrainians' destination choice is of special relevance to policy makers in destinations as well as to migration scholars aiming to understand refugee mobility better. As Ukrainians refugees faced relatively low financial, institutional and other barriers to move to other European countries, they faced relevant trade-offs in the choice of their destination country. Importantly, there are no restrictions on the movement of Ukrainians within Europe and Ukrainians can freely chose their destination. This allows to estimate the full power of trade-offs between host country characteristics like labor markets, social benefits, and linguistic and geographic distance, separately from differences in border policies and asylum application processes that are also important. Analyzing the importance of country characteristics as we do, and the effect of border policies (Hatton, 2016) and the asylum process complement each other in understanding asylum-seekers' destination choices.

1.3 Literature

Our analysis contributes to four related strands of literature.

- Drivers of refugees' location choice
  The first strand of literature relates to the drivers of refugees' location choice. Although there are ample studies identifying *pull factors* of destination countries for migrants in general,[1] there is less evidence on what drives refugees' location choice. As refugees are forcibly displaced, those drivers are likely to differ from that of voluntary migrants. Social networks and geographical proximity are identified as the main drivers of refugee destination choices(Di Iasio and Wahba, 2023; Crawley and Hagen-Zanker, 2019; Barthel and Neumayer,

[1] Among others, these have studied the role of potential (skill-dependent) earnings at the destination country (Mayda, 2010; Grogger and Hanson, 2011), local labor market characteristics (Dorn and Zweimüller, 2021; Jayet et al., 2016), linguistic proximity (Adsera and Pytlikova, 2015; Bredtmann et al., 2020), social networks (Docquier et al., 2014; Munshi, 2020), and housing markets (Jayet et al., 2016; Berger and Blomquist, 1992).

2015; Beine et al., 2011; Suleimenova et al., 2017). More recently, the world's refugees originate from a smaller number of countries and are hosted in a larger variety of countries, suggesting that destination choice may have become more important (Fransen and De Haas, 2022). However, a caveat to much of the literature is that omitted variables, reverse causality and measurement error can bias the results and prevent estimating clean causal effects. For instance, policy changes can be an endogenous choice following a spike in the arrival of refugees. Another important caveat is that preferences cannot be necessarily inferred from actual destination choices. As countries' openness to hosting refugees may be correlated with country characteristics, an analysis of the importance of these characteristics for destination choice would be biased. Our conjoint experiments enables the elicitation of preferences for various host-country characteristics, as well as interactions between individual and host-country characteristics.

- Role of host-country policies
  The second branch of literature is related to the first, but focuses narrowly on the impact of host country policies on destination choice. A strand of the literature tests the welfare magnet hypothesis – which states that the generosity of the welfare system is an important driver of migration (Agersnap et al., 2020; Borjas, 1999; Corneo and Neidhöfer, 2021; Ferwerda et al., 2022; Jakubiak, 2019). In a recent study, Agersnap et al. (2020) leverage changes in policy related to welfare benefits that non-EU immigrants were eligible for in Denmark, establishing a causal relationship between these policy changes and the influx of immigrants into the country. Jakubiak (2019) suggests that the importance of welfare generosity is strongly dependent on migrants' individual characteristics. Ferwerda et al. (2022) examine the distribution and mobility of migrants within Switzerland. They find only limited evidence supporting the claim that immigrants move toward regions with more generous welfare benefits.

  Several recent studies have examined the role of host-country policy on asylum applications. Andersson and Jutvik (2023) find evidence that offering permanent residence permits increased the number of Syrian asylum seekers in Sweden, Dellinger and Huber (2021) find that asylum seekers in Austria relocate to states with higher welfare benefits, and Bertoli et al. (2022) show that expansion of asylum-seeker processing capacity efforts (reducing turnover times) during the "refugee crisis" from 2015 increased the number of applications of asylum seekers to Germany. Our survey experiment adds to these

studies by studying the strength of preferences for countries with different levels of unemployment and child benefits.

