

International Talent for the Arctic: Strategies and Challenges

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The Arctic region faces a significant demographic challenge, characterized by a population decline and youth outmigration projected until 2060. This phenomenon, driven by harsh climatic conditions, limited economic opportunities, and social isolation, threatens the region's future sustainability and development. Universities play a crucial role in mitigating this challenge by attracting, retaining, and integrating young talent into the Arctic workforce. This study investigates the role of institutional settings in facilitating the integration of highly skilled migrants into the Finnish and Norwegian Arctic regions. This paper explores national higher education strategies, employability support mechanisms and the strategies employed by several prominent Arctic universities, University of Oulu and University of Lapland in Finland, and Nord University in Norway, to retain graduating students and foster their engagement and employment in the corresponding Arctic regions. Employing a comparative case study approach, this study analyzes qualitative and quantitative data, including university strategies, government policies, and regional demographic statistics. Additionally, the analysis incorporates relevant sociological theories on employability and social capital, providing a deeper understanding of the factors that influence youth migration decisions. The study also explores the potential conflict between university-led retention strategies and national-level policies, such as the introduction of tuition fees for non-EU students. This policy change, while generating revenue for universities, might impede international student recruitment and contribute to regional brain drain. Finally, this study questions how universities can embed retention strategies into their core functions and foster sustainable long-term solutions to the demographic challenges of the Arctic regions. By understanding the effectiveness of various strategies and potential challenges, stakeholders can collaborate to develop comprehensive approaches to retaining young talent and creating vibrant, sustainable communities in the Arctic and beyond.

Introduction

Countries worldwide, including Finland and Norway, are competing for international talent. International talent includes skilled immigrants or returnees with international experience, expertise, and connections that generate benefits for society (Ministry of Economic Affairs and Employment, 2021). In today's globalized world, countries compete fiercely for talent, highlighting the necessity of strategic policies to attract and harness the potential of international students as future skilled migrants (Hawthorne, 2018). National policies are pivotal in drawing international students, yet the multifaceted endeavour of retaining them as skilled migrants extends beyond policies involving immigration regulations, academic mobility opportunities, and the socio-

economic climate of the host nation, which requires knowledge of the contextual factors, which in the case of this study are the Arctic regions of Norway and Finland.

Finland is experiencing a demographic shift, with an aging population, growing dependency ratios, and low fertility rates (Antolín et al. 2002; Hellstrand et al. 2020), with the Finnish Arctic regions (North Ostrobothnia, Lapland, and Kainuu) undergoing starker demographic changes compared to country averages (Middleton et al. 2018). Similar processes are observed in Norway, where the old-age dependency ratio, which measures the number of people aged 65 and older per 100 children under 15, is expected to more than double from 1975 to 2035, indicating a shift towards an "inverted pyramid" population structure (Herlofson & Hagestad. 2011). This phenomenon is even more pronounced in the Norwegian Arctic regions of Finnmark, Troms, and Nordland (Middleton et al. 2018).

To address demographic challenges, the Finnish Central Chamber of Commerce aimed to attract 30,000 individuals to work or study in Finland in 2022, with a plan to increase the target in the upcoming years and double it by the end of the decade. (Finland Chamber of Commerce, 2021). The Finnish Ministry of Economic Affairs and Employment's Occupational Barometer indicated a shortage of skilled labour in the health and social services sector and other leading occupations, such as programmers and application developers (Ministry of Economic Affairs and Employment, 2020). International degree students are considered highly skilled migrants and are important for addressing workforce shortages in these sectors in Finland. The Organisation for Economic Co-operation and Development (OECD) reported that among immigrants in Norway, 36% are employed in high-skilled jobs, 44% in medium-skilled jobs, and 20% in low-skilled jobs. The projections for future labour market demand indicate an increasing demand for high-skilled workers, while the demand for low-skilled workers is expected to significantly decrease (OECD, 2024). A report from the Oslo Business Region highlighted that nearly two-thirds of the Norwegian industry lacks the competence it needs, demonstrating a great demand for highly educated talent (Oslo Business Region, 2024).

Finland and Norway are both attractive countries for international students to obtain university degrees and are ranked among the top 100 countries in the OECD talent attractiveness index (OECD, 2023). While universities are interested in internationalization and reaping the economic benefits associated with international education, there is a perceived disconnect between policies aimed at attracting and retaining talented international students (Shumilova & Cai, 2016). Labor market integration of the immigrant population has proven exceptionally difficult in Finland (Habi & Koikkalainen, 2014; Ndomo & Lillie, 2022). This study reveals that highly educated immigrants in Finland, including those with Finnish qualifications, are often placed in low-skilled, low-paying secondary sector jobs with limited advancement opportunities, even in high-demand fields such as healthcare (Ndomo et al., 2023). A similar pattern is observed in Norway, which often encounters significant barriers, including "brain waste", where highly qualified individuals end up in unskilled jobs because of gendered deskilling processes and other complex factors (Fossland, 2013).

This study investigates the role of institutional settings in facilitating the integration of highly skilled migrants into the Finnish and Norwegian Arctic regions. It focuses on international students from two Finnish universities and a Norwegian university as case studies, analyzing how evolving institutional settings might impact their employability and social integration. Employability, encompassing both skills and social networks (Gong et al. 2023), is a key factor. This study focuses

on programs to support the employability of international degree students and their integration into the labor market, as they can also be considered a type of highly skilled migrant, defined as an individual with a tertiary degree or extensive specialized work experience, according to Iredale (2001). According to Rothwell and Arnold (2007), employability refers to the extent to which individuals possess the skills and characteristics necessary to find and retain a desired type of work. This study uses statistical data from the Vipunen database of the Ministry of Education and Culture, the Finnish National Agency for Education, and data collected via an enquiry at a Norwegian university.

In the context of regional specifics and whether internationalization is matched with the demands of the region, this study aims to understand how the demand for high-skilled labor amidst shifting demographic profiles in Norway and Finland, particularly in the Arctic regions, is being met through the integration of international students. It seeks to uncover the dynamics between institutional settings, the role of universities, and employability programs, and assess the effectiveness of current support mechanisms and areas needing improvement.

