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HELINA MAASING

Measuring immigration-related conflict risk: A case of Estonia

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Measuring immigration-related conflict risk: A case of Estonia

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Institute of Social Studies, University of Tartu, Estonia

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LIST OF ORIGINAL PUBLICATIONS

This dissertation is based on four original publications which will be referred to in the dissertation by their respective Roman numbers (**Studies I–IV**):

Study I. Maasing, H. (2020). Understanding the essence of ethnic conflict: a thematic literature review. *Proceedings Estonian Academy of Security Sciences*, *19*, 93–121. https://doi.org/10.15158/9psm-h114

Study II. Maasing, H., Nahkur, O., Roots, A., & Ainsaar, M. (2021). Measuring the risk of immigration related conflicts. *Človek a spoločnosť [Individual and Society*] *24*(4), 1–24. https://doi.org/10.31577/cas.2021.04.592

Study III. Maasing, H., Nahkur, O., Roots, A., & Ainsaar, M. (2024). Navigating ethnic frictions: a case study on the possible risk of immigration-related conflict in Estonian municipalities in 2014–2018. *Security Spectrum*, 24, 239–267. https://doi.org/10.15158/efk3-mc48

Study IV. Ainsaar, M., Maasing, H., Kovaljov, A., & Nahkur, O. (2024). Regional Disparities of Immigration-Related Conflict Risks: The Case of Estonia. In: A. Klimczuk & D. Dovie. (Eds.). *Bridging Social Inequality Gaps – Concepts, Theories, Methods, and Tools* IntechOpen. http://dx.doi.org/10.5772/intechopen.1004710

AUTHOR'S CONTRIBUTION

Study I. The author solely conducted the analysis, wrote all sections, and handled revisions and reviewer feedback.

Study II. The author contributed to the study design, wrote the introduction, theoretical framework, and conclusion, and co-drafted all manuscript versions. As the corresponding author, the author led the revisions based on reviewer comments.

Study III. The author contributed to the study design, wrote the introduction, theoretical framework, parts of the data analysis, conclusion, and discussion. The author also collaborated on drafting all manuscript versions and, as corresponding author, led the revisions based on reviewer feedback.

Study IV. As second author, the author contributed to the study design, wrote the theoretical and analytical sections, and participated in editing the manuscript.

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INTRODUCTION

"*Si vis pacem, para bellum*!" –
"*If you want peace, prepare for war!*"

For me, this statement by the fourth-century Roman writer, Publius Flavius Vegetius Renatus, is the inspiration for this dissertation, which explores the complexities of immigration-related conflict risk in Estonia – one of the most peaceful countries in the world, according to the Global Peace Index (GPI score 1.615, Institute for Economics & Peace, June 2024, p. 8). While traditionally associated with military preparedness, the phrase is used here to emphasize that peaceful societies rely on proactively addressing social conditions and vulnerabilities before tensions escalate. In a societal context, this involves identifying and responding to factors that may give rise to intergroup tensions – particularly those related to immigration. This is the goal of my research: to understand and measure the vulnerabilities in society that may contribute to immigration-related conflict.

To do so, the dissertation builds on sociological understandings of vulnerability and conflict risk, defining social vulnerability as the susceptibility of a community to harm (Mercadal, 2021). A strong and cohesive society, including both host populations and newcomers, is less vulnerable to turmoil. Immigration and other forms of population change can also be deliberately instrumentalized to provoke social instability or amplify intergroup divisions (Greenhill, 2010). Russia's actions in Crimea and Eastern Ukraine in 2014 and again in 2022, justified in part by narratives of protecting Russian-speaking minorities, have demonstrated how group identity and demographic claims can be weaponized. Estonia's own experience during the "Bronze Night" riots of 2007 revealed how unresolved historical grievances can be activated under the right political conditions (Juurvee & Mattiisen, 2020, pp. 3–5; Cheskin, 2015). These events show the relevance of identifying latent societal risks – not because conflict is inevitable, but because in volatile geopolitical contexts, small sparks can have disproportionate consequences.

In recent years, the rise of anti-immigration attitudes and protests across Europe has reflected growing societal tensions that threaten social cohesion and stability. Eurobarometer surveys consistently rank immigration among the top concerns in most EU countries (European Commission, 2023). In Estonia for example, 73% of respondents expressed negative views toward immigration from outside the EU (European Commission, 2024[1]). Similar concern was voiced in a survey carried out by BVA Xsight, where seven out of ten Europeans believe that their country takes in too many migrants (Craplet et al., 2024). This widespread discontent suggests a rising risk of immigration-related conflict, yet **current research has not fully examined its underlying factors or developed tools to measure its likelihood**. This dissertation seeks to address this **gap** by developing

[1] Standard Eurobarometer 101, QB8.2

and testing a novel measurement of immigration-related conflict risk using Estonian data.

To understand the conflicts addressed in this dissertation, one must first ask: is immigration a risk at all? While immigration brings economic, cultural, and social benefits, it can also create intergroup tensions, especially in increasingly diverse societies. This research defines **immigration-related conflicts** as intergroup tensions, hostility, or social unrest, and in extreme cases, violent confrontations, arising from immigration or the presence of immigrants. The focus, however, is not on existing or open conflict but on **latent conflict**: the underlying risk factors that may give rise to tensions before any visible unrest emerges.

A critical dimension of these conflicts is their regional nature, as tensions typically emerge and escalate locally. The complex interplay between immigration, pre-existing ethnic divisions, and regional dynamics presents significant challenges in accurately assessing the risk of such conflicts and understanding the factors under which they are likely to arise. In this context, **immigration-related conflict risk** refers to the likelihood that immigration interacts with societal vulnerabilities to generate tensions between the host population and newcomers, which may escalate into open conflict if left unaddressed.

Immigration-related conflict risk can be studied at the societal level, drawing on interdisciplinary research across sociology, psychology, and social conflict studies. This dissertation adopts a positivist approach, based on the premise that social phenomena can be systematically observed and measured, to develop a tool for identifying and quantifying the risk factors that may lead to immigration-related intergroup tensions. As primarily a methodological study, its core contribution is the construction of a social indicator that captures the latent and multidimensional nature of immigration-related conflict risk in a replicable way. Estonia was chosen as a strategic case due to its complex historical legacy from the Soviet occupation and its current evolution as an immigration destination. Traditional conflict research often relies on post-hoc analysis of already erupted conflicts, which has two main shortcomings: it lacks comparison with similar cases where conflict did not emerge and fails to inform timely policy response. Using Estonia as a test case, this dissertation addresses that gap by asking: if conflict is to be identified early enough for effective policy response, what risk factors help explain its emergence and escalation potential? To use a metaphor: this research measures how dry the forest is – so that if someone were to strike a match, we can assess whether it would catch fire.

The main **aim** of this dissertation is to **develop a tool for measuring and assessing the risk of immigration-related conflict**. To achieve this, it introduces a novel thematic social indicator – the Measure of Immigration-Related Conflict Risk Index (**MICRI**) – designed to quantify conflict risk at both national and regional levels. Additionally, using MICRI the dissertation examines **regional variations in conflict risk within Estonia**. With these aims in mind, the dissertation seeks to answer the following research questions:

1) RQ1: How can we measure the risk of immigration-related conflicts in society? (**Study I–II**)
2) RQ2: What is the estimated risk level of immigration-related conflict in Estonia? (**Study III–IV**)
3) RQ3: What regional differences in immigration-related conflict risk factors exist across Estonia? (**Study III–IV**)

This dissertation centers around four original studies (**Studies I–IV**). The first challenge was to identify the concepts and risk factors underlying immigration-related conflict. Drawing on a systematic literature review, **Study I** presents theoretical and empirical insights from ethnic and intergroup conflict research to explain the drivers suitable in the context of immigration. The findings show that such conflicts typically stem from a combination of objective and subjective factors. Among these, grievances play a central role, as they reflect perceived injustices or inequalities – economic, political, or social – that individuals experience or observe in society (Muliavka, 2020). When immigration interacts with these grievances, it can amplify perceptions of threat or exclusion, making it crucial to understand how such perceptions shape conflict risk.

This led to the second challenge: how to measure such a complex phenomenon as immigration-related conflict risk? As a socially constructed concept, latent conflict cannot be directly observed, so researchers must rely on different indicators to measure it. Traditional approaches in the literature tend to follow two main paths: some focus on testing theoretical models by analyzing immigrants as a perceived threat (e.g., Marozzi, 2016), while others apply conflict-studies frameworks to predict intergroup conflicts (e.g., Halkia et al., 2020). While both approaches contribute valuable insights, they also have limitations. Cross-national studies on attitudes toward immigrants often provide only a snapshot in time and tend to overlook important regional differences within countries. Meanwhile, conflict studies have increasingly shifted toward predictive tools grounded in structural factors to forecast the likelihood of conflict (Schneider et al., 2010; Hegre et al., 2017).

Despite these advancements, most tools for measuring anti-immigration attitudes (Marozzi, 2016; Hellmann et al., 2022) or conflict risk (Halkia et al., 2020; Hegre et al., 2019) rely primarily on macro-level structural data (e.g., GDP per capita, crime rates, or population size) and often lack the precision needed to capture regional tensions. To address this gap, our research team developed a novel composite indicator in **Study II**: the Measure of Immigration-Related Conflict Risk Index (MICRI). Conceptually, MICRI captures a specific form of societal vulnerability – susceptibility to immigration-related tensions – by integrating objective structural conditions with grievance-based perceptions, offering a more context-sensitive and nuanced measurement at national and regional levels compared to existing tools.

Positioned at the intersection of migration-attitude research and conflict studies, this dissertation examines how underlying tensions and risk dynamics unfold across time and space. It addresses a critical question: to what extent are

the risk factors already in place for conflict to emerge, and if external pressure were applied, would these tensions escalate? The originality of Study II lies in the construction of MICRI, which is then empirically tested in the Estonian context **(Studies III–IV).**

Studies III–IV deploy MICRI to measure the immigration-related conflict risk across 75 Estonian municipalities. The index reflects both the level of societal vulnerability and the potential for tensions related to immigration to escalate into open conflict under certain conditions. These studies explore how risk factors combine and vary regionally, revealing patterns often obscured in national-level data.

Accordingly, this dissertation contributes to multiple domains of research on immigration-related intergroup conflict, offering both an Estonian and a broader comparative perspective. Methodologically, it introduces MICRI, a novel thematic social indicator designed to integrate both subjective and objective risk factors, enabling more precise measurement of immigration-related conflict risk. This data-driven approach advances both migration studies and social conflict prediction. Although MICRI was developed and empirically tested in the Estonian context, its conceptual framework and methodological structure are grounded in generalizable principles. With appropriate contextual adaptation, MICRI holds potential as a flexible tool for assessing latent conflict risk in other diverse or immigration-affected societies. As a scalable tool with early warning potential, MICRI provides policymakers with actionable insights to anticipate, prevent, and mitigate tensions.

1. THEORETICAL FRAMEWORK FOR MEASURING IMMIGRATION-RELATED CONFLICT RISK

To measure and quantify the potential for immigration-related conflict, and to identify objective patterns, it is first essential to understand the relevant theoretical and empirical risk factors. Studies I–II examined how the perceived benefits of diversity can shift into perceived threats and tensions between host populations and newcomers. This section outlines the core theoretical foundations of immigration-related conflict, its key drivers and the challenges of measuring its potential.

Drawing on insights from conflict research, intergroup dynamics, and grievance-based theories, particularly relative deprivation, this dissertation develops a framework for explaining where and why such tensions are most likely to arise. This framework forms the foundation for the subsequent analysis, guiding the operationalization of these concepts into the MICRI index.

1.1. Theoretical foundations of conflict

The concept of conflict has long been central to sociology, where it is viewed as a natural and persistent aspect of social life. Classical theorists like Marx saw it as rooted in class-based inequality and material exploitation (Orsini, 2024, p. 361; Dahrendorf, 1959, p. 33). Later scholars, including Lewis Coser (1956) and Ralf Dahrendorf (1959), emphasized its functional role in exposing tensions, challenging the status quo, and enabling social change. Coser highlighted how conflict shapes group identity and defines boundaries between in-groups and out-groups, distinguishing between realistic conflict – based on tangible grievances – and unrealistic conflict, driven by emotional frustration. Similarly, Mills (1959, p. 8) emphasized that personal troubles are often rooted in larger structural issues, showing how individual discontent reflects broader societal inequalities and perceived injustices.

More recent approaches have shift the focus from structural conditions to perception, identity, and symbolic threat as key sources of intergroup conflict. Scholars such as Tilly (2003) and Turner & Killian (1987) argue that conflict is not only rooted in objective inequalities but also socially constructed. Tilly (1978, pp. 11–15) shows how perceived injustice can be mobilized into collective action when actors frame their grievances and identify political opportunities. From this constructivist view, conflict emerges not merely from deprivation, but through narratives of threat, exclusion, and belonging. In immigration contexts, these narratives are especially salient: host populations may perceive cultural or demographic change as a threat to identity or status, even without objective harm. Thus, tensions often arise not from change itself but from how it is perceived.

This theoretical shift reflects a broader transformation in conflict studies, from viewing conflict as class-based and structural to seeing it as a socially mediated, dynamic process shaped by perception, identity, and responses to risk. MICRI

builds on this perspective by framing immigration-related conflict risk not as a deterministic outcome, but as a latent, context-dependent phenomenon rooted in how communities perceive and respond to social vulnerabilities.

1.2. The terminology and concept of immigration-related conflict

This dissertation adopts the **term "immigration-related conflict**" to refer to the specific ways in which immigration may generate social tensions between host community residents and immigrant groups. The concept overlaps with broader terms such as social conflict, intergroup conflict, and ethnic conflict (Wieviorka, 2013; Banton, 2000; Horowitz, 1985). Social conflict refers to dynamic struggles between organized groups over values, status, power, or resources, and encompasses a wide range of collective actions such as strikes, riots, class struggles, racial tensions, and communal violence (Oberschall, 1978). Intergroup conflict refers to tensions between various social groups, while ethnic conflict typically involves culturally distinct populations competing for power or recognition. In contrast, immigration-related conflict focuses more narrowly on friction stemming from immigration.

Thus, my research focuses on tensions that may arise between host community residents and immigrant groups, setting it apart from the extensive political science literature on state–minority conflict (e.g., Hegre et al., 2019; Østby, 2008). Rather than examining traditional majority–minority conflicts rooted in long-standing ethnic, racial, or religious divisions, it addresses newer, context-specific tensions linked to immigration.

For analytical clarity, the term "immigrant" is treated in this study as a general social category, without differentiating between specific subgroups (e.g., refugees, labor migrants, or individuals of different racial or ethnic backgrounds). Research suggests that over 70% of respondents do not make fine-grained distinctions between immigrant groups, tending instead to hold general attitudes toward migration (Goubin & Ruelens, 2024; Blinder & Markaki, 2018, p. 2). However, I acknowledge that immigration motives, legal categories, and cultural background shape how immigrant groups are perceived, with studies showing that host populations often prefer migrants who are ethnically similar to the national majority (Holmes & Castañeda, 2016; Sarrasin et al., 2015; Thérová, 2023; Ozola-Schade, 2022).

At the core of this dissertation lies the concept of risk. Drawing on Luhmann's view of risk as the attribution of a possible future loss (Lidskog & Sundqvist, 2013, p. 91), **immigration-related conflict risk** refers to the potential for intergroup tensions, shaped by specific immigration-related factors, to evolve into open conflict. These tensions are often not immediately visible but may take the form of **latent conflict**. As Fisher (2000, p. 6) explains, latent conflict reflects underlying societal vulnerability and the potential for escalation in the absence of visible unrest. This concept is central to the dissertation's methodological

approach, which seeks to identify early indicators of immigration-related tensions before they manifest.

Figure 1 illustrates MICRI's conceptualization of immigration-related conflict as a latent, context-dependent phenomenon rooted in social vulnerability, measured through both perception-based and objective risk factors. When left unaddressed, these vulnerabilities may escalate following a trigger event, potentially leading to open conflict and, ultimately, a new equilibrium. By quantifying such pre-escalation conditions, MICRI aligns with sociological conflict theories that view conflict as dynamic and socially mediated (Coser, 1956; Tilly, 2003), as well as with early-warning models that emphasize structural grievances and perceived injustice (Gurr, 1970).

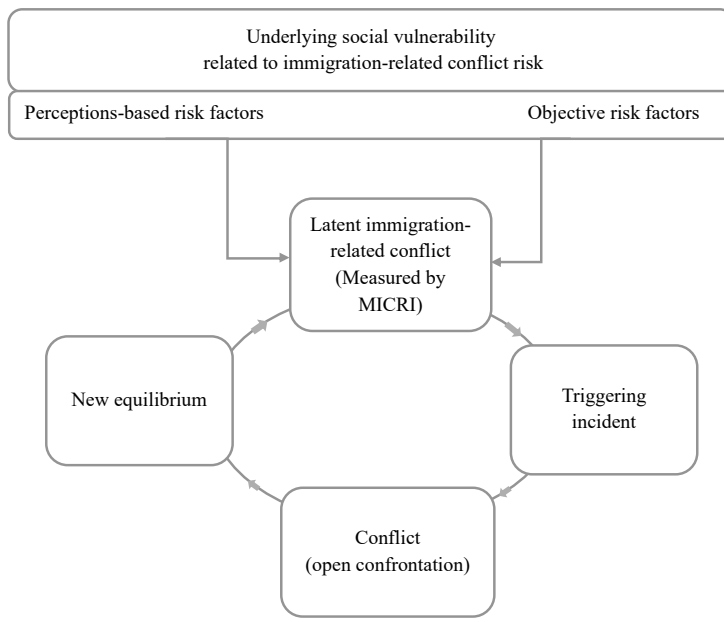

Figure 1. MICRI framework for operationalizing latent immigration-related conflict risk. Source: Created by the author.