- Survey-experiments among prospective migrants and refugees
  A third related literature considers survey experiments among (prospective) economic migrants and refugees. Ferwerda and Gest (2021), Zhirkov and Smilan-Goldstein (2023) and Hager (2021) study preferences for international migration in conjoint experiments. Ferwerda and Gest (2021) find that among the general population in five countries in the MENA region, the role of democracy in destination, job opportunities and access to welfare are the strongest determinants of choosing a particular hypothetical destination, while the share of co-ethnics and distance to the origin country are less important. Zhirkov and Smilan-Goldstein (2023) find that cities in the US with limited immigration enforcement policies are more attractive destinations for prospective Mexican migrants.

  To the best of our knowledge, only one study has conducted a survey experiment among refugees concerning the choice of destination. Hager (2021) performed a vignette experiment among Syrian refugees and natives in Lebanon varying push and pull factors. The respondent is put in the shoes of a Syrian migrant and given a vignette about a hypothetical EU country he should advise the Syrian to move or not on a 5 point scale. The study finds employment chances and cultural openness in the destination are the strongest driver of the advice. In a related setting, Ghosn et al. (2021) and Alrababah et al. (2020) perform conjoint experiments to examine the conditions under which Syrian refugees would return. They find that safety considerations en route and in Syria are the strongest drivers of return intentions, finding a limited role for host-country conditions.

  Other related papers study the willingness to migrate illegally (Bah et al., 2023) and test migration theories of income maximization and self-selection (Batista and McKenzie, 2021). Lagakos et al. (2023) and Mummolo and Nall (2017) study preferences for internal migration.

  We complement these studies by eliciting preferences and actual behavior in a salient setting among refugees, testing preferences for relevant characteristics as well as concrete policies.

- Ukrainian refugees in the wake of the Russian large-scale invasion
  The fourth strand of literature focuses on Ukraine. More than 6 million Ukrainians, who are abroad as of 19 October, 2023 (UNHCR, 2023) have fled

across the European continent following the Russian invasion in Ukraine in February 2022. Prior to the Russian invasion, 26% of Ukrainians would have liked to permanently move abroad (Elinder et al., 2023). Several studies have examined the characteristics of Ukrainian refugees, concluding that higher educated and women with children are over-represented Brücker et al. (2023); Albrecht and Panchenko (2022).

1.4 Research Questions

- What is the relative importance of various destination-country characteristics and policies in refugees' choice of destinations?
- Does the importance of country-level attributes across refugees differ across migrants in different destination countries? And are these differences in the importance of attributes in line with the attributes of respective destination countries?
- Does the importance of country-level attributes across refugees differ across their socio-economic characteristics and return intentions?

2 Research Subject and Surveys

We study Ukrainian refugees across Europe in survey I and in Germany in survey II. The first survey's participants have been previously recruited using Facebook advertisements by Kantar Public, whereas we recruit the participants in the second survey by contacting a random sample of 30,000 Ukrainian refugees in Germany from administrative postal address data, provided by the Federal Office for Migration and Refugees (BAMF). The two surveys are complementary: Kantar Public survey allows reaching Ukrainian refugees across Europe, but is restricted to Facebook users, while our own survey in Germany uses administrative data for a more representative sample, but is restricted to one country.

2.1 Survey I: Kantar Public survey

- Data will be collected by Kantar Public, as part of an already running multi-wave survey. Respondents were recruited using Facebook advertisements across European countries. Facebook penetration in Ukraine was approximately 40% in 2022 and hence a selective subset of refugees is targeted. In the first wave,

11,783 Ukrainian citizens have answered, of which about half agreed to be contacted for follow-up waves. 88 % of first wave respondents are female, 62% of respondents have a college degree, and 55% left Ukraine with children under 18. In the first wave, 8% plan to go back to Ukraine very soon, 59% want to go back when it is safe, 8% wants to settle outside of Ukraine and 25% do not know what to do.

- Prior follow-up waves of study I had about 1250 respondents each. As we may anticipate some additional attrition, we deem 1000 respondents likely realistic target for the next wave.
- We expect Kantar Public to provide survey data for the next wave on the 19th of November 2023. When providing the data, Kantar Public provides also time stamp of the interviews.