These findings indicate that international graduates face challenges when finding employment opportunities in Finland. The two Finnish Arctic universities (University of Oulu and University of Lapland) differ in their size and degree of programme offerings. The retention level of international students in Finnish working life from these two universities has changed in the last few years towards more positive numbers. In Finland, in the 2000s, institutional support mechanisms for employability were minimal or non-existent. At the university level, employability services were offered only in 2020, and state-supported programs (Talent Boost and Talent Hub) to boost employability and integration of international students were launched in 2021. In Norway, a strong internationalization agenda in higher education has been implemented at the national and university levels, as witnessed by Nord University. A holistic approach to employability and retention of skilled migrants would include building employability solutions to meet the needs of the Arctic region.

Key message is to initiate meaningful discussion on the effectiveness of support measures adopted for the high-skilled migrants in the Arctic regions. In addition, this work intends to enhance debate on some refinement and optimization of the existing support mechanisms that will be able to create a more inclusive and sustainable environment for skilled migrants to grow and contribute to the socio-economic context of the Arctic region. Given the need to attract and retain highly skilled graduates in the Arctic, supporting cross-regional collaboration among these universities to share best practices in graduate recruitment and integration within the Arctic context could be crucial.

The remainder of this paper is organized as follows. The following sections present the theoretical underpinnings, data, and research methods used in this study. The findings on demographic shifts are then presented, followed by a discussion of the changing institutional contexts in higher education institutions. Subsequently, cases from Finland and Norway are discussed to contextualize this phenomenon. The conclusions summarize the main research findings and underline the importance of a good institutional framework.

Literature Review

Studies have shown a growing interest in the socio-cultural incorporation of skilled migrants, emphasizing the importance of understanding their challenges and experiences in the host society

(Grzymala-Kazłowska & Phillimore, 2018; Dumnova & Mukha, 2022). Skilled migration trends within Europe have become a focal point for sociologists, economists, and migration geographers, reflecting the shift towards a "knowledge society" and prompting theoretical debates on the subject (Palczewska, 2023). Furthermore, qualitative narratives from skilled migrants were analyzed using Bourdieu's concepts to explore the impact of migration transitions on employment outcomes, emphasizing the role of social networks in securing suitable employment post-migration (Gong et al. 2023). Overall, these studies underscore the significance of sociology in examining the socio-cultural integration and employment dynamics of skilled migrants in contemporary societies.

Research on migration in the Arctic

Several studies have investigated migration in the Arctic regions. In a country-level analysis, Heleniak (2019) determined that numerous Arctic regions, such as Kainuu in Finland, Karelia, Komi, Arkhangel'sk, Murmansk, and Magadan in Russia, are projected to experience a population decline of over 5%. These trends represent a broader shift in Arctic demographics, including aging populations, a more balanced gender ratio, increased urbanization, and depopulation of smaller settlements. These changes are likely to have significant social and economic consequences for the affected regions. Researchers have frequently linked migratory patterns to economic factors, with the Arctic regions reliant on resource extraction being the most vulnerable (Schmidt et al. 2015).

The attractiveness of Arctic regions is not directly influenced by earnings potential, as indicated by Edwards (2007), who found that income poverty is an insufficient measure of regional well-being in Alaska. Instead, non-income place-level amenities were more closely connected to migration patterns. The substantial migration rates in Alaska imply that people relocate for reasons other than income, such as access to amenities. Correspondingly, Adams (2023) discussed that Arctic regions are appealing to young lifestyle migrants who seek authenticity, simplicity, and improved quality of life.

International students' employability

Employment is the most direct route for international graduates from Finnish and Norwegian universities to remain in the country. The European Commission emphasizes the link between higher education and the job market to develop a knowledge-based society, making employability the university's responsibility. The Bologna Process highlights universities' role in improving graduate employability and encourages multi-stakeholder collaboration in enhancing career and employment counselling services, work placements, and on-the-job learning (London Communique, 2007; Leuven Communique, 2009).

Numerous studies have explored the migration of international students to Finland, specifically in terms of their integration into the local job market upon graduation (Laine & Kujanpää, 2008; Abdulkarim, 2013; Shumilova et al., 2012; Li, 2020). Although students have the potential to enhance their employability by developing Finnish language skills, professional qualifications, and interpersonal abilities, they have no control over Finnish employers' attitudes (Abdulkarim, 2013). In a study by Alho (2020), the process of labor market integration for international students who graduated from Finnish universities was analyzed. The research revealed that integration into the labor market was dependent on the national, cultural, and institutional contexts of Finland. Highly skilled migrants face language barriers and undervaluation of their skills in new labor markets, leading to discrimination (Cresswell, 2006; Friedberg, 2000; Remennick, 2003).

According to Koskela (2014), highly skilled migrants in Finland are viewed more positively than humanitarian migrants. However, despite their privileges, they often feel excluded from society. Factors such as age, class, gender, and ethnicity affect the perception and inclusion of skilled migrants are perceived and included in Finnish society (Koskela, 2019). For instance, unemployed young Russian-speakers in Finland are labelled as low-skilled or non-waged "migrant workers." (Kryvonos, 2019). Chinese students in Finland face exclusion not only from academic opportunities but also from the labor market and society (Li, 2020).

Fossland (2012) explored the integration of skilled migrants in the Norwegian Arctic region, where a scarcity of highly skilled professionals is prevalent. Paradoxically, skilled migrants often struggle to find qualified work in the local labor market. Immigrants with higher education from Norway and good language skills are at a greater risk of unemployment than ethnic Norwegians (Rogstad & Orupabo, 2007; Brekke, 2008; Villund, 2008). Highly skilled migrants also face challenges in language learning, adapting to sociocultural norms, and building personal contact outside work (Frykman et al. 2020). Integration involves both economic and psychological adaptation, and migrant well-being is crucial to this process (Yijälä & Luoma, 2019). A study from Finland revealed a preference for native-level Finnish language skills and "culture fit" among employers (ELY, 2020). This echoes the research by Fossland (2012), Krivonos (2019), and Li (2020) on the employment challenges faced by highly skilled migrants. Discriminatory selection processes for international graduates have also been identified (Forrier & Sels, 2003; McQuaid & Lindsay, 2005), with cultural capital, social exclusion, and demographics impacting employability.

The conclusion is that integration into the labor market for highly skilled migrants is dependent on national, cultural, and institutional contexts. Language barriers, undervaluation of skills, and discrimination pose additional challenges. Universities play a role in improving graduate employability; however, employers' attitudes and societal factors affect integration. The well-being of migrants is crucial to the integration process.

Data and Method

In this study, an exploratory approach was used to investigate the relationship between institutional frameworks and employability prospects of highly skilled migrants in the Finnish Arctic region by employing a combination of research methodologies.

