Journal of Population Research (2025) 42:39
https://doi.org/10.1007/s12546-025-09390-1

REVIEW ARTICLE

Professional factors influencing internal migration: a systematic review

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Accepted: 1 July 2025

Abstract

Migration is often viewed through the lens of international movement, yet internal migration within countries represents a significant aspect of human movements. This paper presents the results of a systematic review examining internal migration dynamics, specifically concentrating on studies that explore the professional determinants of internal migration, potentially alongside other influencing factors. The review draws upon data from SCOPUS, Web of Science, and EconLit databases. Seventeen relevant studies were identified, primarily from developing countries and predominantly published post-2010. As expected, the majority of studies concentrated on career and employment motivations, but other factors, such as distance, place, and behavioural influences, were also addressed. The findings reveal the complexity of migration behaviours, emphasizing the importance of thoroughly considering multiple determinants. The reviewed literature underscores the complex interplay of sociodemographic factors, push and pull dynamics, distance, place disparities, and psychological factors in shaping internal migration patterns. By analysing research focused on migration within national borders, this study enhances comprehension regarding place attraction and the underlying forces propelling internal migration. Although this study concentrates narrowly on professional determinants, provides a synthesis of current knowledge, emphasizing the importance of encompassing a diverse range of factors to elucidate the complexities of migration phenomena.

Keywords Factors · Internal migration · Professional determinants · Systematic review

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Published online: 28 July 2025

Introduction

Human migration has long been part of human history, with reasons evolving from climate change, conflicts, and food shortages to contemporary socio-economic issues, the search for better living conditions, well-being and better pay (Barbosa et al., 2018; Blakemore, 2019). While migration research often focuses on international migration, it is imperative to acknowledge significant variations in internal migration patterns, diverging not only between countries, but also across regions within those countries (Dietz et al., 2023). Internal migration, as denoted, pertains to geographic mobility patterns within a specific country or political unit. The decision, rationale, and destination of individuals' relocations are influenced in part by financial, occupational, social, cultural, and political factors (Dietz et al., 2023).

Economic opportunities have been pivotal in migration decisions, with employment being the most consistent factor (Greenwood, 2021). Globally, urbanization is linked to economic growth and social development aspirations, but it also brings negative impacts like increased environmental footprints and social issues (Takahashi et al., 2021; Xiong et al., 2020). This study aims to identify the professional factors influencing internal migration. While the analysis draws on international literature, particular interest is placed on the Portuguese context, which is reflected in specific methodological choices. Internal migration is especially relevant in Portugal, as the 2021 Census highlights a growing imbalance in population distribution across the territory over the past decade. Notably, there is a pronounced trend of coastalization, with an increasing concentration of the population around the capital (INE, 2022). In Portugal, a significant portion of emigrants are highly educated, affecting the local workforce and contributing to demographic challenges and skill shortages (Cavallini et al., 2018; PORDATA, 2023). Regions must attract skilled workers to drive economic progress and innovation (Florida, 2002).

The global economy allows human capital to move freely for work-life balance, crucial for worker retention (Fan & Potočnik, 2021; Thite, 2011). Migration facilitates life transitions and goal attainment (Bernard et al., 2014).

De Haas (2021) highlights the gap between empirical studies and the lack of theoretical development in migration research. Functionalist paradigm, focusing on rational cost–benefit analyses, dominate the field but often oversimplify migration processes. However, it is worth noting that functionalist theories may offer greater explanatory power for certain types of relatively unconstrained human mobility, such as internal migration (de Haas, 2021).

Theories like neo-classical migration (Harris & Todaro, 1970; Todaro, 1969) and push–pull models (Lee, 1966) emphasize individual choice and equilibrium, while the new economics of labor migration (Stark, 1978, 1991) considers migration a household strategy to diversify income (de Haas, 2021; de Haas et al., 2020).

While functionalist theories may offer greater explanatory power for certain types of human mobility, such as internal migration, they are also criticized for

their reductionist approach to explaining migration. These theories are based on the assumption that individuals and households are entirely rational actors who continuously engage in cost–benefit calculations (de Haas, 2021). This study aims to bridge the gap by conducting a systematic review of the professional determinants influencing internal migration and analyzing whether the identified factors exhibit the reductionist character highlighted by de Haas. Our review aspires to address a research question that, to the best of the authors' knowledge, remains unaddressed in existing systematic literature reviews. This review seeks to enhance understanding of internal migration patterns, informing research and policy.

Methods

This systematic review was conducted according to Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). The review synthesized the evidence of 17 studies on professional internal migration determinants. For inclusion in the systematic review, the original studies needed to address internal migration and professional factors of migration, whether objective, self-reported, or based on perceptions. Recognizing that certain migration determinants may exhibit context-specific characteristics and given our focus on the Portuguese context, grey literature was also considered. Specifically, master's dissertations and doctoral theses were reviewed to identify sources that could provide additional insights into the Portuguese context. As a result, while this review primarily focused on peer-reviewed articles, relevant Portuguese grey literature was also incorporated. Furthermore, the systematic review was restricted to studies employing primary data.

Study selection and criteria for inclusion

Three databases were used in this study, namely, SCOPUS, Web of Science and EconLit. The authors conducted searches for relevant studies using the specified search terms in the title, abstract, or keywords. The complete list of search terms is presented in Table 1. All articles published prior to February 22, 2023 were eligible for inclusion. The search was done with the terms in English, and the same terms translated to Portuguese and Spanish. The records were imported into Rayyan (https://rayyan.ai/), a web-based tool to assist the systematic review process, in order to remove duplicates and irrelevant records (e.g., articles related to international, seasonal, or return migration). Based on the title and abstract review of all articles, we rejected any articles that were not relevant or did not meet the study criteria. Studies were selected for inclusion if (1) they cover the literature on internal migration, (2) they cover the study of the determinants of internal migration related to work, and (3) are written in English, Portuguese or Spanish. Studies were excluded if (1) the literature was about external or international migration, return migration, temporary or seasonal migration, or any other type of migration, but it did not

Table 1 Database search terms

Language	SCOPUS	Web of Science	EBSCO	RCAAP	ReCiL/B-on
English	TITLE-ABS-KEY ((internal OR inter-regional OR inter-regional OR interegional OR urban OR rural) AND (migration OR out-migration OR outmigration) AND (labour OR labor OR work* OR job OR profession* OR employ*))	((internal OR inter-regional OR interregional OR interegional OR urban OR rural) AND (migration OR out-migration OR outmigration) AND (labour OR labor OR work* OR job OR profession* OR employ*)) (Topic)	(internal OR inter-regional OR interregional OR interegional OR urban OR rural) AND (migration OR out-migration OR outmigration) AND (labour OR labor OR work* OR job OR profession* OR employ*) – with filter applied to results from the Journal Economic Literature	(internal OR inter-regional OR interregional OR interegional OR urban OR rural) AND (migration OR out-migration OR outmigration) AND (labour OR labor OR work* OR job OR profession* OR employ*)	"migration" conditioned to the title
Portuguese	TITLE-ABS-KEY ((interna OR regio* OR urbana OR rural) AND (migração) AND (trabalho OR empreg* OR profiss*))	(interna OR regio* OR urbana OR rural) AND (migração) AND (trabalho OR empreg* OR profiss*) (Topic)	NA	(interna OU regio* OU urbana OU rural) E (migração) E (trabalho OU empreg* OU profiss*)	"migração" conditioned to the title
Spanish	TITLE-ABS-KEY ((intern* OR region* OR urban* OR rural) AND (migraci*) AND (traba* OR profes*))	(intern* OR region* OR urban* OR rural) AND (migraci*) AND (traba* OR profes*) (Topic)	NA	(intern* OR region* OR urban* OR rural) AND (migraci*) AND (traba* OR profes*)	"migración" conditioned to the title

address internal migration (2) professional factors were not covered in the analysis, (3) the study did not cover the general population, but a predefined select group of workers, e.g., health workers, (4) if the literature was a meta-analyses or systematic review, (5) if study data was not from primary sources, (6) the work was not a journal article; or (7) the studies covered data prior to 1950. Considering the included articles, we used AI tools such as Inciteful.xyz and Litmaps.com to search for additional relevant studies. Additionally, we conducted a search in RCAAP (Repositórios Científicos de Acesso Aberto de Portugal), a repository providing open-access scientific content from Portuguese institutional archives, where we explored master's dissertations and doctoral theses using the same search terms. Further searches were conducted in ReCiL and B-on; however, these did not yield any relevant results.