2.2 Survey II: ifo survey

- Data will be collected through online surveys among Ukrainian refugees residing in Germany.
- Addresses of refugees have been collected through the German registry of foreigners (AZR) and letters with a personalized QR code to the survey will be sent in November. The target group for letters are Ukrainian citizens that have arrived in Germany since February 2022.
- Addresses of 30,000 Ukrainians in Germany have been obtained. Assuming a conservative response rate of 10%-15%, we count on a sample size of 3,000 - 4,500.
- In the ifo survey, our survey experiment will be included in wave 1. Data will be collected between November 2023 and January 2024.

2.3 Data Processing

- Data from survey I will be obtained from Kantar Public in anonymized form. The respondents can be tracked to previous waves with a unique identifier and therefore additional background information can be obtained, but no name or address information is available.
- Study II's survey data will be collected in the survey program Qualtrics and downloaded in anonymized form and processed further.

- Data of both studies will be analyzed only by the researchers participating in the project.

- If participants exit the survey during any of the tasks in the conjoint analysis, we omit them from the main analysis and report their number in the paper. We will analyze non-response and during-survey attrition on observable characteristics of both surveys.

3 Empirical Analysis

3.1 Conjoint experiments

- Forced-choice paired conjoint analysis is a tool used to elicit preferences using a realistic multidimensional choice experiment between two alternatives varying in their attributes. It was popularized by Hainmueller et al. (2014), who showed that by fully randomizing the attributes of both profiles identifies a causal estimand of interest, the Average Marginal Component Effect (AMCE). A simple linear regression procedure provides an unbiased estimator for the AMCE. In the context of preferences of natives for migrants with particular traits, Hainmueller et al. (2015) validated that conjoint studies give results in line with real-world choices and Bansak et al. (2023) have shown that the results of conjoint analyses are stable over time. Furthermore, Horiuchi et al. (2022) find that conjoint analyses reduce social desirability bias, which makes such designs preferable to simpler designs of stated preferences.

- After the seminal work by Hainmueller et al. (2014), several suggestions have been made for the design and analysis of conjoint analyses. We incorporate several of these suggestions in the following sections.

3.2 Our Survey Experiment

- We perform a forced-choice conjoint analysis asking Ukrainian refugees to choose between two hypothetical countries that differ in attributes relevant to the migration decision. We ask the respondents to indicate the country that they would choose if they would have to relocate from their current country of residence.

- A major concern in the design of the survey experiment is the risk that refugees ex-post rationalize their choice using past choices (e.g., through selecting traits

that match their current destination). To prevent this, we choose the wording of attribute levels and tasks carefully, explicitly stating that countries' profiles are hypothetical. In similar vein, when using monetary amounts we always state amounts as corresponding to an amount in Hryvna (Ukraine's currency).

- The task is worded as: *"Imagine that you and your family members currently living with you are forced to move out of the country you are in. Below we provide 3 pairs of imaginary European countries that offer temporary protection to Ukrainians. In each case, please indicate which country you would prefer to move to."* We choose the setting that one has to move from the current country to ensure that respondents do not try to match their current country of stay.

- Although Lagakos et al. (2023) and others allow for the option not to migrate at all, we do not allow for such an option. The reason is twofold. First of all, all our respondents already left Ukraine and chose to migrate. Therefore, our analysis can be interpreted as the second stage of the migration when after leaving Ukraine, refugees decide in which country to stay. As the European Union activated mass migration guidelines that allowed Ukrainians to choose where to settle, hypothetical destination choice based on country characteristics is exceptionally well suited to Ukrainian refugees. In most previous refugee crises, uncertainty on the ability to reach one's preferred destination country and to be able to stay there was of central importance. Second, designs with indifference options face several drawbacks, such as inducing bias and losing variation when respondents indicate many close calls as indifferent (Brown et al., 2008).

- Following the notation of Hainmueller et al. (2014), a conjoint experiment consists of N respondents, K tasks (or rounds), with J(=2 in a paired conjoint) alternatives, with L attributes which have D_l components (or levels) each. We draw $K = 3$ sets of profiles for each respondent. As it is part of a longer survey, we are limited in the number of K. We choose $L = 8$ dimensions based on their assessed relevance in the literature, to minimize the risk of omitted variable bias while keeping the number of dimensions tractable for respondents as suggested by Bansak et al. (2021).