Data Collection

The initial phase of data collection aimed to gather information from various sources to gain a thorough comprehension of the research context. First, demographic data from credible sources, such as Statistics Finland and Statistics Norway, were obtained to establish an understanding of population trends in the Arctic regions in Norway and Finland. Simultaneously, a review of governmental policy documents, including initiatives like the "Talent Boost" program, was carried out to illustrate the existing support mechanisms available for skilled migrants.

Second, qualitative and quantitative data were collected to elaborate on the case studies from Northern Norway and Northern Finland. The focus on Nord University in the Arctic region of Norway and Oulu and Lapland University in the Arctic regions of Finland is due to researchers' affiliations and strong connections with these institutions, which facilitate data access and understanding of internal processes. Once the analysis model from this study is established, it can be expanded to include data from other universities that are not currently represented.

Quantitative Analysis

The quantitative analysis focused on scrutinizing demographic data derived from Statistics Finland and Statistics Norway, the Vipunen database maintained by the Ministry of Education and Culture, and the Finnish National Agency for Education. Vipunen is the education administration's reporting portal, managed by the Ministry of Education and Culture and the Finnish National Agency for Education. It provides statistics and indicators on various educational sectors, student placement after completion, higher education research, the population's educational structure, and students' socio-economic backgrounds. The content is organized into sectors such as pre-primary and basic education, upper secondary education, vocational training, university education, higher education and R&D, liberal adult education, and population educational structures.

The objective of this analysis was to uncover patterns in demographics and trends in the migration of international students to Finland, as well as to evaluate their subsequent employment outcomes.

Demographic trends in Nordic Arctic regions

This study focuses on Finnish regions, Lapland and North Ostrobothnia, and three regions in Northern Norway (Troms, Finnmark and Nordland). The Arctic region classification follows the classification standards of the Economy of the North (Glomsrød & Aslaksen 2008) and Business Index North reports (Middleton et al. 2018). The demographic situation in the Finnish Arctic region is characterized by an aging population and negative population trends in children (0-5-year-olds) and youth (6-16-year-olds). Changes in family values and personal preferences affect the Nordic fertility model, which incorporates fertility recuperation at a later age. Even comparatively strong institutional support for gender equality does not affect fertility decline (Hellstrand et al. 2020). Demographic data demonstrate an ongoing concern about Finland's aging population and its weakening dependency ratio (Ruotsalainen, 2013).

Population projections up to 2040 indicate a deteriorating demographic situation in the Arctic regions of Finland. According to these projections, the population of children and adolescents aged 0–14 years is expected to decrease by 17.2% in North Ostrobothnia and by 20.3% in Lapland by 2040 (see Figure 1).

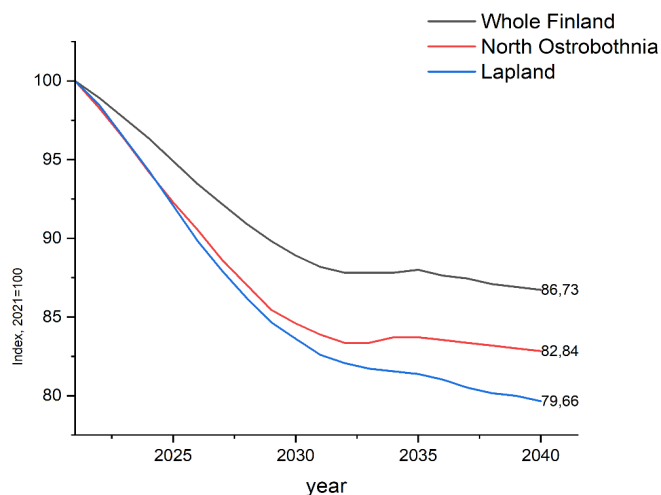


Figure 1. Population projections in age group 0-14 years old, 2021-2040, index 2021=100. (Source: Statistics Finland, compiled by the authors).

Similar to Finland, the population of children and adolescents under 19 years of age is expected to decrease in Norway until 2050, but the most affected region is Nordland with a 9% decrease and Finnmark with a 5.6% decrease.

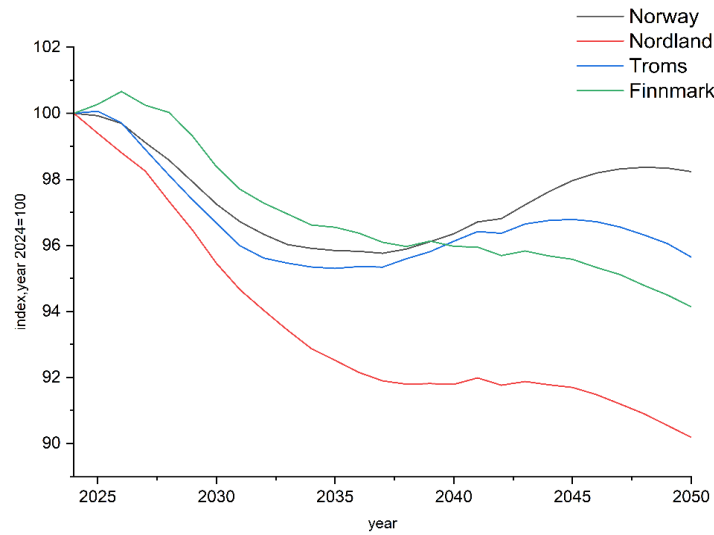


Figure 2. Population projections in age group 0-19 years olds, 2024-2050, index 2021=100. (Source: Statistics Norway, compiled by the authors).

By 2040, it is anticipated that the working-age population (15-64 years old) in North Ostrobothnia will experience a reduction of 3%, while in Lapland, this age group's population will decrease by 10.3%. Conversely, the national average for Finland will see a 2.2% decrease in the active population. (Figure 3.)

