KYIV SCHOOL OF ECONOMICS

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THESIS

"Between Economy and Culture: Determinants of Immigration Attitudes in Wartime Ukraine"

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ABSTRACT

This thesis examines the determinants of attitudes towards immigrants and immigration (ATII) in wartime Ukraine, asking: what is the relationship between financial insecurity, unemployment, emotional attachment to Ukraine, and attitudes towards the perceived economic and cultural consequences of immigration among Ukrainian citizens? Using ESS Round 11 microdata and three sequential survey-weighted ordinal logistic regression models estimated on a sample of 2225–2336 citizens, the study finds that financial insecurity is negatively associated with perceived economic benefits of immigration but not with perceptions of cultural threat, while emotional attachment to Ukraine is positively associated with more welcoming perceived economic benefits and similarly absent from the cultural domain. Unemployment shows no significant association with ATII in any model. The results suggest that threat theory mechanisms operate uniquely in Ukraine's wartime context, and that the ongoing consolidation of Ukrainian civic identity does not appear to generate significant negative protectionist sentiments towards immigration.

Keywords: ATII, national belonging, financial insecurity, European Social Survey, wartime Ukraine

Word count: 10795 words

INTRODUCTION

Determinants of attitudes towards immigrants and immigration (ATII) comprise some of the most productive research agendas in political sociology. Dominated by the threat framework, attributing negative ATII to perceived competition with immigrant populations for public goods in the economic and cultural domains, and accompanied by contact theory, the field has produced a substantial body of evidence, chiefly from Western European and North American contexts (Ceobanu & Escandell, 2010; Dražanová et al., 2024). It remains largely untested whether the mechanisms identified there hold up in post-Soviet, conflict-affected country contexts, characterised by challenging economic situation and rapid national identity consolidation. The virtual absence of individual-level ATII research for Ukraine, with the most recent study operating with data from two decades ago (Aleksynska, 2011), constitutes a significant gap in literature. This research addresses the gap by asking: what is the relationship between economic hardship, national belonging and ATII among Ukrainian citizens under the conditions of warfare?

This thesis adopts a confirmatory quantitative design and utilises publicly available Ukrainian microdata of Round 11 of European Social Survey (ESS) from 2024. The confirmatory component is stronger for hypotheses pertaining to the effect of individual economic predictors and somewhat more speculative in the investigation of the relationship between national belonging and ATII, for which the existing evidence is robust but not entirely applicable to Ukraine's identity consolidation dynamics. Positive dimensions of national identity, such as civic and institutional pride, as well as growing pro-European sentiment, co-exist with more exclusionary elements, such as rising nationalist identification and ethnic pride; these two domains of national belonging, shown to differ in their effect on ATII, have not been systematically explored in wartime Ukraine and may function differently from the broader European context.

The thesis is structured as follows. The *Literature Review* problematises the core theoretical frameworks and empirical findings in ATII scholarship, emphasising Ukraine as a productive and underexplored case. The *Analytical Framework* and *Methodology* chapters develop the conceptualisation and operationalisation of key predictors and socio-demographic controls, as well as justify the analytical method. The *Results* chapter presents three sequential regression models summaries and the interpretation of findings. *Discussion & Policy Implications* position evidence from Ukraine within the previous literature and derive considerations for Ukraine's future immigration policy. *Conclusions* summarise all the previous chapters.

LITERATURE REVIEW

Current scholarship paradigm: frameworks, mechanisms, and predictors

Two major approaches to the study of attitudes towards immigrants and immigration (ATII from now on[1]) ATII determinants are salient in the field. The most often applied theory is what may be termed *the threat framework* – also named "competitive threat model" (Dražanová et al., 2024) or "group threat theory" (Abdelaaty & Steele, 2022; Ceobanu & Escandell, 2010). It dominates the research body to an extent that Gu et. al. (2022, p. 3) even summarise "the mainstream explanations for public attitudes [towards migrants]" as chiefly based on "seeing immigrants as collective threats". The threat framework sees ATII as being formed through public goods competition in two domains of life – in the *economic domain* over scarce material resources and the *cultural domain* over social homogeneity, narratives and values (Dražanová et al., 2024). In the economic domain, lower income, weaker occupational status, and reduced financial security are consistently associated with more negative ATII (Abdelaaty & Steele, 2022; Mitchell, 2021; Dražanová et al., 2024; Gheorghiev & Collini, 2025). When inspecting the cultural domain, lower generalised interpersonal trust, greater willingness to fight for one's country, racism/xenophobia, and perceived cultural threat are all linked to less welcoming attitudes (De Figueiredo & Elkins, 2003; Gu et al., 2022; Gorodzeisky & Semyonov, 2019), while the effect of religion is either positive, when measured as religiosity (Schmidt, 2021) or dependent on the type of faith when seen as a denomination (Indelicato & Martín, 2024).

Crucially, the economic and cultural threat channels are not necessarily independent. Evidence from the Czech Republic shows that financial vulnerability predicts negative ATII both through *perceived labour market threat* and *perceived cultural threat* simultaneously (Gheorghiev & Collini, 2025). Additionally, when perceptions of economic and cultural threat are considered not as ATII proxies but *determinants of ATII*[2], they both display a large effect size and salience on migratory policy preferences (Gorodzeisky & Semyonov, 2019). This suggests the two channels are interlinked and may amplify one another inconspicuously when political actors exploit economic anxiety to ramp up cultural fears.

Contact framework, which predicts a positive influence of frequent interactions with immigrants and/or ethnic minorities on ATII, is the second key theoretical approach. It works through familiarity: repeated personal engagement with immigrants reduces stereotyping and lowers perceived strangeness of the immigrant population, thus eroding the *out-group as a category*. Positive effects of friendships and acquaintances with minorities or people of different races or origins have been long noted in scholarship (Ceobanu & Escandell, 2010, p. 317) and recently reproduced by Gorodzeisky & Semyonov (2019, p. 7). Quality of contact, defined by proximity in status of the immigrant and native populations, willingness to

[1] In this thesis, I use the naming convention and abbreviation as in Dražanová et al., (2024) due to expediency and general accuracy of what the term represents in my research question. For detailed conceptualisation, see Analytical Framework (*What ATII is about – people, process or policy?*).
[2] See (Ceobanu & Escandell, 2010) for the discussion of micro-attitudinal predictors.

cooperate, sharedness of goals and the support of government (Ceobanu & Escandell, 2010, p. 317), is of great importance to contact theory; mere cohabitation or infrequent interactions cannot serve as a sufficient equivalent of sustained interpersonal friendship.

Other sets of predictors, not explicitly pertaining to the above frameworks, are also employed. Education is a distinct yet crucial factor: it does not fit precisely within either contact or threat theory but draws on both. Higher levels of education are universally linked to more positive ATII through a combination of greater economic security, self-selection into diverse urban environments, and wider cognitive openness (Dražanová et al., 2024). Among demographic determinants, older age correlates with more negative ATII, though cohort replacement appears to have gradually improved aggregate attitudes in Western Europe (Schmidt, 2021). While gender shows no reliable cross-country pattern, country-specific dynamics can emerge: in the Czech Republic, women expressed stronger opposition to Ukrainian refugees, arguably motivated by perceived labour market competition (Gheorghiev & Collini, 2025).

A final noteworthy variable, inspired by significant demographic and ideological landscape changes in the Western world, is *national belonging/attachment*. Literature draws a long-standing distinction between its positive and negative dimensions. Nationalism, defined as a negative-dimension perception of superiority towards other nations, is inversely associated with pro-immigration attitudes, while national identification, pride and civic identity, belonging to positive dimensions, are not in significant association (Bartasevičius & Trunov, 2024). Notably, for countries which have been largely built upon immigration, with a distinct settler culture, national pride increases pro-immigration attitudes, as compared to countries without a foundational or historic immigration experience. Furthermore, there is evidence that political and institutional pride contribute to more welcoming ATII, in contrast to nationalism and cultural patriotism (Indelicato & Martin, 2024). Similarly, Raijman et. al. (2008) find that civic pride produces more accepting attitudes towards granting citizenship rights, with socioeconomic threats from immigration serving as mediators. Overall, positive national belonging tends to deter less negative ATII and produce more open attitudes, while negative national identity exacerbates hostility (Ceobanu & Escandell, 2010, p. 321).

Gaps in theory

Even though both theories produce consistent and replicable results, they do not always predict the relationship between ATII and its determinants as expected. Particularly, contact theory seems to break down under a country-specific context at times. For instance, in Kyiv in 2001-2002, prior communication with immigrants did not significantly affect attitudes towards Asian and African immigrants (Aleksynska, 2011). In the US, evidence implies that the relationship between minority population size and threat perception may even be inverse-U-shaped, partially supporting both contact and threat frameworks at once at the price of complicating the nature of the linkage between the variables (Abdelaaty & Steele, 2022).

The threat framework also faces empirical challenge: unlike contact theory, evidence diverges from predictions at the cross-country scale, not the specific country or region level.

Counterintuitively, EU regions with higher native unemployment and larger low-skilled populations show more positive ATII – the reverse of what economic competition logic would imply (Markaki & Longhi, 2013). On one hand, this may partly reflect poor variable choices in cross-country models (such as the omission of personal contact as a control). On the other hand, pooling heterogeneous national contexts into a single model may not be able to unravel the precise mechanisms at work in a specific setting. As Ceobanu & Escandell (2010, p. 318) note, "it is at the contextual level... where research on ATII... may draw more theoretical inspiration." More fundamentally, these inconsistencies suggest that subjective conditions of threat are more salient than the objective ones.

Finally, the question of relative explanatory power and input of economic and cultural determinants remains unresolved. Some evidence points to symbolic factors as more salient than material concerns (Ceobanu & Escandell, 2010). Also, as mentioned previously, when perceptions of economic and cultural threat are deemed to determine ATII, they can both show significance (Gorodzeisky & Semyonov, 2019). This problem is compounded by the fact that most studies do not differentiate between attitudes towards immigrants as a threat to the economy versus to cultural life specifically, and their ATII measures are often poorly synchronised or comparable between one another.

Why is Ukraine worth exploring?

Ukraine presents a compelling and underexplored setting for ATII research on three separate grounds.