Another important aspect of understanding these types of conflicts is the role of **regional dynamics**. Tensions often emerge locally rather than nationally, shaped by economic disparities, social inequalities, and ethnic compositions (Costalli & Moro, 2011; Rees et al., 2022). Because such tensions are socially constructed, perceived threats or competition can vary significantly even within the same country. For instance, Rees et al. (2022) identified local "hot spots" of hate crimes and social exclusion against refugees in Germany after the 2015–2016 crisis. Similarly, Costalli & Moro (2011) found that violence during the Bosnian war (1992–1995) was highest in polarized municipalities with two equally sized

ethnic groups. Even a single disadvantaged group can trigger unrest (Hillesund et al., 2018), highlighting the limits of national-level analysis. Scholars increasingly call for regionally disaggregated data to better capture localized risks (Rustad et. al., 2011; Ward et al., 2010; Stroschein, 2017; Moretti & Ahmed, 2024; Dirksmeier, 2023). This approach is followed in **Studies II–IV**, which examine immigration-related conflict risk at the regional level in Estonia.

1.3. Risk factors of immigration-related conflict

To measure the risk of immigration-related conflict (**RQ1–RQ2**), we must first identify the societal factors that increase or decrease the likelihood of conflict between immigrants and the host population. As established in the previous sections, immigration-related tensions are often latent, shaped by both objective conditions and subjective grievances (Study I) that may remain invisible until triggered by external events. I focus on two dominant perspectives: the "greed" and "grievance" schools of thought. The "greed" perspective, as outlined by Collier and Hoeffler (2004), suggests that conflict is primarily driven by groups or individuals seeking material gain. In contrast, the "grievance" perspective, drawing on Gurr's (1970) application of Relative Deprivation Theory, argues that perceived inequality, marginalization, and unmet expectations generate frustration that can escalate into collective unrest, especially when embedded in group identities and horizontal inequalities (Cederman et al., 2013, pp. 11–13, 30–35; Van Stekelenburg & Klandermans, 2013; Shaykhutdinov & Bragg, 2011). Though initially applied to violent conflict, the framework is also relevant to non-violent tensions.

Building on this understanding, I categorize immigration-related conflict risk factors into perception-driven and objective factors. Perception-driven factors include perceived threats, value differences, feelings of injustice, and distrust of others and institutions. Objective factors refer to socio-demographic and economic indicators, such as immigrant population size, unemployment, and regional disparities. The selection of potential conflict factors draws from a review of 96 peer-reviewed articles published between 1990 and 2020 (**Study I**). In **Study II**, this list was refined and operationalized into 41 measurable conflict risk factors. While not exhaustive, these represent the most empirically accessible risk factors. This section focuses on those indicators that could be operationalized for use in MICRI. Some theoretically important factors, such as weak national identity, prior experiences of violence, or local language proficiency, were excluded due to data limitations (see Study II). The Annex, Table 9 presents the final MICRI indicators alongside their theoretical foundations, which are further discussed below.

Perception-driven factors:

1) **Perceived Threat**: The perception of immigration as a threat is deeply rooted in Group Conflict Theory (Blumer, 1958; Blalock, 1967) and Intergroup Threat Theory (Stephan, et al., 2009). The first argues that competition for limited resources can lead to defensive reactions and prejudice against immigrants and the latter offers a more nuanced psychological view, by encompassing both realistic threats (economic, security) and symbolic threats (cultural, identity-related). Realistic threats refer to the perception that the in-group's power, economy, security, politics, and various resources (e.g., employment, social services, education) are jeopardized by out-group members (e.g., Simonovits, 2016; Vallejo-Martín, et al., 2020; Hellmann, et al., 2022). Instead, symbolic threat may express fear of the loss of cultural homogeneity, the in-group's values, and the national identity of the host society (Raijman, et al., 2008; Stephan, et al., 2009; Davidov, et al., 2020). Thus, the core idea of perceived threat is that, when members of the dominant group perceive an out-group as a threat to their interests, they may react defensively (Shepherd, et al., 2018).
2) **Perceived Injustice**: Relative Deprivation Theory (Adams, 1965) emphasizes how perceived inequality fuels dissatisfaction and conflict. It suggests that feelings of frustration and discontent arise when individuals perceive that their circumstances are worse than those of similar others or when they experience a discrepancy between their expectations and their actual outcomes (Schulze & Krätschmer-Hahn, 2014). Relatively deprived groups may seek justice for perceived inequities, while privileged groups may engage in violence to protect their advantageous position. Inequalities based on group identity play a significant role in fomenting conflict (Hillesund et al., 2018). These inequalities, whether economic, social, or political, can mobilize groups to rebellion, as seen in various regions globally.
3) **Value Differences**: Immigrants can be considered a group of people entering a country with different customs and traditions than those of host society members and often retaining their value and belief systems (Giuliani, et al., 2017). As Errázuriz (2024) notes, value-based conflicts are especially likely when groups uphold fundamentally opposing core values. This is reflected in findings by Davidov et al. (2020), who show that individuals with conservative values – those seeking to preserve social norms and traditions – are more likely to perceive immigration as a symbolic threat and to oppose it. In contrast, universalistic individuals, motivated by openness and tolerance, tend to report lower levels of symbolic threat and show greater support for immigration. Breidahl et al. (2018) further emphasize the importance of shared values: the perception that others in society hold similar values fosters trust and solidarity. When such shared understanding is absent, value conflicts may emerge.
4) **Trust**: Distrust in immigrants or institutions often fuels social conflict (Sambanis & Shayo, 2013; Eidelson & Eidelson, 2003). Drawing on Social Capital and Group Conflict Theory (Putnam, 2007; Blumer, 1958), research

shows that immigration can weaken trust in minority out-groups, especially in the absence of prior contact (Gundelach & Manatschal, 2017). Low trust fosters in-group versus out-group dynamics, reduces expectations of co-operation, and increases self-interest-driven behavior (Rothstein & Stolle, 2008). Studies also find that low institutional trust correlates with reduced tolerance toward immigrants (Husfeldt, 2006; Paas & Halapuu, 2012). According to contact theory (Allport, 1958), trust builds through positive interaction, while its absence may lead to exclusion and ethnic tension. A meta-analysis of 515 studies by Pettigrew & Tropp confirms that intergroup contact reliably reduces prejudice (Pettigrew et al., 2011; Pettigrew & Tropp, 2006).

5) **Identity:** Conflicts often rely on the presence of strong shared identities (Hogg & Adelman, 2013; Sambanis & Shayo, 2013), grounded in the idea of belonging to a group of similar others. According to Self-Categorization Theory (Turner et al., 1987) and Social Identity Theory (Tajfel & Turner, 1986; Hogg, 2016), individuals tend to perceive in-group members more positively and out-group members more negatively. While there are numerous descent-based identity attributes, only a few become socially and politically salient. Ethnic and religious boundaries are frequently cited as triggers for violence (Reynal-Querol, 2002), as these identity markers are particularly salient and associated with heightened conflict risk (Toft, 2007; Wellman & Tokuno, 2004). Therefore, the presence of groups with strong ethnic and/or religious identities in a given region can be considered an important pre-condition for the emergence of conflict.

Objective conditions:

1) **Group Size and Population Shifts**: The size and rapid growth of the immigrant population relative to the host population are key determinants. Sudden influxes of immigrants (Jakobsen, et al., 2016; Costalli & Moro, 2011; Collier & Hoeffler, 2004; Schneider, 2008; Semyonov, et al., 2008), especially when politically salient (Hopkins, 2010), can heighten tensions and hostility. However, some studies have shown that xenophobic sentiments were more pronounced in places with a large foreign population (Semyonov & Raijman, 2008), while others did not support this finding (Pottie-Sherman & Wilkes, 2017). Strabac (2011) showed that the actual size did not significantly correlate with prejudice, but only the estimated size did so.
2) **Territorial Distribution and Demographic Balance**: Immigration-related conflict also depends on the territorial distribution of groups. When ethnic groups are evenly distributed within a region, competition for resources and power can intensify, raising the risk of conflict (Costalli & Moro, 2011). Although high polarization has been identified as a strong predictor of conflict in some studies (e.g., Montalvo & Reynal-Querol, 2005; Costalli & Moro, 2011), others (e.g., Kustov, 2017) suggest that there is no single "most hazardous" ethnic structure for conflict. Both polarization and cross-cutting social structures can reduce conflict likelihood but potentially increase its intensity if it occurs.

3) **Economic Conditions**: Economic competition, particularly in regions with high unemployment or limited resources, can intensify conflicts (Esses et al., 2001; Glas et al., 2021). As group conflict theory suggests, when natives perceive immigrants as competing for jobs, social services, or housing, tensions may escalate, particularly during economic downturns. It has been found that in adverse economic situations, negative attitudes toward immigrants rise. Isaksen (2019) conducted an analysis revealing that poor economic performance in Europe during the 2007–2008 financial crisis correlated with a rise in pessimistic attitudes toward immigrants. Comparable findings were reached by Heizmann and Huth (2021), who showed that deteriorating short-term economic conditions, particularly rising unemployment, significantly increase perceptions of immigrants as an economic threat.

In summary, these theoretical perspectives interact in complex ways to shape conflict dynamics, though their exact interplay remains debated. To address this, MICRI (Study II) incorporates both perception-based and objective factors, offering a more comprehensive tool for assessing immigration-related conflict risk at the national and regional levels. This dissertation argues that both grievances and objective conditions must be considered, and the following chapters show how these factors are operationalized in the MICRI index.

1.4. Using social indicators for measuring immigration-related conflict risk

Measuring immigration-related conflict risk is challenging, not only conceptually, as outlined in sub-chapters 1.2. and 1.3., but also methodologically. Summarizing such a complex phenomenon into a single number is not straightforward. Thus, both theoretically and methodologically, the question arises: can immigration-related conflict risk be measured through a formula? My answer is "yes," but only if a well-defined framework is followed (**Study II**).

Social indicators provide such a framework, enabling the systematic measurement of social phenomena through quantifiable data. Since the 1960s, they have been widely used for performance monitoring, benchmarking, policy analysis, and public communication (Noll, 2018, p. 953; Michalos et al., 2011, p. 13; Land & Ferriss, 2002). Their key strength lies in providing structured and quantifiable insights into social trends and changes, enabling policymakers and researchers to make data-driven decisions. They serve descriptive, analytical, evaluative, and strategic functions, allowing researchers to detect emerging problems, track changes over time, and assess policy effectiveness (Maggino & Zumbo, 2012, p. 211). Figure 2 illustrates the logic behind using indicators to monitor social change and guide policy responses. This approach is particularly relevant for assessing immigration-related conflict risk, where early detection of social tensions is crucial for conflict prevention.

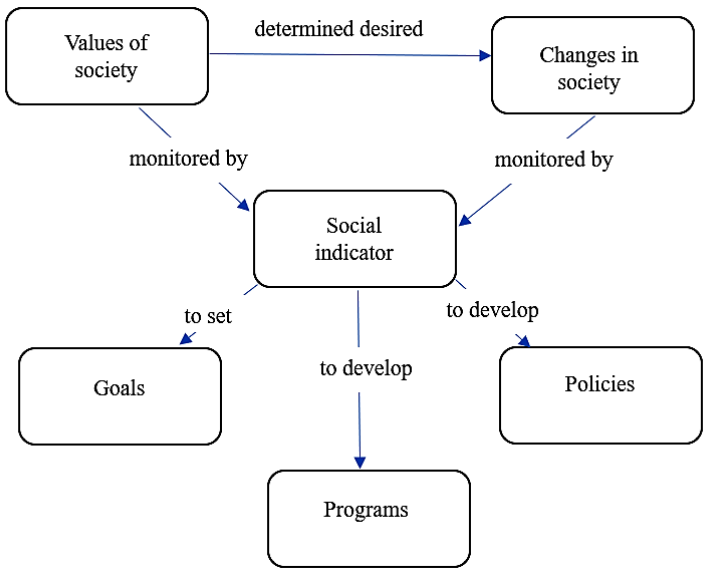

Figure 2. Overview of the process for monitoring societal values and change. Adapted from Land & Ferriss (2002).

Social indicators vary in scope and methodology, such as status indicators (conditions at a given time) versus trend indicators (changes over time), or objective measures (e.g., unemployment rates) versus subjective measures (e.g., perceived discrimination) (Maggino, 2017, p. 105; Maggino & Zumbo, 2012, pp. 220–221). For instance, while unemployment rates offer an objective measure of economic conditions, perceived discrimination reflects subjective experiences that shape intergroup relations. In the context of immigration-related conflict risk, both perspectives are essential (Studies I–II). However, no single indicator can fully capture such a complex and multidimensional phenomenon.

These limitations are better addressed through **composite indicators (CIs),** which integrate multiple dimensions into a single index, summarizing large datasets into an interpretable format and providing more comprehensive, policy-relevant measures than any single indicator (Mazziotta & Pareto, 2017, p. 159; Babbie, 2013, pp. 198–199; Freudenberg, 2003, pp. 6–8; Nardo et al., 2008, p. 13). CIs are widely used in related fields: for example, the Global Conflict Risk Index (GCRI) (Halkia, et al., 2020) and ViEWS early-warning model (Hegre et al., 2019) predict large-scale political violence using national-level data; the Social Vulnerability Index (SoVI) assesses community susceptibility to environmental hazards (Cutter et al., 2003); and the Migrant Integration Policy Index (MIPEX) evaluates national integration policies. Other examples include Martín & Indelicato's (2022) COITI/COITIR index, which measures public attitudes toward immigration and refugees across 23 countries, and social cohesion measures (e.g., Aruqaj, 2023), which capture trust and openness. However, indices like GCRI and ViEWS focus primarily on violent intergroup conflict outbreaks and rely on broad national

averages, overlooking localized tensions and micro-level dynamics. Conversely, some indices (e.g., Marozzi, 2016; Martín & Indelicato, 2022) incorporate subjective measures but focus narrowly on specific threats, such as economic competition or cultural concerns. While valuable, these approaches do not capture the full multidimensional nature of immigration-related conflict.

Thus, CIs offer a more holistic approach by combining subjective and objective factors (Nardo et al., 2008). When designed rigorously, as demonstrated in Chapter 2, CIs can serve as effective tools for monitoring immigration-related conflict risk factors, supporting evidence-based policymaking, and enabling early interventions to prevent tensions from escalating.

1.5. Measuring perception in social research: theoretical and methodological considerations

As outlined in sub-chapter 1.3., many of the key factors contributing to immigration-related conflict are perception-based. This makes perception a crucial but methodologically challenging element of social research. Unlike objective conditions, perceptions are shaped by individual experiences, social context, and cognitive biases (Zhang, 2023), often diverging from measurable reality.

Perceived inequality, exclusion, or threat often have a stronger influence on intergroup dynamics than structural factors alone. Grievance-based theories, such as Gurr's (1970) application of Relative Deprivation Theory, emphasize how discrepancies between expected and actual conditions can fuel unrest (Smith et al., 2020, pp. 496–498). Social Identity Theory (Tajfel & Turner, 1986) similarly shows how "us vs. them" thinking creates perceived threats even in relatively stable settings. People frequently believe their group is disadvantaged, regardless of actual conditions (Muliavka, 2020), and, for example, tend to overestimate immigrant numbers and impact (Gorodzeisky & Semyonov, 2020; Schneider, 2008). These distorted perceptions can heighten opposition to immigration and motivate collective action, particularly when grievances are linked to systemic injustice (Van Stekelenburg & Klandermans, 2013).

However, the use of subjective measures raises several methodological concerns. Unlike structural indicators, perception-based measures can be unstable, context-dependent, and influenced by ideology, media, and political discourse (Schlueter & Davidov, 2013). Cross-regional comparability is also limited due to variations in interpretation and data availability (Noll, 2014). Yet despite these drawbacks, subjective data offer important advantages: it can reveal shifts in sentiment that structural data often fails to capture (Must & Rustad, 2019; Noll, 2004). This is particularly relevant in conflict studies, where perceived marginalization often precedes actual unrest (Lindemann, 2014; Shaykhutdinov & Bragg, 2011). For instance, Michalos et al. (2011, p. iv) show that individuals may appear well-off in objective terms but still feel politically or socially excluded.

To better capture complex phenomena such as immigration-related conflict risk, researchers increasingly combine subjective data (e.g., European Social

Survey, European Values Study) with objective indicators (e.g., unemployment rates, crime statistics) (Marozzi, 2016). CIs enable this integration, provided they are developed with methodological rigor (Nardo et al., 2008). The MICRI index proposed in this dissertation builds on this approach by incorporating both perception-based and objective risk factors at national and regional levels.

1.6. Estonian context

Estonia provides a compelling case for studying immigration-related conflict risk due to its complex ethno-linguistic composition, post-Soviet and postcolonial legacies, spatial inequalities, and multi-layered immigration dynamics. As a former Soviet republic, Estonia has undergone a rapid transition from occupation to independence, from socialism to liberal democracy, and from a closed society to one integrated into Western political and economic structures (Lauristin & Vihalemm, 2020).

Estonia's immigration landscape is shaped by three distinct waves, each carrying its own socio-political implications. The first wave took place during the Soviet era, when large numbers of Russian-speaking populations settled in Estonia as part of state-directed internal migration. During this period, the share of ethnic Estonians declined from 88% in 1940 to 62% by 1989 (Tiit, 2011, pp. 59–60). The effects of Soviet-era immigration are not confined to the past: the large foreign-origin population it left behind – now long-settled and heavily concentrated in the northeast – continues to shape Estonia's demographic structure and linguistic divide. Today, Russian speakers make up nearly a quarter of the population, with concentrations exceeding 80% in some northeastern municipalities (Statistics Estonia, 2021; Leetmaa et al., 2015). In cities like Narva, ethnic Estonians account for only 5% of the population, compared to 53% in Tallinn. These entrenched demographic patterns reinforce regional segregation and increase susceptibility to external influence.

The second wave of immigration can be traced to Estonia's accession to the European Union in 2004. During this period, Estonia's previously conservative immigration policy gradually shifted toward a more managed and selective approach focused on attracting skilled workers (Maasing & Asari, 2017). Between 2000 and 2015, most immigrants came from European countries (58%), followed by former Soviet republics (32%) and, to a lesser extent, Asia and Africa (10%) (Tammur et al., 2017). Since 2015, net migration has remained positive. Unlike earlier periods, recent migration dynamics are more diverse, with a growing share of immigrants arriving from South and Central Asia, Africa, and other non-European regions (Luik et al., 2024, pp. 26–28), contributing to Estonia's increasing demographic diversity.