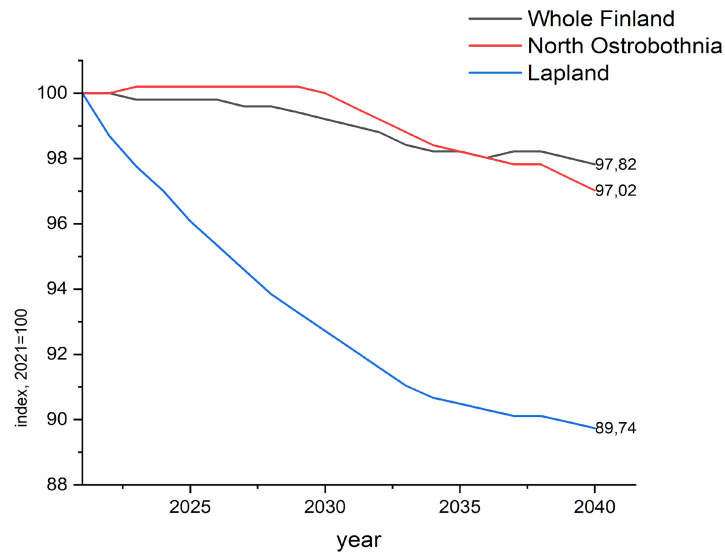


Figure 3. Population projections in age group 15-64 years old, 2021-2040, index 2021=100. (Source: Statistics Finland, compiled by the author).

By 2050, in Norway, the projections indicate that the working-age population (20-65 years old) in the whole of Norway will grow just over 1%, in Nordland it is expected to decrease by 8.4% and in Finnmark by 7.1% (See Figure 4).

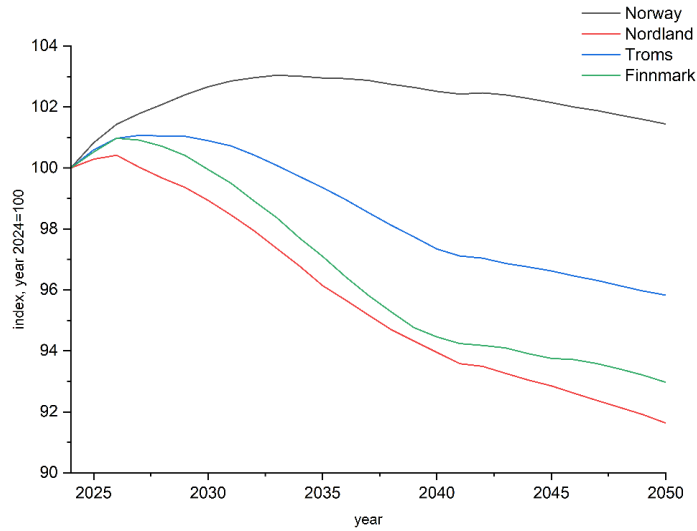


Figure 4. Population projections in age group 20-65 years old, 2024-2050, index 2024=100. (Source: Statistics Norway, compiled by the authors).

The most significant change is predicted to occur among the elderly demographic comprising individuals aged 65 years and above, with a surge of approximately 25% in North Ostrobothnia, an average increase of 17.7% in Finland, and a rise of 6.3% in Lapland (refer to Figure 5 for visual representation).

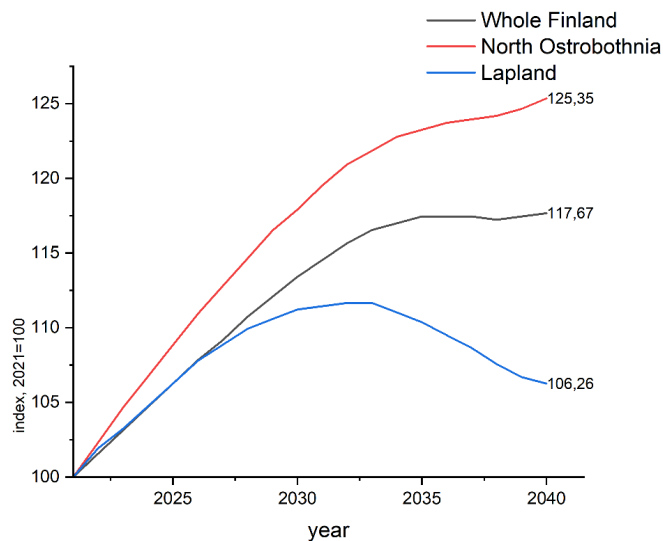


Figure 5. Population projections in age group 65+ years old, 2021-2040, index 2021=100. (Source: Statistics Finland, compiled by the authors).

In Norway the challenge of ageing population is expected to accelerate by 2050 on both national level with over 50% increase in age group 65+, on regional level all three Arctic regions will see an increase in this age group exceeding 20%.

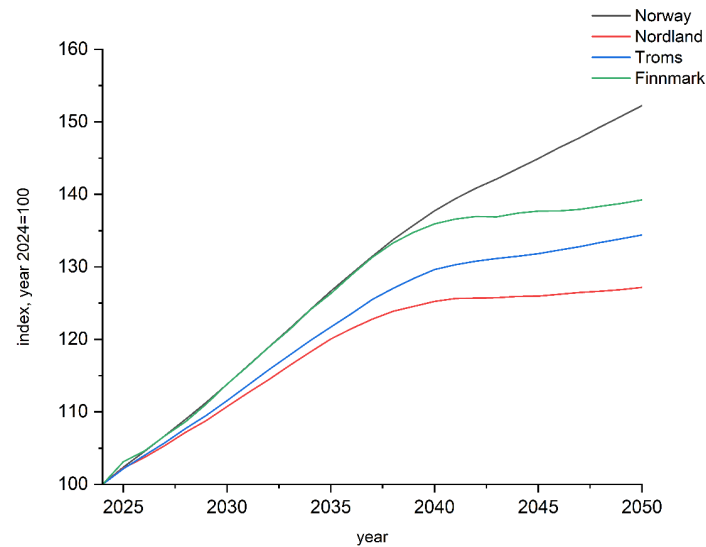


Figure 6. Population projections in age group 65+ years old, 2024-2050, index 2024=100. (Source: Statistics Norway, compiled by the authors).

The trend of a diminishing population of children and youth and high dependency ratios in the Arctic regions of Finland and Norway is a cause for concern regarding the future of the labor market. This situation threatens the availability of future taxpayers and employees and restricts economic growth. In order to address these trends, it is crucial for the Arctic regions of Finland to rely on highly skilled migration. The attraction of skilled migrants allows businesses to expand and invest in adjustments and stimulates innovation and growth (Bosetti et al., 2015).

National Higher Education Strategies for Internalization

Finland's higher education strategy

Finnish universities have continuously attracted skilled migrants in the form of international students who come to Finland to pursue study programmes in English. International degree programmes at Finnish Universities have developed from marginal activity at the end of the 1980s to the focus of economic interest (Jokila, 2020). Tuition fees for students outside the European Union and European Economic Area were introduced at the beginning of 2016 (Kauko & Medvedeva, 2016). This policy change mirrored a trend observed in other Nordic countries, such as Denmark (2006) and Sweden (2011) (Vabø & Aamodt, 2017).