Firstly, the current gap in current literature on the determinants of ATII in Ukraine is significant. The most detailed existing study (Aleksynska, 2011) relies on responses from residents of Kyiv in 2000-2001 and focuses on a specific immigrant group (Asian and African individuals). Its core aim was to analyse how *relative* (in comparison to migrants) individual and group deprivation/satisfaction of Kyiv residents in financial status, educational and employment opportunities affect ATII. On its own, the ATII proxies employed contribute much to the understanding of more nuanced determinants and relate to a greater body of prior theory on relative deprivation. Yet, the results of the study are not directly comparable with the more general cross-theory scholarship of ATII factors. The study also finds the non-significance of income and education, the latter attributed to Ukraine's labour market functioning differently from more developed countries at that time, as people from different educational backgrounds often competed for the same jobs in early post-Soviet Ukraine. However, the above observations cannot be readily generalised to contemporary Ukraine.

Secondly, Ukraine's economic context is unusual in ways that may challenge standard threat theory predictions. With one of the lowest GDP per capita figures in Europe and path-dependent economic insecurity present since the dawn of independence, Ukraine presents itself as an environment with sufficient economic risk for those who participate in the labour force. The full-scale invasion has only worsened the situation, triggering an exodus of almost 5.9 million people (United Nations Human Rights Council, 2026), mostly women and children, which sparked an immense deficit in consumer demand and a contraction of the

labour force, further deepened by the conscription of 1.05 million citizens in the Armed Forces (Shkarlat, 2024).

As a consequence, the unemployment rate is the lowest since 2022, at 12.1% as of April 2025 (Centre for Economic Strategy, 2025). At the same time, this same labour force shrinkage through emigration and military conscription, augmented by the downfall of many war-affected industries (agriculture at the frontlines, logistics and manufacturing) and the rise of entirely new sectors (such as defence sub-industries or construction in the West of Ukraine), produced inevitable skill mismatch and structural unemployment. For instance, 74% of European Business Association member companies report difficulty finding qualified workers (European Business Association, 2025), and 59% of businesses polled by the Institute for Economic Research and Policy Consulting face similar challenges (Institute for Economic Research and Policy Consulting, 2025). Thus, it is rather difficult to predict whether Ukrainians see immigration as a threat due to open vacancies being taken by immigrants, especially in the environment of heightened personal economic risk, or as an opportunity for economic rejuvenation. Early poll data from the Institute of Sociology of the National Academy of Sciences of Ukraine suggest that the relationship between financial security and ATII may even follow an inverse-U curve, with ATII scores rising as financial security improves up to a point, then declining (Dembitskyi, 2025). Such a pattern, if ever confirmed, would require a reconsideration of how threat theory conceptualises economic determinants.

Thirdly, Ukraine is undergoing a distinctive process of identity consolidation, rendering it a productive case to test the national belonging dimension. Since the full-scale invasion, civic identity has strengthened: 73% of respondents in a 2025 Rating Group poll (2025a) define national belonging through citizenship (rather than parental ethnic ancestry), 51.3% feel European (up from 41.2% in 2021 and 34.8% in 2011; Razumkov Center, 2026). At the same time, ethnic and nationalist sentiment has also grown: self-identification as "nationalists" rose from 3-4% before the invasion to 18.8% in a 2023 IS NANU poll, and 67% agreed that "healthy nationalism" is desirable (Ilko Kucheriv Democratic Initiatives Foundation and Razumkov Center, 2022). Civic and ethnic elements of Ukrainian identity appear to co-exist without major conflict, with opposition to Russia's imperialism being a key driver of both (Wilson, 2024). Whether this consolidation is predominantly positive in character and whether it translates into more accepting ATII, as the literature on national belonging predicts, are open questions that this thesis is well placed to examine.

This thesis engages with the subset of this agenda that is both theoretically most consequential and feasible given available data. Two predictor groups are examined – economic determinants and one cultural predictor, national belonging – alongside standard sociodemographic controls. Testing economic predictors allows this thesis to assess whether threat theory in the economic domain operates as prior research suggests and whether it spills over into the cultural domain, as shown by Gheorghiev & Collini (2025). Examining national belonging helps identify whether the positive-negative dichotomy in national identity is

salient in a war-affected, economically stressed country and whether national belonging is of a more positive or negative character per se. The following chapter develops the conceptual framework for this investigation.

ANALYTICAL FRAMEWORK

Framework choice

To produce the most parsimonious and directly comparable results, this thesis employs a *threat framework* in dependent variables conceptualisation and independent variables assortment. This choice is preferable for several interlaced reasons. Firstly, threat theory, as mentioned before, is the most widely used approach in scholarship, with consistent and reliable results produced over several decades. At the same time, unlike contact theory, its theory-practice gap, shown by Markaki & Longhi (2013) emerges at the cross-country level, justifying and strengthening the exploration of country-specific context. Secondly, the salience of socio-demographic and economic variables has been shown to be greater in ATII-proxies pertaining more directly to threat theory, such as attitudes towards immigrants' contribution, than policy preferences. (Dražanová et al., 2024). Thirdly, and most crucially, the threat framework's explanatory logic is directly applicable in Ukraine's socioeconomic context, characterised by acute economic insecurity, a shrinking labour force, and rapid identity consolidation. These circumstances offer the conditions under which both economic and cultural threat perceptions are most likely to shape ATII. Finally, the ESS Round 11 survey data, utilised in this thesis, do not include direct measures of intergroup contact frequency or quality, making a rigorous test of contact theory impossible.

Dependent variable: ATII – people, process, or policy?

The most pressing conceptualisation issue in this thesus is the proper definition of ATII itself. Attitudes can be directed at (i) *immigrants as individuals*, (ii) *immigration as a process* with its beneficial or threatening consequences and (iii) *immigration policy* – preferences about what governments should do. Ceobanu & Escandell (2010) explicitly note this distinction, and a meta-analysis by Dražanová et al. (2024) has identified about 150 variables, many of which cannot be directly compared and aggregated. ATII is, in this sense, a latent phenomenon that cannot be adequately captured by a single measure (Moretti & Ahmed, 2024). This has not prevented many studies from constructing multi-item indices. However, averaging responses to questions capturing different consequences in different life domains (economic vs. cultural) risks obscuring "important within- and between-country variation in the nature of object-specific survey questions" (Ceobanu & Escandell, 2010, p. 315).

This thesis uses Round 11 of the European Social Survey (ESS), currently the only publicly available source of post-invasion microdata for Ukraine with the necessary dependent and independent variables. The ESS Round 11 questionnaire (European Social Survey European Research Infrastructure, 2026) includes six distinct questions soliciting ATII, three of which ask about the consequences of immigration and the other three – about the endorsement/critique of immigration policy choices.

While policy attitudes are the measures least susceptible to social desirability bias on behalf of the respondents, the corresponding questions each concern specific immigrant categories. Averaging the responses would impede both internal and external validity of

further results. Even more importantly, policy attitudes are measures more distanced from threat theory than attitudes towards consequences. Thus, to test both the effect of economic predictors and national belonging, ESS variables capturing perceived economic (*imbgeco*) and cultural (*imueclt*) consequences of immigration are chosen as the two key dependent variables. Such an approach was mirrored previously by Gheorghiev & Collini (2025), who treated economic and cultural threat as distinct but interlinked outcomes. A third consequences-oriented ATII variable ESS provides, *imwbcnt*, capturing a general assessment of consequences of immigration, is chosen to serve a holistic robustness check.

One must note that the literature on the national belonging as a predictor of ATII engages both with policy-preference-based and contribution/consequence-based ATII-proxies, with pro-immigration attitudes (Bartasevičius & Trunov, 2024), citizenship-granting preferences (Raijman et al., 2008) or assumptions with regard to the consequences of immigration (Indelicato & Martin, 2023) chosen as dependent variables. While the two former ATII-proxies are both better reflected by policy-preference questions, which are phrased to capture sensitivity to race and ethnicity in admission preferences, the latter is better represented by contribution assessment questions. Moreover, since national belonging has also been shown to influence ATII indirectly through socioeconomic threat perceptions (Raijman et al., 2008), using questions about consequences of immigration for ATII-proxies generation is prudent in understanding whether the national belonging remains significant after socio-demographic variables, to which the consequences- or contribution-based ATII proxies respond more strongly (Dražanová et al., 2024), are controlled for.

Independent variables: economic predictors and national belonging

Economic factors employed in the threat framework are diverse but usually span three categories: nominal level of income, perceptions of financial/economic security and employment status. There is overlap and endogeneity between the three, with the most significant expected between economic security and income, as well as income and employment. With income being a weak link in this bundle of economic variables, it may well be removed from consideration. While some larger cross-country studies employ all three at the same time (see Dražanová et al., 2024), smaller country-specific studies, such as the one by Gheorghiev & Collini (2025), employ only more subjective financial security indicators. Moreover, income as a predictor is often used solely when ATII-proxies are policy preferences, not contribution assessments (see Abdelaaty & Steele (2022) and Mitchell (2021)). Thus, a choice of two economic predictors, *financial insecurity* and *employment status*, is methodologically appropriate and practically feasible within the scope of this thesis.

In the ESS questionnaire, financial insecurity is best captured by the *hincfel* variable – feeling about the household's income, which is the variable chosen in this thesis. Employment and occupational status, on the other hand, are captured by a variety of variables with differing levels of category complexity. Occupational status or industry contain too many category responses to be simplified for the research. However, a *mnactic* variable – main activity of the respondent in the last seven days – captures not only the employment binary

(employed/unemployed) but also disability, housework, retirement, education and communal/military service, providing a reasonable and manageable level of category variance. An objection can be raised that the last 7 days of activity may capture a more recent change in occupation, not prolonged activity; nevertheless, for the majority of respondents, current activity in the last 7 days will be an accurate reflection of a stable, longer-term employment situation.

ESS questionnaire differentiates between two kinds of unemployed persons – those who are looking for a job and those who do not. From the standpoint of labour market theory and according to the standardised definition by International Labour Organisation (ILO, 2025), this typology is misleading, as persons in unemployment include only those who have been actively looking for a job for a certain period of time. Therefore, a single unemployment variable, encompassing individuals looking for a job, is constructed, while the category comprising individuals not seeking employment is grouped together with permanent sickness or disability, retirement, housework and "other" under the variable "our of the labour force". Community/military service is left as a separate variable as carrying it over to any other variable would distort the labour market lens through which threat framework operates in this thesis, while paid work and educational activity is treated together as the reference.