The third and most recent wave began with the arrival of Ukrainian refugees following Russia's invasion of Ukraine in 2022. Since the war in Ukraine, over 50,000 Ukrainians have settled in Estonia (Arenguseire Keskus, 2023, p. 1; Luik et al., 2024, p. 13). This group now makes up the majority of recent immigrants,

but it falls outside the scope of this study, which covers 2014–2018. MICRI therefore does not currently reflect the dynamics linked to this wave, though future research may address them.

Each wave of immigration carries distinct public perceptions. Soviet-era Russian speakers are often seen through the lens of historical grievance, linguistic and regional separation, and identity tensions (Vetik, et al., 2020, pp. 104–111). Post-2004 labor migrants are typically framed in economic terms, while Ukrainian refugees evoke a more complex mix of solidarity and security concerns (Tammur et al., 2017; Esko, 2024). These overlapping migration layers contribute to Estonia's evolving social fabric and pose different challenges for cohesion, resilience, and integration, particularly in regions already marked by segregation and grievance.

Beyond immigration itself, Estonia's broader conflict landscape is shaped by long-standing tensions between the majority population and Russian-speaking minorities. Minority–majority relations remain one of the most sensitive cleavages in Estonian society and politics (Vetik, 2020; Saarts & Saar, 2020). Ethnic Estonians earn over 20% more in disposable income (Statistics Estonia, 2021), and surveys show widespread perceptions of unequal access to jobs and education (Anniste & Sepper, 2020, pp. 64–65). In 2020, only 34% of minorities considered their income fair, compared to 48% of Estonians (Melesk & Masso, 2020, p. 10). These disparities reinforce perceptions of exclusion and grievance, key components of latent conflict risk.

Such tensions have, at times, escalated into open confrontation. The 2007 "Bronze Nights" riots, triggered by the relocation of a Soviet war memorial, revealed the fragility of interethnic trust and were described as a form of hybrid conflict, with Russia exploiting local grievances (Juurvee & Mattiisen, 2020; Cheskin, 2015). More recently, the war in Ukraine has intensified societal fault lines. Surveys from 2023 show that nearly half of Russian-speaking respondents expressed ambivalence or opposition to Estonia's military support for Ukraine (Esko, 2024, p. 127). These divides are shaped by segmented media consumption and limited interethnic contact (Vihalemm et al., 2019; Kivistik, 2020), reinforcing social vulnerability in specific regions. Understanding Estonia's historical and demographic context is essential for interpreting regional variations in immigration-related conflict risk. MICRI operationalizes these vulnerabilities into measurable indicators in the following chapters.

2. STUDY METHODS

In this chapter, I outline the methodology adopted in this dissertation to answer the research questions. Considering the complex theoretical background, an exhaustive methodology was essential for addressing the main issues related to measuring immigration-related conflict risk. This approach ranged from conducting a systematic literature review (**Study I**) to developing a composite indicator for measuring immigration-related conflict risk (**Study II**) and employing cluster and correlation analysis to understand regional differences in conflict risk measurement (**Studies III–IV**).

2.1. Constructing MICRI: methodology and process

As outlined in the previous chapter on social indicators, immigration-related conflict risk can be more effectively assessed by breaking it down into measurable elements, each capturing a specific risk factor. A composite indicator (CI) does just that. It mathematically aggregates multiple indicators to reflect the different dimensions of the phenomenon being studied (Mazziotta & Pareto, 2022; Saisana & Tarantola, 2002, pp. 5, 8).

Like many other studies (e.g., Marozzi, 2016), our research team followed the steps proposed by the OECD (Nardo et al., 2008) for constructing CIs in developing MICRI (Study II). These steps include: (1) defining the phenomenon to be measured (theoretical framework); (2) selecting indicators; (3) normalizing indicators; (4) aggregating the normalized and weighted indicators; and (5) validating the CI.

Table 1 summarizes these steps for MICRI, along with considerations for alternative methods. While these alternatives offer analytical rigor, they were ultimately not adopted due to data limitations, reduced interpretability, or misalignment with the study's theoretical focus on latent conflict. Techniques like principal component analysis, for instance, would have prioritized data-driven variance over theory-based relevance, weakening the index's conceptual clarity. Others required larger or more detailed datasets than were available at Estonia's regional level. Though such methods might have slightly altered indicator weights or structure, they risked undermining MICRI's core purpose: to deliver a theoretically grounded, transparent, and policy-relevant tool. The chosen approach achieves a balance between statistical soundness, conceptual integrity, and practical usability.

Table 1. The MICRI construction involving methodological choices and possible alternatives following the OECD (Nardo et al., 2008) guidelines

Phase	Aim	Method used for MICRI
Step 1. Theoretical framework	Review relevant literature to understand the phenomenon and define the theoretical framework for selecting MICRI variables.	Systematic literature review (Study I).
		Alternative**:** expert consultations.
Step 2. Selection of indicators	Identify key variables and indicators for measuring immigration-related conflict risk based on the theoretical framework.	Criteria-based selection: Study II defined criteria for MICRI indicators, including relevance, reliability, timeliness (regular data collection), and accessibility (available for international and sub-national use). The study also applied statistical techniques to screen indicators for correlation and redundancy. Of the 41 initially identified risk factors, 17 indicators were selected for the final dataset.
Step 3. Normalization of data	Calculate and normalize indicator values to ensure comparability.	MICRI indicators were transformed to a scale of 0 to 1, except the indicator "IM" (Study II).
		Alternative: Standardizations of the single indicators (z-scores), ranking, distance to target.
Step 4. Weighting and aggregation	Assign weights to indicators based on their theoretical importance and aggregate them into the CI.	In the case of Estonia, three MICRI indicator values – IN, D, and LER2 – were adjusted for practical reasons to better align with theoretical expectations: IN was multiplied by 10, D by 5, and LER2 by 10 (Study II).
		Alternative: statistical methods (principal component analysis, factor analysis, multiple regression models, etc.).
		MICRI uses additive aggregation, allowing full compensation between indicators and dimensions.
		Alternative: geometric aggregation.
Step 5. Validation	Ensure the reliability and validity of the composite index through various validation techniques.	Internal consistency: Cronbach's alpha (Study II) External consistency was not tested due to lack of data.
		Alternatives for internal consistency: principal component analysis, factor analysis, cluster analysis, Pearson's correlation coefficient.

▪ Step 1. Theoretical/conceptual framework

The process begins with defining the conceptual framework, which establishes the theoretical foundation and purpose of the CI. This step involves identifying key dimensions that the indicator aims to measure, ensuring alignment with the research objectives (Terzi et al., 2021, pp. 12, 15; Mazziotta & Pareto, 2017, p. 162). If the conceptual basis is poorly defined, the phenomenon is likely to be poorly measured (Nardo et al., 2008, p. 12).

Methodologically, researchers can adopt a top-down (theoretical) approach, a bottom-up (democratic/expert group) approach, or a combination of both, to guide the selection of indicators (Barrington-Leigh & Escande, 2018, pp. 25, 27). In constructing MICRI (Study II), a top-down approach was used, drawing mainly from literature reviews in Studies I–II rather than expert consultations. While expert input provides valuable contextual insights, literature reviews offer a more comprehensive, evidence-based, and objective foundation for defining the theoretical framework. To ensure transparency and credibility, Studies I and II outline the theoretical and methodological background of MICRI's development. Based on these theoretical considerations, we initially identified 41 risk factors related to immigration-related conflict, though not all met the criteria for inclusion (see Step 2).

▪ Step 2. Selection of indicators

Selecting the right indicators is a critical step in measuring a multidimensional phenomenon, as errors in this phase can compromise the entire process of analyzing a complex reality (Terzi et al., 2021, p. 18). The strength and reliability of a CI largely depend on the quality of its underlying indicators. Ideally, indicators should be chosen based on their relevance, analytical soundness, timeliness, accessibility, and applicability (Nardo et al., 2008, p. 23; Saisana & Saltelli, 2011). For instance, if the CI is updated annually, indicators that are only available on a multi-annual basis cannot be included (Terzi et al., 2021, p. 18).

The selection process involves balancing two key concerns: avoiding redundancy from overlapping information and minimizing the risk of losing valuable insights. A statistical approach typically assesses correlations between potential indicators to minimize redundancy (Salzman, 2003, p. 4; Nardo et al., 2008, p. 23). However, the choice also depends on the measurement model used: in a reflective model, all indicators must be intercorrelated, whereas in a formative model, they can have weak or even negative correlations (Mazziotta & Pareto, 2016; Terzi et al., 2021, pp. 15–18). MICRI follows a formative model, meaning its indicators are not interchangeable but collectively define immigration-related conflict risk. The final selection prioritizes indicators with the same directionality, that are neither too highly nor too weakly correlated, and that align with predefined inclusion criteria.

Based on this understanding, the following selection criteria were applied for MICRI: (1) data must be relevant, (2) reliable, (3) regularly updated, (4) accessible for international use, and (5) measurable at the regional (NUTS3) level.

Out of the initial 41 risk factors, 15 did not meet these criteria and were excluded (see Study II). The remaining 26 indicators aligned with theoretical foundations and met empirical selection criteria. However, further analysis in Study II revealed that some indicators needed to be removed due to: (a) negative correlation with other indicators, or (b) lack of correlation, or (c) multicollinearity. After those adjustments, MICRI comprised 17 risk indicators, grouped into 10 key dimensions (see Table 2). The detailed measurements for each indicator are described in Study II (including justification) and in Table 3 (sub-chapter 3.1).

Table 2. Overview of MICRI dimensions and corresponding indicators by type

Dimension	Indicators	Type of indicator
Identity	ID1: Ethnic groups, ID2: Religious groups	Objective
Trust	DT1: Generalized trust in other groups, DT2: Institutional trust	Subjective
Values	V1: Negative attitudes toward immigrants, V2: Negative stereotypes about immigrants, V3: Host population–immigrant value gap	Subjective
Threat	TH1: Perceived cultural threat from immigration, TH2: Perceived economic threat from immigration, TH3: Perceived safety threat from immigration	Subjective
Injustice	IN: Perceived injustice	Subjective
Dissatisfaction	D: Dissatisfaction with life	Subjective
Interaction	PC: Poor communication with others	Subjective
Norm obedience	LNO: Low norm obedience	Subjective
Economic resources	LER1: Perceived poverty, LER2: Registered unemployment rate	Mixed
Immigration	IM: International immigration rate	Objective

- **Step 3. Normalization of data**

Data normalization is a fundamental step prior to the aggregation process. It serves to overcome the problems connected with the differing nature of the original variables (e.g., different measurement units, variances, ranges, etc.). There are several methods for normalizing data, such as ranking, standardization (or z-scores), re-scaling (min–max), and distance from a reference (or indicisation), among others (Nardo et al., 2008, p. 30; Mazziotta & Pareto, 2017, p. 166). The choice of normalization method affects the values of the normalized variables and, consequently, the outcomes of the CI.

For MICRI (Study II), most of the indicators were transformed to a 0–1 scale. We chose this method to keep the values of individual indicators more easily interpretable. Normalization was performed for each variable. Originally, all indicators, except for ID1–ID2 and IM, were on a 0–100 (percentage) scale. We divided these values by 100 to transform them to a 0–1 scale. The initial value of

the immigration rate (indicator IM), which was not on a percentage scale, was divided by 10 to bring it closer to the 0–1 scale. We also analyzed dividing the value by 100, but the internal consistency measured by Cronbach's alpha coefficient (α) was essentially lower compared with division by 10. This was the main reason for keeping the division by 10, although the maximum value remained above 1 in ten municipalities. Indicators ID1 and ID2 are binomial, meaning they are coded as either 0 or 1.

- **Step 4. Weighting and aggregation**

The aim of a weighting system is to ensure that weights reflect the relative importance (in terms of significance, reliability, or other characteristics) of the individual indicators. The assigned weights heavily influence the outcomes of a CI, making it essential to base them on a well-defined theoretical framework (Terzi et al., 2021, p. 22). Various weighting methods can be used to construct a CI (see, e.g., Nardo et al., 2008, p. 31; Freudenberg, 2003, p. 12). Indicators may be weighted according to a theoretical framework (Nardo et al., 2008, p. 21) or weighted equally unless compelling reasons justify differential weighting (Greco et al., 2019).

While the theoretical framework did not justify unequal weighting, practical considerations specific to the Estonian context led to assigning higher weights to three indicators (IN, D, and LER2) in the MICRI. Since some risk dimensions were measured by multiple indicators while others were represented by only one, we aimed to ensure that all dimensions contributed relatively equally to MICRI. To achieve this, we analyzed the average values of risk factors and their dimensions across 75 municipalities. The empirical averages of indicators IN, LER2, and D were noticeably lower than others, contradicting theoretical expectations. To correct this imbalance, IN and LER2 were multiplied by 10, and D by 5. Without these adjustments – particularly for single-indicator dimensions like IN and D – their contribution to the final index would have been disproportionately low. A sensitivity test using equal weights for all indicators confirmed that the weighting scheme did not significantly alter regional risk rankings (see Annex, Table 11).

We also considered adjusting the PC indicator, which made a relatively small contribution. Multiplying PC by 10 was tested, but it decreased the internal consistency of the index (Cronbach's alpha = 0.594). As a result, no weighting was applied to this indicator.

Next, we aggregated the indicators into a CI. For MICRI (Study II), we used a **linear additive aggregation** method to calculate both the values of the risk dimensions and the final index scores. In selecting the aggregation method, we considered the three most widely used approaches: additive, multiplicative, and geometric. There is no universal consensus on which is most appropriate, as each method has distinct advantages and limitations (Marozzi & Bolzan, 2018). While we tested the geometric aggregation method (see Annex Table 11), known for preserving proportional relationships and penalizing unbalanced values (Nardo et

al., 2008, p. 103), we ultimately selected the additive method due to its simplicity, compatibility with all normalization techniques, and its ability to compensate for data variability or occasional errors. The formula for CI using the linear additive aggregation method is:

$$CI = w_1 \cdot \left(\frac{I_1 - \min(I_1)}{\max(I_1) - \min(I_1)} \right) + w_2 \cdot \left(\frac{I_2 - \min(I_2)}{\max(I_2) - \min(I_2)} \right) + \cdots + w_n \cdot \left(\frac{I_n - \min(I_n)}{\max(I_n) - \min(I_n)} \right)$$

where CI represents the composite indicator (aggregated score), w_1, $w_{2...}$ w_n is the weight assigned to each normalized indicator. I_1, I_2,…I_n are the individual indicators. $\min(I_i)$ and $\max(I_i)$ represent the minimum and maximum values of indicator I_i respectively, used for normalization.

- **Step 5. The validity of the MICRI**

The final step in constructing a CI is validating its robustness and accuracy. This process evaluates how methodological decisions, such as indicator selection, normalization techniques, and aggregation procedures, affect the results (Nardo et al., 2008, p. 34), ensuring that the MICRI reliably reflects immigration-related conflict risk. Internal and external validity can be distinguished (Babbie, 2013, pp. 209, 213). Internal validation assesses the relationships between index components (Babbie, 2013, p. 209). External validation compares the composite indicator's results with external data or real-world outcomes (Babbie, 2013, p. 213), such as actual instances of immigration-related conflict. This step confirms the index's generalizability and robustness across time and regions.

MICRI's **internal consistency** was assessed using Cronbach's alpha and Spearman's rank correlation (Study II). Cronbach's alpha of 0.698 indicates an acceptable level of internal reliability. Spearman's rank correlation confirms that MICRI is multidimensional, with varying degrees of association across its ten dimensions, capturing distinct but related risk factors. Most components correlate moderately (0.4–0.6) or strongly (0.6–0.8) with the overall index, particularly ID1, ID2, TH3, and IN. Weaker associations (0.2–0.4) were observed for DT1, V2, V3, TH1, and TH2. Only norm obedience (LNO) showed a negative correlation but was retained for its theoretical relevance as a potential protective factor, with the direction possibly influenced by regional-level aggregation.

To further assess robustness, sensitivity analysis was conducted by testing key methodological variations: changing weights (equal vs. theoretical), excluding key indicators (e.g., IN, D, IM), removing data types (subjective vs. objective), and applying geometric mean aggregation (see Annex, Table 11). In each scenario, MICRI scores and regional rankings were recalculated. While absolute scores shifted, the spatial pattern remained stable. This confirms that MICRI's results are not overly sensitive to any single methodological assumption and reflect a resilient underlying structure of risk.

The absence of suitable external data has made **external validation** of MICRI challenging. Therefore, the development of MICRI has thus far prioritized strong

theoretical foundations, internal consistency, and methodological rigor. The primary focus has been on ensuring internal coherence and a logical aggregation of indicators before pursuing external validation, which remains an avenue for future research.

2.2. Forming the MICRI dataset

The MICRI dataset formed the basis for analyses in **Studies II–IV**, comprising data from 75 Estonian municipalities[2] across 17 indicators. The data collection was conducted as part of the RITA MIGRATION research project[3] from 2018 to 2020. The reference period selected for analysis was 2014–2018, as it represented the most recent and comprehensive data available at the time of collection.

To ensure data quality, five criteria were established for data sources: (1) national and sub-national availability (NUTS1–3); (2) regular updates; (3) accessibility; (4) relevance to immigration-related conflict; and (5) coverage from 2014–2018 and onwards. Three datasets met these criteria: (1) the European Social Survey (ESS); (2) the Estonian population census (2011); and (3) the Statistics Estonia database (2015–2018). The sample sizes for Estonia in the ESS were as follows: 1,903 respondents in Round 7 (2014), 1,946 in Round 8 (2016), and 1,826 in Round 9 (2018).

The ESS, a biannual survey covering over 30 European countries, was chosen as the primary source for most indicators (DT1-2, V1-3, TH1-3, IN, D, PC, LNO, LER1) due to its rigorous sampling and high data quality. ESS data for Estonia from rounds 7 (2014), 8 (2016), and 9 (2018) were merged to produce reliable regional-level indicators. Indicators ID1 and ID2 were sourced from the 2011 Estonian census, while LER2 and IM came from Statistics Estonia database.

As required by the RITA MIGRATION project, the names of the 75 municipalities were anonymized. Each municipality was assigned an ID consisting of a regional letter (N = North (NUTS EE001); NE = North-East (NUTS EE00A); W = West (NUTS EE004); C = Central (NUTS EE009); S = South (NUTS EE008)) followed by a sequence number.