3.2.1 Attributes and levels

- In designing the attributes of the conjoint tasks, we aimed to include dimensions that are (1) most relevant to destination choice, (2) observable for a potential refugee, and (3) have been suggested to be relevant in the literature. Some

of these dimensions only vary on the country level, whereas others vary by individual-country specific factors such as networks and language abilities.

- We base the levels for the attributes on realistic values across countries that have received Ukrainian refugees in Europe, without matching exact amounts to prevent priming of existing countries. An important consideration in the design is to remove any explicit or implicit reference to actually existing countries. Another important consideration is to include an extensive set of factors, that, after controlling for the other included factors, are not perceived to be associated to other country characteristics. If this would be the case, omitted variable bias would bias the findings.

- The selected attributes can we roughly categorized in three broad categories. **Country dimensions:**

  - Proximity to Ukraine (within 500km, not within 500 km)
    Distance is one of the main determinants of population movements and also of refugee movements in particular (Suleimenova et al., 2017). We hypothesize that proximity is also relevant in this setting because of (for example) travel costs, and ease of visiting family in Ukraine. A small caveat could be that closer proximity to (the conflict in) Ukraine could be perceived as less safe.
  - Average net wage levels (between 16,000 and 100,000 Hryvna)
    Earnings potential in destination countries are a main determinant for population movements (Grogger and Hanson, 2011). We draw the net wage level from a uniform distribution between the lowest (Bulgaria: EUR 400, corresponding to 16,000 Hryvna) and highest (Ireland: EUR 2500, corresponding to 100,000 Hryvna) of the according to the EU SILC in 2019.
  - Housing cost of a one bedroom apartment on the private market (between 20 and 40% of the average net wage)
    Housing costs are an important determinant for the cost of living and therefore determine the relative attractiveness of destinations. As usually stated in Ukraine, we study housing costs including utilities of a common type of apartment. We choose to operationalize housing costs as amounts relative to wage levels, in order to not draw completely unrealistic combinations of wage levels and living costs.

  Policy dimensions:

– Social benefits conditional on unemployment (between 0 and 30% of average wage)
  The generosity of welfare benefits have been studied extensively and is a key element of the immigration policy debate (see e.g., Agersnap et al. (2020)). Social benefits for unemployed Ukrainians are 0 for Poland, about 200 euro in Czech Republic and 502 euro in Germany (for individuals over 25 years of age). Nevertheless, many countries (such as Germany) have income-dependent housing subsidies, which would render this amount somewhat higher. Therefore we vary this amount between 0 and 30%.

– Child benefits (between 0 and 10% of average wage per child)
  Unconditional benefits for refugees are another policy dimension with different implications than conditional benefits. This is especially salient because of the composition of Ukrainian refugee families, as many are comprised of women and children. In order to study the relevance of this dimension, we elicit the number of children one is accompanied by in both surveys.

Individual-country dimensions:

– Personal networks at destination (yes, no)
  Networks have been shown to be crucial in refugees' destination choice (Di Iasio and Wahba, 2023; Crawley and Hagen-Zanker, 2019; Barthel and Neumayer, 2015; Beine et al., 2011). As we want to relate elicited preferences to revealed preferences, our surveys also elicit whether respondents have family members or friends in their current destination prior to moving.

– Labor market prospects (easy/difficult to find a job corresponding to one's qualifications)
  Individual labor-market prospects and perceptions thereof are likely to affect destination choice. As we want to relate elicited preferences to revealed preferences, our surveys also elicit whether respondents deem it easy to find a job corresponding to their qualifications in their current destination as well as the three most popular destination countries (Poland, Czech Republic and Germany) as well as two additional countries (Italy with weak and Sweden with strong labor markets).