The screening process was carried out independently by two researchers. Any disagreements were addressed in subsequent meetings, during which the two authors discussed and attempted to reach a consensus based on the predefined inclusion and exclusion criteria. In one instance where consensus could not be achieved, a third researcher was consulted to resolve the disagreement.

Data extraction and quality assessment

An analysis of the selected articles provided essential information on each one, including authors, publication year, study objectives, study population, data acquisition methods, applied methodologies, and key findings. To evaluate study quality, we employed JBI's critical appraisal tools (JBI, 2020) to assess the credibility, relevance, and outcomes of the studies included in this review. We employed a checklist designed for analytical cross-sectional studies (Table 2) and a checklist for cohort studies (Table 3). We have considered the identification of confounding factors as "unclear" unless explicitly addressed by the studies themselves. This determination is particularly challenging in research focusing on behavioural, attitudinal, or lifestyle factors that could influence study outcomes, as outlined in the JBI (2020) checklist. Upon analysis of Tables 1 and 2, the cross-sectional studies and the cohort study reviewed generally fulfilled the essential criteria necessary to ensure the credibility, relevance, and robustness of the studies under review.

Results

The initial literature search yielded a comprehensive collection of scholarly articles across various databases, as depicted in Fig. 1. Specifically, we retrieved 16,370 articles from Scopus, 11,353 from Web of Science, and 811 from EconLit. Subsequently, we employed a rigorous process to refine this vast dataset, beginning with the removal of duplicate articles and those that failed to align with our predetermined search criteria, which encompassed considerations such as language, article type, and other relevant factors. Following this initial selection, 233 articles remained for further scrutiny, involving an assessment of their abstracts.

Table 2 Risk of bias assessment in cross-sectional studies using the JBI Checklist (2020)

Article	Inclusion criteria clearly defined	Study subjects and setting described	Exposure measurement	Objective and standard criteria used	Confounding factors identified	Deal with confounding factors	Outcomes measurement	Appropriate statistical analysis
Alghais et al. (2018)	+	−	NA	+	?	+	+	+
Baptista (2020)	+	+	NA	+	?	+	+	+
Detang-Dessendre and Molho (1999)	+	+	NA	+	?	?	+	+
Devi et al. (2009)	+	−	NA	+	?	−	+	+
Dodd et al. (2017)	+	+	NA	+	+	+	+	+
Farah et al. (2012)	?	−	NA	+	?	−	?	?
Ghafoor et al. (2022)	+	−	NA	+	?	+	+	+
Makinwa-Adebusoye (1994)	+	−	NA	+	?	+	+	+
Malamassam et al. (2021)	+	+	NA	+	?	−	?	+
Nakagawa (2018)	+	+	NA	+	?	+	+	+
Ngoc et al. (2017)	+	+	NA	+	?	+	+	+
Niedomysl (2011)	+	+	NA	+	?	+	+	+
Niedomysl and Hansen (2010)	+	+	NA	+	?	+	+	+
Taima and Asami (2019)	+	+	NA	+	?	+	+	+
Xiong et al. (2020)	+	+	NA	+	?	+	+	+
Yilma and Regassa (2019)	+	+	NA	+	?	+	+	+

+, yes; −, no; ?, unclear; NA, not applicable

Table 3 Risk of bias assessment in cohort studies using the JBI Checklist (2020)

	Groups similarity and from the same population	Similarity of exposure measurement	Exposure measurement	Confounding factors identified	Deal with confounding factors	Participants free of the outcome (start)	Outcomes measurement	Follow up time	Complete follow up	Strategies to address incomplete follow up	Appropriate statistical analysis
Chiang et al. (2015)	+	NA	NA	?	+	+	+	+	+	?	+

+, yes; −, no; ?, unclear; NA, not applicable

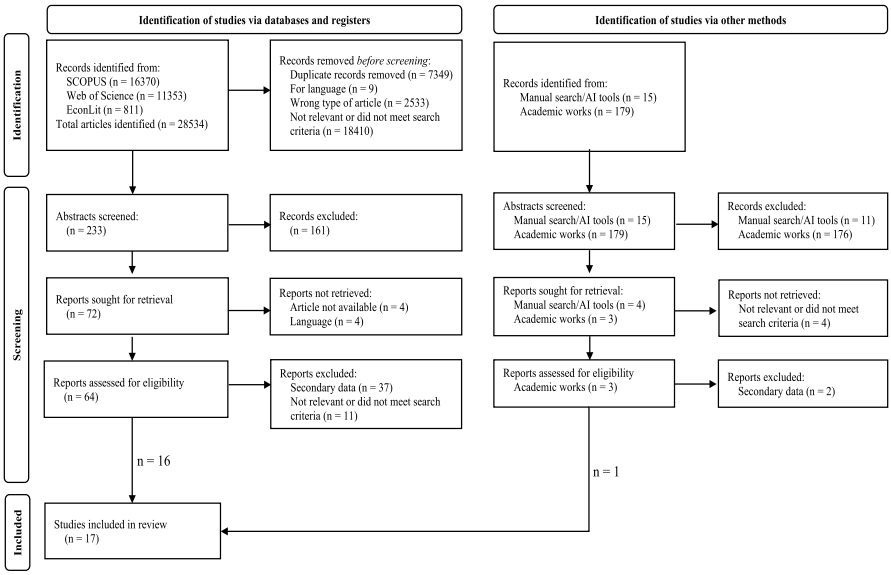

Fig. 1 PRISMA flow diagram

The next stage of our review process focused on articles pertaining to the determinants of migration, specifically those that included professional factors. This selection process resulted in the identification of 72 relevant articles, which were then subjected to a full-text review. During this phase, 4 articles proved inaccessible even after attempts to contact their respective authors, and an additional 4 articles were written in languages that did not meet our search criteria. In the full-text review, we further refined the selection, resulting in the exclusion of 37 articles that relied on secondary data sources and 11 articles that were deemed irrelevant or failed to meet our established search criteria. A supplementary literature search was also conducted, focusing on the exploration of grey literature sources. This supplementary search specifically targeted the Portuguese context and involved an exploration of open-access scientific content within Portuguese institutional repositories. Within this context, we carried out a search aimed at identifying Portuguese master's dissertations and doctoral theses that addressed the research theme, resulting in the retrieval of a total of 179 relevant documents. Additionally, we made further efforts to enhance the comprehensiveness of our systematic review. This involved both manual searches and the use of artificial intelligence (AI) tools to identify additional studies that could contribute to the review. These additional efforts led to the identification of 15 additional relevant studies.