International degree programmes were envisioned to promote the internalization of host universities and to contribute to the labor availability of highly skilled professionals in Finland. Policy papers emphasize the need for skilled labor. The policy paper by the Ministry of Education (2009), mention “*non-Finnish students and researchers who choose Finnish higher education institutes are*

attracted by the high quality education and research, as well as by the opportunities afforded by Finnish working life” (Ministry of Education, 2009: 33) and later re-iterated in the policy paper by the Ministry of Education and Culture (Ministry of Education and Culture, 2017).

The path to this change was afforded by the New Universities Act of the Finnish Ministry of Education in 2009, which took a more market-oriented path (Cai & Marginson, 2013) giving universities nevertheless more autonomy. However, the introduction of fees has produced mixed results. In Sweden, a similar move resulted in an 80% decrease in applications, with gradual recovery over time (Nilsson & Westin, 2022). In Finland, it has also been a matter of concern as to whether there will be social inequalities between fee-paying and non-fee-paying students, thereby sidestepping Finland's traditional emphasis on equality (Plamper et al., 2022). In a press release dated May 16, 2024, the Finnish Ministry of Education and Culture proposed changes to tuition fees for non-EU/EEA students in universities and universities of applied sciences. The goal is to implement full-cost tuition – meaning that the fees would cover the actual cost of education – and potentially encourage these graduates to stay in Finland after their studies. The proposed changes are expected to take effect in stages, with application fees starting on August 1, 2025, and tuition fee changes potentially coming into effect by August 1, 2026 (Finnish Government 2024). The proposal is foreseen to augment the finances of the universities. Still, perhaps it would increase graduate retention. On the other hand, the impacts of this proposal on graduate retention are highly debatable.

Institutional support for employability in Finland

To attract and retain highly skilled migrants for Finnish economic growth, in 2020, the Finnish government introduced the Talent Boost program (Ministry of Economic Affairs and Employment in Finland, 2023). The program focuses on the immigration of highly skilled professionals, such as senior specialists, employees, students, and researchers, and promises to pay more attention to their integration and employment in Finland. It also seeks to prevent brain drain by encouraging international graduates and researchers to settle in Finland. The Talent Boost includes measures to advance the employment of international students and researchers in Finland and to create a model for international recruitment. The Talent Boost emphasizes the importance of a multi-stakeholder approach involving the state, cities, educational institutions, businesses, and other actors to attract and integrate international specialists and effectively use their skills. At least on paper, the program appears to tick the boxes and overcome the challenges of international high-skilled employment in Finland, as highlighted by previous research (Alho 2020; Li 2020; Koskela 2014).

Within the Talent Boost program, the government allocated 28 million EUR for the period 2021-2024. The Talent Boost service promise is based on university-specific measures by which the university strengthens the integration of international students and researchers into Finnish society and the transition to the Finnish labor market. The programme identified various stakeholders (companies, entrepreneurial organizations, chambers of commerce, higher education institutions, research institutes, and international specialists) to find solutions to attract international talent to Finland. (Ministry of Economic Affairs and Employment, 2021). Business Finland is responsible for the nationwide coordination of various business services. Regional implementation of the program will rely largely on the Talent Hub service model, bringing together various regional actors involved in the recruitment of international talent and other related service provisions. The Talent Boost appears to build upon international employability research that emphasizes the importance

of a multi-stakeholder approach (Leuven Communiqué 2009; Williams et al. 2016).

The new right-wing government in Finland was elected on 2nd April 2023 (Wilson Center 2023). This coalition government, led by the National Coalition Party and including the Finns Party, the Swedish People's Party, and the Christian Democrats, officially took office on June 20, 2023. One of the significant changes introduced by this government is the tightening of the rules for work-based residence permits. This includes a proposal to reduce the unemployment allowance period for permit holders to three months, potentially impacting Finland's objective of increasing work-based immigration (Loimu, 2024).

Norway's higher education strategy

The reform of higher education strategy in Norway started in the late 1950s, with university access broadened socially, regionally, and by gender; non-university institutions were also established with the aim of answering local needs and regional development requirements (Aamodt & Kyvik, 2019). Reforms of greater magnitude, such as the Quality Reform of 2004, have made it possible for institutions to move between categories over time, more than doubling universities, showing how systemic changes are institutionally complex and incremental in nature (de Boer et al. 2017). Norway attracts international students to its universities through a combination of strategic policies, economic incentives, and appealing societal attributes. A key factor in the deliberate policy for internationalization of higher education since the 1980s has been the emphasis on student mobility as a tool for quality enhancement in education. Norway utilized its reputation as peaceful, safe, and technologically advanced society in attracting international students. (Wiers-Jenssen, 2020). Additionally, the introduction of a performance-based funding system in 2003 incentivized institutions to attract more students, including international ones, by rewarding the number of credit points awarded (Wiers-Jenssen, 2020)

Most Norwegian higher education institutions did not charge tuition fees, which was regarded as an attractive factor, especially as neighboring countries have introduced fees for non-European students (Wiers-Jenssen, 2020). For a long time, Norway remained the only Scandinavian country that offered free higher education for international students regardless of the country of origin. However, starting in autumn 2023, Norway introduced tuition fees for international students from outside the European Union (EU) and the European Economic Area (EEA) (Smith, 2023). The exact fees may vary depending on the university, but they are intended to cover the costs of education. In concrete amounts, tuition fee rates for study programs fall into several categories, from category F which constitutes 130 000 NOK per year, to category A – 500 000 NOK per year. Compared to the average tuition fees of European universities, the rates in Norway are rather high.

The main argument from the government was the need to cut budget allocations for higher education and research. Government representatives, however, underlined that the Norwegian state has invested a lot in the quality of higher education over the past years. According to the minister for research and higher education Ola Borten Moe, *“Our universities and colleges should therefore be well-equipped to recruit international students because the quality of education is good, not because it is free. I also believe that a tuition fee will give us more motivated international students.”* (Press release from 06.10.2022).

