Pre-Analysis Plan: What drives refugees' return after conflict? Evidence from a conjoint experiment among Ukrainian refugees.*

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1 Introduction

Refugees' decisions on whether to return are of great importance both to their country of origin and host country. These decisions affect the prospects of rebuilding the country of origin after a conflict ends. Return plans also affect refugees' incentives to invest in host-country specific human capital, thereby affecting their integration outcomes. While previous literature has largely focused on the role of safety after a conflict ends, also many other aspects can play an important role, including economic opportunities and perceived risk of a future conflict. We study refugees' return decisions using a conjoint experiment among Ukrainian refugees in various European countries. Our conjoint experiment includes the following main dimensions: outcome of the war, when the war ends, security guarantees and the prospect of EU membership, as well as economic opportunities and corruption in Ukraine.

This Pre-Analysis Plan describes our study of the determinants of return among Ukrainian refugees through a conjoint experiment. In the conjoint we experimentally vary relevant conditions in hypothetical scenarios. By asking how likely individuals deem return in a set of scenarios with randomized characteristics, we can study the importance of each dimension on return intentions. The dimensions we include are (1) when the fighting ends; (2) whether the fighting ended with a peace agreement, an armistice, or without a formal agreement; (3) Ukraine's territorial integrity after the fighting ended; (4) security guarantees ranging from NATO membership to no security guarantees; (5) prospects of Ukraine's EU membership; (6) income level in post-war Ukraine; (7) job opportunities in Ukraine; and (8) the level of corruption.

Importantly, we study what shapes preferences for return in different scenarios *after* fighting has ended. Return after conflicts ended is essential for long-term prosperity of the country (see e.g. Bahar et al. (2024)). Return during prolonged conflicts has been studied to a larger extent in the literature. Notable examples are studies of return (intentions) among Syrian refugees, such as Beaman et al. (2022) and Alrababah et al. (2023). The literature has by and large found that safety in one's home country is by far the most important determinant of return (intentions). In line with this, Adema et al. (2024) find that conflict in refugees' home town increased plans to settle abroad, and that liberation of the home town strongly drove return and return plans. Return after conflict ended can typically only be studied on the longer run, and is less explored. The factors driving return decisions after conflict ended may also differ from those during conflict. Hence, studying return to post-war Ukraine explicitly can deliver new insights about return after conflict. For example, perceptions about the future prosperity of one's home county could depend on collaborations with and membership in international organizations.

1.1 Literature

Our analysis contributes to several related strands of migration literature. First of all, a series of papers has studied drivers of refugees fleeing conflict, such as in Syria (Beaman et al., 2022; Alrababah et al., 2023). As Alrababah et al. (2023), several recent papers employ choice experiments to study refugee return intentions to Syria. Nevertheless, most of these papers study ongoing (civil) conflict areas, finding that safety concerns are the primary deterrent. Beyond refugees, Bassetto and Freitas Monteiro (2024) find that conflict in the country of origin increases staying intentions in Germany among a wider pool of migrants.

Secondly, a few papers have studied the role of international organizations in return after conflict. Bove et al. (2022) show that peacekeeping facilitated return in South Sudan. We contribute to this literature by studying how strongly security guarantees affect return plans, in comparison to other factors.

Ultimately, a few papers focus on the war in Ukraine. 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 relative to the pre-war Ukrainian population (Brücker et al., 2023; Albrecht and Panchenko, 2022). Adema et al. (2024) find that conflict in refugees' home region shapes return intentions, but has limited effect on integration into host societies.

2 Background and Surveys

Russia invaded Ukraine on a large scale on the 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 5 million of whom were across the EU, Norway and Switzerland as of March 1, 2024 (Eurostat, 2024). As the outflow of Ukrainians is one of the largest refugee movements in recent history, studying Ukrainians' return (intentions) is of special relevance to policy makers in destinations as well as to migration scholars aiming to understand refugee mobility better. As Ukrainian refugees faced relatively low financial, institutional and other barriers to move to other European countries, many left Ukraine.

We study Ukrainian refugees across Europe in survey I and in Germany in survey II. The survey I's participants have been previously recruited using Facebook advertisements by Verian, whereas we recruited the participants in the survey II by contacting a random sample of 30,000 Ukrainian refugees in Germany from admin-

istrative postal address data in 2023, provided by the Federal Office for Migration and Refugees (BAMF), with a refreshment sample of 15,000 addresses that will be contacted in July 2024. The two surveys are complementary: Verian 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. Importantly, the refreshment sample that will be collected in Germany includes also more recent arrivals (including those who arrived in Germany only in 2024) and the addresses have been sampled so that respondents in the 2023 survey will not be sampled again.