A total of 17 articles satisfied our predefined inclusion criteria for this systematic review. These selected articles examine the determinants of internal migration across a range of countries, encompassing China (n = 2 articles), Ethiopia (n = 1), France (n = 1), India (n = 2), Indonesia (n = 1), Japan (n = 2), Kuwait (n = 1), Nigeria (n = 1), Pakistan (n = 2), Portugal (n = 1), Sweden (n = 2), and Vietnam (n = 1). Most

papers collected samples from developing countries (n = 11; ≈65%) and the majority were published since 2010 (n = 14; ≈82%).

These investigations spanned diverse global regions, encompassing Africa, Asia, Europe, and the Middle East, reflecting the wide geographic scope of the research. The studies were designed to analyse migration determinants from various angles, encompassing sociodemographic factors (n = 14), push and pull factors (n = 4), distance (n = 3), place determinants (n = 3), and psychological factors (n = 1). This comprehensive approach allowed for a multifaceted examination of the determinants underlying internal migration in diverse contexts.

Sociodemographic factors

Fourteen studies have examined sociodemographic factors and motivations influencing migration, involving 24,951 participants from diverse locations such as Kuwait, China, Sweden, France, Japan, India, Nigeria, Portugal, Ethiopia, Indonesia and Pakistan (see Table 4). These studies explored factors such as age, gender, education, marital status, employment status, income level, household characteristics, family background, and citizenship.

A common sociodemographic factor that appears to be relevant across these studies is age. *Age* is frequently highlighted as an important influence, with younger individuals generally exhibiting a higher likelihood of migrating. Their migration tends to be driven primarily by employment opportunities but also by education, personal development, housing, and marriage. However, as individuals grow older, career-related factors seem to become less central, and the likelihood of moving for employment or education appears to decline. Instead, considerations related to housing, living environment, and social factors may become more significant in their migration decisions.

Gender Some studies suggest that economic reasons are significant for both men and women, though men may place a greater emphasis on employment-related motives (Chiang et al., 2015; Devi et al., 2009; Niedomysl, 2011; Niedomysl & Hansen, 2010; Yilma & Regassa, 2019). Additionally, some research indicates that women's migration is often influenced by social and family considerations, including household strategies for poverty reduction, education, and marriage (Chiang et al., 2015; Devi et al., 2009; Makinwa-Adebusoye, 1994; Niedomysl, 2011; Yilma & Regassa, 2019). According to Chiang et al. (2015) and Yilma and Regassa (2019), women also appear to be more likely to send remittances. In relation to gender, f*amily background* (Chiang et al., 2015; Devi et al., 2009; Taima & Asami, 2019), including sibling composition, may influence migration decisions of men and women differently. Chiang et al. (2015) suggest that girls with older brothers are more likely to migrate, whereas boys with older sisters are less likely.

Education The relationship between education and migration is complex. Some studies find that highly educated individuals are more likely to migrate (Detang-Dessendre & Molho, 1999; Nakagawa, 2018), while others suggest the opposite (Devi et al., 2009; Farah et al., 2012; Makinwa-Adebusoye, 1994). Educational background may influence migration motivations, with higher levels of

Table 4 Sociodemographic factors influencing internal migration of human capital (n = 14)

Reference; data collection	Country	Study population	Main findings
S1 (Alghais et al., 2018) 2016–2017	Kuwait	Citizens/ Kuwaitis: Male: 52% Female: 48% Non-citizens/ Non-Kuwaitis: Male: 71% Female: 29% 18–60y	Common Determinants for Both Citizens and Non-Citizens: (1) Push factors (origin) were found to be similar: high pressure on land and property values and long commuting times in the existing urban area Differences Between Citizens and Non-Citizens: (1) The major pull factor at the destination for Kuwaitis is housing (2) The major pull factor for non-Kuwaitis is employment opportunities (3) Economic pull factors are more important to non-citizens, while social and other pull factors are more important to citizens (4) Preferred locations of settlement differ: Kuwaitis prefer residential districts, while non-Kuwaitis prefer mixed districts Grouped by Age: (1) Young and middle-aged Kuwaitis have a strong desire to migrate to new cities, mainly due to their eligibility for welfare housing (2) Non-Kuwaitis seniors are the keenest on migration
S2 (Xiong et al., 2020) 2014	Chongqing (China)	Migrants are aged mainly between 30 and 50 years Rural households	Age and Household Characteristics: (1) Migration tends to be characterized by a relatively young age group, with migrants primarily falling within the 30 to 50-year-old range (2) Households with inadequate natural resources and poor location conditions are more likely to migrate (3) Households located further from towns are more likely to engage in family migration (4) Rural households are more willing to migrate to other provinces rather than moving within their own provinces (5) Rural households in developed regions with a higher economic level are more likely to choose family migration (6) The number of children at school age does not have a significant impact on migration in both models Influencing Factors—MODEL "No Migration-Migration": (1) Per capita non-agricultural income is the most significant positive factor driving migration (2) The number of the labour force plays a less important role: households with a smaller labour force are more likely to stay in rural areas and engage in agriculture Influencing Factors for "Labor Migration-Family Migration": (1) Per capita non-agricultural income remains a key driver for family migration, indicating the importance of economic opportunities (2) Followed by residential distance from towns (3) The number of household labour force, the average age of the labour force, and regional dummy variables (Youyang County, Zhong County) act as restraining factors and have a negative influence on family migration

Table 4 (continued)

Reference; data collection	Country	Study population	Main findings
S3 (Niedomysl, 2011) 2007	Sweden	Who move ≥ 20 km Male: 42% Female: 58% 18–74 years	Gender: (1) Men are more likely to cite employment-related motives for migration than women (2) In contrast, women also frequently cite education and social reasons (3) This gender-based distinction remains relatively consistent across different migration distances (4) Men and women were found to have the same probability of citing living environment and other reasons as their main migration motive, though they did have different probabilities of citing the other four migration reasons Age: (1) Age plays a significant role in migration motives (2) Young people, especially those under 25, often cite education as a motive for long-distance migration (3) On the other hand, employment reasons are prominent for migrants aged 26–37 for long-distance migration and also for migrants aged 38–59 (4) The oldest age group (60–74y) is less likely to move for employment or education, making housing, living environment, and social reasons more prominent in their long-distance migration decisions Income: (1) A slight tendency for people with low incomes to move more often over short distances for employment reasons (2) In long distance, people with high incomes are who tend to move more often for employment (37%) than low income (27%) and middle income (35%) (3) People with high incomes also tends to move more often over longer distances for social reasons Educational Groups (long-distance migration): (1) Having a university degree increases the likelihood of employment-related long-distance migration (2) Migrants with only nine years of compulsory education are far more likely to cite social reasons as the most important motive for migration (3) Intermediate educational groups show a higher share of education-related migration Occupation Before Migration (long-distance migration): (1) Students are more likely of long-distance migration for education reasons (2) Unemployed individuals often cite employment-related motives (3) Notably, a substantial proportion of retired migrants cite social reasons, living environment and housing as their main motives (4) Employed cite employment and social reasons almost in the same proportion Civil Status: (1) Married, widowed and unmarried respondents often cite housing reasons for short distance moves (2) Separated individuals frequently cite social reasons for short distance moves, partly because separation and divorce are considered social reasons (3) In long distance migration, widowed and separated respondents are even more likely to cite social reasons (4) In long distance migration, married and unmarried respondents cite more employment reasons, with unmarried respondents also citing education reasons in the same proportion than employment

Table 4 (continued)