Regarding national belonging, the ESS questionnaire contains two items of interest – emotional attachment to the country of survey*, atchctr* and emotional attachment to Europe*, atcherp*. The former effectively captures a combination of positive and negative dimensions of national belonging with an uncertain contribution of both elements to the measure. On the other hand, the latter may be more receptive to supranational identity – a positive element of national identity. In this thesis, *atchctr* will serve as the main predictor. The reason for this is methodological: including both variables in the same model would isolate the independent effect of *atchctr*, holding *atcherp* constant, and vice versa. This is equivalent to asking: "How does attachment to Ukraine but not to Europe, and attachment to Europe, but not to Ukraine, affect ATTI?" Because the core assumption of national identity literature is that national belonging contains both negative and positive elements, which co-exist (Ceobanu & Escandell, 2010), including *atcherp*, which might capture a predominantly positive dimension, but is not guaranteed to reflect national identity whatsoever, would impede making a reasonable inference with regard to which identity dimension dominates in *atchctr*.

Control variables

The following bundle of socio-demographic controls is employed in this thesis: education level, age, gender, being out of the labour force, being in communal/military service, financial security, nativity (native or foreign-born), urban/rural residence, interpersonal trust and region. The first three variables are standard controls, employed almost universally in scholarship. Including place of residence (urban or rural) allows to control for self-selection into more ethnically heterogeneous and immigrant-rich environments by income or education. Interpersonal trust, employed as a core independent variable by Mitchell (2021), is deeply embedded in threat theory and may capture the more immaterial, psychological dimensions

of threat not otherwise reflected by *hincfel*, *mnactic* or *atchctr*. Financial security, as compared to insecurity, is employed to test whether the effects of financial comfort and discomfort on ATII are symmetrical.

Region dummies are important for a few reasons. First of all, *atchctr* may not capture the more complex regional dimension of identity. National identification in the West of Ukraine has been rooted in a separate religious identity of Greek Catholics and mostly greater, though not free of significant strife, national toleration on behalf of the controlling state (as compared to Russia's treatment of Ukrainian nationality). Simply speaking, the Ukrainian awareness has deeper historical, ethno-cultural grounding in the West. On the other hand, national identity in the East (and to an extent in the Centre) has been shaped primarily through the more recent opposition to Russia's aggression, which is a more political and civic driver of identification. These foundations of national identity may shape ATII in divergent ways, which can be mitigated by including three regions – the West and the East – as controls, with all other central oblasts serving as the reference category.

Hypotheses

This thesis will use a confirmatory design to investigate the influence of independent variables on ATII. However, in the case of economic variables, the confirmatory framework is stronger than in the case of national identity. As previous literature is consistent in showing that lower financial security and worse employment status are associated with less positive ATII, oftentimes both in economic and cultural domains, hypotheses can be put forth as follows:

H_{1a}: Financial insecurity is associated with worse attitudes towards the economic and cultural consequences of immigration.

H_{1b}: Unemployment is associated with worse attitudes towards the economic and cultural consequences of immigration.

In contrast, making a convincing and grounded assumption for national identity is more problematic, as the ESS questionnaire does not solicit negative and positive dimensions of national belonging in separation. While the literature on national identity universally shows that its negative elements are aligned with more negative ATII, and positive dimensions are mostly shown to produce more positive ATII, it cannot be claimed that positive dimensions of national identity dominate in Ukraine *with certainty*. However, evidence from recent polls mentioned in the previous section can be inferred to mean that the positive element, based on institutional, civic, and national pride, as well as affinity to Europe, has markedly strengthened and become more pronounced. Thus, another hypothesis can be put forth:

H_2: Emotional attachment to Ukraine is associated with more positive attitudes towards the economic and cultural consequences of immigration.

The following section of the thesis details the methodological approach to the ESS dataset, substantiating analysis methods and outlining the operationalisation of dependent and independent variables.

METHODOLOGY

Research design, data source and samples

This thesis, in line with previous scholarship, operates through a *quantitative, confirmatory* and *cross-sectional* design to investigate the determinants of ATII in Ukraine, and uses ESS Round 11 microdata (European Social Survey European Research Infrastructure (ESS ERIC), 2026) to construct a sample. As the data in Ukraine were collected at a single point in time, this rules out longitudinal inference but is sufficient for this thesis. European Social Survey Round 11 (ESS11), conducted between March 2023 and December 2024, is a cross-national probability survey fielded across 31 European countries. Ukraine is included in ESS for the second time, making it the only publicly available source of post-invasion microdata for Ukraine that contains both the dependent variables and the predictors required for this analysis. The *target population* of ESS11 in Ukraine comprises all persons aged 15 or over who are resident in Ukraine at the time of data collection, regardless of nationality or citizenship (ESS ERIC, 2026), and its *sample* constitutes 2661 observations. The ESS employs a strict probability sampling framework to produce a nationally representative sample: respondents are selected through stratified random sampling (stratification variables being region and settlement type), with primary sampling units (PSUs) drawn from the national population register and individuals selected within PSUs using systematic random sampling (Kaminska, 2023).

Operationalisation of variables and grouping of regions

The complete list of variables together with their operationalisation and details on their construction/recoding is provided in the table in Appendix I and covered in the first sub-chapter of *Results*. The codenames of variables, used for R coding, follow the ESS convention, with minor changes based on what the variable represents. Coding the variables of the West and the East regions, with oblasts grouped as per Appendix I, is justified on the ground that there are only several regions in Ukraine, roughly corresponding to Galicia (Halychyna) that can be viewed as such with moderate national toleration on behalf of the controlling state and more or less continuous national/ethnic identity. Thus, Galicia is chosen to comprise the West. In contrast, the East comprises the regions most affected by Russification, Russia's settler colonialism and Soviet industrialisation. The remaining regions, which do not clearly fall into either category, are treated as the reference.

Analytical method

Since the three dependent variables are each measured on an 11-point ordinal scale, this thesis uses *ordered logistic regression (OLR)* as the core analytical method. Its strength is that OLR models cumulative response probabilities without imposing the assumption of interval equality required by OLS. Three separate OLR models are estimated, one per dependent variable. Models are based on a sequential approach: *Model 1* includes the core independent variables and employment controls (financial insecurity/security, active and passive employment, being out of labour force, community/military service and emotional

attachment), modelling the labour market conditions together with a single cultural predictor; *Model 2* adds sociodemographic controls; *Model 3* adds region dummies. Results are reported as odds ratios with 97,5% confidence intervals; model fit is assessed via McFadden's pseudo-r^2 and AIC. The Brant test is utilised to test the proportional odds assumption, with violations and marginal effects reported when necessary. Multicollinearity was assessed for each model 1-3 using variance inflation factors (VIF), computed on an auxiliary linear model including the same set of independent variables. As VIF depends on the correlation structure between independent variables only, this approach is appropriate regardless of the analytical method (OLS vs. OLR) used in the main models. Listwise deletion is inevitably applied for missing data, and a multiple imputation by chained equations is conducted via R *mice* package for each model, allowing to confirm whether deletion affects estimations.

As mentioned before, ESS11 uses a clustered stratified probability design rather than simple random sampling (Kaminska, 2023), which inflates true variance relative to a simple random sample; omitting it produces artificially narrow standard errors and overstated significance. Therefore, all models incorporate the analytical weight *anweight*, which corrects for unequal selection probabilities, non-response, and post-stratification with respect to gender, age, education, and region, alongside PSUs and stratification layers. Analyses are conducted in R, with AI-aided R code provided in Appendix II.

Limitations of the methodological approach

The foremost shortcoming of the methodology employed by the thesis is the cross-sectional character of the utilised data, which does not allow for testing consistency or change in the effect of independent and dependent variables, as well as their direction. However, reverse causality seems improbable despite data design, as socio-demographic variables are either immutable (age, gender) or represent the consequences of grounded and conscious choices on behalf of the respondent, very unlikely to result from perceptions of threat from immigration. Secondly, the *atchctr* variable, representing emotional attachment to Ukraine, may be insensitive or sensitive at once to both positive and negative elements of national identity, complicating the support for hypothesis H_2 even if positive results are reported. A final, related concern is that of social desirability bias on behalf of the respondents. Pleyers (2026) postulates that the bias becomes augmented in wartime when politically sensitive questions are answered. As an example of affected questions, the outlook to Europe, mentioned before in the literature review, is specifically noted as “respondents may express a political orientation… rather than a substantive commitment to democratic values” (Pleyers, 2026, p. 8). A social desirability bias concern can be effectively addressed to independent variables as well, though, due to historically low salience of immigration as a political issue in Ukraine, the risk is lower. Hence, while not invalidating the results of the methodology employed, this limitation must be kept in mind when assessing evidence as either consistent or not with the hypotheses put forth.

RESULTS

Dataset and variables construction

The data for the analysis comes from an integrated ESS Round 11 archive file (version 4.1), containing the *CSV. sheet* and the *codebook of variables* with exact questions and response categories used. A dataset of unique 2661 observations was obtained after filtering Ukrainian respondents, with 32 observations of non-citizens removed for theoretical and conceptual clarity, thus providing a final count of 2629 valid observations. From these data, missing values were coded as N/As.

Three dependent and 16 independent variables were further selected and constructed, with original survey questions pertaining to each variable provided in Appendix I. Core dependent variables include *perceived economic threat from immigration, perceived cultural threat from immigration* and *perceived overall threat from immigration*. Two independent variables measuring economic vulnerability – *financial security* and *insecurity*, the latter corresponding to hypothesis H_{1a} – were constructed from the original single ESS variable with category responses ranging from 1 to 4, from lesser to stronger financial insecurity. A single *unemployment* variable was constructed from the original main activity variable and pertains to hypothesis H_{1b}. The cultural independent variable of emotional attachment to Ukraine is used to test hypothesis H_2.