The introduction of tuition fees for non-EU/EEA students in Norway has been criticized for potentially hindering the intellectual environment. Opponents argue that it could lead to a decline in student body diversity, thereby diminishing cross-cultural exchange and program-specific

competencies (Infanti & Sripada, 2023). Tuition fees for non-EU/EEA students in Norway risk program closures heavily reliant on international enrolment, for example, Tromsø University (UiT) canceling its Bachelors in Northern Studies program, and threatens the jobs of instructors teaching in these programs (Mohammed, 2023). This also undermines efforts to attract talent to the Arctic, contradicts Arctic policy to attract people to the North and ignores demographic needs of Norwegian Arctic regions

Institutional support for employability in Norway

The Norwegian government introduced, among others, a series of initiatives to improve the employability and inflow of international highly skilled workers, including mentor arrangements that enable learning and development (Life in Norway, 2024a). Additionally, a jobseeker visa for skilled workers has been introduced (Life in Norway, 2024b). The government also invested in the Integration Reform, offering Norwegian language courses and cultural competency training (OECD, 2024). However, there is no program in place that would be comparable to TalentBoost in Finland.

Case studies

Finland: University of Oulu and University of Lapland

The Finnish Arctic regions of Lapland and North Ostrobothnia host two universities: the University of Lapland in Rovaniemi and the University of Oulu in Oulu. The University of Oulu is a large multidisciplinary university with over 15,000 students and over 20 international degree programs as of 2020, and the University of Lapland has 4,800 students offering four international programs for international students. The University of Lapland and University of Oulu received 2,961 international Master's degree students from 2000-2022, with 88% (2,604) of all international degree students coming to study at the University of Oulu (see Figure 7).

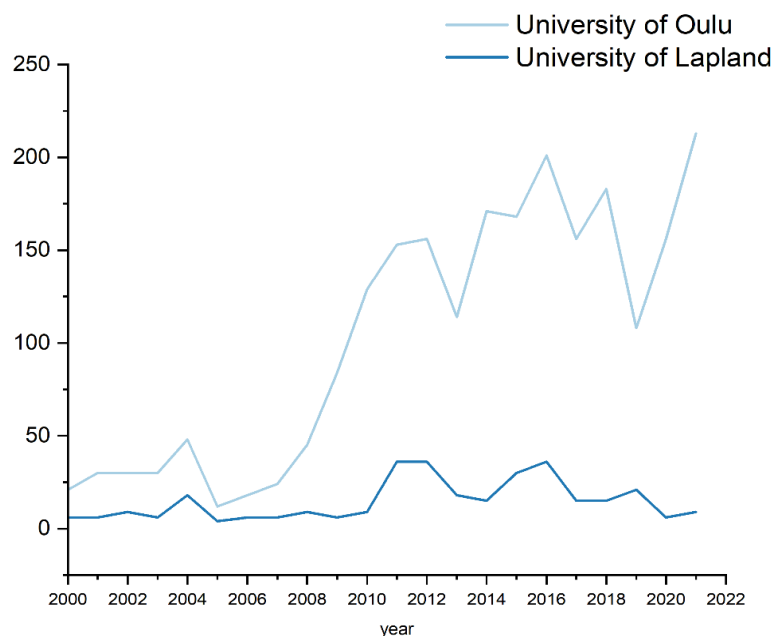


Figure 7. New international Master's degree students at University of Lapland and University of Oulu, 2000-2020. (Source: Vipunen database compiled by the authors).

University of Oulu in a newly released strategy (University of Oulu, 2024) supports internalization efforts. The University of Oulu aspires to attract international students and foster their employability in Finland. The university's strategy reflects this aim by stating, "*Internships and other stakeholder cooperation will provide pathways for international students to find employment in Finland*" (University of Oulu Strategy, 2024). This focus ensures that international students gain valuable academic experiences while potentially developing career prospects within Finland. By prioritizing employability alongside globally focused education, the University of Oulu positions itself as a potentially attractive destination for international students seeking post-graduation opportunities. The University of Lapland expresses its commitment to educational development through a dedicated program. This program aligns with national priorities, as evidenced by its focus on "expanding degree education, digital service environments, continuous learning, and internationalization" (University of Lapland Strategy, 2024). While the specific methods employed are not explicitly mentioned in the document, the program suggests the university's aspiration to enhance its educational offerings and develop collaborations within the Lapland University Consortium.

The University of Oulu aims to increase the number of foreign students employed in Finland within ten years by 75%, which represents a significant increase from the 51% rate in 2019 (Saarela 2022). The university targets both newly recruited and existing international students, researchers, start-up entrepreneurs, and specialists. The University of Oulu has increased its intake and targeted marketing to specific countries to expand its talent pool, aiming to produce 520 international graduates by 2024. The University of Oulu offers more Finnish language courses for international students and professionals, including virtual reality courses, and a 60-point minor in Finnish for working life (Saarela 2022). Actions as part of the TalentBoost program within the University of Lapland are on a smaller scale because of the smaller number of international degree graduates.

The Vipunen database also provides data on the employment of international graduates one year after graduation. The data were gathered through a survey starting in 2013, with the latest data from 2020 (see Table 1). On average, one-fourth of the students reported leaving Finland in 2013 and 2020. In 2013, 34.8% of the graduates from the University of Oulu left the country. By 2020, this number had decreased to 18.3%. In 2013, 47.8% of graduates from the University of Oulu were employed, and in 2020, this number increased to 53.7%, which is higher than that in Finland, on average (49%). Due to the small number of graduates, data from the University of Lapland were less reliable in 2013. In 2020, 33% of graduates from the University of Lapland reported employment, and 22.2% left the country.

Table 1. Employment of international degree students one year after graduation in 2013 and 2020, % (Source: Vipunen database compiled by the authors).

University	Employed		Full-time student		Unemployed		Other		Left the country		Total
	2013	2020	2013	2020	2013	2020	2013	2020	2013	2020	
University of Lapland	16.7 66.7	– 33.3	N/A	N/A	N/A	3.7- 14.8	16.7 – 66.7	33.3	N/A	22.2	100 %
University of Oulu	47.8	53.7	1.4 - 5.8	6.1	1.4 – 5.8	11,0	8.7	11.0	34.8	18.3	100 %
Total of Finland	45.2	49	4.8	3.8	4.2	6.8	19.0	15.2	26.8	25.2	100 %

The data demonstrate that international graduates from the University of Oulu are, on average, less likely to leave the country and are more likely to be employed than international graduates from the University of Lapland. This can be explained by diversified programme offerings, including IT specializations. However, the data do not reveal the region of employment of recent graduates; therefore, it is impossible to know if these graduates obtained employment from the Finnish Arctic regions or from somewhere else.