– Knowledge of destination-country language (yes, no)
  Immigrants' knowledge of destination country languages increases earn-

ings (see e.g. Adserà and Pytliková (2016)) and linguistic proximity to host-region languages increases earnings among asylum seekers (see e.g. Wong (2023)). As we want to relate elicited preferences to revealed preferences, our surveys also elicit whether respondents knew the language of their destination country upon arrival.

In this section we specify the allowed range of numerical attributes for housing cost and benefits relative to average wages, to ensure that we use relevant ranges of values for all hypothetical countries. However, in our analysis, we always use the absolute amount in Euros (by dividing the amount in Hryvna by 40) for two reasons: first, as some refugees do not plan to work, they plausibly mostly care about the absolute level of housing costs and benefits, rather than the level relative to wages ceteris paribus. Second, it allows us to compare the marginal effect of one Euro across attributes. However, by construction variation in Euro amounts is larger in high- than in low-wage countries and we are thus heavily weighting on higher-income profiles. Hence, the identified effect is a weighted AMCE with larger weights on higher income profiles. We therefore plan to show a version of the main results table in amounts relative to the mean wage in the hypothetical country as an appendix figure.

3.2.2 Visual appearance

Figure 1 shows an example of a realization of a single round of the conjoint task: The actual implementation may look somewhat different based on the device, browser and the survey (Kantar is programmed in Forsta, the ifo Survey in Qualtrics). We aim to keep the visual differences between the Kantar and the ifo surveys to an absolute minimum.

Imagine that you would have to move from your current country to another European country, providing temporary protection to Ukrainians. We list below 3 pairs of possible hypothetical countries, which differ in terms of location, language, labor market opportunities, wage levels, social benefits, cost of housing, child benefits and social links you have in these countries. In each case, please indicate which country you would prefer to move to.

Characteristic	Country A	Country B
Location	This country is less than 500km away from Ukraine	This country is less than 500km away from Ukraine
Language	**You cannot communicate in the national language of the country**	**You can communicate in the national language of the country**
Labor market	It is easy to find a job corresponding to your qualifications	It is easy to find a job corresponding to your qualifications
Wage level	**The average monthly salary after taxes and social contributions corresponds to 32,000 Hryvna**	**The average monthly salary after taxes and social contributions corresponds to 80,000 Hryvna**
Social benefits	**Unemployed refugees receive monthly social benefits corresponding to 3,000 Hryvna, including support for housing**	**The country has no social and housing benefits for refugees**
Cost of Private Housing	**The costs of an average one-bedroom apartment, utilities included, corresponds to 6,000 Hryvna**	**The costs of an average one-bedroom apartment, utilities included, corresponds to 16,000 Hryvna**
Child benefits	**Each child below the age of 18 receives a child benefit corresponding to 3,000 Hryvna**	**Each child below the age of 18 receives a child benefit corresponding to 8,000 Hryvna**
Social links	**You have family or friends in this country**	**You don't have family or friends in this country**

Which country would you prefer?
1) Country A
2) Country B

Figure 1: Single Round of the Conjoint Task

3.2.3 Randomization

- As some of the dimensions contain levels that are strictly ordered (so-called valence attributes in voting conjoints, see e.g. (Franchino and Zucchini, 2015)), our tasks could contain trivial profile pairs. As an example, two otherwise identical destinations only differ in whether or not the respondent speaks the destination country language. A rational respondent would always prefer the option with the country where he speaks the language. Such draws hence do not provide any meaningful variation However, as we include 8 dimensions and the inclusion of multi-valued levels of several attributes, the probability to draw such profiles is small. As we do not want to impose any assumptions on whether or not our dimensions are valence attributes, we keep such profiles.

- Randomization is performed by fully random draws in all cases by computer, according to the probability distributions indicated in section 3.2.1.

3.3 Statistical analysis

3.3.1 Estimand and Estimator

- The AMCE introduced by Hainmueller et al. (2014) faces some drawbacks. First, the AMCE identifies a unit-weighted average over all configurations (regardless of the plausibility of configurations), including exact ties on two attributes, which bounds the maximum effect. In a fully randomized design, this is particularly problematic when comparing the relative importance of attributes with a different number of levels. This is particularly important in our case, where we include binary attributes as well as quasi-continuously distributed dimensions. As for many dimensions in our conjoint experiment the levels can be plausibly ordered, we are particularly interested in such between-attribute comparisons. Ganter (2023) propose an alternative estimand which does not face this problem, the Average Component Preference (ACP). Therefore, in our main analysis we report Ganter's ACP to elicit preferences.[2] We report the AMCE estimates in the appendix, as these are still the gold standard in most of the literature.