Perceived economic threat from immigration, perceived cultural threat from immigration, perceived overall threat from immigration and emotional attachment to Ukraine, whose values range from 0 to 10, from lesser to stronger display of the trait, were treated as ordinal and remained unchanged. Financial insecurity variable was coded as a binary, with "1" meaning that the response to the original question fell into categories 3 (difficult on present income) or 4 (very difficult on present income), with category 2 (coping on present income) serving as the reference. Similarly, an unemployment variable was constructed from the decomposition of *main activity variable* and coded as binary, with "1" meaning that the response to the original question fell within category 3 (unemployed, looking for job), while those in paid work and education serve as the reference.

All other independent variables were used as socio-demographic controls in line with the literature:

a) Interpersonal trust – treated as a continuous ordinal variable on its original 0-10 scale, unchanged from the source item.

b) Education level – decomposed into three binary indicators using the Ukrainian-specific ESS education variable: less than full secondary education, incomplete higher education, and completed higher education. Vocational education and complete secondary education serves as the reference.

c) Out of labour force – a binary indicator coded as 1 for respondents who are retired, permanently disabled or doing housework. Paid work and education serve as the reference.

d) Community or military service – a binary indicator coded as 1 for respondents whose primary activity is community or military service. Paid work and education serve as the reference.

e) Financial security – a binary indicator coded as 1 for respondents who chose "living comfortably on present income" on the relevant question. Coping on present income serves as reference for both financial security and insecurity.

f) Urban residence – a binary indicator coded as 1 for respondents living in a big city, suburbs of a big city, or a town or small city; farm/countryside and village residents serve as the reference.

g) Female gender – a binary indicator coded as 1 for female respondents, with male as the reference.

h) Born abroad – a binary indicator coded as 1 for respondents who were not born in Ukraine, with native-born respondents as the reference.

i) Age – treated as a continuous variable in years.

j) Western region – a binary indicator coded as 1 for respondents residing in Lviv, Ivano-Frankivsk, Ternopil, Volyn, Rivne, Zakarpattia, or Chernivtsi oblasts. Residing in central Ukraine serve as the reference.

k) Eastern region – a binary indicator coded as 1 for respondents residing in Kharkiv, Dnipropetrovsk, Zaporizhzhia, Donetsk, Luhansk, Odesa, Mykolaiv, or Kherson oblasts. Residing in central Ukraine serve as the reference.

Afterwards, 3 model groups were run in a consequential logic: Model 1 included the core independent variables (emotional attachment to Ukraine, financial insecurity and security, ATII variables); Model 2 added sociodemographic controls (interpersonal trust, education level, out of labour force, community or military service, urban residence, female gender, born abroad, age); Model 3 added regional dummies. Each model group was run three times for each core dependent variable.

Model summaries

After estimating the models, three data validity checks were implemented: VIF diagnostic, Brant test and multiple imputation sensitivity check. VIF diagnostic has not indicated serious multicollinearity in any of the models: the greatest value inspected was 1.713, and across all models, the average value was 1.205. Regarding Brant test, consistent violations were identified for several predictors (unemployment, community and military service, interpersonal trust, attachment to Ukraine, West/East). Yet, across all models, average marginal effects for almost all variables are negligible and standard errors are too massive to invalidate the assumption of proportional odds. The only local and significant violation is in community/military service in Model 1, a very low-count variable which shows a robust ($p < 0.001$) effect difference of 5.3% at response category 8 in *perceived overall consequences of immigration* and 1.8% at response category 9 in *perceived economic consequences of immigration*. Thus, in the models, the effect of *community/military service*, even though significant, is not interpreted to be substantive. Finally, multiple imputation by

chained equations (MICE, m = 20, pooled using Rubin's rules) confirmed the substantiveness of the results, with almost no variables changing the direction or crossing the *p = 0.05* significance threshold. The only two exceptions are financial insecurity reaching significance (p = 0.019 vs. 0.060) in Model 1 for perceived overall consequences of immigration and crossing the 0,05 threshold in Model 2 for perceived economic consequences of immigration (p = 0.055 vs. 0.044). Thus, listwise deletion does not affect the estimated odds ratios significantly. For each Model 1-3, only those significant variables that show a well-behaved (excluding 1) and not extremely wide CI will be discussed and interpreted.

Table 1. Descriptive statistics

Variable	Values per dependent variable		
	Economic threat *N = 2269* Mean: 6.1	Cultural threat *N = 2297* Mean: 5.11	Overall threat *N = 2225* Mean: 5.29
Weighted mean			
Emotional attachment to Ukraine	8.56	8.55	8.54
Age	49.1	49.1	48.94
Interpersonal trust	3.77	3.76	3.75
Weighted percentage			
Financial security	6.7%	6.7%	6.8%
Financial insecurity	65.8%	65.7%	65.6%
Unemployment	5.5%	5.5%	5.8%
Out of the labour force	39.4%	38.9%	38.8%
Community/military service	1.2%	1.2%	1.2%
Less than secondary education	5.6%	5.5%	5.5%
Incomplete higher education	22.5%	21.8%	22.2%
Higher education	31.1%	31.2%	30.9%
Female	62.1%	62.7%	62.4%
Born abroad	4.9%	4.7%	4.5%
Urban residence	54%	54.4%	53.8%
West	28.8%	28.7%	28.6%
East	34.6%	34.4%	34.9%

Table 1 shows descriptive statistics for three full OLR-models (Model 3), which have the greatest explanatory power. For perceptions of cultural and overall threat, the weighted mean is close to 5, while the mean for the perception of economic threat is 6.1, showing that the respondents in the dataset, on average, evaluate the consequences of immigration in the economic domain more positively than culture-wise or holistically, which is not unexpected when considering the macroeconomic country-context. Also, females are overrepresented, constituting 62.1-62.7% of the sample, while residents of the West, as compared to the East, are underrepresented. Overall, means and percentages of variables in the sample do not fluctuate significantly between models.

Table 2, 3 and 4 summarise the results of models 1-3 run for each dependent variable in the following order: perceived economic consequences of immigration, perceived cultural consequences of immigration and perceived overall consequences of immigration.

Table 2. OLR results for models 1-3 (perceived economic consequences of immigration): odds ratios

Variable	Model 1	Model 2	Model 3
Financial security	.1.495 [0.997, 2.242]	1.344 [0.888, 2.034]	1.315 [0.877, 1.971]
Financial insecurity	**0.770 [0.634, 0.935]	*0.810 [0.660, 0.995]	*0.797 [0.643, 0.989]
Unemployment	0.946 [0.620, 1.442]	0.952 [0.616, 1.472]	0.947 [0.616, 1.456]
Out of the labour force	*0.789 [0.654, 0.952]	1.029 [0.812, 1.303]	1.029 [0.812, 1.304]
Community/military service	1.915 [0.836, 4.383]	1.709 [0.732, 3.992]	1.647 [0.681, 3.985]
Emotional attachment to Ukraine	***1.102 [1.052, 1.154]	***1.120 [1.069, 1.174]	***1.123 [1.070, 1.178]
Less than secondary education	—	1.342 [0.898, 2.005]	1.354 [0.901, 2.035]
Incomplete higher education	—	1.118 [0.903, 1.385]	1.134 [0.914, 1.408]
Higher education	—	0.987 [0.796, 1.223]	0.989 [0.799, 1.225]
Age	—	***0.986 [0.980, 0.993]	***0.987 [0.980, 0.993]
Female	—	0.877 [0.733, 1.048]	0.876 [0.733, 1.048]
Born abroad	—	1.116 [0.717, 1.739]	1.083 [0.687, 1.708]
Urban residence	—	1.118 [0.868, 1.440]	1.112 [0.845, 1.464]
Interpersonal trust	—	0.982 [0.944, 1.021]	0.984 [0.946, 1.023]
Western region	—	—	1.107 [0.815, 1.504]
Eastern region	—	—	1.221 [0.915, 1.630]
Number of observations (N)	2308	2269	2269
McFadden's pseudo-r^2	0.0401	0.0597	0.0601
AIC	9928.98	9744.54	9743.59

*Significance: *** p<0.001 ** p<0.01 * p<0.05 . p<0.10. 97.5% confidence intervals in brackets. All models' results incorporate the analytical weight (anweight, primary sampling units (psu) and stratification layers (stratum).*

Table 3. OLR results for models 1-3 (perceived cultural consequences of immigration): odds ratios

Variable	Model 1	Model 2	Model 3
Financial security	0.937 [0.566, 1.549]	0.845 [0.532, 1.343]	0.851 [0.543, 1.333]
Financial insecurity	0.852 [0.683, 1.064]	0.889 [0.705, 1.121]	0.888 [0.695, 1.134]
Unemployment	1.000 [0.679, 1.473]	1.073 [0.724, 1.591]	1.069 [0.718, 1.590]
Out of the labour force	.0.845 [0.706, 1.010]	1.062 [0.867, 1.301]	1.060 [0.866, 1.298]
Community/military service	.2.136 [0.874, 5.219]	*2.143 [1.013, 4.534]	*2.177 [1.029, 4.605]
Emotional attachment to Ukraine	0.987 [0.952, 1.023]	1.004 [0.965, 1.043]	1.002 [0.963, 1.043]
Less than secondary education	—	0.943 [0.637, 1.394]	0.941 [0.637, 1.391]
Incomplete higher education	—	.0.825 [0.676, 1.008]	.0.827 [0.670, 1.019]
Higher education	—	0.935 [0.775, 1.128]	0.932 [0.774, 1.123]
Age	—	***0.989 [0.983, 0.995]	***0.989 [0.983, 0.995]
Female	—	1.013 [0.825, 1.242]	1.015 [0.825, 1.249]
Born abroad	—	*1.616 [1.073, 2.434]	*1.642 [1.081, 2.495]
Urban residence	—	*1.351 [1.025, 1.780]	*1.370 [1.015, 1.847]
Interpersonal trust	—	*1.056 [1.013, 1.100]	**1.056 [1.014, 1.099]
Western region	—	—	1.054 [0.726, 1.530]
Eastern region	—	—	0.967 [0.686, 1.365]
Number of observations (N)	2336	2297	2297
McFadden's pseudo-r^2	0.0327	0.0549	0.0550
AIC	10478.91	10255.02	10258.18

*Significance: *** p<0.001 ** p<0.01 * p<0.05 . p<0.10. 97.5% confidence intervals in brackets. All models' results incorporate the analytical weight (anweight, primary sampling units (psu) and stratification layers (stratum).*