2.3. Statistical analysis: cluster and correlation analysis

In **Studies III–IV**, cluster analysis and correlation analysis were used. Cluster analysis was applied in Studies III and IV to examine regional patterns and differences in Estonia concerning general risk levels and specific risk factors. In addition, in **Study IV**, correlation analysis was conducted to explore the relation-

[2] Four municipalities were left out of the dataset, as the number of ESS respondents was too low.

[3] Research project LLTOM18066 (RITA1/01-03-11) “Rändesõltuvus ja lõimumise välja–kutsed Eesti riigile, tööandjatele, kogukondadele ja haridusele” (01.01.2018−31.12.2020); https://ranne.ut.ee/projekti-kirjeldus/

ship between immigration and other immigration-related conflict risk factors. These methods were chosen as the most suitable for addressing RQ3.

Cluster analysis is a descriptive statistical technique that helps uncover hidden patterns, simplify complex data, and support decision-making (Ahlquist & Breunig, 2012). It also reveals interdependencies, such as between immigration (IM) and other indicators, crucial for understanding and anticipating conflict risk.

The analyses were conducted in RStudio using the tidyverse, cluster, and corrr packages. Hierarchical cluster analysis applied Ward's method with squared Euclidean distance to group municipalities. Distances were calculated from each municipality to the cluster mean and visualized in a dendrogram (Figure 6, Chapter 3.2.1). The dendrogram enabled the identification of a natural break, leading to four clusters in Study III and three in Study IV – each distinct and interpretable. The elbow method (Figure 3) also suggested three to four optimal clusters, and k-means clustering confirmed a three-cluster solution.

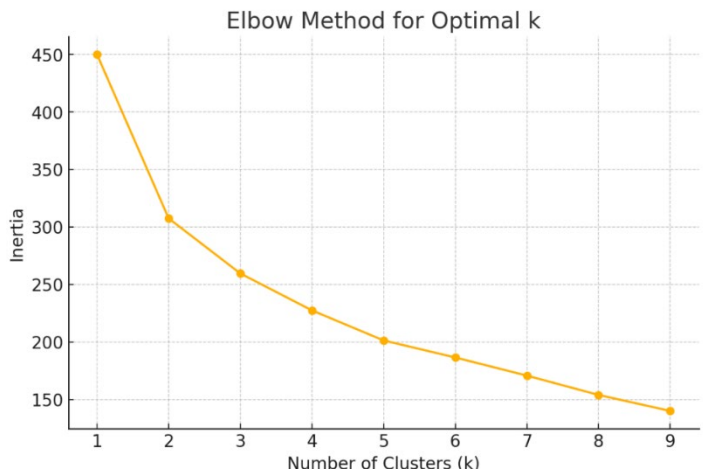

Figure 3. Optimal number of clusters

3. FINDINGS FROM THE STUDIES

This chapter presents the empirical findings of this dissertation, structured around the three research questions. The results stem from the analysis conducted in Studies II–IV and focus on measuring and assessing the risk of immigration-related conflict, evaluating regional differences, and estimating the overall risk level in Estonian regions.

3.1. From concept to application: operationalizing the MICRI

The primary objective of this dissertation was to develop a systematic method for measuring immigration-related conflict risk in society (**RQ1**). To accomplish this, the Measure of Immigration-Related Conflict Risk Index (**MICRI**), a thematic social indicator, was developed (**Study II**). MICRI is a composite indicator designed to quantify latent immigration-related conflict risk at the national and regional (NUTS1-NUTS3), and municipal levels, making it more sensitive to localized tensions.

Figure 4 provides a visual overview of the MICRI framework, illustrating how the index is constructed from ten theoretical dimensions, each operationalized through one or more indicators. These 17 indicators are derived from both subjective survey data (primarily from the ESS) and objective national statistics. Table 3 details the measurement methods and data sources for each indicator.

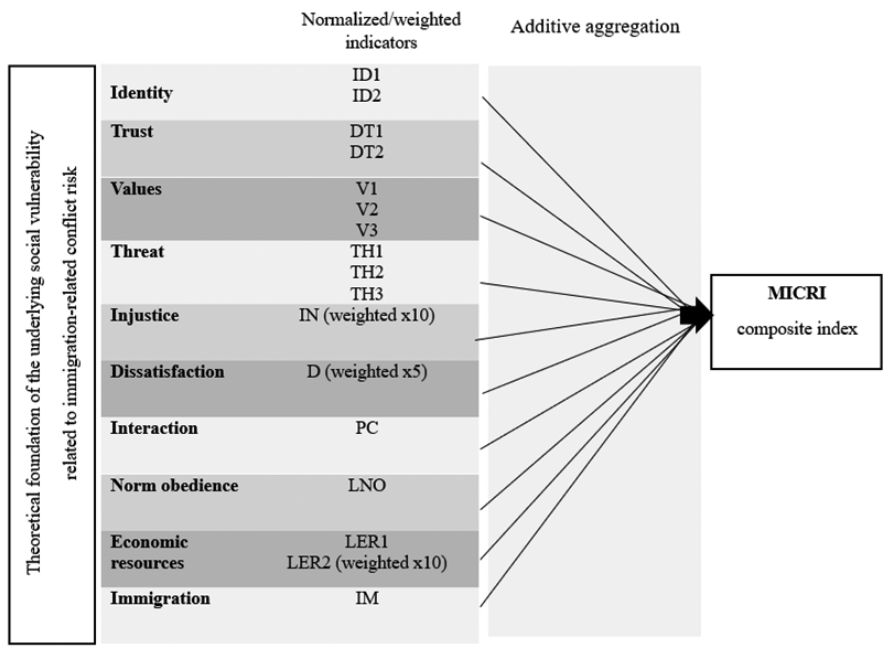

Figure 4. Structure of MICRI: dimensions, normalized and weighted indicators, and additive aggregation. Created by author.

In the case of Estonia, certain indicators – IN (perceived injustice), D (life dissatisfaction), and LER2 (unemployment) – were weighted more heavily (IN × 10, D × 5, LER2 × 10), as explained in Section 2.1. All indicators were normalized and combined using an additive aggregation method to produce a single composite score per region, reflecting immigration-related conflict risk. The final formula used to compute the MICRI score for Estonia is:

$$MICRI = (ID1 + ID2) + (DT1 + DT2) + (V1 + V2 + V3) + (TH1 + TH2 + TH3) + IN*10 + D*5 + PC + LNO + (LER1 + LER2*10) + IM$$

Using additive aggregation, MICRI functions as a compensatory index – high scores in one risk dimension can be offset by lower scores in another. This mirrors the reality that conflict risk is multidimensional, and social tensions rarely stem from a single cause. For example, a region experiencing high perceived injustice may nonetheless maintain social stability if trust in institutions or economic security is strong.

To assess the robustness of the index, several sensitivity tests were conducted (Annex, Table 11). These included variations in weighting (equal vs theoretical), removal of key indicators, exclusion of data types (subjective vs objective), and the application of geometric mean aggregation. Results showed that while absolute scores shift across scenarios, the overall ranking of regions, especially the consistently high-risk position of NE, remains stable. This indicates that MICRI's spatial pattern is not an artifact of methodological choices. However, scenarios such as the removal of subjective indicators or use of geometric mean significantly lowered scores, indicating that both perceptions and the degree of compensability influence how latent conflict risk is expressed. While MICRI primarily uses a compensatory additive model for interpretability and transparency, sensitivity analyses show that introducing non-compensatory logic (e.g., via geometric mean) strengthens the detection of imbalances, particularly in grievance-heavy regions.

Table 3. MICRI indicators, their codes, measurement method, data source

Dimension/ Indicator	Measurement methodology of the indicator	ESS question/data	Source
Identity			
ID1	≥2 ethnic groups (1=yes; 0=no)	Share of titular population in the region.	Population census
ID2	≥2 religious groups (1=yes; 0=no)	Share of people aged 15 and older by religion in the region.	Population census
Trust			
DT1	% who say "you can't be too careful" (responses 0–4 on trust scale). Arithmetic mean of 2014, 2016 and 2018 values.	"Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" 0=you can't be too careful…10=most people can be trusted.	ESS
DT2	% reporting low trust (0–4) in parliament, police, courts, politicians, parties. Arithmetic mean of 2014, 2016 and 2018 values.	"Please tell me on a score of 0–10 how much you personally trust each of the institutions. 0=you do not trust in an institution at all, and 10=you have complete trust. ...[country]'s parliament?; ...the legal system?; ...the police?; …politicians?; …political parties?"	ESS
Values			
V1	% who say "allow few or none" (3–4). Arithmetic mean of 2014, 2016 and 2018 values.	"To what extent do you think Estonia should allow people of the same race or ethnic group as most Estonia's people to come and live here? 1=Allow many to come and live here; 2=Allow some; 3=Allow a few; 4=Allow none"	ESS
V2	% who rate immigrants as making Estonia a worse place (0–4). Arithmetic mean of 2014, 2016 and 2018 values.	"Is Estonia made a worse or a better place to live by people coming to live here from other countries? 0=Worse place to live … 10= Better place to live"	ESS
V3	Value gap in LGBT tolerance: % disagree (locals) – % disagree (immigrants) (4–5).	"Gay men and lesbians should be free to live their own life as they wish. 1=Agree strongly; … 5=Disagree strongly"	ESS

Dimension/ Indicator	Measurement methodology of the indicator	ESS question/data	Source
	Arithmetic mean of 2014, 2016 and 2018 values.		
Threat			
TH1	% who say immigration undermines culture (0–4). Arithmetic mean of 2014, 2016 and 2018 values.	"Would you say that Estonia's cultural life is generally undermined or enriched by people coming to live here from other countries? 0=Cultural life undermined…10=Cultural life enriched"	ESS
TH2	% who say immigration is bad for the economy (0–4). Arithmetic mean of 2014, 2016 and 2018 values.	"Would you say it is generally bad or good for country's economy that people come to live here from other countries? 0=Bad for the economy…10=Good for the economy"	ESS
TH3	% who feel unsafe walking alone after dark (3–4). Arithmetic mean of 2014, 2016 and 2018 values.	"How safe do you - or would you - feel walking alone in this area after dark? 1=Very safe;… 4=Very unsafe"	ESS
Injustice			
IN	% who say they belong to a group discriminated against (1). Arithmetic mean of 2014, 2016 and 2018 values.	"Would you describe yourself as being a member of a group that is discriminated against in this country? 1=yes; 2=no"	ESS
Dissatisfaction			
D	% who rate life satisfaction 0–4. Arithmetic mean of 2014, 2016 and 2018 values.	"How satisfied are you with your life as a whole nowadays? 0=extremely dissatisfied…10=extremely satisfied"	ESS
Interaction			
PC	% who say it's not important to understand people with different views (responses 4–6). Arithmetic mean of 2014, 2016 and 2018 values.	"It is important to her/him to listen to people who are different from her/him. Even when she/he disagrees with them, she/he still wants to understand them. 1=Very much like me; 6=Not like me at all"	ESS
Norm obedience			

Dimension/ Indicator	Measurement methodology of the indicator	ESS question/data	Source
LNO	% who say it's not important to follow rules or behave properly (responses 4–6 across 2 questions). Arithmetic mean of 2014, 2016 and 2018 values.	"How much each person is or is not like you? (1) She/he believes that people should do what they're told. She/he thinks people should follow rules at all times, even when no-one is watching. (2) It is important to her/him always to behave properly. She/he wants to avoid doing anything people would say is wrong.1=Very much like me; 6=Not like me at all"	ESS
Economic resources			
LER1	% who say it is difficult/very difficult to live on present income (3–4). Arithmetic mean of 2014, 2016 and 2018 values.	"Which of the descriptions comes closest to how you feel about your household's income nowadays? 1=Living…; 4=Very difficult on present income"	ESS
LER2	Average registered unemployment rate (2015–2018).	Registered unemployment by administrative unit 2015–2018	Estonian Statistics
Immigration			
IM	Average immigration coefficient (2015–2018): immigrants/avg. population *100.	Average of migration by administrative unit/type/population mean 2015–2018.	Estonian Statistics

3.2. Immigration-related risk levels in Estonia

MICRI was applied to assess the risk level of immigration-related conflict in Estonia (**RQ2)**, generating risk scores at the national level, across five regions (NUTS3), and for 75 municipalities. The average **MICRI score in Estonia is 6.53**, indicating a generally low level of conflict risk. Yet scores vary widely, from 3.59 in the lowest-risk municipality to 12.78 in the highest, revealing substantial regional disparities. As shown in Figure 5, the northeast (NE) region stands out with the highest average score (9.34), indicating greater vulnerability than that of other regions, which remain at or below the national average.

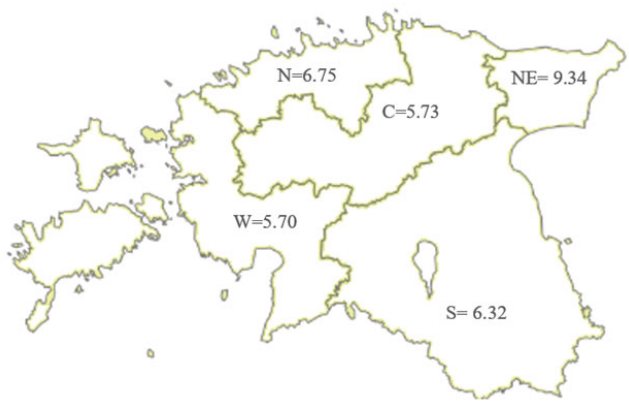

Figure 5. MICRI scores in Estonia based on NUTS3 regions

As shown in Table 4, the highest-risk municipalities are concentrated mainly in the northeast (NE) and north (N) regions, with the top-scoring municipality (N8) reaching a MICRI score of 12.78, followed by NE3 (11.36) and S17 (9.88). All northeastern (NE) municipalities have above-average risk scores, making the region the most vulnerable to immigration-related conflict. In contrast, other regions display more variation. While the north (N) and south (S) regions have risk levels close to the national average, several municipalities exceed the threshold, indicating localized vulnerabilities. Nearly half of the municipalities in the south (S) surpass the national average, revealing pockets of heightened risk despite the region's overall risk level remaining below the national average. Similarly, in the north (N) and west (W) regions, about one-third of municipalities have elevated risk scores. The central (C) region is the least affected, with most municipalities scoring below the national average.

Additionally, Study III showed that **urban municipalities** tend to have higher MICRI scores, yet certain rural areas, particularly in the northeast (NE) and south (S), also show elevated risk. The average MICRI score for urban municipalities is 8.25 (min = 5.45, max = 12.78), well above the national average. In contrast, rural areas have an average score of 6.10 (min = 3.59, max = 9.88). Most urban settlements – 11 out of 15 – have a risk score above the national average. A third

of the 60 rural municipalities have a risk score above the national average, mainly those in the south (S) and some in the northeast (NE) and north (N) regions.

These variations indicate that **national stability does not equate to uniform security** – in Estonia, immigration-related conflict risk is concentrated in specific regional hotspots rather than being a widespread issue. This is particularly evident in the northeast (NE) and in certain municipalities in the north (N) and south (S), where above-average risk scores suggest localized tensions that are not reflected in the national average.

Table 4. Immigration-related conflict risk scores in 2014–2018 by Estonian municipalities (ID) (N=75; descending order)

ID	MICRI Score	ID	MICRI Score	ID	MICRI Score	ID	MICRI Score	ID	MICRI Score
N8	12.78	**NE8**	8.37	**W5**	6.70	**S3**	5.53	**S15**	4.88
NE3	11.36	**N9**	8.34	**S5**	6.67	**C4**	5.53	**S7**	4.87
S17	9.88	**S12**	8.17	**C13**	6.52	**N2**	5.51	**S18**	4.84
NE6	9.77	**C8**	8.12	**N12**	6.17	**W4**	5.50	**C15**	4.70
NE7	9.59	**S13**	7.99	**N16**	6.05	**C3**	5.49	**C14**	4.65
N10	9.40	**W2**	7.97	**C1**	6.04	**S20**	5.45	**C5**	4.63
NE1	9.29	**N3**	7.84	**W9**	5.99	**N7**	5.44	**S8**	4.56
N15	9.16	**W7**	7.46	**N6**	5.94	**N14**	5.43	**C9**	4.45
S2	9.14	**N1**	7.44	**C2**	5.81	**W1**	5.42	**S16**	4.25
NE4	8.91	**S10**	7.03	**S9**	5.70	**N11**	5.19	**W3**	4.17
NE5	8.84	**S22**	6.79	**C6**	5.69	**C7**	5.19	**W6**	4.16
NE2	8.56	**S25**	6.78	**N4**	5.69	**S19**	5.16	**W10**	4.08
S6	8.53	**S26**	6.75	**C12**	5.64	**S4**	5.14	**N5**	3.96
S24	8.42	**S23**	6.74	**S1**	5.62	**C11**	5.12	**N13**	3.75
C10	8.41	**S14**	6.70	**W8**	5.54	**S21**	5.06	**S11**	3.59

3.3. Variations in immigration-related conflict risk factors in Estonia: national, regional, and municipal perspectives

3.3.1. National-level risk factors

The findings of Studies III–IV address **RQ3** by highlighting both national and regional differences in immigration-related conflict risk. While Estonia exhibits a low level of immigration-related conflict risk, specific national-level factors are prominent. MICRI shows that the most salient national risk factor in Estonia is immigration itself (IM), which varies significantly across municipalities (min = 0.50, max = 2.4) (Table 5). However, immigration alone does not independently drive conflict risk (see Chapter 3.4.). Instead, it interacts with other structural and perception-based indicators, shaping the potential for tensions (Study IV).

The second most influential risk factor is general life dissatisfaction (D), which also shows significant variation by municipality (min = 0.00, max = 1.67).

This suggests that broader societal discontent is associated with more negative attitudes toward immigration and may contribute to higher conflict risk. Additionally, negative attitudes toward immigrants (V1), distrust in state institutions (DT2), perceptions of injustice (IN), negative stereotypes about immigrants (V2), and perceived economic threats linked to immigration (TH2) contribute to an overall climate of uncertainty and tension. Of these, perceived injustice (IN) shows the highest variation across municipalities (min = 0.00, max = 3.11), suggesting that feelings of unfair treatment are not evenly distributed across the country.