Reference; data collection	Country	Study population	Main findings
S4 (Chiang et al., 2015) 2000–2009	Gansu (China)	Young migrants 54.2% male 45.8% female	Age and Gender: (1) Gender is not significantly associated with the likelihood of work migration before considering family background (2) Young men are more likely than young women to emphasize personal economic gains as a migration rationale (3) Young women emphasize the importance of supporting family members' tuition more than young men (4) Migrant young men and women assign similar degrees of importance to supporting family member's medical expenses (no significant gender disparities) (5) Personal development is an important motivator for both young men and women, but women are less likely to emphasize personal development (6) Young women and young men value economic and noneconomic migration rationales (7) Men assigned higher importance to individual economic and noneconomic migration rationales than women; Family Background: (1) Young people with fathers who are more educated are less likely to become migrant workers than to stay at home (2) Sibship structure plays a role in migration decisions, with girls with older brothers being more likely to migrate and boys with older sisters being less likely to migrate
S5 (Detang-Dessendre & Molho, 1999) 1993	France	Young male workers of rural origin 21–22 or 26–27 years	Education and Age: (1) The hazard for long-distance migration is significantly higher for highly educated workers (baccalaureat or higher) compared to the less-educated (2) Young workers from rural backgrounds who aim for high-level careers are more likely to engage in long-distance migration (3) The hazard increases significantly for individuals who were educated in a location over 100 kms away from their district of origin National Service: (1) The migration hazard after National Service is significantly higher than before Marital Status: (1) Being single as opposed to married or living together has little effect on migration, even over short distances Labor Market and Employment-Status: (1) Unemployed individuals who gain employment are significantly more likely to undertake long-distance migration than those who are continuously employed or unemployed (2) Unemployed individuals are more likely to undertake contracted long-distance migration, especially among the less educated

Table 4 (continued)

Reference; data collection	Country	Study population	Main findings
S6 (Taima & Asami, 2019) 2017	Japan	Migrants and stayers participants Students and housewives excluded Migration from metropolitan to outside areas 20–65 years	Personal Determinants: (1) Those working in IT express a strong intention to migrate, although they find it difficult to do so from metropolitan areas due to the concentration of employment opportunities (2) Marriage rates contribute positively to migration, suggesting that some couples migrate after marrying or get divorced (3) Marital status is related to migration, with married individuals being more likely to stay (4) Single young men tend to migrate outside metropolitan areas and often to other countries for business (5) Large households are less likely to migrate (6) Owning land or a house discourages migration (7) Most teens migrate from metropolitan areas, where agriculture, forestry, and fishery establishments are prevalent, to outside areas (8) Living in natural surroundings during youth promotes migration by teens than other generations (9) People in their 20s often migrate to higher population ratio cities outside metropolitan areas, probably in search of employment (10) Parents' hometowns are an influence on children's migration (11) Lower incomes have a negative effect, whereas high incomes have a positive effect: wealthy people migrate outside metropolitan areas for various reasons, excluding employment or education Motivations: (1) The main reasons for migration were occupation (Groups C and D), education (Group A), and marriage and children (Group B)
S7 (Nakagawa, 2018) 2016	Japan	60.0% male 40.0% female Students excluded 20–69 years	Sociodemographic and Socioeconomic Predictors: (1) Male gender and high education are significant predictors of rural migration (2) Self-employment or being a specialist is associated with the decision to migrate (3) Being a company or government employee is more strongly associated with the decision to migrate (4) Employment status rarely serves as a trigger when thinking about the possibility of migration, but once the possibility is considered, employment status predicts whether a person can actually migrate (5) Lower educational background is associated with both considering and experiencing migration (the only variable associated with both) (6) Significant predictors of rural migration: being both not low on the nutrition subscale score of HPLP II and not high in age (i.e., 49 or younger)

Table 4 (continued)

Reference; data collection	Country	Study population	Main findings
S9 (Devi et al., 2009) N/A	Tamil Nadu (India)	61% male-headed households 39% female-headed households $M_{male} = 29y$ $M_{female} = 32y$	Reasons for Migration: (1) Among low-income groups, poverty and the search for better employment are the main reasons for migration (2) Economic reasons are cited as the major push factor for migration, with 92% of males and 51% of females reporting economic reasons for migrating (3) Non-economic reasons are cited by 8% of the male migrants and 48% of the female migrants Demographic Characteristics: (1) Males dominated the migration stream (2) Both males and females tend to migrate at a younger age (3) 57% of the male migrants and 67% of the female migrants were from the backward community (4) Literate females are less migratory than the illiterate females (5) Mostly the male migrants were married. In the case of female migrants, 18% were married, 10% divorced and 36% were widows (6) Migrants come mostly from small families (7) Factors of the migrants who had migrated for economic reasons were higher based on the type of family belonging to the Hindu religion and coming mostly from backward communities

Table 4 (continued)

Reference; data collection	Country	Study population	Main findings
S11 (Niedomysl & Hansen, 2010) 2007	Sweden	42% male 58% female 18–74 years	Work Factor: (1) Work is the most highly rated factor in migration decisions, with men, young migrants, highly educated individuals, and the unemployed emphasizing it the most (2) Civil status is a characteristic with little explanatory power (3) Education plays a significant role, with highly educated migrants prioritizing work as a reason for moving (4) Income has only a minor effect, with middle-income earners showing a slightly higher emphasis on work (5) Unemployed migrants are most influenced by work as a reason for migration Outdoor Activities and Recreation Factor: (1) This factor is less affected by gender but becomes more important for migrants as they age (2) Widowed migrants place more importance on outdoor activities and recreation (3) Migrants with university education (<3 years) emphasize this factor the most (4) High-income migrants prioritize outdoor activities and recreation (5) Minor differences are found between the different occupational groups, with migrants that were unemployed prior to migration showing the lowest negative odds (6) This factor appears particularly important for the elderly and for people with high incomes Career Opportunities Factor: (1) Men tend to prioritize career opportunities more than women (2) Career opportunities are less important as migrants age (3) Singles place the highest emphasis on career opportunities (4) Longer education leads to a greater emphasis on career opportunities (5) High-income migrants show less emphasis on career opportunities, while unemployed migrants are more influenced by them Cultural and Entertainment Facilities Factor: (1) This factor receives the lowest mean rating among the four (2) Women tend to rate this factor lower than men (3) Younger people place more importance on cultural and entertainment facilities, and this drops rapidly for the older age groups (4) Singles and widowed migrants tend to prioritize this factor (5) Higher education leads to more emphasis on cultural and entertainment facilities (6) Income and occupation have marginal effects on this factor, with retired migrants showing slightly higher emphasis (7) High-income migrants put relatively little emphasis on culture, and that such amenity appears to exert a stronger attracting force for unemployed and retired than for employed migrants

Table 4 (continued)