Table 3. OLR results for models 1-3 (perceived overall consequences of immigration): odds ratios

Variable	Model 1	Model 2	Model 3
Financial security	0.944 [0.641, 1.389]	0.841 [0.582, 1.214]	0.843 [0.582, 1.221]
Financial insecurity	.0.809 [0.649, 1.009]	0.849 [0.678, 1.065]	0.859 [0.682, 1.082]
Unemployment	0.938 [0.636, 1.383]	0.982 [0.668, 1.443]	0.991 [0.672, 1.460]
Out of the labour force	.0.847 [0.694, 1.032]	1.117 [0.906, 1.378]	1.117 [0.906, 1.376]
Community/military service	*2.495 [1.198, 5.197]	*2.482 [1.132, 5.444]	*2.510 [1.153, 5.464]
Emotional attachment to Ukraine	***1.064 [1.026, 1.104]	***1.081 [1.039, 1.126]	***1.082 [1.040, 1.127]
Less than secondary education	—	0.949 [0.638, 1.410]	0.938 [0.629, 1.398]
Incomplete higher education	—	0.839 [0.671, 1.047]	0.827 [0.658, 1.039]
Higher education	—	0.902 [0.727, 1.118]	0.902 [0.728, 1.117]
Age	—	***0.986 [0.980, 0.992]	***0.986 [0.980, 0.992]
Female	—	0.983 [0.811, 1.192]	0.984 [0.812, 1.192]
Born abroad	—	1.165 [0.778, 1.743]	1.170 [0.776, 1.765]
Urban residence	—	1.228 [0.937, 1.609]	1.210 [0.907, 1.613]
Interpersonal trust	—	1.016 [0.979, 1.055]	1.014 [0.978, 1.052]
Western region	—	—	0.869 [0.592, 1.276]
Eastern region	—	—	0.900 [0.650, 1.248]
Number of observations (N)	2265	2225	2225
McFadden's pseudo-r^2	0.0343	0.0556	0.0559
AIC	9932.03	9728.71	9730.30

*Significance: *** p<0.001 ** p<0.01 * p<0.05 . p<0.10. 97.5% confidence intervals in brackets. All models' results incorporate the analytical weight (anweight, primary sampling units (psu) and stratification layers (stratum).*

On all dependent variables, the change between models 1 and 2 produces a notable increase in McFadden's pseudo-r^2 and a decrease in AIC score, which substantiates the addition of socio-demographic controls. However, both measures increase marginally between models 2-3 (except for perceived economic consequences of immigration, where AIC measure decreases slightly), indicating that the model fit does not improve significantly after regional dummies are added. Notably, unemployment, the key predictor pertaining to hypothesis H_{1b}, is not statistically significant regardless of the dependent variable. Thus, the null of this hypothesis cannot not rejected.

When estimated for perceived economic consequences of immigration, models show that financial insecurity impacts the perceptions negatively, with a 19-23% decrease in the chance of scoring higher on the ATII measure. Model 3, displaying best fit, shows that financial insecurity is associated with a 20.3% decrease in such chance. At the same time, in same model emotional attachment to Ukraine is associated with 12.3% increase in the chance of scoring higher on the perceptions of economic consequences of immigration, with p-value lover than 0.001. Robustness check on perceived overall consequences of immigration confirms this strong effect (although at a slightly lower size of 8.1% for best-fit model), while financial security only shows marginal significance in model 1 and loses significance in models 1-3. Yet, neither financial insecurity nor emotional attachment to Ukraine are significant when perceived cultural consequences of immigration are considered. Therefore, hypotheses H_{1a} and H_2 gain partial support in the economic domain of ATII, with the support for H_2 being somewhat stronger.

Regarding control variables, most of them display salience in perceived cultural consequences of immigration, with only age showing the consistent negative effect of 1.1-1.4% between all dependent variables. Notably, being born abroad (61.6-64.2%), living in an urban area (35.1-37%) and showing a high level of interpersonal trust (5.6%) all impact the perceptions of cultural consequences of immigration positively, which reflects the implications of contact theory. Being out of the labour force has a significant negative effect on perceived economic consequences of immigration in model 1 (21.1% decrease in chances of scoring higher on the measure), but not in other models. Education and regional dummies do not show significance on any of the variables in any of the models (except for incomplete higher education in perceived cultural consequences of immigration, where the confidence intervals cross 1).

Overall, the results of model estimations suggest that economic consequences of immigration are more important to the respondents in general and are better predicted by key variables, while the cultural domain model's results are not consistent with threat theory. When considering overall consequences of immigration, only emotional attachment to Ukraine remains a consistent key predictor.

DISCUSSION & POLICY IMPLICATIONS

Findings, interpretation, and research directions

Evidence from models 1-3, strengthened by the Brant test and MICE, is consistent with hypotheses H_{1a}, postulating that financial insecurity is associated with less positive ATII and H_2, suggesting that emotional attachment to Ukraine promotes more positive ATII. It should be stressed that the support for H_2 is contingent on the assumption that social desirability in answers to the respective survey question was not significant, which may unknowingly be unsatisfied. On the other hand, hypothesis H_{1b}, linking unemployment to less positive ATII, remains unsubstantiated. Moreover, the separation of the economic and cultural mechanisms of immigration threat perceptions is pronounced and consistent.

The strongest finding of this research is the persistent, robust effect of emotional attachment to Ukraine on ATII in the economic domain (OR ≈ 1.102–1.123, $p < 0.001$). Previous scholarship shows that national belonging has either a negative effect, operating through nationalism and out-group exclusion (Ceobanu and Escandell, 2010; Bartasevičius and Trunov, 2024), or a positive effect through civic/institutional pride, and through national pride in settler-nations with long immigration experience (Indelicato and Martin, 2024). Ukraine is neither a settler nation nor a country with a historical immigration narrative, yet its emotional attachment variable behaves as though it captures a positive civic dimension of identity. Additionally, systematic absence of any relationship between attachment to Ukraine and the perception of cultural threat from immigration implies that the question on emotional attachment to Ukraine, as presented in the ESS survey, captures latent beliefs or components of national belonging interlinked with how individuals perceive economic competition and assess their economic status. In the meantime, more cultural, ethnic or nationalist elements of national identification are either not captured by the variable or, in opposition to evidence from literature, do not generate cultural protectionism, at least as measured against immigration. The simultaneous rise in self-reported nationalist ideological identification (IS NANU, 2023) does not appear, in this analysis, to translate into exclusionary ATII.

It remains an open question whether the relationship between attachment to Ukraine and ATII is a temporal wartime finding or an established feature of Ukrainian national identity consolidation. Devising more sensitive survey questionnaires for prospect polls, which would solicit both positive and negative dimensions of national belonging, is crucial to decipher which exact mechanisms underpin the nexus. Just recently, Rating Group and IS NANU have become the representative organisations of ISPP (International Social Survey Programme) for Ukraine (Rating Group, 2025b), and, since ISPP includes modules designed specifically to assess various dimensions of national identity, cooperation between Ukraine's chief polling agencies, research centres and ISPP network may be fruitful in this research direction.

Financial insecurity is strongly negatively associated with perceived economic benefits of immigration (OR ≈ 0.77–0.81, $p < 0.05$), albeit somewhat less significantly than attachment, while exerting no effect on perceived cultural threat. This absence of spillover contrasts with

findings from the Czech Republic, where Gheorghiev and Collini (2025) demonstrate that financial vulnerability predicts negative ATII simultaneously through both economic and cultural channels. One plausible explanation as to why Ukraine's case differs is that in the conditions of martial law, when political campaigns and elections are indefinitely postponed, there is no fertile ground for the two domains to coalesce. Since the proposed mechanism for the interlinkage between economic and cultural threat from immigration is electoral populism, which intensifies economic fears and relates them to cultural concerns, Ukraine may simply not encounter this rather novel political phenomenon, considering how negligible immigration has been in public discourse up until recently. Also, the cultural framing of threat in Ukraine is currently dominated by the immediate external threat of Russian aggression, which may supersede any present immigration-related anxieties. As previous ATII has not examined in detail how active armed conflict shapes the relationship between economic vulnerability and perceptions of cultural threat from immigration, this theme also serves as a promising ground for further research.

Diverging from an implicit threat theory expectation, financial security (comfort) has no meaningful effect on ATII across both domains; economic vulnerability seems to influence perceived economic benefits of immigration asymmetrically, with only the feeling of financial strain being salient in ATII formation. This mirrors previously mentioned Ukrainian poll data suggesting a potentially non-linear income-ATII relationship (Dembitskyi, 2025), when higher levels of income suddenly stop translating into more welcoming immigration attitudes.

Two related, unusual and theoretically provocative findings pertain to unemployment and education. Active unemployment shows no significant associations with ATII across any model on both economic and cultural domains, contrary to the previous body of research. Paradoxically, Ukraine's labour market conditions are likely to substantiate the relationship. The full-scale invasion has created severe labour shortages, with the majority of surveyed businesses reporting difficulty finding new employees. If, at least in some industry or economic sector, vacancies substantially outnumber available workers, unemployed individuals may not subjectively experience immigrants as labour market competitors. This interpretation indirectly parallels Markaki and Longhi's (2013) cross-country evidence that high-unemployment EU regions exhibit more positive ATII, suggesting that immigration may be perceived as a contribution to the economic landscape rather than a threat when native labour is scarce. Ukraine's economy since 2022 can be viewed as reflecting this logic at the individual level.

Similarly to unemployment, education levels do not predict ATII in any model, contradicting the scholarly consensus that higher education is a promoter of more positive attitudes, operating through correlation with income, self-selection into diverse environments and cognitive openness. However, for Ukraine, this finding is not new: Aleksynska (2011) also reported non-salience of vocational and higher education on ATII, attributing it to the notion that the post-independence market transition distorted the allocation of individuals with differing educations and skill levels, making them compete for the same jobs rather than

fill in sectors of economy pertaining to their background. Interestingly, the same can be said about Ukraine's contemporary labour market: high levels of structural unemployment, produced by wartime economic restructuring, may exert an effect on the relationship between unemployment and ATII identical to the effect of a transitional 1990s country-context. An economy affected by a full-scale war, arguably, causes the same skill mismatch and high vacancy rates in certain industries as an economy in a years-long recession, such as the one Ukraine underwent in the 1990s. Yet, the key difference is unemployment rate *per se*: real unemployment in early post-Soviet Ukraine was far higher than today. Therefore, as fewer individuals compete for one vacancy than 25-30 years ago, it is rather unlikely that education becomes insignificant in ATII formation only owing to the labour market conditions.