The least influential conflict risk factors in Estonia are poverty (LER1), distrust of other people/groups (DT1), the value gap (V3), feelings of threat to physical security (TH3), and poor communication (PC) between groups.

Table 5. MICRI indicators 2014–2018 (minimum, maximum, arithmetic mean and standard deviation in Estonian municipalities in normalized mode as used in calculations of the risk index)

Dimension	Indicator	National aver	Min	Max	St_d
Identity	ID1: Ethnic groups	0.31	0.00	1.00	0.46
	ID2: Religious groups	0.37	0.00	1.00	0.49
Trust	DT1: Generalized trust	0.23	0.00	0.42	0.09
	DT2: Institutional trust	0.49	0.14	0.79	0.12
Value	V1: Negative immigration attitudes	0.52	0.27	0.81	0.10
	V2: Negative stereotypes	0.46	0.20	0.86	0.14
	V3: Value gap	0.23	0.00	0.88	0.21
Threat	TH1: Cultural threat	0.35	0.07	0.69	0.12
	TH2: Economic threat	0.43	0.17	0.77	0.14
	TH3: Physical threat	0.15	0.00	0.48	0.11
Injustice	IN: Perception on injustice	0.48	0.00	3.11	0.64
Dissatisfaction	D: Dissatisfaction with life	0.59	0.00	1.67	0.34
Interaction	PC: Poor communication	0.15	0.00	0.50	0.09
Norm obedience	LNO: Low norm obedience	0.34	0.19	0.54	0.07
Economic resources	LER1: Poverty	0.27	0.00	0.69	0.15
	LER2: Registered unemployment	0.31	0.17	0.67	0.10
Immigration	IM: Immigration rate	0.87	0.50	2.40	0.29

3.3.2. Regional (NUTS3) and urban-rural patterns of immigration-related conflict risk

At the NUTS3 level, most regions experience comparable levels of immigration, with the northern (N) region having slightly higher rates (0.98), while the central (C) region records the lowest (0.77) (Table 6). However, conflict risk varies significantly due to other factors. The **northeastern** (NE) region is the most vulnerable due to a combination of strong ethnic identity (0.75), high distrust in state institutions (0.58), and deep-rooted grievances – reflected in the highest

levels of perceived injustice (1.61) and general life dissatisfaction (0.86). Additionally, negative attitudes toward immigrants (0.64) and economic instability (poverty: 0.46, unemployment: 0.49) make the NE particularly susceptible to tensions.

By contrast, the **north** (N) region has the highest rate of immigration (0.98), yet it does not show the same extreme levels of dissatisfaction (0.46) or perceived injustice (0.64) as the NE region. Instead, the general life dissatisfaction is the lowest among all the regions. Unlike in the NE, economic risk factors are relatively low (poverty: 0.19, unemployment: 0.23). This suggests that while immigration levels are high, economic stability and positive contact (PC=0.09) mitigate potential conflict. However, moderate levels of negative attitudes (0.50) and stereotypes towards migrants (0.44) and distrust towards state institutions (0.46) still pose some risk.

The **southern** (S), **western** (W), and **central** (C) regions share similar risk factors (Table 6). Compared to NE and N regions, these areas are more ethnically homogeneous, which may contribute to lower identity-based tensions. While immigration is present in the S, W, and C regions, it does not generate the same level of perceived tension, economic distress, or grievances as observed in the NE and certain municipalities in the N region. Perceived injustice is the lowest in these regions compared to the NE and N, but some dissatisfaction persists, indicating underlying societal discontent. However, economic distress and perceived risks related to immigration remain less pronounced, making these regions more stable in terms of immigration-related conflict risk.

Table 6. MICRI indicators 2014–2018 in NUTS3 regions in Estonia

Indicator	NE	N	S	W	C
ID1: Ethnic groups	0.75	0.56	0.15	0.20	0.13
ID2: Religious groups	0.50	0.56	0.31	0.40	0.20
DT1: Generalized trust	0.28	0.21	0.24	0.19	0.24
DT2: Institutional trust	0.58	0.46	0.49	0.43	0.50
V1: Negative immigration attitudes	0.64	0.50	0.54	0.50	0.47
V2: Negative stereotypes	0.48	0.44	0.50	0.34	0.48
V3: Value gap	0.26	0.21	0.23	0.20	0.25
TH1: Cultural threat	0.38	0.37	0.34	0.26	0.39
TH2: Economic threat	0.50	0.39	0.46	0.37	0.43
TH3: Physical threat	0.34	0.11	0.16	0.08	0.10
IN: Perception on injustice	1.61	0.64	0.28	0.13	0.30
D: Dissatisfaction with life	0.86	0.46	0.61	0.57	0.56
PC: Communication skills	0.12	0.09	0.17	0.25	0.11
LNO: Low norm obedience	0.24	0.35	0.36	0.38	0.31
LER1: Poverty	0.46	0.19	0.31	0.23	0.20
LER2: Registered unemployment	0.49	0.23	0.31	0.30	0.29
IM: Immigration rate	0.85	0.98	0.86	0.87	0.77

When comparing **urban and rural** areas, further variation emerges (Study III). Urban areas generally exhibit higher conflict risk, with dominant factors including perceived injustice (IN), immigration rate (IM), general life dissatisfaction (D), strong ethnic identity (ID1), and negative immigration attitudes (V1). Rural areas, in contrast, are marked by distrust in state institutions (DT2), negative stereotypes (V2), and perceived economic and cultural threats (TH2, TH1) (see Annex, Table 10). The starkest urban–rural contrasts appear in IN, IM, D, and TH3.

City residents report nearly four times more perceived injustice and 1.5 times higher dissatisfaction than rural residents, especially in the NE. Immigration rates are also higher in urban municipalities of the N and S regions, where larger, more diverse cities are located. While immigration is more concentrated in cities, residents generally do not feel significantly threatened by it, except for cultural concerns in northern cities.

In the NE, both urban and rural residents report nearly three times more concern about physical safety threats (TH3) compared to other regions. LER1 and LER2 scores reflect weaker economic well-being in the NE – in both settlement types – with similar vulnerabilities in rural S. Rural municipalities, especially in the NE but also in the C and S regions, show more prevalent negative stereotypes toward immigrants (V2), stronger perceptions of conflicting values (V3), and elevated economic threat perceptions (TH2). These patterns suggest that limited exposure to immigrants and underlying socioeconomic conditions may amplify immigration-related anxieties in rural settings.

3.3.3. Municipality risk typologies

While regional variations reveal broad conflict risk patterns, a typological analysis of Estonian municipalities (**Studies III–IV**) provides deeper insight into how risk factors interact locally. These typologies clarify the key drivers of conflict risk and help identify prevalent risk factors across different regions (**RQ3**).

Based on the hierarchical cluster analysis, Study III identified four distinct risk typologies (Types 1–4) (see Figure 6). In Study IV, clusters were formed using 16 indicators, with the IM indicator excluded. This resulted in three meaningful clusters; however, the key difference was that municipalities classified as Types 1 and 2 in Study III were merged into a single typology, while the other typologies remained unchanged.

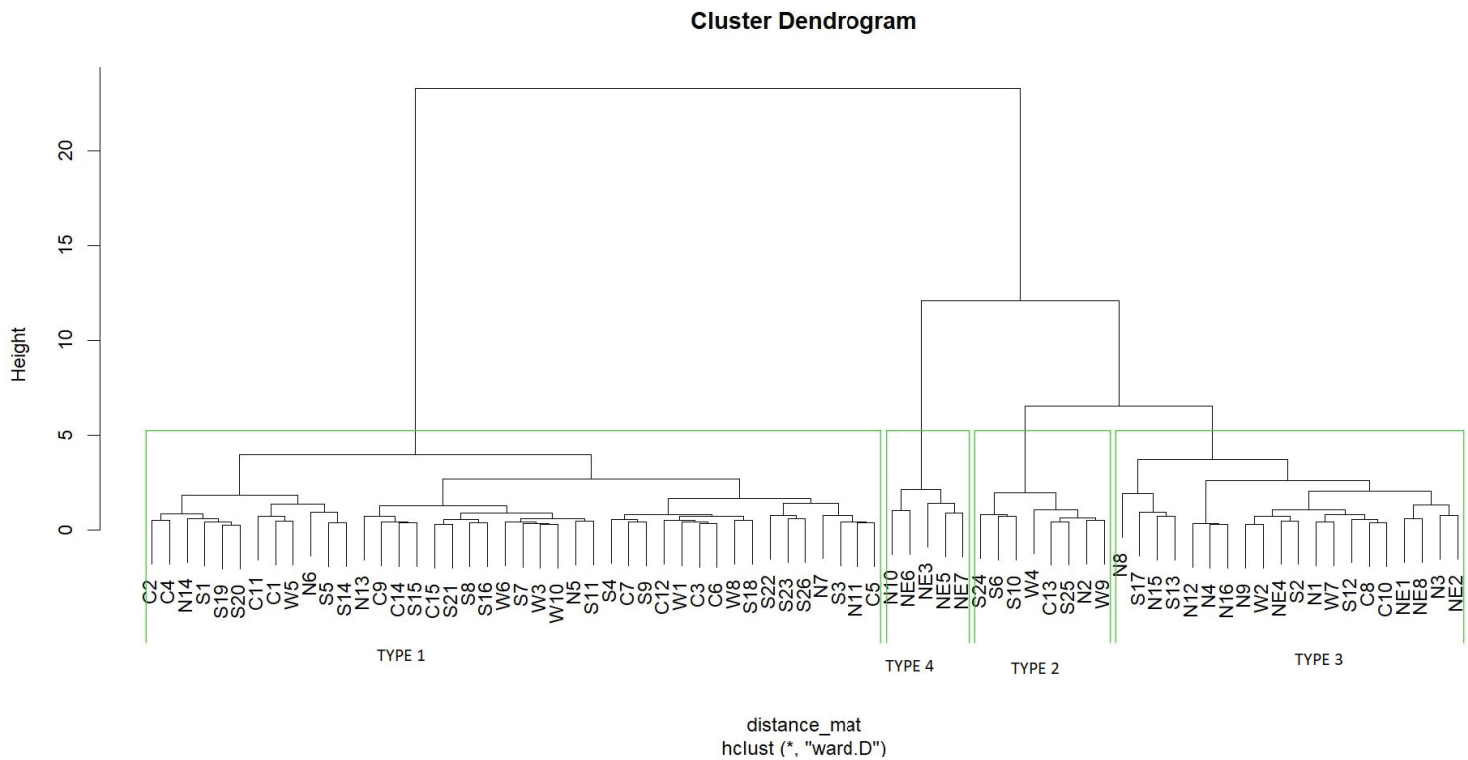

Figure 6. Hierarchical cluster dendrogram illustrating typologies of Estonian municipalities based on MICRI 2014–2018 indicators.

The following four distinct types of municipalities can be identified in Estonia based on MICRI:

- Type 1 municipalities (very low risk) – ethnically and religiously homogeneous municipalities, with low immigration rate and positive attitudes towards immigration.
- Type 2 municipalities (low risk) – ethnically homogeneous rural areas with immigration apprehensions.
- Type 3 municipalities (moderate risk) – multi-ethnic and multi-religious municipalities, with elevated immigration rate.
- Type 4 municipalities (moderate-high risk) – cities with a significant foreign population facing multiple grievances.

Each typology reflects different levels of immigration-related conflict risk, shaped by dominant risk factors unique to each type (see Table 7). Most municipalities fall into Type 1 and Type 2, while 20 belong to Type 3, and 5 are classified as Type 4.

Table 7. MICRI's 2014–2018 indicators' arithmetic mean values and MICRI's indicators' values by Estonian municipality types

	National Aver	**Type 1**	**Type 2**	**Type 3**	**Type 4**
ID1: Ethnic groups	0.31	0.00	0.00	1.00	0.60
ID2: Religious groups	0.37	0.00	1.00	1.00	0.00
DT1: Generalized trust	0.23	0.23	0.18	0.24	0.30
DT2: Institutional trust	0.49	0.49	0.44	0.50	0.57
V1: Negative immigration attitudes	0.52	0.49	0.58	0.53	0.63
V2: Negative stereotypes	0.46	0.46	0.46	0.47	0.40
V3: Value gap	0.23	0.22	0.26	0.24	0.19
TH1: Cultural threat	0.35	0.34	0.30	0.39	0.35
TH2: Economic threat	0.43	0.42	0.48	0.42	0.46
TH3: Physical threat	0.15	0.10	0.14	0.18	0.38
IN: Perception on injustice	0.48	0.26	0.19	0.56	2.43
D: Dissatisfaction with life	0.59	0.49	0.55	0.70	1.01
PC: Communication skills	0.15	0.14	0.26	0.11	0.12
LNO: Low norm obedience	0.34	0.35	0.41	0.30	0.28
LER1: Poverty	0.27	0.24	0.29	0.25	0.50
LER2: Registered unemployment	0.31	0.28	0.31	0.31	0.54
IM: Immigration rate	0.87	0.74	0.93	1.06	1.02
Average conflict risk score	**6.53**	**5.26**	**6.79**	**8.29**	**9.79**
Number of municipalities belonging to this group	75	42	8	20	5

The key characteristics of each typology are as follows:

Type 4 municipalities – cities with a significant foreign population facing multiple grievances

Type 4 municipalities align with the broader trends observed in the NE region, where perceived injustice and economic hardship are most pronounced (see section 3.3.2). With an average MICRI score of 9.79, they show the highest susceptibility to immigration-related conflict. Type 4 municipalities are religiously homogeneous, but predominantly multi-ethnic communities experiencing a relatively high influx of immigration. All five municipalities in this group are cities, primarily located in the northeastern (NE) and northern (N) regions of Estonia. Many of these cities can be characterized as (former) industrial centers hosting a substantial foreign population. The share of the foreign population in these municipalities can reach as high as 95% of the total population.

According to MICRI, the most prominent feature of risk in Type 4 municipalities is the perception of injustice (IN), which is four times higher than the Estonian average. Similarly, the score for general life dissatisfaction (D) is almost twice the Estonian average. Factors such as distrust of other people/groups (DT1), distrust of state institutions (DT2), negative attitudes toward immigrants (V1), and feelings of threat to physical security (TH3) are also the highest in this group among all municipalities. Alongside these grievances, economic disparities are more pronounced, with higher poverty (LER1) and unemployment rates (LER2) compared to other municipality types. As described in Study III, these municipalities face a multitude of grievances and economic disparities. Despite having a resident population with an immigrant background, they may exhibit limited openness and trust toward newcomers. Distrust in state institutions, potentially influenced by media sources or limited interaction with the majority population, is also noteworthy.

From a positive perspective, the indicator for norm obedience (LNO) is lower than the average, suggesting that this group values following societal rules and regulations. Additionally, the value for the PC indicator shows interaction between locals and immigrant groups, with weaker feelings of negative stereotypes (V2) and conflicting values (V3).

Type 3 municipalities – multi-ethnic and multi-religious municipalities with elevated immigration rate

Type 3 municipalities are characterized by the coexistence of multiple groups with strong ethnic (ID1) and religious (ID2) identities, alongside a notable influx of immigration (IM). Type 3 municipalities exhibit an average MICRI value of 8.29, surpassing the Estonian average risk level. Twenty municipalities belong to the Type 3 group – a third of them are cities, while the others are rural areas, often located near cities. More than half of these municipalities are situated in the northern (N) and northeastern (NE) regions of Estonia, with some also found in the southern and western parts of the country. Notably, this category includes several of Estonia's major cities, which are frequent destinations for new immigrants.

According to MICRI, the most prominent risk factors in Type 3 municipalities are a high immigration rate (IM), low general life satisfaction (D), and a strong perception of injustice (IN). While these indicators are above but close to the Estonian average, the immigration rate stands out as significantly higher. Immigration rates vary widely (SD = 0.45) across Type 3 municipalities, with some below the Estonian average and others at the maximum level. Unlike other municipality types, Type 3 municipalities score the lowest for PC, suggesting that various ethnic groups within these communities engage in positive interactions. Given the increased social interaction with immigrants, there appears to be a lower prevalence of negative attitudes or apprehensions related to immigration. As summarized in Study III, Type 3 municipalities are ethnically diverse, multi-religious communities experiencing substantial immigration. Despite this, the various ethnic groups generally interact positively, and attitudes toward immigration are not as negative. However, these regions tend to exhibit higher levels of general dissatisfaction and heightened perceptions of injustice.

Type 2 municipalities – ethnically homogeneous rural areas with immigration apprehensions

With a MICRI value of 6.79, Type 2 municipalities are close to the Estonian average risk level. Characterized by ethnic homogeneity, these municipalities are primarily inhabited by ethnic Estonians, with no other ethnic group exceeding 15% of the population. However, these municipalities simultaneously host various groups with strong religious identities (ID2). This category encompasses eight municipalities, the majority of which are rural areas situated in the southern (S) region of Estonia.

According to MICRI, the risk indicators for Type 2 municipalities largely align with national trends. Negative attitudes toward immigrants (V1) are a key feature, alongside perceived economic threats from immigration (TH2) and limited intergroup communication (PC). The PC indicator is nearly twice as high as in other types of municipalities, highlighting restricted contact between different groups. This limited intergroup interaction aligns with national findings, which suggest that lower levels of direct contact contribute to stronger anti-immigrant sentiment. Despite these concerns, Type 2 municipalities report the lowest levels of perceived injustice (IN) among all categories, and general life satisfaction (D) remains relatively high. While residents express apprehensions about immigration, these areas experience relatively low immigration levels. Overall, Type 2 municipalities reflect a pattern of ethnic homogeneity and limited cross-group engagement, with immigration-related concerns more rooted in perception than direct experience.

Type 1 municipalities – ethnically and religiously homogeneous municipalities, with low immigration rate and positive attitudes towards immigration

Forty-two municipalities, primarily consisting of rural areas and some small cities, belong to the Type 1 group. They are the least prone to immigration-related conflict, with a MICRI value of 5.26, which is below the national average. This group is evenly distributed across all regions of Estonia, except for the northeast (NE), which registers higher conflict risk values.