2.1 Survey I: Verian

- Data will be collected by Verian, 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 whom 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% planned to go back to Ukraine very soon, 59% wanted to go back when it is safe, 8% wanted to settle outside of Ukraine and 25% did not know what to do.

- Prior follow-up waves of survey I had about 1000-1250 respondents each. As we may anticipate some additional attrition, we deem **1,000** respondents a likely realistic target for the next wave.

- The survey will be fielded in July 2024.

2.2 Survey II: ifo

- Data will be collected through online surveys among Ukrainian refugees residing in Germany, who are contacted by letter. The target group for letters are Ukrainian citizens who have arrived in Germany since February 2022.

- Addresses of refugees have been collected through the German registry of foreigners (AZR) and letters with a personalized QR code have been sent in November 2023 to 30,000 refugees (first batch). 2137 people completed the first wave of the first batch. Based on a conservatively estimated follow-up

rate of 30%, we estimate 641 follow-up respondents. In July 2024, 15,000 additional letters will be sent (second batch). Based on response rates to the previous wave, we expect 1300 respondents in wave 1 of the second batch.

- In the ifo survey, our survey experiment will be included in wave 2 of the first batch and in wave 1 of the second batch. Data will be collected in July 2024, continuing until August 2024 if needed.
- We hence expect a total of approximately **2,000** respondents in the ifo surveys.

2.3 Data Processing

- Data from survey I will be obtained from Verian 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.
- Survey 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. Once the paper using the data is accepted for publication, an anonymized dataset will be made available to other researchers.
- If participants exit the survey during any of the tasks in the conjoint analysis, we omit them from the main analysis. We report the number of participants who interrupted in the paper. We will analyze non-response and during-survey attrition on observable characteristics in both surveys.

3 Empirical Analysis

3.1 Conjoint experiments

- Conjoint analysis is a tool used to elicit preferences using a realistic experiment. It was popularized by Hainmueller et al. (2014), who showed that one can identify a causal estimand of interest, the Average Marginal Component Effect (AMCE), if one randomizes the attributes of profiles. A simple linear regression procedure provides an unbiased estimator for the AMCE, which is the marginal affect of an attribute level on the outcome score, averaged across all other attributes' levels. In the context of preferences of natives for granting asylum to

refugees 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 ones.

3.2 Our Survey Experiment

- We perform a single-item conjoint analysis asking Ukrainian refugees to indicate how likely it is that they would return to Ukraine in a series of scenarios that differ in attributes relevant to the return decision, after the fighting has ended.

- The task is worded as: *"We are interested in the conditions under which you would consider returning to Ukraine. We are going to give you a set of scenarios that describe hypothetical situations in Ukraine* ***after the fighting has ended****. Please, indicate under each, how likely are you to return in this case."*

- Following the notation of Hainmueller et al. (2014), a conjoint experiment consists of N respondents, K tasks (or rounds), with $J(=1$ in a single conjoint) alternatives, with L attributes which have D_l components (or levels) each. We draw $K = 5$ 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 relevance 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 macrodimensions applicable in case of the cessation of hostilities that are (1) most relevant to return, (2) observable to a potential refugee, and (3) have policy relevance. The selected attributes can be roughly categorized in three broad categories.

- **War-related dimensions:**

  - When the fighting ends $\in$ {2024, 2025, 2026, 2027 or later}
  - How did the fighting end $\in$ {Ukraine and Russia signed peace agreement, Ukraine and Russia signed armistice agreement, The fighting slowly stopped with no peace or armistice agreement }

- Territory ∈ {Ukraine liberated all occupied territories and restored borders of 1991, Ukraine liberated most occupied territories, Russia kept most or all occupied territories}

- **International relations dimensions:**
  - Security guarantees ∈ {Ukraine joins NATO, Security guarantees from some but not all NATO countries, No security guarantees from any of the NATO countries}
  - EU membership ∈ { Ukraine is expected to join the EU within 5 years, Ukraine is expected to join the EU in more than 5 years, Negotiations on Ukraine's EU membership are on hold}

- **Post-war Ukraine dimensions:**
  - Job opportunities ∈ {There are many job opportunities that correspond to your qualifications, There are few job opportunities that correspond to your qualifications}
  - Income-levels ∈ { All incomes are 20 percent lower than before the war started, All incomes are 10 percent lower than before the war started, All incomes are the same as before the war started, All incomes are 10 percent higher than before the war started, All incomes are 20 percent higher than before the war started}
  - Corruption perceptions ∈ { Ukraine has made significant advances in reducing corruption relative to the year 2023, The level of corruption is similar to the one in the year 2023, The level of corruption is worse than in the year 2023}

3.2.2 Outcome

We ask respondents to score their return intention in each hypothetical scenario with a slider with step size 1 ranging from 0 to 100, where 0 is labelled "Definitely would not return" and 100 is labelled "Definitely would return". Using the fine slider scale, respondents can precisely indicate their perceived likelihood. We interpret effects on this outcome as changes in the self-assessed probability of returning.