What may be taking place is the non-salience of education in ATII across post-communist countries in general. Most research draws from majorly Western samples when assessing how education affects immigration attitudes, which may pollute the effect with observations from countries where educational background has long accompanied and signified particular society strata, distinct in values, attitudes and perceptions about public affairs. However, in Eastern Europe, affected by the Soviet sphere legacy, stratification by education and wealth was effectively suppressed by marked and often violent state intervention, while deepening cleavages between groups which displayed a differential in political power (e.g., workers vs. *nomenklatura*). Evidence from the Czech Republic, for instance, shows the insignificance of education in predicting perceptions of threat from migrants and Ukrainians, even though the country suffered far less from the socialist legacy than Ukraine (Gheorghiev & Collini, 2025). Overall, the relationship between education levels, unemployment and ATII, its relation to the labour market conditions in Ukraine, as well as in neighbouring countries to the west, warrants detailed investigation and constitutes another important research direction.

A final and noteworthy finding is the distinctiveness of perceived cultural consequences of immigration in terms of significant predictors. It is the least well-predicted dependent variables across all three models, with only being born abroad, urban residence and interpersonal trust producing meaningful effects when added, and none of the key theoretical independent variables – financial insecurity, employment status, or emotional attachment to Ukraine – reaching significance. This null finding should not be immediately dismissed: it implies that the determinants of perceived cultural threat from immigration in Ukraine are structurally different from those of economic threat and from those found in comparable European settings. Whether this may also reflect the unique weight of Russia's cultural threat or the relatively low visibility of non-post-Soviet immigrant remains to be investigated.

What considerations does new evidence invite in Ukraine's immigration policy?

Immigration has historically had marginal importance across the general electoral and public policy landscape since independence until recently, with an exception being the opposition to immigration in right-wing or far-right political organisations. As of April 2026,

State Migration Service has estimated that 305,775 foreigners and stateless persons [0.96-1.05% of Ukraine's current "optimistic" population estimate of 29 million[3] (Karbunar, 2026) and 2.01% of the estimated labour force of 15.2 million (Yermolenko, 2024)] resided in Ukraine permanently, and another 47,684 temporarily (State Migration Service of Ukraine, 2026a). These numbers may be inaccurate, given the challenges of wartime statistics, yet they are still rather significant. However, politically and socially, immigrants' visibility has been mostly limited in the public discourse. At the same time, illegal immigration is negligible: 3207 illegal immigrants were identified by the State Migration Service in 2025 (742 in the first three month of 2026), and among the individuals who breached Ukraine's migratory law, 2868 were Russian citizens (State Migration Service of Ukraine, 2026) implying that effective unlawful immigration from countries other than Russia might be even smaller.

However, the status quo in immigration attitudes seems to have started changing in spring of 2026, with negative emotionally laden media coverage in anonymous channels on *Telegram* messenger and other social networks becoming more widespread than before (Tunik-Fryz, 2026). Many of such social media posts are not facts-based and convey misinformation, operating through exaggeration and AI-made or real but misplaced photos and videos. Further deepening the alertness of the general populace, even some legacy media resorted to emotional appeal (Vyhovska, 2026). Moreover, low-scale protests were organised against "mass immigration" in Kyiv and Lviv, with nationalist and far-right youth organisations participating (Buriak, 2026; Ivashchuk & Karnauh, 2026). Russian disinformation efforts are implied to be behind this drastic media ladscape transformation, but the origin of misinformation if a single source is at play, cannot be determined with certainty. These developments are not indicative of the popular opinion experiencing a major turnaround, but they should be taken seriously and considered as factors either affecting or displaying an ongoing change in how Ukrainians view immigration.

Moreover, when the full-scale war is eventually over, given Ukraine's perseverance, immigration is unlikely to remain confined to media space and may emerge as a mass-scale phenomenon: inevitable economic reconstruction will fuel the need for both unskilled and skilled labour, especially in those sectors previously deprived by armed conflict. Inviting immigrants to Ukraine has been increasingly viewed by opinion leaders and public figures both as a likely outcome of the economy adapting to its current labour shortage and as the solution to be implemented as soon as possible. For instance, the President of All-Ukrainian Association of International Employment Companies (AAIEC), Vasyl Voskoboynyk, has stated in March 2026 that Ukraine will require 300 thousand labour migrants annually to "stabilise the labour market", while only 9-10 thousand work permits for immigrants were expected to be issued or renewed in 2025 (AAIEC, 2026). Similarly, without endorsing increased immigration, prominent Ukrainian military fundraising manager and politician Serhiy Prytula has said the same month that many Ukrainian businesses, who keep in touch with him, recruit immigrants from India and the Philippines "without waiting for the end of

[3] This figure is stated by Ella Libanova, Director of the Institute of Demography and Social Studies at the National Academy of Sciences of Ukraine.

the war and government's agendas." He further criticises the lack of coordination on behalf of the government, supporting the need for state immigration policy, which reflects nuances "from religion to culture." (Prytula, 2026) Therefore, even nowadays, in a situation of rather limited influx of immigrants, the salience of immigration as a process with its consequences for Ukraine's economy and cultural landscape is growing due to both economic considerations and the changing media climate.

In light of the above developments and unavoidable challenges stemming from the lack of public strategic communication on behalf of the government, the findings of this thesis suggest several considerations for the future of Ukraine's immigration policy. *Firstly*, the communication of immigration policy should frame incoming labour migrants as filling documented vacancies, not competing for existing jobs. If Ukrainians experiencing unemployment do not perceive immigrants as labour market rivals under the current conditions of labour force deficit, the political opportunity for establishing a transparent immigration framework, informed by publicly available data on outstanding vacancies, is open now, before immigration volumes grow large enough to induce popular anxiety, as in other European countries.

Secondly, policies addressing perceived economic and cultural consequences of immigration require separate design and separate communication. Financial insecurity and national attachment predict economic ATII but not cultural ATII; interpersonal trust and country of birth predict cultural ATII but not economic ATII. Conflating economic rationales with cultural agenda, which happens to be the case in the EU and the West, risks being systematically ineffective in the Ukrainian context. Economic messaging, such as transparent data on immigrants' fiscal and sectoral contributions, and culture-wise integration programmes, should constitute distinct communication channels with distinct aims. Importantly, since perceived contributions of immigration to culture are seen more negatively than those to the economy among Ukrainians, and the ethnocentric sentiment is growing in response to Russia's aggression as much as the civic component, immigration policy must be kept at once *open enough* to revitalize the labour market but restrictive enough to supersede any feelings of threat to ethnic homogeneity. This, among all policy goals, might be the hardest to implement in practice.

Thirdly, the financially insecure, not the unemployed or the low-educated, are the group most likely to develop negative economic ATII as more immigrants arrive in Ukraine. Hence, immigration policy should be strengthened by measures that mitigate the adverse effects of labour migrants' influx on wage levels and working conditions in sectors with the greatest immigrant presence. The lack of government coordination and resulting unregulated labour recruitment is most likely to generate such anxieties.

Finally, the association between emotional attachment to Ukraine and better perceptions of immigration's contribution to the economy suggests that it is politically prudent and viable to frame immigration as a matter of civic and economic discourse and not necessarily as an impediment to Ukraine's ethnic perseverance, positioning immigrants as

instrumental to reconstruction and growth. While it is suggested that “society is not yet ready for a large-scale influx of migrants” (AAIEC, 2026), this thesis shows that capacity for inclusion may exist under appropriate framing and is significant. Establishing a clear civic public narrative while immigration volumes remain low is considerably easier than reversing negative discourse once it has formed.

CONCLUSIONS

This thesis aimed to examine the determinants of ATII in wartime Ukraine, concentrating on two theoretically motivated predictor groups – economic vulnerability and national belonging – alongside standard sociodemographic controls. The analysis, based on survey-weighted ordinal logistic regression across three sequential models estimated on the ESS Round 11 microdata, produced consistent and theoretically consequential results. Financial insecurity is negatively associated with perceived economic benefits of immigration across all model specifications (OR ≈ 0.77–0.81, $p < 0.05$), while exerting no effect on perceived cultural consequences. Emotional attachment to Ukraine is positively and robustly associated with more welcoming economic ATII (OR ≈ 1.102–1.123, $p < 0.001$), and similarly absent from the cultural domain. Active unemployment shows no significant association with ATII in any model. Regional residence, gender, country of birth, and education level also fail to reach significance as predictors of the economic ATII outcome.

The findings confirm hypothesis H_{1a} and H_2 while leaving H_{1b} unsubstantiated. However, their theoretical significance extends beyond hypothesis testing. The asymmetric pattern of financial insecurity, where the feeling of financial strain activates economic threat perceptions, but the experience of comfort does not improve ATII, diverges from the intuitive expectation set by the standard threat theory. The absence of cross-domain spillover from economic insecurity to cultural threat perception contradicts evidence from analogous European settings, most notably the Czech Republic (Gheorghiev & Collini, 2025), and points to the possibility that the cultural threat channel in Ukraine is currently occupied by the immediate context of Russian aggression rather than by anxieties regarding the consequences of immigration. The positive association between emotional attachment to Ukraine and ATII in the economic domain, in a country with no settler-nation tradition and a historically low immigration salience, is the most theoretically novel result of the study and suggests that Ukraine's wartime civic identity consolidation is producing a pro-economic openness rather than cultural protectionism, at least as captured by the ESS attachment variable in the snapshot of year 2024.

Several limitations of the thesis are acknowledged. The ESS emotional attachment question captures both positive and negative dimensions of national belonging indistinguishably, making it impossible to identify precisely which mechanism drives the observed association. The survey data are limited to territories under Ukrainian government control as of 2024, excluding occupied regions; therefore, the results may not be representative of all individuals who bear Ukrainian citizenship. Additionally, social desirability bias in respondents' answers cannot be rejected, especially on politically sensitive questions, such as the measure of emotional attachment to Ukraine; individuals may be inflating their scores on this key predictor either willingly or unknowingly, distorting its effect on ATII.