- Furthermore, the uniform randomization to obtain the AMCE or ACP ensures that marginal effects are identified as an average (with equal weight) over all respondents. Although some configurations are more likely than others (e.g., it is

[2]The code is available at `https://github.com/flavienganter/preferences-conjoint-experiments`.

more plausible that refugees know a destination country language if the country is close to their own), we stick to uniform randomization for two reasons: first, we do not know the exact population-level distribution of our characteristics and second, we are not only interested in the attributes of current Ukrainian-receiving countries, but rather across the whole configuration space.[3] As we are also interested in counterfactual policy configurations, including implausible configurations improves the generalizability to counterfactual cases.

- As we have 8 dimensions with either binary levels or continuous attributes we test 8 different main hypotheses. We include the binary dimensions as binary indicators and the quasi-continuous dimensions (average wage level, cost of housing, social benefits, and child benefits) as a monetary amount, expressed in Euros by dividing the presented amount in Hryvna by 40.

3.3.2 Testable Hypotheses

We have several sets of hypotheses, relating to different levels of hypotheses.

The first set of hypotheses study the main effects of the forced-choice paired conjoint analysis.

1. Ukrainian refugees are more likely to choose a country which is closer to Ukraine.
2. Ukrainian refugees are more likely to choose a country with higher average net wage.
3. Ukrainian refugees are more likely to choose a country with lower average housing cost, once controlling for average net wage.
4. Ukrainian refugees are more likely to choose a country which provides more generous social benefits to unemployed refugees.
5. Ukrainian refugees are more likely to choose a country which provides more generous child benefits.
6. Ukrainian refugees are more likely to choose a country in which they have personal networks.

[3] De la Cuesta et al. (2022) discusses alternative (ex-post) distributions and how to interpret the results

7. Ukrainian refugees are more likely to choose a country in which it is easy to find a job corresponding to one's qualifications.

8. Ukrainian refugees are more likely to choose a country if they can communicate in its language.

Internal interaction Effects

As in Hainmueller et al. (2014), some of the dimensions we include are likely to be substitutes or complements.
Substitutes:

1. We expect strong labor markets and social benefits to be substitutes. Therefore, the interaction between the generosity of social benefits and whether it is easy to find a job matching one's qualification is negative.

2. We expect networks and language knowledge to be substitutes, as network members may serve as translators. Therefore, the interaction between knowledge of a destination country language and personal networks is negative.

3. We expect networks and low housing cost to be substitutes, as one may be housed by family or friends if housing costs are high (our network is defined by the presence of family or friends). Therefore, the interaction between housing cost and the presence of family or friends is positive.

4. We expect networks and short distance to Ukraine to be substitutes, as one can interact with co-nationals either in the country of residence, or by commuting between the country of residence and Ukraine. Therefore, the interaction between distance and networks is positive.

Complements:

1. Benefits of strong labor markets are only reaped if it is possible to find a job according to one's classifications. Therefore, the interaction between the average wage level and whether it is easy to find a job matching one's qualification is positive.

Subgroup Effects

We are interested in heterogeneous effects across subgroups based on individual characteristics. First, we will analyze how the main results (coefficient estimates of our attributes) vary according to the following dimensions:

1. Respondent has a partner in Ukraine vs. partner in same destination country (drop those with a partner in other countries)

2. Respondent is female/male (drop those who identify in another way or prefer not to answer the question on their gender)

3. Respondent has children below the age of 18 in the destination country or not

4. The respondent has completed university education or not

5. The respondent has at least one close relative (child, partner, parent) in Ukraine

6. Respondents who have returned to Ukraine, or plan to return soon or when safe versus those who don't know or intend to settle outside Ukraine

In particular, we have the following hypothesis regarding the above mentioned heterogeneities:

1. (heterogeneity of labor market concerns in terms of return intentions): The positive effects of average wage and the ease of finding a job corresponding to one's qualifications are strongest to those refugees who who don't know or intend to settle outside Ukraine.