Type 1 municipalities are marked by the ethnic and religious homogeneity of their residents, most of whom are ethnic Estonians with relatively low levels of religiosity. Their risk indicators align closely with, or remain below, the national average. Like Type 2 municipalities, they report a notably low perception of injustice (IN), nearly half the national average, and have low rates of immigration (IM), resulting in minimal immigration-related concerns. Economic conditions in these areas are relatively stable, as reflected in lower levels of poverty (LER1) and unemployment (LER2). Additionally, residents report low levels of dissatisfaction (D), likely due to the stability provided by their ethnic and religious homogeneity and economic security.

Together, the four typologies highlight how local dynamics intersect with broader structural and perception-based factors, offering a nuanced understanding of immigration-related conflict risk in Estonia across national, regional, and municipal levels.

3.4. The relationship between immigration and MICRI risk factors

Studying how immigration interacts with other risk factors across regions gives further insight into **RQ3**. It investigates whether immigration alone predicts conflict risk or whether it gains significance through its relationship with structural and perception-based vulnerabilities identified by MICRI. Prior research suggests that grievances, perceptions of injustice, and economic conditions mediate the link between immigration and social tensions (see Chapter 1.3.). MICRI data confirm that while immigration is a significant risk factor in Estonia, it does not independently drive conflict, as demonstrated in Study IV. Instead, its effects are shaped by interactions with other indicators (see Table 8).

Table 8 indicates that **immigration rates** are moderately correlated with the presence of ethnic groups ($r = 0.473$, $p < 0.01$) and religiosity ($r = 0.424$, $p < 0.01$). This suggests that ethnic and religious communities play a key role in migration patterns, possibly reflecting the formation of ethnic enclaves where identity preservation is strong. Additionally, immigration is linked to increased dissatisfaction with life ($r = 0.434$, $p < 0.01$), perceptions of injustice ($r = 0.32$, $p = 0.05$), and feelings of threat to physical security ($r = 0.24$, $p = 0.04$), highlighting potential social tensions in high-immigration areas.

Interestingly, higher immigration rates do not strongly correlate with negative attitudes toward immigrants ($r = 0.07$) in Estonia. This suggests that anti-immigrant sentiment is not necessarily driven by direct exposure to immigrants but rather by perceived threats and pre-existing biases. In fact, **negative attitudes toward immigrants** are strongly to moderately associated with economic fears ($r = 0.58$, $p < 0.01$), security concerns ($r = 0.34$, $p < 0.01$), negative stereotypes ($r = 0.42$, $p < 0.01$), and to some extent with perceptions ($r = 0.27$, $p < 0.05$). These results indicate that economic insecurity and security fears fuel anti-immigrant sentiment, reinforcing stereotypical narratives rather than being based on direct interaction with immigrants.

Economic indicators show only weak correlations with actual immigration levels in Estonia. Neither poverty ($r = 0.15$, $p = 0.20$) nor unemployment ($r = 0.21$, $p = 0.08$) are significantly associated with higher immigration. Interestingly, the perception of immigrants as an economic burden is negatively correlated with actual immigration levels ($r = -0.05$, $p = 0.69$), indicating that regions with higher immigration do not necessarily see immigrants as an economic strain. Despite this, economic hardship (poverty, unemployment) plays a major role in shaping overall conflict risk. Economic instability is strongly associated with negative attitudes toward immigration ($r = 0.49$, $p < 0.01$), as well as broader dissatisfaction ($r = 0.5$, $p < 0.01$) and distrust in governance ($r = 0.37$, $p < 0.01$). These findings indicate that wider economic insecurity fuels anti-immigrant sentiment, even in areas where actual immigration levels are low.

Although immigration does not show a strong correlation with individual risk factors in Estonia, an overall increase in immigration intensity is associated with a higher cumulative level of social conflict risk across most municipalities, as observed in Study IV. This suggests that immigration contributes to increased risk when combined with other factors, rather than being driven by any single factor alone. However, the same study identified a cluster of municipalities in Estonia where conflict risk is disproportionately high compared to actual immigration levels. These municipalities – primarily urban areas in northern (N9, N10), northeastern (NE1–8), and southern (S2, S12) Estonia – exhibit elevated conflict readiness, even in the absence of significant immigration levels, which suggests that pre-existing social fears, rather than immigration itself, are the primary drivers of conflict risk in these areas. These results show that there is no uniform pattern across the country, confirming the importance of regional dynamics in studying immigration-related conflict.

Table 8. MICRI indicators 2014–2018 for Estonia correlation matrix with significance levels (N=75)

	ID1	ID2	DT1	DT2	V1	V2	V3	TH1	TH2	TH3	IN	D	PC	LNO	LER1	LER2	IM
ID1	1																
ID2	0.68**	1															
DT1	0.13	-0.06	1														
DT2	0.10	-0.04	0.24*	1													
V1	0.16	0.17	0.05	0.24*	1												
V2	-0.00	0.04	0.13	0.54**	0.42**	1											
V3	0.03	0.06	0.18	0.04	-0.01	-0.06	1										
TH1	0.23	0.10	0.24*	0.39**	0.26*	0.70**	0.09	1									
TH2	-0.03	0.04	0.12	0.44**	0.58**	0.67**	-0.01	0.49**	1								
TH3	0.35**	0.17	0.37**	0.21	0.34**	0.09	0.01	0.10	0.22	1							
IN	0.32**	-0.03	0.14	0.20	0.27*	-0.02	0.02	0.09	0.07	0.63**	1						
D	0.33**	0.16	0.38**	0.43**	0.23*	0.28*	0.24*	0.32**	0.16	0.41**	0.38**	1					
PC	-0.24*	0.07	-0.12	-0.02	0.38**	-0.01	0.06	-0.20	0.38**	-0.10	-0.18	0.08	1				
LNO	-0.32**	-0.05	-0.12	-0.29*	-0.15	-0.24*	-0.11	-0.40**	-0.08	-0.30**	-0.37**	-0.26*	0.42**	1			
LER1	0.06	-0.01	0.27*	0.24*	0.49**	0.31**	0.01	0.14	0.50**	0.57**	0.39**	0.45**	0.25*	-0.17	1		
LER2	0.18	0.03	0.37**	0.27*	0.39**	0.10	0.09	0.01	0.31**	0.71**	0.58**	0.50**	0.18	-0.19	0.64**	1	
IM	0.47**	0.42**	0.10	0.08	0.07	0.04	0.05	0.09	-0.05	0.24*	0.32**	0.43**	-0.03	0.00	0.15	0.21	1

(**) indicate high significance ($p < 0.01$).

(*) indicates moderate significance ($p < 0.05$).

No asterisk means the correlation is not statistically significant.

4. DISCUSSION: IS MICRI AN EFFECTIVE MEASURE OF IMMIGRATION-RELATED CONFLICT RISK?

The main aim of this doctoral study was to develop a tool for identifying and measuring societal vulnerabilities that may contribute to intergroup conflict in the context of immigration. This chapter examines how well this objective has been achieved by critically assessing MICRI as a composite indicator for measuring immigration-related conflict risk. It evaluates MICRI's methodological strengths and limitations, how well it applies in the Estonian context, and what its findings reveal about key risk factors and regional differences. Finally, the chapter discusses MICRI's potential as an early-warning tool for policymakers, emphasizing its role in preventing tensions before they escalate.

4.1. Is MICRI a "good" composite indicator? Methodological implications

Although Study II suggests that MICRI is a promising approach for measuring immigration-related conflict risk at national and sub-national levels, there remains room for debate about its effectiveness as a CI. Measuring latent conflict involves inherent difficulties, particularly in contexts where actual conflict events are rare or absent. In Estonia, open immigration-related conflicts have been relatively infrequent, making them challenging to predict. This scarcity presents unique statistical obstacles when it comes to accurately estimating index parameters and identifying precise patterns and drivers of risk. As highlighted in Study I, the exact combination of factors necessary to trigger conflict is still not fully understood. Thus, data scarcity can limit both the robustness and predictive power of MICRI.

Despite these challenges, MICRI's methodological soundness is supported by the fact that its construction followed internationally recognized guidelines for CIs (Babbie, 2013; Nardo et al., 2008; Saisana & Saltelli, 2011; Mazziotta & Pareto, 2017). The quality of the underlying data is ensured through strict selection criteria, requiring all indicators to be relevant, timely, accessible, reliable, and available at the regional level. All data items used in MICRI are freely accessible from official sources such as the European Social Survey (ESS) and national statistical databases (e.g., Statistics Estonia) and come with publicly available metadata. This ensures transparency and interpretability. Additionally, MICRI's foundation in ESS NUTS-level data and national statistics enables risk measurement at multiple geographic scales (NUTS1–3), and its flexible structure allows for the integration of new data sources as they become available.

However, MICRI's reliance on survey data, while methodologically sound, faces a common limitation of surveys: socially marginalized populations are often underrepresented in national datasets (Laganà et al., 2013). As a result, certain

grievances may go unmeasured, potentially amplifying the perspectives of dominant or better-represented groups while overlooking others.

Recognizing these representational limitations, MICRI's construction placed strong emphasis on internal validation to ensure consistency and reliability. Each indicator was tested for its correlation with the overall index, and statistical analyses confirmed their contribution to MICRI's predictive capacity (Study II). Internal consistency tests, including Cronbach's alpha ($\alpha = 0.698$), indicate an acceptable level of reliability, and Spearman's correlation analysis supports theoretical alignment between indicators and immigration-related conflict risk.

Nonetheless, certain subjective choices made during the construction process may influence MICRI's results. One limitation involves the selection of indicators. Given the limited knowledge about the risk factors of immigration-related conflict and their complex interrelations, constructing a consistent explanatory framework was inherently challenging. Based on Studies I and II, 41 potential risk factors were initially identified, but only 17 were included in MICRI (Study II). This raises important questions: Were the most relevant indicators selected? Could the inclusion of additional indicators improve MICRI's precision or validity?

Excluding certain risk factors could lead to incomplete or biased assessments (Nardo et al., 2008), particularly if omitted indicators play a significant role in regional or contextual cases. While prioritizing indicators with strong empirical associations improves internal consistency, it also narrows the scope of what MICRI captures. For example, 24 potential indicators were excluded from MICRI due to data unavailability (see Study II), yet many could meaningfully complement existing MICRI dimensions. Weak national identity, for instance, could strengthen the Identity dimension; racist attitudes and support for inequality could reinforce the Values dimension; and low interethnic contact or high crime rates could deepen the Threat dimension. These exclusions point to possible directions for future expansion or adaptation of MICRI in other settings.

In addition to selection trade-offs, there is also a methodological tension between subjective and objective indicators. MICRI currently includes 13 subjective and 4 objective indicators. Empirical findings (Studies III–IV) show that grievance-based indicators, such as perceived injustice, are better at explaining regional conflict risk than objective indicators. This aligns with grievance-based conflict theories and highlights the value of perception data in capturing latent tensions. However, subjective indicators are more prone to short-term volatility, emotional framing, and media influence (Veenhoven, 2002; Noll, 2014; Must & Rustad, 2019). For example, local events or political discourse can temporarily increase distrust or threat perception, thus influencing the index score without reflecting actual structural change. Still, Study III found that in the economic resources dimension – measured both subjectively and objectively – patterns were similar, suggesting perceptions can mirror real conditions. To further strengthen MICRI's stability, additional objective indicators, such as crime rates, could help counterbalance perceptual volatility.

Validating MICRI externally remains one of its most difficult challenges. The lack of major immigration-related conflict events in Estonia limits the ability to test whether higher index scores correlate with real-world conflict. Although Study III suggests that regions identified as high-risk, particularly in the north and northeast, also experienced social unrest during the 2007 "Bronze Night" riots, this offers only limited historical support. In contexts lacking direct data, proxy measures can be used (Nardo et al., 2008, p. 25). However, since MICRI measures risk rather than actual events, common proxies such as crime or protest statistics may not capture the same underlying dynamics. Overreliance on such proxies could compromise the conceptual integrity of the index. At present, theoretical coherence and stakeholder feedback serve as indirect forms of validation. Applying MICRI in other national contexts with more frequent immigration-related tensions would allow for more rigorous external testing.

4.2. Application of MICRI in Estonia: empirical implications

MICRI makes several key empirical contributions by identifying regions in Estonia with heightened immigration-related conflict risks and the risk factors that drive them. Although the national **MICRI score (6.53) reflects low overall risk** and the absence of major intergroup conflicts, the tool reveals that this stability is not uniform. Conflict risk is concentrated in specific regions – particularly in the northeast (NE) and select urban municipalities – where deeper vulnerabilities exist. MICRI's ability to pinpoint both high- and low-risk areas offers a more precise tool than national averages alone.

In practical terms, a high MICRI score reflects the accumulation of conditions linked to latent immigration-related conflict risk, whereas low scores suggest greater societal resilience. A high score does not mean that conflict is inevitable or imminent. Nor is MICRI simply a measure of public attitudes; rather, it captures how specific combinations of perceived grievances and structural vulnerabilities could – under the right circumstances – lead to unrest, as Gurr (1970) argues. These tensions may escalate in response to shocks such as policy shifts, economic downturns, or disinformation campaigns. MICRI helps pinpoint not only where such risks are concentrated but also what kinds of grievances are most common in those areas. While MICRI does not predict conflict, it provides early-warning signs that can support targeted preventive actions by local authorities, national policymakers, and civil society.

Next, I will discuss the main immigration-related conflict risk factors in Estonia and their regional variations.

- **What drives the immigration-related conflict risk in Estonia? An interpretation of MICRI results**

MICRI results indicate that immigration-related conflict risk in Estonia is not primarily driven by immigration levels (IM) alone, but by a set of grievance-based indicators – most notably perceived injustice (IN), life dissatisfaction (D), distrust

in institutions (DT2), and negative attitudes toward immigrants (V1). These factors are prominent nationwide and particularly evident in the most risk-prone municipalities (Type 4), highlighting the importance of subjective grievances in driving conflict risk.

While IM emerges as the most significant structural factor within MICRI, its impact is indirect and highly context-dependent. Study IV found that even modest increases in immigration are associated with heightened conflict risk, particularly in areas with pre-existing social and economic vulnerabilities. IM shows moderate correlations with ethnic composition, religiosity, dissatisfaction, and perceived injustice, suggesting that immigrants tend to settle in areas with strong identity-based networks (Types 3 and 4 municipalities). In these areas, immigration coincides with elevated perceptions of injustice and discontent – conditions that reinforce relative deprivation and social division.

This finding aligns with Relative Deprivation Theory, as applied by Gurr (1970), which holds that perceived disparities between expectations and reality can generate frustration and unrest. In Estonia's high-risk municipalities, perceived injustice is four times higher and dissatisfaction nearly twice the national average, supporting the argument that psychological and emotional grievances – not just material deprivation – fuel tensions. This parallels findings from Meuleman et al. (2019), who found that countries with high levels of group relative deprivation report more intense ethnic tensions. Estonia, though ranking in the middle range of that study, exhibits similar latent dynamics at the regional level.

Importantly, immigration alone does not automatically generate strong anti-immigrant sentiment in Estonia. MICRI shows that negative attitudes toward immigrants (V1) do not correlate strongly with immigration rates. This contradicts earlier research suggesting that exposure to immigrants increases anti-immigrant sentiment (e.g., Karreth et al., 2015; Meuleman et al., 2009; Putnam, 2007; Hopkins, 2010; Jakobsen et al., 2016). Instead, MICRI findings indicate that anti-immigrant sentiment in Estonia is more strongly driven by perceptions of economic threat (TH2), poverty (LER1), unemployment (LER2), physical insecurity (TH3), and institutional distrust (DT2). In other words, **attitudes toward immigrants reflect broader societal anxieties rather than direct experiences of immigration**. This interpretation is supported by Moretti & Ahmed (2024), who show that exclusionary attitudes toward immigrants based on ascribed characteristics, such as race and religion, are widespread across Estonia, even in regions with low levels of immigration.

Distrust in state institutions (DT2) is another central driver of conflict risk, especially in NE Estonia, where institutional trust is low and the foreign-born population is high. Many residents in these areas lack Estonian language skills and rely primarily on Russian-language media, which can reinforce alienation and distrust. Prior studies (Husfeldt, 2006; Paas & Halapuu, 2012) confirm that low institutional trust is associated with reduced tolerance toward immigrants. MICRI supports this by showing a strong correlation between DT2 and negative stereotypes toward immigrants (V2), indicating that **institutional alienation can deepen social division**.

While economic hardship is often cited as a driver of intergroup tension, MICRI findings add nuance to this view. Poverty (LER1) and unemployment (LER2) do not correlate strongly with immigration rates in Estonia, and the perception of immigrants as an economic burden is actually negatively associated with IM. This suggests that immigrants are not seen as a strain in high-immigration areas, such as Type 3 municipalities. However, in high-risk municipalities like those in Type 4, poverty and unemployment levels are elevated, and economic instability strongly correlates with dissatisfaction, distrust, and negative attitudes. This supports the view of Isaksen (2019) and Weber (2015) that economic hardship, when combined with other vulnerabilities, can intensify social tensions. In this light, **economic hardship is an aggravating factor in Estonia** – amplifying existing grievances rather than directly causing conflict.

Threat indicators (TH1, TH2, TH3) are also relevant. While cultural and economic threats (TH1, TH2) correlate with anti-immigrant attitudes and institutional distrust, they are not strongly tied to actual immigration levels. This reinforces the importance of perceived rather than actual conditions. This finding is also supported by Moretti & Ahmed (2024), whose regional estimates show that general threat perception toward immigrants remains relatively low across Estonia, including in NE and N regions, suggesting that exclusionary attitudes are driven more by symbolic concerns than immediate security fears. The perception of physical security threat (TH3), while only moderately correlated with IM, is strongly associated with economic hardship and perceived injustice. Individuals in economically struggling areas are more likely to feel insecure, both socially and physically. In Type 4 municipalities, TH3 scores are more than twice the national average, highlighting the layered vulnerability of these communities.