Despite these limitations, the data are sufficient for the scope of this thesis. The ESS Round 11 sample of Ukrainian citizens represents the only large-scale, publicly available

source of ATII microdata for Ukraine since the full-scale invasion, and the sample sizes of 2225-2336 complete cases across models are larger than comparable country-specific ATII studies in the literature (Gheorghiev & Collini, 2025; Aleksynska, 2011). The robustness of the core findings across three progressively estimated models and their stability under multiple imputation check further strengthen the validity of the results obtained. However, on their own, they cannot support generalisation before 2024, causal claims about postulated mechanisms or inferences about attitudes towards specific immigrant groups. Evidence from the thesis is thus offered as a characterisation of the relationships between key predictors and ATII in a specific country-context snapshot rather than a genealogy or history of Ukrainian public opinion. Whether the patterns identified here continue after warfare is over, when immigration volumes are likely to grow more swiftly, and public discourse around immigration and immigrants emerges not just in the expert field and the media, but also in the political and electoral domain, remains an open and important question for future research.

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APPENDIX I

Table 1. Complete list of variables

Variable	Conceptualisation	Operationalisation	Notes
Dependent variables			
imbgeco	Perceived economic consequences of immigration	"Would you say it is generally bad or good for Ukraine's economy that people come to live here from other countries?" 0 (Bad for the economy) – 10 (Good for the economy).	Treated as ordinal
imueclt	Perceived cultural consequences of immigration	"Would you say that Ukraine's cultural life is generally undermined or enriched by people coming to live here from other countries?" 0 (Undermined) – 10 (Enriched). Treated as ordinal.	Treated as ordinal
imwbcnt	Overall consequences of immigration	"Is Ukraine made a worse or a better place to live by people coming to live here from other countries?" 0 (Worse place) – 10 (Better place). Treated as ordinal.	Robustness check
Independent variables			
hincfel_dif	Financial insecurity	"Which of the descriptions comes closest to how you feel about your household's income nowadays?" 1 – Living comfortably on present income 2 – Coping on present income 3 – Difficult on present income 4 – Very difficult on present income Category 2 serves as the reference.	Categories 3 & 4 merged
mnactic_unemp	Unemployment	Main activity, last 7 days. Post coded. Category 1 serves as the reference. 1 – Paid work 2 – Education 3 – Unemployed, looking for job 4 – Unemployed, not looking for job 5 – Permanently sick or disabled 6 – Retired 7 – Community or military service 8 – Housework, looking after children, others 9 – Other	Category 3
atchctr	Emotional attachment to Ukraine	"How emotionally attached do you feel to Ukraine?" 0 (Not at all attached) – 10 (Very attached)	Treated as ordinal

Comtrol variables

edlvdua _lesssec	Less than secondary education	"What is the highest level of education you have successfully completed?" 0 – Less than primary education (fewer than 4 years of secondary school) 1 – Primary education (4–7 years of secondary school) 2 – Incomplete basic secondary education (certificate for grades 8–9) 3 – Vocational qualification without full secondary education (no grade 10–11 certificate) 4 – Complete general secondary education (certificate for grades 10–11) 5 – Vocational qualification with secondary education diploma (based on grades 8–9) 6 – Post-secondary continuing education (professional or general courses) 7 – Vocational qualification based on complete secondary education 8 – Incomplete higher education (junior specialist — polytechnic, technical college) 9 – Basic higher education (bachelor's degree) 10 – Complete higher education (specialist degree) 11 – Complete higher education (master's degree) 12 – Postgraduate degree (*aspirantura*, academic title) Grouping of categories 3, 4, 5, 6, and 7 (secondary/vocational education) serves as the reference	Categories 0, 1 and 2 merged
edlvdua _lesshigh	Incomplete higher education		Category 8
edlvdua _high	Higher education		Categories 9, 10, 11, 12 merged
hincfel_comf	Financial insecurity	"Which of the descriptions comes closest to how you feel about your household's income nowadays?" 1 – Living comfortably on present income 2 – Coping on present income 3 – Difficult on present income 4 – Very difficult on present income Category 2 serves as the reference.	Category 1
agea	Age	Age of respondent, calculated. Treated as continuous	Treated as continuous
gndr_f	Female gender	Respondents gender 1 – male (reference) 2 – female	Recoded: 1 – female
brncntr_frgn	Foreign country of birth	Born in Ukraine 1 – yes 2 – no (reference)	Recoded: 1 – “no” (foreign country of birth)

domicil_urban	Urban residence	Domicile, respondent's description 1 – A big city 2 – Suburbs or outskirts of big city 3 – Town or small city 4 – Country village (reference) 5 – Farm or home in countryside (reference)	Categories 1,2,3 merged
ppltrst	Interpersonal trust	"Would you say that most people can be trusted, or that you can't be too careful in dealing with people?" 0 (Can't be too careful) – 10 (Most people can be trusted).	Treated as ordinal
out_lf	Not belonging to labour force	*See mnactic_unemp for reference.*	Categories 4, 5, 6, 8 and 9 merged
com_mil	Being in community service or the military	Category 1 serves as the reference.	Category 7
region_west	Residence in the West of Ukraine	A merger of the following regions: Lviv, Ivano-Frankivsk, Ternopil, Volyn, Rivne, Zakarpattia, Chernivtsi.	All the regions not falling into either of the two serve as the reference
region_east	Residence in the East of Ukraine	A merger of the following regions: Kharkiv, Dnipropetrovsk, Zaporizhzhia, Donetsk, Luhansk, Odesa, Mykolaiv, Kherson	

Note: Variables constructed manually from the ESS Round 11 codebook, with categories distribution taken into account for mergers.

APPENDIX II

R code (AI-aided)