2. (heterogeneity of concerns related to social benefits for unemployed refugees in terms of education and employment): The positive effect of social benefits conditional on unemployment is stronger for individual refugees who perceive their education to be less applicable in their current destination and for less educated refugees, as well as for refugees who are currently not employed. We collected information on perceived applicability of one's education in the current country of residence in the second and third wave of Study I. For about 75% of individuals who answered the previous (fifth) wave we have this information on perceived applicability of.

3. (heterogeneity concerning the child benefit): The effect of the child benefit is stronger for those refugees with a child below the age of 18 living with them. The effect is increasing in the number of children below the age of 18 living with them.

4. (heterogeneity of concerns related to distance in terms of return intentions): The effects of being closer to Ukraine are stronger to those refugees who expect to return at latest when it is safe than to those refugees who expect to settle permanently outside of Ukraine or do not know.

5. (heterogeneity of concerns related to housing costs in terms of education and employment): The negative effect of housing costs is stronger to refugees without university education, as well as to refugees who perceive their education to be less applicable in their current destination, and to refugees who are currently not employed.

Reconciliation of stated and actual behavior

In this set of hypotheses we test whether refugees who value a given characteristic of a potential destination country are more likely to live a country with that characteristic.

1. Refugees living in countries that share a border with Ukraine value the closeness to Ukraine more.
   For this, we divide the sample in three groups: those hosted in a country whose capital is less than 500 kilometer away from the Ukrainian border, between 500 and 1000 kilometers and more than 1000 kilometers. In the last prior survey wave, these three bins had respectively 368, 479 and 301 observations. The hypothesis is that those in the first bin have a larger coefficient for distance than for the latter two. In the Appendix, we will show the same bins also with distance to respondents' hometown and using centroids instead of host country capitals. If sample size by country allows, we will show a point estimate by country with more than 25 individuals.

2. Refugees living in high-wage countries value high average wages more.
   For this, we divide the sample between high-wage and low-wage countries.[4] We expect those in high-wage countries to have a larger coefficient for wage level in the hypothetical host country. If sample size by country allows, we will show a point estimate by country with more than 25 individuals.

3. In general, we expect that refugees prefer lower cost of housing, at least when controlling for a similar wage level. As housing tends to be more expensive in countries with higher average wage, it is an open question whether such a relationship arises when pooling hypothetical countries that differ substantially in their wage levels.

[4]We obtain 2022 data on net earnings for a single earner earning 100% of the average wage. We identify high-wage countries as EUR 20,000 or above and low-wage countries below 20,000. Obtained from Eurostat:`https://ec.europa.eu/eurostat/databrowser/view/EARN_NT_NET/default/table?lang=en`

4. Refugees living in countries with high social benefit countries value benefits more.

5. Refugees with children living in countries with high childcare benefits value childcare benefits more.
   We split countries on the median value.

6. Refugees living in countries where they have family or friends outside of their nuclear family value networks more.
   As we ask whether there are other family members in the country of residence, we divide the sample as those with and without network in the country of residence. We expect that those who have a larger estimate for having family and friends in the country. Alternatively, in the Appendix we split the sample through those who indicate that pre-existing family networks was the reason of choosing the country

7. Refugees who deem it in their current country easy to find a job than the average of other countries (Germany, Poland, Czech Republic, Italy and Sweden)

8. Refugees who speak the destination-country language value speaking the language more
   For this, among those who speak at least another language than Ukrainian (excluding Russian) we compare those who speak the destination country language to those who do not. We expect the first to have a larger sensitivity to knowing the language.

3.3.3 Standard Error Adjustments

- We cluster standard errors on the individual level as in its absence the correlation between the responses of the same individual may lead to overstate precision.

3.4 Statistical Power

- To infer the significance of our effect, we always use two-sided tests with $\alpha = 0.05$. We aim to detect effect sizes of 5 percentage points (AMCE), which is smaller than effect sizes for access to welfare and labor market conditions in comparable studies (Ferwerda and Gest, 2021).