3.2.3 Visual appearance

Figure 1 shows an example of a realization of a single round of the conjoint task: The

	Scenario 1
Fighting ends in	2026
How did the fighting end	Ukraine and Russia signed armistice agreement
Territory	Ukraine liberated all occupied territories and restored borders of 1991
Security guarantees (do not apply to territory under Russian control, if any)	Security guarantees from some but not all NATO countries
EU	Ukraine is expected to join the EU within 5 years
Income of the population in UA (after adjusting for inflation)	All incomes are the same as than before the war started
Job opportunities in UA	There are few job opportunities that correspond to your qualifications
Corruption in UA	Ukraine has made significant advances in reducing corruption relative to year 2023

On a scale 0 to 100 (0 – I definitely wouldn't return, 100 – I definitely would return), how likely are you to return to Ukraine in this scenario?

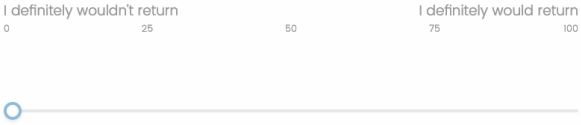

Figure 1: Single Round of the Conjoint Task

actual implementation may look somewhat different based on the device, browser and the survey (Verian survey is programmed in Forsta, the ifo Survey in Qualtrics). We aim to keep the visual differences between the surveys to an absolute minimum.

3.2.4 Randomization

- We randomize attributes independently from each other without restricting combinations of attributes.
- All alternatives in each dimension have the same probability, with one exception: as most conflicts end in peace agreements, we make the probability that a peace agreement is drawn 50 percent and the other two options 25 percent each in the category "How did the fighting end".
- We randomize 8 fixed orders of attributes at the respondent level. Starting with attribute order vector (a_1, ..., a_8) that is shown on the Figure 1, we iteratively move the first item to the end to ensure that each item is equally represented in every position.

3.3 Statistical analysis

3.3.1 Estimand and Estimator

We estimate marginal effects of randomly assigned attributes on the subjective likelihood of return through the AMCE framework. We regress the score on dummy indicators for the categorical attributes and an indicator for percentage changes in income levels, which is a quasi-continuous variable.

3.3.2 Testable Hypotheses

Primary hypotheses

The first set of hypotheses study the main AMCEs of the conjoint experiment.

1. Ukrainian refugees are more likely to plan to return when the war ends sooner
2. Ukrainian refugees are more likely to plan to return with a peace agreement than with an armistice agreement and also more likely to plan to return with an armistice agreement than if the fighting slowly stopped with no peace or armistice agreement

3. Ukrainian refugees are most likely to plan to return if Ukraine liberates all occupied territories and least likely to plan to return if Russia keeps most or all occupied territories, with the probability of planning to return being strictly between these polar cases if Ukraine liberates most but not all occupied territories

4. Ukrainian refugees are most likely to plan to return if Ukraine joins NATO and least likely to plan to return in case there are no security guarantees from any NATO countries, with the probability of planning to return being strictly between these polar cases in case of security guarantees from some but not all NATO countries

5. Ukrainian refugees are more likely to plan to return if Ukraine is expected to become an EU member earlier rather than later and are more likely to plan to return if EU membership is expected at a later time than if there are no active negotiations on EU membership

6. Ukrainian refugees are more likely to plan to return when there are good job opportunities rather than bad job opportunities

7. Ukrainian refugees are more likely to plan to return when income levels are higher

8. Ukrainian refugees are more likely to plan to return when there is less corruption

Additional hypotheses

Heterogeneity:

- Those (i) planning to return soon and (ii) those planning to settle outside Ukraine have AMCEs that are smaller in magnitude, compared to those (iii) who want to return when safe or don't know. Here, we split the sample in 3 groups and estimate the AMCEs for each group.

- Those with children may be more sensitive to how the war ended, what territory Ukraine controls and security guarantees, as parents may strongly care about the safety of their children. We test whether (2-4) above are stronger for those with children living with them. This is important to study as the return of young individuals strongly determines the demographic prospects of post-war Ukraine.

Internal interactions:

- People could be willing to endure a longer war if Ukraine gets all territories back. Although people generally like to return sooner, the negative effect of a long war on returning may be alleviated if Ukraine regains all territory Russia currently occupies. We test this by adding the interaction between a dummy for 2026 or 2027 or later and a dummy for Ukraine liberating all territories to the model and test whether it is statistically significantly different from 0 and positive.

- As also EU membership may be seen as offering protection against renewed Russian aggression, it may be valued more strongly in the absence of NATO membership or security guarantees from NATO countries. Hence, dimensions (4) and (5) could be substitutes. We test this by adding the interaction between a dummy for any security guarantees with a dummy for expected EU membership within 5 years and for expected EU membership in more than 5 years and test whether these are statistically significantly different from 0 and negative.