Reference; data collection	Country	Study population	Main findings
S12 (Makinwa-Adebusoye, 1994) 1988	Nigeria	Only women 15–49 years	Characteristics of Migrant Women: (1) Most migrant women, regardless of marital status, are concentrated in the young age groups, particularly between 15–29 years old (2) A significant proportion of migrants moved as family members when they were under 15 years old, but over two-thirds migrated between the ages of 15 and 29 (3) Single women tend to migrate at younger ages than married women (4) Approximately 10% of migrant women reported migrating for the purpose of marriage to men already residing in the city (5) Language plays a crucial role in migrants' choice of destinations. Many migrants come from the same state or adjoining states, especially those that share the same language. However, a substantial portion also comes from other states within the country (6) Migrants generally have lower levels of education (7) Migrants were by far less well educated than those born in the cities of in-migration Reasons for Migrating: (1) Family-related reasons, including moving with parents and marriage to a man who had previously migrated, constitute the primary motivation for migration (56%) (2) This proportion increases to 63% when those who migrated "to live near friends or relatives" are included (3) Only 16% mentioned human capital development as a reason for migration, such as furthering education or learning a trade (4) Economic motivation, explicitly stated by only 18% of respondents, includes job transfers, seeking employment, working as a trader, domestic worker, or participating in the National Youth Service Corps (5) Data disaggregated by marital status suggests that women move for various reasons, including economic prospects, furthering education, learning a trade, or seeking urban-based jobs
S13 (Baptista, 2020) i) 2019 ii) 2020	Aveiro (Portugal)	(i) 54% male 46% female <25 to >55y Interested in technology (ii) 65% male 35% female 21–64y IT workers	Survey I—Factors Influencing Place and Work Attractiveness: (1) Females value employment opportunities and culture/art and public transport more than males and value population density less highly than man (2) Older individuals and individuals with children prioritize proximity to beaches, accessibility, infrastructure, environmental quality, and climate more than younger individuals and individuals without children (3) Younger people place more importance on the cost of living and leisure (4) Those without children place more value on public transport and services (5) Individuals with higher education tend to emphasize job opportunities and culture/art more than those without qualifications Survey II—Factors Influencing Migration Intention for Tech Professionals: (1) The likelihood of changing regions is positively associated with the intention to quit the current job but negatively associated with age (2) Younger professionals are more likely to migrate, as are single individuals and those without school-age children. Age, as a negative factor, reduces the probability of migration to a region with better career opportunities, whereas the influence of family and friends has no significant impact

Table 4 (continued)

Reference; data collection	Country	Study population	Main findings
S17 (Yilma & Regassa, 2019) N/A	Dilla town (Ethiopia)	≈60% males 93.5% are in 15–64 age group	General Gender Differences: (1) Migration is gender and age selective, with more than 90% of the migrants moved to the town at younger age (2) Intention and decision-making processes differ significantly between male and female migrants, with females tending to involve household decisions more prominently (3) Four reported reasons for migration became significantly associated with gender: challenges at the place of origin, job search, desire for better income/job opportunities, and marriage Female Migration Trends: (1) More females than males make planned migration decisions (2) Females tend to migrate more due to familial issues, including marriage and seeking a better life in urban areas (3) Education is a significant motivator for female migration, with more females opting to migrate for educational opportunities (4) Females often obtain financial support for migration from their spouses and families, indicating that their migration is more based on household decisions than individual needs (5) Women's migration is more of a household decision determined by a household livelihood strategy such as poverty reduction, better education for household members and marriage. It appeared that more females than males send remittance to their place of origin Male Migration Trends: (1) Males predominantly migrate due to economic issues and business (2) More males than females reported problems/challenges at the place of origin and job seeking as the main reasons
S18 (Malamassam et al., 2021) 2018	Sorong City (Indonesia)	Highly educated migrants 9 males 6 females 24–32 age range	Moving for personal accomplishment: (1) Many respondents shared that their decision to move to Sorong was based on the expectation of better career prospects (2) Highly educated migrants move to enhance human capital accumulation and welfare improvement (3) Many informants have previous migration experience before moving to Sorong, mainly for pursuing tertiary education (4) Previous migration experiences and cultural norms have been seen to support narratives in their migration trajectories. Some groups value migration as an important means to obtain high social status, viewing success in life as more meaningful when achieved outside of their hometowns
S19 (Farah et al., 2012) 2001	Faisalabad (Pakistan)	Only males 60.7% were young adults (21–30 y.o) Age range of the participants: 21–39 +	Sociodemographic Factors: (1) Age, income, and education were significant factors shaping migration attitudes (2) Majority of migrants were young adults, low education levels, professionals, with large-sized families and low-income backgrounds (3) Young adults were more mobile, showing a strong relationship between age and migration attitude (4) Young people migrated mostly for employment (53.1%) (5) Other age groups preferred migration for education (6) Low-income respondents primarily migrated for employment (43.3%) (7) The main goal of respondents with middle-income was to enhance their educational attainment (42.1%) (8) Respondents with a high-income level migrated to improve their lifestyle (40.0%)

education being linked to migration for employment opportunities, human capital accumulation and lifestyle improvement, while also considering factors such as cultural and entertainment pursuits (Baptista, 2020; Malamassam et al., 2021; Niedomysl & Hansen, 2010).

Marital status Some studies highlight the influence of marital status on migration. Taima and Asami (2019) suggest that higher marriage rates contribute positively to migration, while Baptista (2020) suggests that single individuals exhibit greater mobility. Makinwa-Adebusoye (1994) results show that single women migrate at younger ages, often for marriage. Devi et al. (2009) note that male migrants are predominantly married, whereas female migrants display diverse marital statuses. Migration motivations vary accordingly; housing, employment, and social factors are primary drivers (Makinwa-Adebusoye, 1994; Niedomysl, 2011; Niedomysl & Hansen, 2010; Taima & Asami, 2019). Housing is a key factor in short-distance migration for married, widowed, and unmarried individuals, whereas separated individuals prioritize social reasons. In long-distance migration, widowed and separated individuals emphasize social factors, while married and unmarried individuals prioritize employment. Additionally, in Sweden, unmarried migrants also consider education a key motivator (Niedomysl, 2011).

Employment status Unemployed individuals are more likely to migrate for employment opportunities (Niedomysl, 2011; Niedomysl & Hansen, 2010), whereas employed individuals may also consider social reasons (Niedomysl, 2011). Students typically migrate for educational purposes (Niedomysl, 2011), while retired individuals tend to migrate for reasons related to social, living environment, housing, and entertainment (Niedomysl, 2011; Niedomysl & Hansen, 2010).

Income level Low-income individuals tend to migrate primarily for employment reasons (Devi et al., 2009; Farah et al., 2012; Niedomysl, 2011). Middle-income earners often seek to improve their educational attainment (Farah et al., 2012). High-income earners are more likely to engage in long-distance migration for employment and social reasons (Niedomysl, 2011). However, Niedomysl and Hansen (2010) also suggest that high-income migrants place less emphasis on career opportunities compared to middle-income earners, prioritizing outdoor activities and recreation.

Household factors and *Family background* Various studies examine the role of household characteristics in migration (e.g., Baptista, 2020; Chiang et al., 2015; Devi et al., 2009; Farah et al., 2012; Taima & Asami, 2019; Xiong et al., 2020), though they address different aspects. Economic factors such as resource scarcity and geographical location can drive migration, as households seek better opportunities and diversification of income sources. Property ownership may discourage migration (Taima & Asami, 2019). Taima and Asami (2019) suggest that larger families are less likely to migrate, whereas Farah et al. (2012) indicate that larger families may be more prone to migration. Households with a smaller labor force tend to remain in rural areas (Xiong et al., 2020). Additionally, individuals with children often prioritize proximity to amenities, while those without children may focus more on access to public transport and services (Baptista, 2020).

Citizenship status A study by Alghais et al. (2018) examines the role of citizenship in migration decisions, concluding that Kuwaiti migrants prioritize housing,

whereas non-Kuwaitis focus more on employment opportunities. Non-citizens are often influenced by economic pull factors.

Cultural norms and *language* Malamassam et al. (2021) explore the influence of cultural norms on migration, noting that in Nigeria, migration is often perceived as a means to achieve higher social status. Language can also affect migration patterns, as individuals may prefer destinations where they share a common language with the local population (Makinwa-Adebusoye, 1994). Migrants from the same or neighboring states may choose similar destinations due to linguistic and cultural familiarity.