- **Where could conflicts emerge in Estonia?**

While no major immigration-related conflicts have occurred in Estonia and the overall risk level remains low, MICRI findings highlight potential **regional hotspots** where tensions could escalate under the right conditions. National-level stability conceals significant local disparities, particularly in northeastern municipalities, where multiple risk factors converge. This aligns with findings by Ehala and Zabrodskaja (2011), who note that perceived regional stability is lowest in eastern Estonia, where the Russian-speaking population is concentrated. Recent attitudinal data by Moretti & Ahmed (2024) further support this pattern: although their study measures exclusionary attitudes rather than conflict risk per se, it reveals that northeastern and northern Estonia exhibit the highest levels of restrictiveness toward immigrants based on ascribed characteristics such as race and religion.

The northeastern region stands out as the most risk-prone area. All municipalities in this region score above the national average, with some cities – such as NE3, NE6, and NE7 – reporting the highest levels of perceived injustice (IN) and dissatisfaction (D), and high institutional distrust (DT2). Several of these cities were also at the center of the 2007 “Bronze Nights” riots, an event that

demonstrated how long-standing grievances can erupt into open unrest when triggered (Juurvee & Mattiisen, 2020). MICRI reinforces this vulnerability, showing that conflict risk in the northeast stems primarily from structural disadvantage and entrenched social resentment rather than immigration itself. However, increasing immigration may act as an aggravating factor, potentially intensifying existing tensions in these already fragile contexts.

Type 4 municipalities, which are predominantly NE urban areas, reflect this dynamic. Despite having long-established foreign populations, these cities show low openness toward newcomers. In economically strained environments, local minority groups may see new immigrants as competitors for scarce resources and status (Esses et al., 2001; Kalogeraki, 2012). Generational shifts can reinforce this: opposition is often stronger among the second generation and, in the first generation, tends to grow with longer residence, aligning views with host nationals (Šedovič & Dražanová, 2025). These factors help explain why some immigrant communities see new arrivals as a threat, reflecting both competition concerns and aversion to conflict. As Dennison and Geddes (2021) note, opposition to immigration is not limited to majorities; immigrants may also oppose it if they perceive a risk of social conflict. In the northeast, where grievances persist, new immigration can be seen as disrupting an already fragile social order.

MICRI also reveals emerging tensions in parts of northern and southern Estonia. While overall scores in these regions remain moderate, certain municipalities stand out as potential hotspots. In the north, some urban municipalities (e.g., N8, N10, N15) show slightly elevated risk factors, driven by dissatisfaction, perceived injustice, and perceived threats to security. In the south, rural municipalities (e.g., S17, S2, S6) appear more vulnerable due to heightened distrust in the state, negative attitudes toward immigrants, and strong perceptions of cultural and economic threats.

Interestingly, despite relatively low immigration rates, negative perceptions of immigration remain high in many southern rural areas of Estonia. This suggests a disconnect between actual demographic trends and perceived threat. A similar pattern was identified by Rees et al. (2022) in a small German town, where limited diversity coexisted with widespread hostility toward refugees. This misalignment is especially apparent in Estonia's Type 2 municipalities, where negative attitudes and limited intergroup contact are more pronounced. It indicates that political narratives and social anxieties may exacerbate tensions, even where immigration is low.

By contrast, central and western municipalities show the lowest levels of immigration-related conflict risk. These areas exhibit more moderate attitudes toward immigration and face fewer economic or cultural tensions, contributing to their overall stability.

My research shows that in Estonia, immigration-related conflict risk stems primarily from the convergence of structural vulnerabilities and grievance-based perceptions – particularly perceived injustice, dissatisfaction, and institutional distrust. These factors are most acute in northeastern and select northern and southern municipalities, where historically rooted marginalization and social

fragmentation persist. While prior research has pointed to these regions as vulnerable, MICRI advances this understanding by specifying why these areas are at higher risk. It reveals that Type 4 municipalities – predominantly located in the northeast – not only have higher shares of foreign-born residents but also consistently rank at the top of national scores for dissatisfaction (D), perceived injustice (IN), and institutional distrust (DT2). These findings point to a cumulative effect of grievance-based indicators that were not previously quantified. By uncovering this layered profile of risk – rather than treating these regions as homogeneously "problematic" – MICRI provides a more diagnostic and actionable tool for anticipating where and why tensions may escalate.

4.3. Critical reflections on MICRI's empirical and methodological application

While MICRI offers valuable insights into regional conflict risk in Estonia (see Chapter 3.2), its construction as a CI also introduces conceptual and methodological challenges. Translating complex social dynamics into quantifiable scores reflects a positivist logic that privileges measurable data over contextual nuance. This risks oversimplifying historically embedded grievances and obscuring informal dynamics beyond standardized survey frameworks. For example, high-risk scores in the NE region may reflect not only current vulnerabilities but also the long-standing effects of post-Soviet marginalization – dynamics not fully captured by composite scoring alone.

One key simplification is treating "immigrants" as a single social category. This was a deliberate methodological decision, made in light of the structure of available data – particularly the ESS – and the need to ensure comparability across regions. While this methodological choice supports coherence and consistency, it inevitably flattens the diversity of migration. It may also obscure group-specific perceptions that influence conflict risk, as shown in studies highlighting "double standards" toward culturally distant versus proximate groups (Thérová, 2022; Moretti & Ahmed, 2024). Recognizing this tension does not undermine MICRI's conceptual logic, but rather points to opportunities for future refinement. Disaggregating survey responses or linking the index to external demographic data could improve both its precision and policy relevance.

The index's appearance of objectivity also risks promoting a technocratic approach, shifting policy focus toward adjusting indicators rather than addressing structural causes. As noted in Chapter 4.2, MICRI does not merely reflect vulnerability, but also shapes how risk is understood, which regions are prioritized, and what interventions are legitimized. Labeling areas as "high risk" carries normative implications, potentially reinforcing stigma or justifying disproportionate responses. While the tool supports preventive policy, it also risks depoliticizing grievances by treating dissatisfaction or institutional distrust as isolated issues, rather than symptoms of broader socio-political inequalities that

may, in part, stem from Estonia's postcolonial legacy and regional disparities (see Chapter 1.6).

Finally, it is important to recognize that MICRI cannot predict whether or when tensions will escalate into open conflict. Latent tensions are shaped by unpredictable triggers, such as media narratives, political rhetoric, or external shocks, that lie beyond the scope of static indicators. It is better understood as a heuristic framework that flags underlying vulnerabilities and prompts deeper, context-sensitive inquiry. While MICRI provides a valuable lens for identifying emerging risks, its application must remain critically aware of what it reveals, what it omits, and how it might shape institutional responses and public discourse. In this sense, MICRI does not merely measure risk, it also participates in constructing it.

These implications do not undermine MICRI's value but highlight the need for careful communication, contextual sensitivity, and ongoing critical reflection in its use and interpretation. As discussed in Chapter 2.1, transparency in indicator selection and awareness of epistemological assumptions are essential when applying composite indicators in socially and politically sensitive contexts.

4.4. MICRI as an early-warning tool for policymakers?

MICRI may operate as a valuable early-warning tool for policymakers, offering a data-driven approach to assessing latent immigration-related conflict risks at national and regional levels. Unlike broad national indicators, MICRI identifies localized vulnerabilities, enabling targeted interventions that can prevent escalating tensions before they turn into open conflict.

From a policy perspective, MICRI can be utilized in three key ways: (1) risk monitoring through continuous assessment of immigration-related tensions; (2) targeted interventions by identifying regions where integration efforts, trust-building, or conflict resolution should be prioritized; and (3) preventive policy design that addresses underlying grievances before they intensify. Its integration into national security and resilience strategies can further strengthen stability by mitigating risks from external influence and disinformation. The 2007 "Bronze Night" riots in Estonia showed how unresolved social grievances can be exploited to destabilize society. Proactively addressing such vulnerabilities through MICRI-guided policies can strengthen societal cohesion and reduce susceptibility to foreign interference. For example, state institutions can use MICRI to develop early-warning dashboards, prioritize regional risk assessments, and embed social tension indicators into strategic planning cycles. This structured monitoring approach reflects the broader logic of social indicator use in proactive governance (see Figure 1).

These suggestions are not merely theoretical. In my everyday work as a risk analyst at the Estonian Police and Border Guard Board, I have applied MICRI to assess regional vulnerabilities and evaluate potential tensions linked to immigration. These insights have directly informed internal assessments and supported evidence-based decision-making.

4.5. Generalizability of MICRI methodology: can it work beyond Estonia?

In CI construction, generalizability is about whether an index can be applied meaningfully in different settings. It depends on a solid theoretical framework, good-quality data that are available across cases, and a design flexible enough to adapt (Nardo et al., 2008). Thus, a good CI should not be locked to one context but should work as a transferable tool for policy analysis or risk assessment elsewhere.

Although MICRI was designed in the Estonian context, its conceptual framework and modular structure make it adaptable to other regions. It draws on standardized sources – primarily the ESS, conducted in over 30 European countries – and national statistical registers. This cross-national coverage makes MICRI well suited for contexts with latent intergroup tensions, reflecting what Fachelli and López-Roldán (2021, p. 756) describe as the value of comparison: it "allows us to assess and establish similarities and differences … [and] derive a general theorization of the mechanisms shaping social reality." The main barrier to applying MICRI beyond Europe is the limited availability of regionally disaggregated subjective data. Global sources such as the World Values Survey, Gallup World Poll, or regional barometers (e.g., Afrobarometer, Latinobarómetro) offer relevant indicators, but these are typically nationally representative and lack the spatial resolution needed for regional-level analysis. Nevertheless, countries without such data could still apply MICRI by conducting custom surveys or embedding its logic into existing national studies.

Generalizability, however, is not purely a technical issue. As Saltelli (2007) and Mazziotta & Pareto (2017) warn, CIs can lose meaning when transplanted across contexts if their normative assumptions are left unexamined. Indicators that capture latent grievances in Estonia may behave differently in other cultural, political, or institutional settings. Saltelli & Funtowicz (2014) caution that uncritical model transfer can mask underlying assumptions and lead to misinterpretation. Applying MICRI elsewhere therefore requires re-specifying its indicators, validating them within context, and remaining sensitive to local dynamics. Its modular, transparent design supports this process, allowing theory-driven dimensions to be tailored to local realities without compromising conceptual coherence.

In sum, MICRI is generalizable in principle and flexible in design, but its transferability depends on the availability of context-appropriate data and the willingness to revalidate assumptions in each new setting.

4.6. Further steps

Future improvements to MICRI should focus on enhancing reliability through refined normalization, weighting, and aggregation methods, particularly if expanded data sources allow for more measurement units. Hybrid approaches, such

as the Subjective–Objective Method of Maximizing Extracted Variance (Sommev) could be explored to balance theoretical relevance with statistical optimization (Libório et al., 2024). Cross-national testing is also essential to validate MICRI's applicability beyond Estonia by comparing its results with those of other countries. This would help determine whether MICRI's risk assessment framework is universally applicable or if it requires regional adjustments.

Another priority is integrating longitudinal data analysis, enabling policymakers to track changes over time rather than relying solely on cross-sectional snapshots. This would offer a more dynamic understanding of how latent immigration-related tensions evolve and how policy interventions influence risk factors. While MICRI effectively identifies conflict risks, it does not fully capture broader structural drivers such as economic downturns, geopolitical crises, demographic shifts, or the role of malicious actors, which require complementary qualitative research and case studies for richer interpretation.

Finally, ethical considerations are essential. Like all indices, MICRI constructs a particular version of reality. Its value lies not only in what it reveals, but in how it is used. Ultimately, this study calls for transparency, reflexivity, and participatory engagement to ensure MICRI and similar tools not only inform action but shape it responsibly.

5. CONCLUSIONS

A central contribution of this doctoral research is the development of the Measure of Immigration-Related Conflict Risk Index (**MICRI**) – a novel thematic composite indicator that combines subjective perceptions with objective conditions to assess the potential for conflict (Study II). Whereas traditional approaches rely mainly on national-level objective data, MICRI provides a theoretically grounded and empirically tested framework that offers a nuanced, regionally sensitive view of immigration-related conflict risk. Building on social conflict and grievance-based theories, MICRI emphasizes the role of perceived grievances in shaping intergroup tensions. Its multidimensional structure ensures both internal consistency and regional comparability, making it valuable for academic inquiry as well as applied policy analysis. More broadly, MICRI contributes to rethinking early-warning systems in peaceful societies by offering a replicable method for measuring immigration-related conflict risk.

The findings confirm that Estonia does not face widespread immigration-related conflict but does exhibits significant regional disparities in conflict risk. In areas with existing economic and social vulnerabilities – particularly in the northeast – rising immigration may amplify tensions. Therefore, policies should prioritize high-risk areas over broad national trends, addressing local vulnerabilities before tensions escalate.

As with all CIs, MICRI is subject to certain limitations. Its reliance on ESS data restricts its transferability beyond Europe, and its accuracy depends on the availability of regionally disaggregated and regularly collected survey data. Additionally, some dimensions remain sensitive to indicator selection, normalization techniques, and aggregation rules. Future iterations of MICRI would benefit from external validation, the inclusion of additional indicators, and greater flexibility for cross-national application using alternative data sources.

Looking ahead, as societies across Europe and beyond become more diverse, early identification of vulnerable regions and underlying grievances will be crucial for maintaining social cohesion. With further refinement and adaptation to different data environments, MICRI could serve as a scalable tool for international monitoring and comparative research on immigration-related conflict risk.

Based on the objectives of this dissertation, I now turn to the research questions and outline the key conclusions drawn from the analysis:

- **How can we measure the risk of immigration-related conflicts in society? (Study Studies I–II)**

To measure the risk of immigration-related conflict, the composite indicator MICRI was developed. It is designed to assess such risks at both national and regional levels, following internationally accepted guidelines (Babbie, 2013; Nardo et al., 2008). MICRI incorporates ten theoretically grounded dimensions – Identity, Trust, Values, Threat, Injustice, Dissatisfaction, Interaction, Norm

Obedience, Economic Resources, and Immigration – measured through a total of 17 indicators combining both subjective (DT1–2, V1–3, IN, D, PC, LNO, LER1) and objective (ID1–2, LER2, IM) data. The indicators are normalized and then summed using an additive aggregation method to produce a single MICRI score that reflects the overall level of conflict risk at the national and regional (NUTS3) level.

The findings of this dissertation demonstrate both the methodological robustness (Study II) and empirical applicability (Studies III–IV) of MICRI. Its conceptual framework is adaptable for measuring conflict risk across scales and is suitable for comparative analyses across regions and countries. MICRI also offers potential for further refinement and the inclusion of additional risk factors as access to internationally harmonized, regularly collected data improves. Moreover, with further development and external validation, MICRI holds promise as an early-warning tool for latent immigration-related conflicts.

- **What is the estimated risk level of immigration-related conflict in Estonian municipalities? (Studies III–IV)**

The analysis tested MICRI and calculated risk scores for 75 Estonian municipalities for the period 2014–2018 to assess Estonia's vulnerability to immigration-related conflicts. MICRI results show that, on average, Estonia exhibits a low level of immigration-related conflict risk (MICRI = 6.53) (Study III). This aligns with Estonia's historical stability, with no major immigration-related conflicts since the 2007 "Bronze Night" riots. However, regional disparities are evident (Studies III–IV). The northeastern region (MICRI = 9.34) and certain urban municipalities exhibit heightened risks, emphasizing that national-level stability does not always reflect sub-national vulnerabilities. The northern region also shows slightly elevated risk levels (MICRI = 6.75), while central and western regions demonstrate greater social stability, with risk scores at or below the national average (C = 5.73; W = 5.70). Urban municipalities tend to be more vulnerable, with an average MICRI score of 8.24, compared to 6.01 in rural areas.

- **What regional differences in conflict risk factors exist across Estonia? (Studies III–IV)**

Based on the outcomes of the MICRI, cluster analysis identified four distinct municipality types in Estonia, each reflecting diverse risk profiles. Approximately one-third of the municipalities fall into Type 4 or Type 3 groups, which are characterized by the highest susceptibility to conflict (Study III). These municipalities experience a substantial influx of immigrants and host multiple ethnic groups with strong identities. Residents in these areas report heightened feelings of injustice, greater dissatisfaction with life, and, in Type 4 municipalities, poorer economic well-being marked by elevated unemployment rates and economic dissatisfaction.

Type 1 and Type 2 municipalities, which comprise two-thirds of all municipalities, exhibit lower risk levels. These areas are characterized by ethnic homogeneity and minimal immigrant influx. The key distinction between Type 1 and

Type 2 municipalities lies in their attitudes toward immigrants and intergroup communication. While Type 1 municipalities exhibit more positive attitudes toward immigration, Type 2 municipalities show more negative attitudes and limited intergroup contact. Notably, Type 1 and Type 2 municipalities are evenly distributed across Estonia, with no clear regional concentration.