Norway: Nord University

Established in its current form in 2016, Nord University is the successor of the University of Nordland (est. 2011), Nesna University College (est. 1994), and Nord-Trøndelag University College (est. 1994). The university has 11,000 students at study locations in Northern and Central Norway, with the main campuses in Bodø, the capital of the county of Nordland, and Levanger.

Internationalization has always been a key priority for Nord University. Although the university has issued only two strategies to date, internationalization is prominent in both documents. The university's sub-strategy on internationalization, outlined in the *Strategy 2020* document, views international cooperation as "*an important tool for developing new knowledge that promotes democratic development, intercultural understanding, and contributes to achieving the UN's sustainability goals for development.*" As such, internationalization is deemed crucial for enhancing the quality of education and research.

The 2020 internalization strategy emphasizes increasing student mobility and developing courses in English with some vision of attracting more international students and retaining young talents coming from abroad. Furthermore, Nord University's Strategy 2030 states that "*Nord as an organization is to be strengthened by increasing internationalization through the exchange of students and staff.*"

All faculties have their sub-strategies aligned with Nord University's strategy and respective activity plans. However, faculties' internalization strategies and activities may differ from each other in connection to their goals and development pathways. Student mobility is considered in light of institutional collaboration development with the main purpose of strengthening research profiles.

In practice, infrastructure for internationalization takes different forms, from a well-established international office with several employees, to international coordinators at faculties and the more informal international student union, that works to integrate international students at Nord.

The Norwegian Quota scheme programme

The Norwegian Quota Scheme was a national scholarship program providing funding for higher education to students from developing countries, as well as countries in Central and Eastern Europe. This policy was implemented between 1994 and 2015-2016 at Norwegian universities and colleges. For faculties, this meant receiving grants to support international students pursuing master's or PhD degrees, funded by the Norwegian Government. Under this program, the students received a monthly stipend from the Norwegian Loan Agency and annual travel grants. The program played a significant role in fostering institutional cooperation and attracting young talent from abroad. Each year, over 1,000 places were distributed among higher education institutions in Norway through the Quota Scheme.

However, the programme was not aimed at retaining international students in Norway after graduation. In contrast, the purpose was to educate students from foreign countries (under

development) so that they could contribute to the local economies when they are back home. The official documents formulate the purpose as follows “*The objective of the scheme is to supply students with relevant competence that could benefit their home countries when they went home upon completion of their studies*” (MOER 2001b:1). The practical implication for students was that those who remained in Norway had to repay 60% of their student loans, whereas those who returned to their home countries had their loans forgiven.

Since the academic year of 1999-2000 there have been 1100 quota places per year, and in the period spanning 1994- 2013 5844 individuals received Quota scholarships (Damvad, 2014). There are no statistics concerning how many quota scheme students stayed in Norway after graduation. Several evaluations were conducted during this period. According to the first evaluation in 2000, the Quota scheme program was impactful for the internalization of Norwegian universities. Still, the impact of the program on the target countries was not quite clear. Later evaluation in 2014 concluded that the Quota scheme had had significant effects on development, with only limited effects on internationalization (Damvad, 2014). In 2016, the government proposed to phase out the Quota scheme and eventually replace it with a different instrument, a partnership programme aimed at broader cooperation with higher education institutions in developing countries. As such, the Quota scheme program was discontinued. The programs that are governed by the Norwegian Directorate for Higher Education and Skills partly substituted the Quota scheme for faculties. The new model requires faculties to apply for projects, which imposes some limitations compared to the original Quota allocation system.

Best practices

High North Center for Business and Governance

The High North Center for Business and Governance at Nord University Business School is an international center for research, education and communication, connected to societal and business development in the Arctic. Established in 2007, the High North Center works closely together with companies, government bodies and other stakeholders to develop knowledge, competence and awareness about the potential for innovation and sustainable value creation in the Arctic.

In 2021, the Norwegian Parliament defined that the High North Center will be an internationally leading professional environment for the development of and distribution of knowledge about the High North and the business opportunities in the region. Internationalization has always been an important aspect of the Center’s work.

Key milestones in international cooperation include:

- From 1995 - cooperation with Russian Universities.
- From 1998 - cooperation with Ukrainian Universities.
- From 2015 – cooperation with a Chinese university.
- From 2018 – with North American universities.

The High North Center actively utilized the Quota Scheme, among other funding opportunities, to boost international student mobility. For example, the Center welcomed 5-7 students from Russian and Ukrainian institutions each year to participate in master’s programs at the Business School. Although the Center did not specifically focus on retaining international students after graduation, approximately 20% of incoming Quota students managed to find jobs independently

and stayed in Norway, typically in larger cities with more diverse job markets.

Internship Program of Nord University Business School

The internship program at Nord University Business School is regarded as one of the most effective initiatives in terms of retaining young talent in the local region. The program aims to foster closer collaboration with future employers in various industries, government, and other organizations, contributing to student recruitment. As a result of the program, several international students have received job offers from local employers after completing internships.

The program aligns with the university's goal of employing at least 60% of the students locally. However, it is designed for all students, without the specific consideration of international students, who may face different challenges, such as limited Norwegian language skills. Additionally, the program requires significant involvement from both faculty staff and local organizations to be successful.

Internationalization has been recognized as an essential strategy at both the university and faculty levels. However, the extent of related activities and efforts varies across faculties and depends on the commitment of individual departments, research groups, and even faculty members. Nord University provides solid infrastructure for those driving internationalization initiatives. Nonetheless, this infrastructure has faced challenges in recent years due to state-level changes, including the termination of the Quota Scheme and the introduction of tuition fees for international students from outside the EU and EEA.

Discussion

The demographic analysis shows a worrying trend for the Arctic regions of Norway and Finland, which is marked by the decline of youth and young adults, shrinking populations of adults, and increasing elderly demographics up to the year 2060. This, therefore, puts considerable strain on society as a whole, even to the extent of potentially undermining social security schemes. In this line of development, the attraction and retention of highly qualified university graduates already residing in these regions present itself as one of the solutions to the demographic crisis. In contrast, strategies for internationalization at the national level in Finland and Norway today are top-down and do not consider regional factors. For instance, it is factual that introducing tuition fees in Norway translates to fewer international applicants, as the case of Nord University shows. Therefore, specific attention should be paid to regionally tailored strategies that consider the particular needs and challenges resulting from an Arctic context (Teichler, 2009).