- In absence of a peace agreement, security guarantees from NATO countries (or NATO membership) may be valued more due to increased security concerns. We test this by interacting a dummy for any security guarantee with a dummy for peace agreement. We anticipate the interaction effect to be statistically significant and negative.

- In line with the literature (Alrababah et al., 2023), one would expect that refugees value dimensions related to life in Ukraine more when safety is guaranteed. On the other hand, a strong economy and low corruption could be perceived as even more important for Ukraine to defend itself against future Russian aggression. We test which of the two hypotheses prevails by adding the interaction between dimensions (6-8) and (i) a dummy for peace agreements vs. weaker resolutions and (ii) a dummy for any security guarantees vs. no security guarantees.

3.4 Predicted return probabilities under three scenarios

To assess to what extent specific scenarios for the termination of the war would matter for refugees' assessment of return to Ukraine, we do the following. We hypothesize three scenarios (good, intermediate, bad) and calculate predicted average return probabilities from the elicited AMCEs (and the constant) obtained from the linear

probability model used to test the Primary Hypotheses. In each of the scenarios we choose parameter values for each of the dimensions. In some scenarios we take a weighted average between multiple attribute values, of which we indicate the weights in brackets:

- **Good:** The war ends in 2024 (w=0.5) or in 2025 (w=0.5), Ukraine and Russia signed a peace agreement, Ukraine liberated all occupied territories and restored borders of 1991, Ukraine joins NATO, Ukraine is expected to join the EU within 5 years, There are many job opportunities that correspond to your qualifications, all incomes are 20 percent higher than before the war started, and Ukraine has made significant advances in reducing corruption relative to the year 2023.
- **Intermediate:** The war ends in 2026, Ukraine and Russia signed armistice agreement, Ukraine liberated most occupied territories, Ukraine obtains security guarantees from some but not all NATO countries, Ukraine is expected to join the EU in more than 5 years, There are many (w=0.5) or few (w=0.5) job opportunities that correspond to your qualifications, all incomes are the same as before the war started, The level of corruption is similar to the one in the year 2023.
- **Bad:** The war ends in 2027 or later, the fighting slowly stopped with no peace or armistice agreement, Russia kept most or all occupied territories, Ukraine got no security guarantees from any NATO country, negotiations on Ukraine's EU membership are on hold, there are few job opportunities that correspond to your qualifications, all incomes are 20 percent lower than before the war started, and the level of corruption is worse than in the year 2023.

We hypothesize that predicted return probabilities are considerably higher in the good than in the intermediate scenario and that return probabilities are also considerably higher in the intermediate than in the bad scenario.

3.4.1 Standard Error Adjustments

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

3.5 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 points on the scale of 100 (AMCE), which is relatively small compared to effect sizes found in the literature. For example, Alrababah et al. (2023) find that several home country conditions have an effect of more than 5 percentage points on binary dimensions in a vignette study of return among refugees from Syria.

- We performed a power analysis using the R package cjpowR (Schuessler and Freitag, 2020), calculating the power with a combined sample size of 3,000 individuals who perform 5 rounds each.

- For the combined sample, the statistical tests of the main effects attributes with 3 attribute levels when the true effect size is 5 points have a power exceeding 99%. The power to detect internal interaction effects of 5 points between two dimensions with 3 attribute levels each is 54%. Subgroup analyses on a subsample of 30% (which is approximately the share of those planning to return soon or planning to settle outside of Ukraine in previous survey waves) of the full sample have a power of 78%. Hence, our studies are reasonably powered to test aforementioned hypotheses.

3.6 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 option, irrespective of how many rounds they have already seen or will see later and what profiles they have seen previously. To assess the plausibility of this assumption, we separately estimate AMCEs for each of the five rounds and test formally whether the AMCEs have changed between rounds.

- 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 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 row), we run the following diagnostic test. We regress the outcome score on attribute row rank and the full interactions between the row rank and all regressors (which are binary indicators for the categorical dimensions and numerical regressor for the dimension on changes in income levels). The coefficients on attribute row rank tell whether rank of the attribute matters (regardless 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 roll through the order of attributes, so that even if there are attribute order effects to some degree, this does not imply that AMCEs are systematically biased.

- 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.

4 Research Team

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5 IRB Approval

IRB approval was obtained from the Ethics Commission, Department of Economics, University of Munich (LMU), with decision number 2024-08.

6 Deliverables

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

7 Calendar

- Study 1 (Verian): July 2024
- Study 2 (ifo Survey): July 2024
- Analysis: August 2024 – September 2024
- Writing: September 2024 – December 2024

8 Financing

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