- We performed a power analysis using the R package cjpowR (Schuessler and Freitag, 2020), calculating the power with a combined sample size of 4,000 (1,000 for Survey I and 3,000 for survey II).

- For the combined sample, the statistical tests of the main effects for our 8 attributes when the true effect size is 5 percentage points have a power exceeding 99%. The power to detect internal interaction effects of 5 percentage effects is 97%. Subgroup analyses on a subsample of 20% (which is the share of men among Ukrainian refugees) of the full sample have a power of 93%. Hence, our studies are sufficiently powered to test aforementioned hypotheses.

3.5 Diagnostics

Estimating the AMCE from conjoint experiments hinges on several assumptions. To ensure validity and reliability of our results, we carefully perform diagnostic tests as suggested by Hainmueller et al. (2014).

- Stability and carryover effects.
  The stability and absence of carry-over effects assumption implies that respondents would consistently choose the same country from a given pair of profiles, irrespective of how many rounds they have already seen or will see later and what profiles they have seen previously. Yet, since we have several attributes with quasi-continuous distributions, having perfectly identical profiles across tasks is highly unlikely. However, due to randomization we must still have closely similar profile pairs relatively well balanced across tasks, and should still anticipate that respondents will choose one over the other consistently regardless of the task number. To assess the plausibility of this assumption, we separately estimate AMCEs for each of the three rounds and test formally whether the AMCEs have changed between rounds.

- Profile order effects.
  The no profile order assumption of the conjoint analysis states that respondent choice is not affected by profile positioning in given choice tasks. In our study we present respondents with two profiles in each task. If the no profile order assumption holds, AMCEs will be similar irrespective of whether the country profile occurs on the left or on the right. In order to test this assumption, we will build two regression models: for the profiles presented on the left, and for the profiles presented on the right. We formally test whether AMCEs of the same attributes across both regression models.

- Attribute order effects.
  The no attribute order effects assumption states that the order in which we present country attributes to the respondents does not have an effect on their decision. We refer to the n^{th} row from the top an attribute appears in the choice task as the attribute row rank. To address the concern that row rank may matter (e.g., due to respondents paying more attention to the first rows), we run the following diagnostic test. We regress the binary choice of the profile on attribute row rank and interactions of the row rank and the attribute value for each attribute. The coefficients on attribute row rank tell whether rank of the attribute matters to choosing left or right (irregardless of attribute value), whereas the interaction coefficients inform whether AMCEs are dependent on the row rank. We formally test whether the AMCEs are significantly different from each other for each attribute. Note, however, that we randomize the order of attributes, so that even if there are attribute order effects to some degree, this does not necessarily imply that AMCEs are systematically biased. To limit attribute order effects, we focus respondents' attention to the attributes where the left and right profile differ by showing them in bold-faced text.

- Randomization and balance of attributes.
  Even though randomization is guaranteed to hold in conjoint experiments by design, Hainmueller et al. (2014) argue that balance checks should still be performed to spot potential errors in the randomization. Since subgroup effects are of particular interest in our study, we will perform attribute balance checks by respondent gender, age, education and family situation. We regress these respondent-level characteristics on all attributes of all profiles and tasks. That will allow us to spot significant differences in distribution of attributes across characteristics of respondents. To test whether randomization on the left and right profiles has been successful, we run a task-level regression of a binary indicator for appearing on the left on the attribute values.

4 Research Team

- Joop Adema
- Lasha Chargaziia
- Yvonne Giesing
- Panu Poutvaara

5 IRB Approval

IRB approval was obtained from the Ethics Commission, Department of Economics, University of Munich (LMU), with decision number 2023-07.

6 Deliverables

We will write a journal article including the main analyses as outlined in this pre-analysis plan.

7 Calendar

- Study 1 (Kantar): 18th of October 2023 - 5th of November 2023
- Study 2 (ifo Survey): November 2023 – January 2024
- Analysis: January 2024 – March 2024
- Writing: March 2024 – May 2024

8 Financing

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