Country-wide support mechanisms for graduate employability already exist in Finland like "Talent Boost," whose effectiveness on a regional level has to be further investigated. The same can be said about Norway, which has a support system without a clearly defined role of universities, needing, if anything, more harmonization in terms of effort. A study by Aalto et al., (2016), points out that graduate employability in Finland requires more than skill development programs by taking into detail the greater social and cultural context. However, the lack of a harmonized approach toward their long-term integration is a critical barrier. This includes the early infrastructural development of networks, promotion of social integration, and language learning opportunities (Yijälä & Luoma, 2019). Abdulkarim (2013) shows that all the efforts by students cannot overcome employers' attitude towards international graduates and that the solution partly lies in the macro level of societal change and avoiding discriminatory practices as best as possible (Forrier & Sels, 2003;

McQuaid & Lindsay, 2005).

In Finland, research has shown that employers prefer native-level Finnish language skills and "culture fit." ((ELY, 2020). This corresponds to the earlier work of Fosslund (2012), Krivonos (2019), and Li (2020) on highly skilled migrants' frustration in the labor market and points to a need for increased focus on intercultural understanding and initiatives enhancing social inclusion in society.

Since universities are also responsible for the development of graduate employability (London Communique, 2007; Leuven Communique, 2009), a successful overall strategy must be developed through cooperation among universities, policymakers, regional authorities, and employers. These measures could include long-term planning, reducing language barriers, better recognition of international qualifications, promotion of more inclusive workplaces, and the well-being of international graduates. It will be possible for Finland and Norway to realize the potential of international graduates in their quest for sustainable development in their Arctic regions through a shift from top-down to more holistic and regionally sensitive strategies.

In our study, we primarily focused on institutionalized approaches that are visible through university strategies and available funding. While it is important to consider bottom-up approaches for integration, such as clubs, student union opportunities, and other support services that are already available at the university, these approaches are highly variable and depend on the resources of these organizations. Additionally, while services are available for all students at universities, they might not be tailored to the specific needs of international students. For instance, specifically tailored services for the employability of international students were introduced at the University of Oulu starting in 2021. The needs of international students are very different, including training on host country job-seeking culture and other specific support. Providing these services requires additional funding and expertise.

Conclusion

This study explored the role institutional settings play in facilitating the integration processes of highly skilled migrants, specifically international students, into the Finnish and Norwegian Arctic regions. The research answers the growing sociological interest in socio-cultural incorporation, including how these evolving institutional settings bear on their employability and social integration. Drawing attention to demographic pressures underpinning the impetus for skilled migration, this research intersects with the emerging sociological interest in the socio-cultural incorporation of international skilled migrants (Grzymala-Kazłowska & Phillimore in 2018; Dumnova & Mukha, 2022).

The findings support the body of literature on the complex interplay of factors on employability, which include language difficulties, social exclusion, and discriminatory employment processes. This is why institutionalized support mechanisms, such as the "Talent Boost" program, are of great importance. Still, according to Alho (2020) and Shumilova et al., (2012), effective integration requires deeper changes in society. These forms of integration could be studied: health, housing, and informal networks; also, the impact of new employability measures on talent retention in the Arctic region needs to be further investigated.

The study shows that detailed regional data on high-skilled migrant employment and successful integration in the Finnish and Norwegian Arctic regions are missing. Sociological analysis is critical

for understanding the experiences of highly skilled migrants in the Arctic context. A more open-minded civil society regarding international competence and transnational capital is a precondition for creating effective innovation conducive to economic growth in the Arctic region. Future research should focus on the readiness of the host environment, including organizations, to absorb and integrate international talent.

It remains to be seen how well new employability enhancement measures will be implemented, and to what degree they account for the specificities and needs of the Finnish Arctic regions. Lost opportunities to retain highly skilled migrants are visible since institutional support for employability services was introduced only in 2020. The importance of successful integration is increasing in Finland and Norway as the working-age population ages and the population with an immigrant background grows.

To assess the success of international talent retention and absorption in the Arctic regions of Norway and Finland, it is essential to systematically collect more data on their employment. This includes information on whether their employment aligns with their training, the location of their employment within these regions, and the destination countries of those who leave after completing their education.

Universities in the Arctic should be viewed as hubs for attracting talent and should adopt regionally adaptive strategies rather than following uniform country-wide strategies. Universities hold a significant position in integration and employability and should be considered key players in the context. If the retention of international talent within the host Arctic region is taken seriously, universities will need to implement specific retention strategies for international students.

Arctic universities should develop strategies that cater precisely to the needs and situation of their region, including an understanding of the local labor market, cultural context, and challenges specifically related to the Arctic that international students face. Comprehensive language immersion programs may make it easier for students to break down barriers and fit into their community. Such programs should focus on both academic and everyday language to provide students with opportunities to participate in university life and the local job market.

Universities should facilitate the integration of international students with informal integration networks of a local community group, cultural organization, or student clubs. Thus, these networks may be an important support in the processes of building social contacts for students, making them more at ease with their new home. With strong partnerships with local businesses, ways for internships, job placements, and projects involving collaboration will be opened. This would make students with international backgrounds more employable while gaining professional networks and practical experience related to the local job market.

Degree programs offered at universities must be relevant to the needs of the local economy. This ensures that graduates have the required skills and knowledge from local employers, thus enhancing their chances of securing jobs in the same region upon graduation. For education to be more accessible and appealing for international students, universities could abolish tuition fees or offer tuition fee redemption if graduates stay to work in the host region. This financial incentive can encourage students to stay in the Arctic after graduation, taking part in the local economy and helping demographic problems a little.

The introduction of more such concrete measures will help universities in the Arctic to be more

sensitive to the special needs of international students, which would improve their retention and integration in the region. This approach would be beneficial not only to students but also for the long-term development and sustainability of Arctic regions.

This study highlights the need for regionally adaptive university strategies and provides detailed data. This study also introduces new research and policy questions. How do top-down national measures, like introducing of tuition fees affect Arctic universities attractiveness and demographic needs of these regions? Do graduates from Arctic universities stay in the Arctic regions or are they absorbed by the labor market in the capital region? How can employability solutions be designed to boost high-skilled migration to Arctic regions? Moreover, more precise and comparable data on employment and integration are needed to assess the impact of measures on the retention of international talent in the Arctic regions of Finland and Norway.

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