Push and pull factors

Four studies examined push and pull factors of internal migration, comprising a total of 1534 participants from Dong Nai and Binh Duong (Vietnam), Lahore City (Pakistan), Tamil Nadu (India) and Faisalabad (Pakistan), all developing countries (Table 5). Heberle (1938) formulated the concept of push and pull factors when studied the causes of rural–urban migration and concluded that the reasons for human migration include both push and pull factors. While "push" factors are defined as a stimuli to migration which may be looked at as "pressure" (Heberle, 1938), like negative things that make people want to move from a region or country, the "pull" factors are the opposite, refer to the aspects that attract migrants to a region or country (Urbański, 2022). Push factors encompass the negative attributes of the place of origin, while pull factors represent the favourable characteristics at the destination point (Ghafoor et al., 2022). Lee (1966) summarized the "push–pull" theory, dividing the factors affecting population migration into four categories, including factors associated with the area of origin, those associated with the area of destination, intervening obstacles, and personal factors. The "push–pull" theory framework has been widely used to analyse the influencing factors and mechanisms of population migration (Niu, 2022). Ngoc et al. (2017), Ghafoor et al. (2022) and Farah et al., (2012) analysed pull factors, while Dodd et al. (2017) addresses the barriers to migration through the lens of non-migrant households.

Ngoc et al. (2017), Ghafoor et al. (2022) and Farah et al., (2012) pinpoint job factors as primary pull factors, like the availability of job information, surplus employment opportunities, and elevated wages. Additionally, they highlight the appeal of better living standards, encompassing better health systems, education, training, entertainment, and an enhanced living environment in destination areas. The findings from Ngoc et al. (2017) reveal a pronounced emphasis on employment, particularly in the more recent period (2009–2014). Expanding on this, the insights from Ghafoor et al. (2022) introduce the social environment and culture, as well as prospects for children's futures. Additionally, Ghafoor et al. (2022) considers recreational facilities, services, and factors such as independence, order and law. The latter aspect is also reflected in Ngoc et al. (2017), specifically in the 2004–2009 period with the mention of "easy regulations for migration and residence," but notably is not referenced during the subsequent period of 2009–2014. Overall, the common pull factors include job-related prospects, better living standards, amenities such as health, education, training, entertainment and recreational facilities, and better law.

Table 5 Push and pull factors influencing internal migration of human capital (n = 4)

References; data collection	Country	Study population	Main findings
S14 (Ngoc et al., 2017) 2014	Dong Nai and Binh Duong (Vietnam)	46.3% male 53.7% female 15–60 years	Push Factors (2004–2009 and 2009–2014): (1) Lack of employments in homeland and there were only jobs with low salary (2) In the homeland, no good hospital system, no good school system (3) (2004–2009) Natural disasters induced by climate changes increased in the homeland; (2009–2014) Pressure on earning money to pay debts and health treatment for relatives, personal study (4) (2004–2009) Like leaving agriculture and leaving homeland; (2009–2014) Natural disasters induced by climate changes increased in the homeland Pull Factors (2004–2009 and 2009–2014): (1) (2004–2009) Better health system, education, training, entertainment, and a better living environment in the destination area; (2009–2014) Information on jobs and redundant employment opportunities (2) (2004–2009) Information on jobs and redundant employment opportunities; (2009–2014) Better health system, education, training, entertainment, and a better living environment in the destination area (3) (2004–2009) Easy to find jobs, employment diversity, abundance, matching personal aspirations; (2009–2014) Many jobs and jobs with high salary (4) (2004–2009) Easy regulations for migration and residence; (2009–2014) Easy to find jobs, employment diversity, abundance, matching personal aspirations

Table 5 (continued)

References; data collection	Country	Study population	Main findings
S15 (Ghafoor et al., 2022) 2015	Lahore city (Pakistan)	72.3% male 27.7% female 18–+40 years	Push Factors: (1) Limited economic opportunities, insufficient educational facilities and low income are the principal push factors (2) Poor infrastructure, poor health facilities, landlessness, and lack of transportation facilities (3) Other factors such as large family size, scarcity of arable land, insecurity/natural disasters, less availability of food and transfer of job contribute to push factors with comparatively lesser influence Pull Factors: (1) The availability of better living standards, better job opportunities in Lahore and higher wages are the principal pull factors (2) Favourable social environment/culture and prospects for children's futures (3) Recreational facilities, independence, availability of gas and electricity, and better law and order situation

Table 5 (continued)

References; data collection	Country	Study population	Main findings
S16 (Dodd et al., 2017) 2012—2013	Tamil Nadu (India)	137 Migrant Households: 91.7% males; 8.3% females; M = 27.4 years 163 Non-Migrant Households	Motivations for Migration (Migrant Households)/Push Factors: (1) Lack of local employment opportunities (2) Meeting daily household needs (3) Other motivations include the opportunity to earn more income, lack of knowledge about agricultural work, insufficient land, paying off household loans, pressure from the household, saving for large household expenses, paying for health problems of household members, and raising the household's status in the village Barriers to Migration (Non-Migrant Households): (1) Agricultural responsibilities (2) Family responsibilities (3) The availability of local work (4) Other barriers include household upkeep and responsibilities, insufficient education, livestock responsibilities, and demographic factors within the household (5) Health problems within the household and lack of knowledge about the migration process (6) The inability to find work outside of the village, concerns about poor conditions facing migrants, lack of interest, village responsibilities, and concerns about perceptions of others in the village (7) Labor scarcity, combined with family and agricultural responsibilities

Table 5 (continued)

References; data collection	Country	Study population	Main findings
S19 (Farah et al., 2012) 2001	Faisalabad (Pakistan)	Only males 60.7% were young adults (21–30 y.o) Age range of the participants: 21–39+	Push Factors: (1) Push factors had a lesser role in motivating migration (28.0%) compared to pull factors (2) Lack of educational opportunities (68.0%) (3) Consequences of high fertility rates in rural areas (40.0%), e.g., limited land holding (65.0%) or lack of job opportunities (35.0%) Pull Factors: (1) Pull factors played a major role in motivating migration, with 78.0% of respondents greatly stimulated by these factors (2) Desire for a "Better Living Standard" (74.0% attracted by this pull factor) (3) Employment opportunities (39.3% of respondents) (4) Better standard of living (30.7% of respondents) (5) Better educational facilities (30.0% of respondents)

Farah et al. (2012) informs that pull factors played a major role in motivating migration, more than push factors.

Considering the push factors investigated across the four aforementioned studies, a common theme emerges, underscoring the significance of insufficient employment opportunities and low income. Ngoc et al. (2017), Ghafoor et al. (2022) and Farah et al. (2012) recognize the dearth of essential infrastructure and services, encompassing health facilities, the education system, and transportation infrastructure, as important push factors. Additionally, environmental and natural disasters emerge as noteworthy contributors to the push factors identified in Ngoc et al. (2017) and Ghafoor et al. (2022). Family-related concerns is also an important push factor, encompassing issues related to health, such as pay debts and providing healthcare for family members (Dodd et al., 2017; Ngoc et al., 2017), as well as considerations regarding household size and necessities (Dodd et al., 2017; Farah et al., 2012; Ghafoor et al., 2022). The studies uniformly underscore land and agricultural factors as push factors, with expressions of a desire to exit agriculture in Ngoc et al. (2017) and challenges associated with land and agricultural issues in Ghafoor et al. (2022), Dodd et al. (2017) and Farah et al. (2012). According to the findings of Ngoc et al. (2017), economic considerations and insufficient infrastructure and services emerge as the predominant push factors across the examined periods (2004–2009 and 2009–2014). Notably, a shift is observed in the third identified push factor, transitioning from a focus on natural disasters to financial pressures associated with income generation, coinciding with the global financial crisis. Additionally, the fourth push factor also undergoes a shift, wherein the inclination toward actions such as leaving agriculture and homeland is replaced by the heightened significance of natural disasters. While the overall patterns in push factors (the adverse aspects of the place of origin acting as an incentive to migration) are closely linked to economic challenges, such as lack of employment and low income, and also insufficient infrastructure and services, environmental concerns, family-related pressures and land issues, the insights from Dodd et al. (2017) regarding the barriers to migration assume other dimensions, as it would be expected.