Claude chat logs provided under the links below:
https://claude.ai/share/f2ee2e3e-cb69-49a6-acbb-71fb07f15086
https://claude.ai/share/bcf6c08a-ad06-4c79-a257-14847d33a165

```
install.packages(c("haven", "readr", "dplyr", "survey", "MASS", "brant", "car", "mice", "openxlsx", "marginaleffects"))

library(haven)
library(readr)
library(dplyr)
library(survey)
library(MASS)
library(brant)
library(car)
library(mice)
library(openxlsx)
library(marginaleffects)

ess <- read_csv("ESS11e04_1.csv")
ua <- ess %>% filter(cntry == "UA")

ua <- ua %>%
dplyr::select(
imbgeco, imueclt, imwbcnt,
hincfel, mnactic, atchctr,
edlvdua, agea, gndr, brncntr, domicil, ppltrst, region,
psu, stratum, anweight,
ctzcntr
)

ua <- ua |>
mutate(
hincfel = na_if(hincfel, 7),
hincfel = na_if(hincfel, 8),
hincfel = na_if(hincfel, 9),
brncntr = na_if(brncntr, 7),
brncntr = na_if(brncntr, 8),
brncntr = na_if(brncntr, 9),
domicil = na_if(domicil, 7),
domicil = na_if(domicil, 8),
domicil = na_if(domicil, 9),
ppltrst = na_if(ppltrst, 77),
ppltrst = na_if(ppltrst, 88),
ppltrst = na_if(ppltrst, 99),
gndr = na_if(gndr, 9),
imbgeco = na_if(imbgeco, 77),
imbgeco = na_if(imbgeco, 88),
imbgeco = na_if(imbgeco, 99),
imueclt = na_if(imueclt, 77),
imueclt = na_if(imueclt, 88),
imueclt = na_if(imueclt, 99),
imwbcnt = na_if(imwbcnt, 77),
imwbcnt = na_if(imwbcnt, 88),
imwbcnt = na_if(imwbcnt, 99),
atchctr = na_if(atchctr, 77),
atchctr = na_if(atchctr, 88),
atchctr = na_if(atchctr, 99),
mnactic = na_if(mnactic, 66),
mnactic = na_if(mnactic, 77),
mnactic = na_if(mnactic, 88),
mnactic = na_if(mnactic, 99),
edlvdua = na_if(edlvdua, 5555),
edlvdua = na_if(edlvdua, 7777),
```

```
edlvdua = na_if(edlvdua, 8888),
edlvdua = na_if(edlvdua, 9999),
agea = na_if(agea, 999),
)

west_regions <- c("UA71", "UA72", "UA73", "UA74", "UA81", "UA83", "UA52")
east_regions <- c("UA13", "UA31", "UA32", "UA21", "UA22", "UA42", "UA41", "UA43")

ua <- ua |>
mutate(
imbgeco = factor(imbgeco, ordered = TRUE),
imueclt = factor(imueclt, ordered = TRUE),
imwbcnt = factor(imwbcnt, ordered = TRUE),

hincfel_comf = as.integer(hincfel == 1),
hincfel_dif = as.integer(hincfel %in% c(3, 4)),

mnactic_unemp_a = as.integer(mnactic == 3),
mnactic_unemp_p = as.integer(mnactic == 4),
out_lf = as.integer(mnactic %in% c(5, 6, 8, 9)),
com_mil = as.integer(mnactic == 7),

atchctr = as.numeric(atchctr),

edlvdua_lesssec = as.integer(edlvdua %in% 0:2),
edlvdua_lesshigh = as.integer(edlvdua == 8),
edlvdua_high = as.integer(edlvdua %in% 9:12),

agea = as.numeric(agea),
gndr_f = as.integer(gndr == 2),
brncntr_frgn = as.integer(brncntr == 2),
domicil_urban = as.integer(domicil %in% 1:3),

ppltrst = as.numeric(ppltrst),

region_west = as.integer(region %in% west_regions),
region_east = as.integer(region %in% east_regions)
)

ua <- ua %>%
filter(ctzcntr == 1)

svy <- svydesign(
ids = ~psu,
strata = ~stratum,
weights = ~anweight,
data = ua,
nest = TRUE
)

key_vars <- c(
"imbgeco", "imueclt", "imwbcnt",
"hincfel_comf", "hincfel_dif",
"mnactic_unemp_a", "mnactic_unemp_p", "out_lf", "com_mil",
"atchctr",
"edlvdua_lesssec", "edlvdua_lesshigh", "edlvdua_high",
"agea", "gndr_f", "brncntr_frgn", "domicil_urban", "ppltrst",
"region_west", "region_east"
)

cat("\n=== Missing data (%) per variable ===\n")
miss_pct <- colMeans(is.na(ua[key_vars])) * 100
print(round(sort(miss_pct, decreasing = TRUE), 2))

f_core <- ~ hincfel_comf + hincfel_dif +
mnactic_unemp_a + mnactic_unemp_p + out_lf + com_mil +
atchctr

f_demo <- update(f_core, ~ . +
edlvdua_lesssec + edlvdua_lesshigh + edlvdua_high +
```

```
agea + gndr_f + brncntr_frgn + domicil_urban + ppltrst)

f_full <- update(f_demo, ~ . + region_west + region_east)

formulas <- list(M1 = f_core, M2 = f_demo, M3 = f_full)
dvs <- c("imbgeco", "imueclt", "imwbcnt")
model_ids <- paste0(rep(dvs, each = 3), "_", names(formulas))

make_formula <- function(dv, rhs) {
as.formula(paste(dv, paste(deparse(rhs), collapse = "")))
}

get_model_n <- function(dv, mn) {
rhs_vars <- all.vars(formulas[[mn]])
needed <- c(dv, rhs_vars)
needed <- needed[needed %in% names(ua)]
sum(complete.cases(ua[, needed]))
}

model_n <- setNames(
mapply(function(k) {
dv <- sub("_M[123]$", "", k)
mn <- sub(".*_(M[123])$", "\\1", k)
get_model_n(dv, mn)
}, model_ids),
model_ids
)

cat("\n=== Complete-case N per model ===\n")
print(model_n)

models <- setNames(
lapply(model_ids, function(k) {
dv <- sub("_M[123]$", "", k)
mn <- sub(".*_(M[123])$", "\\1", k)
svyolr(make_formula(dv, formulas[[mn]]), design = svy)
}),
model_ids
)

cat("\nAll 9 models fitted successfully.\n")

print_or_table <- function(mod, name, n_obs) {
cat("\n============================================\n")
cat(" MODEL:", name, "\n")
n_params <- length(coef(mod))
aic_val <- deviance(mod) + 2 * n_params
cat(" N =", n_obs, "| AIC =", round(aic_val, 2), "\n")
cat("============================================\n")

co_tab <- summary(mod)$coefficients
n_z <- length(mod$zeta)
n_b <- nrow(co_tab) - n_z
co_tab <- co_tab[seq_len(n_b), , drop = FALSE]

est <- co_tab[, "Value"]
se <- co_tab[, "Std. Error"]
tval <- co_tab[, "t value"]
pval <- 2 * pnorm(-abs(tval))

tab <- data.frame(
OR = round(exp(est), 3),
CI_lo = round(exp(est - 1.96 * se), 3),
CI_hi = round(exp(est + 1.96 * se), 3),
p = round(pval, 4),
sig = case_when(
pval < 0.001 ~ "***",
pval < 0.01 ~ "**",
pval < 0.05 ~ "*",
pval < 0.10 ~ ".",
```

```
TRUE ~ ""
)
)
print(tab)
}

cat("\n\n### ODDS RATIOS (95% CI + p-values) — all 9 models ###\n")
invisible(mapply(function(k, mod) print_or_table(mod, k, model_n[[k]]),
names(models), models))

null_cache <- list()

mcfadden <- function(mod, dv) {
if (is.null(null_cache[[dv]])) {
null_cache[[dv]] <<- svyolr(make_formula(dv, ~1), design = svy)
}
ll_model <- -deviance(mod) / 2
ll_null <- -deviance(null_cache[[dv]]) / 2
1 - (ll_model / ll_null)
}

cat("\n\n### MODEL FIT ###\n")
fit_df <- data.frame(
Model = names(models),
AIC = round(sapply(models, function(m) deviance(m) + 2 * length(coef(m))), 2),
McFadden_R2 = round(mapply(function(mod, k) {
dv <- sub("_M[123]$", "", k)
mcfadden(mod, dv)
}, models, names(models)), 4),
N = unname(model_n[names(models)])
)
print(fit_df)

cat("\n\n### BRANT TEST ###\n")

complete_ua <- ua[complete.cases(ua[key_vars]), ]
brant_results <- list()

for (dv in dvs) {
for (mn in names(formulas)) {
k <- paste0(dv, "_", mn)
cat("\n---", k, "---\n")

polr_mod <- tryCatch(
polr(make_formula(dv, formulas[[mn]]), data = complete_ua, Hess = TRUE),
error = function(e) { message(" polr failed: ", e$message); NULL }
)

if (is.null(polr_mod)) {
brant_results[[k]] <- "error"
next
}

bt <- tryCatch(
brant(polr_mod),
error = function(e) { message(" Brant failed: ", e$message); NULL }
)

brant_results[[k]] <- if (!is.null(bt)) bt else "error"
if (!is.null(bt)) print(bt)
}
}

cat("\n\n### VIF (auxiliary OLS per model specification) ###\n")

for (mn in names(formulas)) {
cat("\n---", mn, "---\n")
aux_fml <- make_formula("as.numeric(imbgeco)", formulas[[mn]])
aux_lm <- lm(aux_fml, data = complete_ua)
print(round(vif(aux_lm), 2))
```

```
}

violators <- list()
for (k in names(brant_results)) {
bt <- brant_results[[k]]
if (is.character(bt)) next
var_rows <- bt[rownames(bt) != "Omnibus", , drop = FALSE]
bad_vars <- rownames(var_rows)[var_rows[, "probability"] < 0.05]
if (length(bad_vars) > 0) violators[[k]] <- bad_vars
}

if (length(violators) > 0) {
cat("\n\nBrant violators:\n")
print(violators)
} else {
cat("\n\nNo Brant violations detected.\n")
}

desc_list <- list()

for (dv in dvs) {
k <- paste0(dv, "_M3")
rhs_vars <- all.vars(formulas[["M3"]])
needed <- c(dv, rhs_vars)
needed <- needed[needed %in% names(ua)]
sub_ua <- ua[complete.cases(ua[, needed]), ]
n_eff <- nrow(sub_ua)

cont_vars <- c("atchctr", "agea", "ppltrst")
cont_rows <- lapply(cont_vars, function(v) {
w <- sub_ua$anweight
mn <- round(weighted.mean(sub_ua[[v]], w, na.rm = TRUE), 2)
data.frame(DV = dv, Variable = v, Statistic = "Weighted mean",
Value = mn, N = n_eff, stringsAsFactors = FALSE)
})

dv_num <- as.numeric(as.character(sub_ua[[dv]]))
w <- sub_ua$anweight
dv_mean <- round(weighted.mean(dv_num, w, na.rm = TRUE), 2)
dv_row <- data.frame(DV = dv, Variable = dv, Statistic = "Weighted mean",
Value = dv_mean, N = n_eff, stringsAsFactors = FALSE)

bin_vars <- c("hincfel_comf", "hincfel_dif",
"mnactic_unemp_a", "mnactic_unemp_p", "out_lf", "com_mil",
"edlvdua_lesssec", "edlvdua_lesshigh", "edlvdua_high",
"gndr_f", "brncntr_frgn", "domicil_urban",
"region_west", "region_east")
bin_rows <- lapply(bin_vars, function(v) {
w <- sub_ua$anweight
pct <- round(weighted.mean(sub_ua[[v]], w, na.rm = TRUE) * 100, 1)
data.frame(DV = dv, Variable = v, Statistic = "% = 1 (weighted)",
Value = pct, N = n_eff, stringsAsFactors = FALSE)
})

desc_list[[dv]] <- do.call(rbind, c(list(dv_row), cont_rows, bin_rows))
}

desc_df <- do.call(rbind, desc_list)
rownames(desc_df) <- NULL

mice_results <- list()

mice_vars <- c(key_vars, "psu", "stratum", "anweight")

ua_for_mice <- ua[mice_vars]

ua_for_mice <- ua_for_mice %>%
mutate(across(where(is.ordered), as.integer))

cat("\n\n### MICE SENSITIVITY CHECK (all models, m = 20 imputations) ###\n")
```

```
imp <- tryCatch({
mice(ua_for_mice, m = 20, seed = 42, printFlag = FALSE)
}, error = function(e) {
message("mice() failed: ", e$message)
NULL
})

if (is.null(imp)) {
message("MICE aborted — mice_results will be empty.")
} else {
for (k in names(models)) {
dv <- sub("_M[123]$", "", k)
mn <- sub(".*_(M[123])$", "\\1", k)

cat("\n========================================\n")
cat(" MICE POOLED RESULTS:", k, "\n")
cat("========================================\n")

result <- tryCatch({
mice_fits <- lapply(1:20, function(i) {
imp_data <- complete(imp, i)

imp_data[[dv]] <- factor(imp_data[[dv]], ordered = TRUE)

imp_svy <- svydesign(
ids = ~psu,
strata = ~stratum,
weights = ~anweight,
data = imp_data,
nest = TRUE
)
svyolr(make_formula(dv, formulas[[mn]]), design = imp_svy)
})

coefs <- do.call(rbind, lapply(mice_fits, coef))
vars <- do.call(rbind, lapply(mice_fits, function(m) diag(vcov(m))))
pooled_coef <- colMeans(coefs)
within_var <- colMeans(vars)
between_var <- apply(coefs, 2, var)
pooled_var <- within_var + (1 + 1/20) * between_var

n_z <- length(mice_fits[[1]]$zeta)
idx <- seq_len(length(pooled_coef) - n_z)
est <- pooled_coef[idx]
se <- sqrt(pooled_var[idx])
pval <- 2 * pnorm(-abs(est / se))

list(est = est, se = se, pval = pval)
}, error = function(e) {
message(" MICE failed for ", k, ": ", e$message)
NULL
})
mice_results[[k]] <- result
if (!is.null(result)) {
tab <- data.frame(
OR = round(exp(result$est), 3),
CI_lo = round(exp(result$est - 1.96 * result$se), 3),
CI_hi = round(exp(result$est + 1.96 * result$se), 3),
p = round(result$pval, 4),
sig = case_when(
result$pval < 0.001 ~ "***", result$pval < 0.01 ~ "**",
result$pval < 0.05 ~ "*", result$pval < 0.10 ~ ".",
TRUE ~ ""
)
)
print(tab)
}
}
}
```