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ANNEX

Table 9. MICRI indicators linked with supporting theories

Dimension	Indicator	Description	Theoretical foundations
Identity	ID1	Ethnic group size/balance	Social Identity Theory, Self-Categorization Theory, Group Conflict Theory
	ID2	Religious group presence	Social Identity Theory, Group Conflict Theory
Trust	DT1	Generalized distrust of others	Social Capital Theory, Group Conflict Theory; Contact Theory
	DT2	Distrust of institutions	Political/Institutional Trust Theory, Grievance Theory
Values	V1	Negative attitudes toward immigrants	Intergroup Threat Theory (Realistic + Symbolic), Group Conflict Theory
	V2	Negative stereotypes about immigrants	Intergroup Threat Theory (Symbolic), Social Identity Theory
	V3	Perceived value gap	Social Identity Theory; Symbolic Threat Theory; Group Conflict Theory
Threat	TH1	Perceived cultural threat	Intergroup Threat Theory (Symbolic), Group Conflict Theory
	TH2	Perceived economic threat	Intergroup Threat Theory (Realistic), Group Conflict Theory
	TH3	Perceived safety threat	Intergroup Threat Theory (Realistic)
Injustice	IN	Perceived injustice	Relative Deprivation Theory
Dissatisfaction	D	Dissatisfaction with life	Relative Deprivation Theory
Interaction	PC	Limited intergroup communication	Intergroup Contact Theory
Norm obedience	LNO	Low compliance with social norms	Acculturation Theory; Socialization Theory
Economic resources	LER1	Perceived poverty	Relative Deprivation Theory
	LER2	Unemployment rate	Group Conflict Theory
Immigration	IM	Immigration rate	Group Conflict Theory, Contact Theory

Table 10. MICRI 2014-2018 indicators for urban-rural municipalities

MICRI INDICATOR / REGION/	ID1	ID2	DT1	DT2	V1	V2	V3	TH1	TH2	TH3	IN	D	PC	LNO	LER1	LER2	IM
Urban	**0.60**	**0.47**	**0.24**	**0.50**	**0.52**	**0.42**	**0.21**	**0.34**	**0.40**	**0.25**	**1.23**	**0.81**	**0.12**	**0.31**	**0.32**	**0.38**	**1.13**
N	1.00	0.75	0.24	0.50	0.49	0.46	0.23	0.42	0.40	0.22	1.26	0.78	0.06	0.32	0.28	0.29	1.55
NE	0.50	0.00	0.33	0.57	0.63	0.38	0.21	0.32	0.45	0.41	2.51	1.09	0.15	0.28	0.53	0.59	0.97
S	0.33	0.67	0.23	0.40	0.47	0.42	0.20	0.28	0.38	0.21	0.50	0.54	0.16	0.36	0.21	0.30	1.09
C	0.00	0.00	0.16	0.48	0.47	0.45	0.19	0.36	0.39	0.13	0.61	0.75	0.14	0.27	0.27	0.30	0.78
W	1.00	1.00	0.17	0.54	0.45	0.38	0.20	0.29	0.33	0.18	0.33	0.82	0.14	0.32	0.20	0.34	1.02
Rural	**0.24**	**0.36**	**0.23**	**0.49**	**0.52**	**0.46**	**0.24**	**0.35**	**0.44**	**0.12**	**0.29**	**0.53**	**0.15**	**0.34**	**0.25**	**0.29**	**0.80**
N	0.42	0.50	0.20	0.45	0.50	0.43	0.21	0.35	0.38	0.08	0.43	0.35	0.11	0.36	0.16	0.21	0.79
NE	1.00	1.00	0.23	0.59	0.64	0.59	0.31	0.45	0.55	0.27	0.71	0.64	0.10	0.21	0.39	0.39	0.73
S	0.14	0.27	0.24	0.50	0.54	0.50	0.24	0.34	0.46	0.16	0.25	0.61	0.17	0.36	0.32	0.31	0.83
C	0.15	0.23	0.25	0.51	0.47	0.48	0.26	0.39	0.43	0.10	0.25	0.54	0.10	0.32	0.19	0.29	0.77
W	0.00	0.25	0.19	0.42	0.51	0.33	0.20	0.25	0.39	0.06	0.08	0.50	0.27	0.39	0.23	0.30	0.83

Table 11. MICRI 2014-2018 sensitivity testing scenarios

Scenario	Description	Norm.	Agg.	Weighting	No. Ind.	Region				
						NE	N	S	C	W
Original MICRI	IN*10, LER20*10, D*5	Min-max	Add	Theoretical	17	9.34	6.75	6.32	5.70	5.73
Equal weights	Equal weights, min-max	Min-max	Add	Equal	17	6.76	5.60	5.29	4.75	4.97
Remove IN	IN excluded	Min-max	Add	Theoretical/ Equal	16	7.73/ 6.60	6.12/ 5.54	6.04/ 5.26	5.43/ 4.72	5.57/ 4.84
Remove D	D excluded	Min-max	Add	Theoretical/ Equal	16	8.48/ 6.59	6.30/ 5.51	5.71/ 5.17	5.17/ 4.64	5.13/ 4.86
Remove IM	IM excluded	Min-max	Add	Theoretical/ Equal	16	8.49/ 5.91	5.77/ 4.62	5.46/ 4.42	4.96/ 3.98	4.83/ 4.10
Remove subjective indicators	DT1-2, V1-3, TH1-3, IN, D, LNO, PC, LER1 excluded	Min-max	Add	Equal	4	2.15	2.13	1.35	1.13	1.50
Remove objective indicators	ID1, ID2, LER2, IM excluded	Min-max	Add	Equal	13	4.61	3.47	3.94	3.62	3.47
Geometrical mean		Min-max	Geo	Theoretical/ Equal	17	0.47/ 0.32	0.34/ 0.23	0.33/ 0.23	0.29/ 0.20	0.29/ 0.23

SUMMARY IN ESTONIAN

Sisserändega seotud konflikti riski mõõtmine Eesti näitel

Viimastel aastatel on Euroopas sagenenud sisserändevastased hoiakud ja protestid, mis viitavad kohalike elanike ja sisserändajate vahelise potentsiaalse konflikti riski suurenemisele. Samas on sisserändega seotud konfliktide põhjuseid ja riskitegureid seni vähe uuritud ning puudub terviklik hindamismudel nende süstemaatiliseks analüüsimiseks. Traditsioonilised konfliktianalüüsid keskenduvad enamasti juba puhkenud konfliktidele, mistõttu on varajaste riskitegurite tuvastamine jäänud tahaplaanile. See teeb varjatud konfliktide märkamise ja ennetamise keeruliseks. Ilma usaldusväärse mõõtmismetoodikata on raske pingeid ennetada ja tõenduspõhist poliitikat kujundada.

Käesolev doktoritöö panustab selle teadusliku lünga täitmisse, pakkudes uut sotsiaalset indeksit sisserändega seotud konflikti riski mõõtmiseks ja hindamiseks nii riiklikul kui ka regionaalsel tasandil (NUTS1–NUTS3). Töö üks peamisi tulemusi on sisserändega seotud konflikti riski indeksi **MICRI** (ingl k ***measure of immigration-related conflict risk index***) väljatöötamine ning selle rakendamine Eesti kontekstis aastatel 2014–2018 (uuring II). See indeks võimaldab hinnata kohalike elanike ja sisserändajate vahelise konflikti potentsiaali nii üleriigilisel kui ka kohaliku omavalitsuse tasandil.

Erinevalt traditsioonilistest konflikti mõõdikutest, mis tuginevad peamiselt objektiivsetele näitajatele (nt SKP, kuritegevuse tase, rahvastiku struktuur), kombineerib MICRI nii subjektiivseid (nt tajutud ebaõiglus, rahulolematus, institutsioonide vastu tuntav usaldamatus) kui ka objektiivseid näitajaid (nt töötus, sisserände tase). Selline lähenemine võimaldab anda põhjalikuma ülevaate rühmadevaheliste pingete tekke potentsiaalist. Lisaks võimaldab MICRI liikuda kaugemale riiklikest keskmistest, pakkudes konflikti riskide kohta detailset piirkondlikku analüüsi. Indeks keskendub ennekõike varjatud konfliktide tuvastamisele ning ennetamisele, mitte juba puhkenud konfliktide mõõtmisele.

Teoreetiliselt toetub töö rühmadevahelise konflikti ja *grievance*'i teooriatele, mis selgitavad, kuidas tajutud ebaõiglus, identiteedi ohustatus, majanduslik rahulolematus ja institutsionaalne usaldamatus võivad kujundada rühmadevahelisi pingeid. MICRI loomisel järgiti rahvusvahelisi metoodikajuhiseid (Babbie, 2013; Nardo jt, 2008) (uuring II).

Metoodiliselt on MICRI uuenduslik, kuna ühendab 17 subjektiivset ja objektiivset näitajat koondindeksiks, mis on mõõdetav nii riiklikul kui ka regionaalsel tasandil. MICRI on rakendatav ka teistes riikides, eeldusel, et seal on olemas võrreldavad regionaalselt eristatud andmed. Sel indeksil on potentsiaali saada varajase hoiatamise süsteemide osaks, mis võimaldaks poliitikakujundajatel suunata tähelepanu nendele piirkondadele, kus varjatud riskid võivad eskaleeruda.

Minu uuringu tulemused näitavad, et MICRI on metoodiliselt tugev ja ühtlasi empiiriliselt rakendatav, toimides struktureeritud ja võrdleva vahendina sisserändega seotud riskide seiramisel eri piirkondades ja riikides. MICRI abil saadud

tulemused kinnitavad, et Eestis ei esine laialdast konfliktiohtu, vaid pigem on riskitase piirkonniti erinev (uuringud III–IV). Minu uuringu tulemused viitavad sellele, et sisseränne üksi ei põhjusta konflikte, küll aga võib see pingeid suurendada piirkondades, kus esineb juba varasemast ajast majanduslikke ja sotsiaalseid raskusi. Seetõttu tuleks pingete eskaleerumise ennetamiseks keskenduda eelkõige suure riskiga piirkondadele ja sealsele haavatavusele, mitte ainult üldistele riiklikele suundumustele.

Käesoleva doktoritöö eesmärke arvestades leiti analüüsi põhjal vastused järgmistele uurimisküsimustele.

- **RQ1. Kuidas mõõta sisserändega seotud võimaliku konflikti riski ühiskonnas? (uuringud I–II)**

Sisserändega seotud konflikti riski hindamiseks töötati välja uudne koondindikaator MICRI. Selle abil saab hinnata konflikti riski nii riiklikul kui ka regionaalsel tasandil, järgides rahvusvaheliselt tunnustatud juhiseid (Babbie, 2013; Nardo jt, 2008). MICRI koosneb kümnest teoreetiliselt põhjendatud dimensioonist: identiteet, usaldus, väärtused, ohu tajumine, ebaõiglus, rahulolematus, suhtlus, normikuulekus, majanduslikud ressursid ja immigratsioon. Neid dimensioone mõõdetakse 17 näitaja abil, mis kombineerivad nii subjektiivseid (DT1–2, V1–3, IN, D, PC, LNO, LER1) kui ka objektiivseid andmeid (ID1–2, LER2, IM). Kõik näitajad on normaliseeritud ning ühendatud liitmisagregatsiooni meetodil, mille tulemusel saadakse üks koondskoor, mis kajastab potentsiaalse konflikti riski kas riigi või regiooni (NUTS3) tasandil.

Käesoleva väitekirja tulemused kinnitavad MICRI metodoloogilist usaldusväärsust (uuring II) ning empiirilist rakendatavust (uuringud III–IV). Väljatöötatud kontseptuaalne raamistik on kohandatav konflikti riski mõõtmiseks erinevatel tasanditel ning sobib võrdlevateks analüüsideks nii piirkondade kui ka riikide vahel. MICRI-t on võimalik edasi arendada ja liita sellega uusi riskitegureid, eriti juhul, kui rahvusvaheliselt võrreldavate ja regulaarselt kogutavate andmete kättesaadavus paraneb. Välise valideerimise ja metoodilise täiendamise korral on MICRI-l potentsiaali kujuneda sisserändega seotud konfliktide varajase hoiatamise tööriistaks.

- **RQ2. Milline on hinnanguline sisserändega seotud konflikti riski tase Eesti omavalitsusüksustes? (uuringud III–IV)**

Doktoritöös testiti MICRI-d ja arvutati välja konflikti riski skoorid 75 Eesti omavalitsusüksuse kohta ajavahemikul 2014–2018, et hinnata Eesti haavatavust sisserändega seotud konfliktide suhtes. MICRI tulemused näitavad, et Eesti keskmine riskitase on madal (MICRI = 6,53). See vastab Eesti ajaloolisele stabiilsusele, arvestades, et pärast 2007. aasta pronksiöö rahutusi pole suuremahulisi konflikte ühiskonnas aset leidnud. Siiski ilmnevad piirkondlikud erinevused. Kirde-Eesti piirkonna (MICRI = 9,34) ja mitme linna puhul tuli esile kõrgendatud risk, mis näitab, et riiklik stabiilsus ei kajasta alati piirkondlikku haavatavust. Ka Põhja-Eestis on riskitase veidi kõrgem (MICRI = 6,75). Kesk- ja Lääne-Eesti

piirkonnad on stabiilsemad**,** jäädes riigi keskmise või madalama riskitaseme juurde (C = 5,73; W = 5,70).

Üldiselt on linnapiirkonnad konflikti suhtes vastuvõtlikumad – nende keskmine MICRI skoor on 8,24, samas maaomavalitsusüksustel on see 6,01**.**

- **RQ3. Millised on Eesti puhul regionaalsed erinevused konfliktiga seotud riskitegurites? (uuringud III–IV)**

Eesti eri piirkondade puhul konfliktiga seotud riskitegurite analüüsimiseks viidi läbi klasteranalüüs. Uuringute II–IV tulemused tõid esile peamised sisserändega seotud konflikti riski kujundavad tegurid regionaalsel tasandil ning kinnitasid, et sisseränne üksi otseselt riski ei suurenda. Selle asemel mängivad kõige olulisemat rolli *grievance*-tegurid, nagu tajutud ebaõiglus, rahulolematus ja institutsionaalne usaldamatus. Eriti hästi on see näha kõrge riskitasemega omavalitsusüksustes, kus esineb varasemat sotsiaalset haavatavust. Lisaks leiti, et majanduslikud raskused ja ohutunnetus toimivad Eestis konflikti süvendavate teguritena, mitte selle otseste põhjustena. Sisserändevastased hoiakud on Eestis seotud pigem majanduslike hirmudega ja riiklike institutsioonide vastu tuntava usaldamatusega kui tegeliku sisserändajate arvuga. Need järeldused on kooskõlas rahulolematuse teooriate põhialustega, rõhutades eelkõige tajutud ebaõigluse ja rahulolematuse rolli rühmadevaheliste pingete süvenemisel.

MICRI abil saadud tulemuste põhjal eristati neli omavalitsusüksuste tüüpi, mis kajastavad erinevaid riskiprofiile. Umbes kolmandik Eesti omavalitsusüksustest kuulub 3. ja 4. tüüpi, mida iseloomustab suurim vastuvõtlikkus konfliktidele. Nendes omavalitsusüksustes on märkimisväärselt suur sisseränne ning neis elab mitu tugevat etnilist gruppi. Nende piirkondade elanikud tajuvad suuremat ebaõiglust ja suuremat rahulolematust eluga. 4. tüübi puhul esineb ka kehvem majanduslik heaolu, mida iseloomustavad kõrgem töötuse määr ja suurem majanduslik rahulolematus.

1. ja 2. tüüpi omavalitsusüksustel, mis moodustavad kaks kolmandikku kõigist omavalitsusüksustest, on konflikti riskitase madalam. Neid piirkondi iseloomustab etniline homogeensus ja minimaalne sisseränne. Peamine erinevus 1. ja 2. tüübi vahel seisneb sisserändajatesse suhtumises ja rühmadevahelises suhtluses: 1. tüüpi omavalitsusüksustes on hoiakud sisserände suhtes positiivsed, seevastu 2. tüüpi omavalitsusüksustes esineb negatiivseid hoiakuid ja kontakt sisserändajatega on piiratum. 1. ja 2. tüüpi omavalitsusüksused on jaotunud ühtlaselt üle Eesti ilma selge regionaalse koondumiseta, samas 3. ja 4. tüüpi ehk riskialtid omavalitsusüksused on kontsentreerunud peamiselt Põhja- ja Kirde-Eestisse.

PUBLICATIONS

CURRICULUM VITAE

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Education

2019–2025	University of Tartu, PhD studies in Sociology
2012	Université Libre de Bruxelles, Brussels, certificate in "European Union Law and Policy on Immigration and Asylum"
2005–2006	Tallinn University of Technology, MA in Public Administration

Professional Employment

2020–present	Estonian Police and Border Guard Board, Lead analyst on migration and border security
2016–2020	Estonian Academy of Security Sciences, Researcher
2015–2016	Tallinn University, Analyst on migration policy
2010–2015	Estonian Academy of Security Sciences, Centre for Migration Studies, Project Manager

Research interests

Immigration, ethnic and social conflicts, polarization, border security, risk assessment, social indicators

Participation in relevant research and development projects

2021–2022	LSVUH21647 "Concept creation of Covid-19 social impact index 2021"; Principal Investigator: Oliver Nahkur; University of Tartu.
2020–2022	LSVPH20540 (RITA1/02-112-01) "Estonian national mental health survey, Principal Investigator: Kirsti Akkermann; University of Tartu, Faculty of Social Sciences.
2018–2020	LLTOM18066 (RITA1/01-03-11) "Migration dependency and integration challenges for Estonia, employers, communities and educational system", Principal Investigator: Tiit Tammaru, Raul Eamets; University of Tartu.
2017–2019	HOME/2015/ISFP/AG/LETX "DARRA – Detection and response to radicalisation appearances"; Principal Investigator: Helina Maasing; Estonian Academy of Security Sciences.

Selected publications and conference presentations

Maasing, H.; Nahkur, O.; Roots, A.; Ainsaar, M. (2024). *Navigating ethnic frictions: A case study on the possible risk of immigration-related conflict in Estonian municipalities in 2014–2018*. *Security Spectrum: Journal of Advanced Security Research*, 24, 239–267. https://doi.org/10.15158/efk3-mc48

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2019–2025	Tartu Ülikool, doktoriõpe sotsioloogia erialal
2012	Université Libre de Bruxelles, Brüssel – tunnistus programmis "Euroopa Liidu rände- ja varjupaigapoliitika"
2005–2006	Tallinna Tehnikaülikool, magistrikraad avalikus halduses

Teenistuskäik

2020–...	Politsei- ja Piirivalveamet, juhtivanalüütik rände ja piiriohutuse valdkonnas
2016–2020	Sisekaitseakadeemia, teadur
2015–2016	Tallinna Ülikool, rändepoliitika analüütik
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Osalemine olulisemated teadus – ja arendusprojektides

2021–2022	LSVUH21647 "Covid-19 sotsiaalse mõju indeksi kontseptsiooni loomine 2021"; vastutav täitja: Oliver Nahkur; Tartu Ülikool.
2020–2022	LSVPH20540 (RITA1/02-112-01) "Eesti rahvuslik vaimse tervise uuring"; vastutav täitja: Kirsti Akkermann; Tartu Ülikool, sotsiaalteaduste valdkond.
2018–2020	LLTOM18066 (RITA1/01-03-11) "Rändesõltuvus ja lõimumisväljakutsed Eestis: tööandjad, kogukonnad ja haridussüsteem"; vastutavad täitjad: Tiit Tammaru, Raul Eamets; Tartu Ülikool.
2017–2019	HOME/2015/ISFP/AG/LETX "DARRA – Radikaliseerumise ilmingute tuvastamine ja neile reageerimine"; vastutav täitja: Helina Maasing; Sisekaitseakadeemia.

Valitud publikatsioonid ja konverentsiettekanded

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