The barriers to migration highlighted in Dodd et al. (2017) are primarily associated with responsibilities, encompassing both agricultural and family/household obligations. Furthermore, factors such as the availability of local employment, insufficient education, demographic characteristics within the household (e.g., age of household members, absence, or scarcity of male children, etc.), health problems within the household, lack of knowledge about the migration process, inability to find work outside the village, and geographical distance are identified as the most significant barriers.

Distance

Three articles investigated the impact of distance on internal migration in various regions, including Sweden, France and Tamil Nadu, India (Table 6). This

Table 6 Distance factor influencing internal migration of human capital (n = 3)

Reference; data collection	Country	Study population	Main findings
S3 (Niedomysl, 2011) 2007	Sweden	Who move ≥ 20 km Male: 42% Female: 58% 18–74 years Distance (km): 20–35 36–50 51–100 101–150 150 +	(1) Housing-related motives dominate the shortest migration distance, being cited by 35% of migrants, but drop considerably in importance with longer distances where they are cited by only a small proportion of migrants (2) Migration to begin higher education is negligible over short distances, but its share steadily increases and peaks at 34% of migrants having moved 101–150 kms, before decreasing to 23% over the longest distances (3) Employment-related migration displays a similar pattern and is the most often mentioned motive of long-distance migration (4) Taken together, education and employment categories account for 50–60% of migration of distances exceeding 100 kms (5) However, social motives (who stated that they had, for example, moved in with someone, separated, or moved to be closer to family and friends), motives referring to the living environment, and the 'other reasons' category vary only slightly over migration distance (6) Nonetheless, social reasons are very prominent over all distances, making up approximately one-quarter of the cited migration motives: short-distance movers more often had responded that they had moved in with someone or separated, whereas long-distance movers more frequently reported moving in order to be close to family and friends; also notable is the proportion of migrants citing the living environment, which, together with the arguably closely related housing motive, account for over 50% of migrations of 20–35 kms

Table 6 (continued)

Reference; data collection	Country	Study population	Main findings
S5 (Detang-Dessendre & Molho, 1999) 1993	France	Young male workers of rural origin 21–22 or 26–27 years Distance: <25 km <60 km ≥60 km	Education: (1) The hazard for long-distance migration is significantly higher for highly educated workers (baccalaureate or higher) compared to the less-educated (2) Young workers from rural backgrounds aspiring to high-level careers are more likely to engage in long-distance migration (3) The hazard increases significantly for individuals who were educated in a location over 100 kms away from their district of origin Marital Status: (1) Being single, as opposed to married or living together, has little effect on migration, even over short distances Labor Market and Employment-Status: (1) Labor market employment status effects are significant for long-distance moves, suggesting that long-distance moves are primarily job-related, whereas many local moves are primarily housing-related (2) Unemployed individuals who gain employment are significantly more likely to undertake long-distance migration than those who are continuously employed or unemployed (3) Unemployed individuals are more likely to undertake contracted as opposed to speculative long-distance migration, this is especially so among the less educated Duration-Dependence Effects: (1) For long-distance moves, there is a clear and pronounced tendency for the hazard to fall over time, indicating the presence of cumulative inertia (2) These results imply that attachments to the immediate residence do not depend on time, but ties to the general area do. It appears that once people organize their career and private life in a geographical space, they may change their specific location within that space but find it increasingly difficult to move away altogether

Table 6 (continued)

Reference; data collection	Country	Study population	Main findings
S9 (Devi et al., 2009) N/A	Tamil Nadu (India)	61% male-headed households 39% female-headed households $M_{male} = 29y$ $M_{female} = 32y$ Distance (km): 0–100 101–200 201–300 301–400 401–500 1500–1600	(1) There is an inverse relationship between the rate of migration and the distance between the origin and destination of migrants (2) Rural out-migration occurs at a younger age to escape from poverty and for seeking a better job and it was mostly short distance migration (3) 34% of males and 31% of females are observed to migrate within a distance of 100 km. The trend reverses in the range of 101–200 km, where 18% of males and 28% of females engage in such movements. Furthermore, in migrations exceeding 401 km, the male count (13%) surpasses that of females (5%)

examination encompassed two developed nations and one developing country. Taken together, these three studies comprised a participant pool of 5560 individuals, covering a spectrum of migration distances spanning from 20 to 1600 km. These distances can be categorized into short-distance and long-distance migration.

The scope of Devi et al. (2009) is notably constrained in its examination of migration determinants with regard to distance. The available information on reasons for rural out-migration is limited to the observation that such migration tends to occur at a younger age, motivated by a desire to escape poverty and seek improved employment opportunities, predominantly as short-distance migration. This study focuses on analysing the determinants of rural out-migration to Coimbatore city in Tamil Nadu, India, a context situated within a developing country.

The findings from the other two studies, focused on developed nations, converge on the positive correlation between short-distance migration and housing considerations. Niedomysl (2011) adds the importance of the living environment, arguably closely associated with housing motives. Social considerations, such as those involving changes in living arrangements, separations, or relocations for proximity to family and friends, persist as noteworthy determinants regardless of migration distance (Niedomysl, 2011).

Regarding longer distance migrations, consensus across the studies centred on developed countries underscores that extended relocations are predominantly job oriented. Education emerges as a noteworthy motivator in Sweden (Niedomysl, 2011). The general trends indicate that housing tends to play a significant role in short distance moves. Social and family-related motives persist for both short and long distances, while employment-related reasons stand out for long-distance migration. The studies of Detang-Dessendre and Molho (1999) and Devi et al. (2009) gives us the impact of the sociodemographic factors on the migration distance, with highly educated individuals exhibit a significantly higher hazard for long-distance migration compared to their less-educated counterparts. Young workers from rural backgrounds with aspirations for high-level careers are more inclined to engage in long-distance migration, Individuals educated in locations over 100 kms away from their district of origin demonstrate a significantly increased hazard for migration. Detang-Dessendre and Molho (1999) study show that labor market employment status significantly affects long-distance moves, with unemployed individuals who transition to employment being more likely to undertake long-distance migration compared to those consistently employed or unemployed. Specifically, unemployed individuals, particularly those with lower educational levels, exhibit a greater inclination towards contracted long-distance migration as opposed to speculative long-distance migration. Devi et al. (2009) reveal gender disparities, with a higher proportion of males engaging in longer-distance movements compared to females. This discrepancy becomes more pronounced as the distance of migration increases Over time, there is a clear tendency for the hazard of long-distance moves to decline, indicating the presence of cumulative inertia.

Place determinants

Local characteristics have the potential to either repel or attract potential migrants (Buch et al., 2014). The assessment of place attractiveness holds significance as it facilitates the identification of mechanisms to attract both individuals and investment, thereby fostering resilient territorial development and enhancing local well-being. Place attractiveness is determined by factors including economic, connectedness, visitor appeal, natural environment, resident well-being, and land use and housing (OECD, 2023). The attractiveness of a place increases as it satisfies more needs and preferences (Niedomysl, 2010). Three studies covered place determinants of migration using 1349 respondents from Chongqing (China), Japan and Aveiro (Portugal; Table 7).

All the three studies highlight the complexity of migration and place attractiveness, with numerous factors influencing people's decisions to move and choose a place. Factors such as employment, education, safety, and housing availability are universally important, while others vary depending on individual circumstances and place characteristics. Xiong et al. (2020) identifies road accessibility as a key factor inhibiting migration, with a significant negative impact on migration. Residential distance from towns is a significant factor in family migration, with a family that migrates out of a rural area is more likely to move a long distance since in the surrounding areas they will face the same circumstances.

Taima and Asami (2019) highlights the differences in migration determinants between metropolitan and non-metropolitan areas. In metropolitan areas, factors such as employment and education are key drivers for residency, Individuals who migrated from metropolitan to non-metropolitan areas exhibit a high level of place attachment to their previous city compared to non-migrants. Additionally, the concentration of tertiary establishments outside metropolitan regions can incentivize migration, underscoring the importance of economic development and industry diversification in shaping migration patterns. In non-metropolitan areas, a better residential environment, low housing costs, and easy access to offices are significant reasons for residency, indicating a preference for rural or suburban living conditions. The presence of establishments negatively impacts migration in non-metropolitan areas, underscoring the critical role of employment opportunities.

Baptista (2020) identifies key factors relevant for living in a particular region drawing from responses of individuals with an interest in technology. These factors encompass safety, infrastructure, job opportunities, and housing availability, universally valued across regions, exerting significant influence on place attractiveness. Secondary factors with moderate relevance include environmental quality, cost of living, accessibility, public transport, leisure, and services. While these factors may not be as critical as safety and housing availability, they still contribute to overall perceptions of place attractiveness. Aspects such as culture/art, climate, proximity to beaches, and population density are perceived as least relevant to place attractiveness.

Table 7 Place determinants influencing internal migration of human capital (n = 3)

Reference; data collection	Country	Study population	Main findings
S2 (Xiong et al., 2020) 2014	Chongqing (China)	Migrants are aged mainly between 30 and 50 years Rural households	Influencing Factors for "No Migration-Migration": (1) Road accessibility is a key factor inhibiting migration, with a significant negative impact on migration Influencing Factors for "Labor Migration-Family Migration": (1) Residential distance from towns is also a significant factor in family migration, suggesting that proximity to urban centers plays a role in the decision

Table 7 (continued)

Reference; data collection	Country	Study population	Main findings
S6 (Taima & Asami, 2019) 2017	Japan	Migrants and stayers participants Students and housewives excluded Migration from metropolitan to outside areas 20–65 years	Place Determinants: (1) Migration determinants are different between metropolitan and outside areas (2) The number of establishments has varying impacts on migration, being positive in metropolitan areas and negative in non-metropolitan/outside areas (3) In metropolitan areas, employment and education are factors for residency (4) In non-metropolitan areas, a better residential environment, low housing costs, and easy access to offices are reasons for residency (5) Outside of metropolitan areas, people migrate from areas where agriculture, forestry, and fishery represent comparatively minor industries compared to tertiary industries (6) Two types of place attachment (the construct of place identity and friend bonding) significantly influenced migration: Migrants had a high level of place attachment on the last city in a metropolitan area compared to Stayers (7) When areas beyond metropolitan regions host a high proportion of tertiary establishments, migration can be promoted Motivations: (1) In Group A (*all respondents stated that higher education represented a migration factor*), respondents tended to migrate from regions where marriage rates were low, especially women, rather than other groups (2) In Group B (*reasons for migration: 85% marriage, 43% the birth of a child, 25% finding or changing jobs*), respondents migrated from areas where crime rates were high, reflecting a desire to raise children in a safe place. In addition, the migrated city shows high marriage rates (3) In Group C (*relocation for employment was the reason for migration*) people tend to live in non-detached houses and migrate to areas where the proportion of agriculture, forestry, and fishery establishments is high (4) In Group D (*88% finding a job was the reason*), migration was determined by the regional factors of the previous city. Three factors had a positive impact: day and night population ratio, number of establishments, and household size

Table 7 (continued)

Reference; data collection	Country	Study population	Main findings
S13 (Baptista, 2020) 2019	Aveiro (Portugal)	54% male 46% female <25 to >55y Interested in technology	Factors Influencing Place Attractiveness: (1) Key factors considered relevant for living in a particular region include safety, infrastructure, job opportunities, and the availability of housing (2) Secondary factors with moderate relevance include environmental quality, cost of living, accessibility, public transport, leisure, and services (3) Aspects perceived as least relevant to regional attractiveness include culture/art, climate, proximity to beaches, and population density (4) Safety and housing availability are universally highly valued aspects

Table 8 Psychological and Behavioural factors influencing internal migration of human capital (n = 1)

Reference; data collection	Country	Study population	Main findings
S7 (Nakagawa, 2018) 2016	Japan	60.0% male 40.0% female Students excluded 20–69 years	Psychological and Behavioural Predictors: (1) High environmental awareness is positively associated with considering rural migration but not necessarily with taking the actual step to migrate (2) High spiritual growth is significantly associated with having experience with rural migration, serving as a bridge between thinking about it and taking the actual step (3) The health promotion motive, as measured by the nutrition subscale, is positively associated with the decision to migrate, suggesting it is an alternative for individuals but not a bridge between consideration and action (4) Significant predictors: (1) having medium to high environmental concern, and (2) being both not low on the nutrition subscale score of HPLP II and not high in age (i.e., 49 or younger) (5) Spiritual growth motive and employment status were significantly associated with completing the procedure by actually migrating to rural areas (6) Environmental concerns and the health promoting motive were significantly associated with initiating the procedure of the rural migration decision

Psychological and behavioural factors

One study examined the psychological and behavioural predictors of internal migration, using a sample of 906 participants in an online survey, which were asked if they had any experience of rural migration or thinking about that possibility, in Japan (Table 8). Behavioural factors encompass the consistent behaviour patterns individuals exhibit across various facets of their daily lives, while psychological factors refer to the values and beliefs that shape these behaviours (Nakagawa, 2018).

According to Nakagawa (2018), these psychological and behavioural factors play a significant role in influencing people's inclination towards moving and their ultimate decision to relocate or remain in a place. Nakagawa's hypothesis suggests that four variables impact an individual's migration decision: (1) self-determination motive, (2) environmental awareness, (3) spiritual growth motive, and (4) health promotion motive. The study focused on understanding urban people in a mature society who desired to migrate to rural areas. Having medium to high environmental concern, and not being low on the nutrition subscale score of the Health Promoting Lifestyle Profile II (Walker et al., 1988), as well as being 49 years old or younger, were significant predictors of rural migration. The findings revealed that environmental health concerns were significantly associated with the intention of rural migration, while the spiritual growth motive and employment status were significantly associated with the actual behaviour of migrating to rural areas.

In summary, Table 9 presents the factors influencing internal migration, with further details provided in Appendix A. This review identifies career and employment as the most frequently examined factors, followed by age, household characteristics and family background, economic motives, and human capital development.

Discussion

Migration research has predominantly focused on international migration, even though only about 3% of the global population has migrated internationally, while a roughly estimated 12% have migrated within borders (de Haas et al., 2020). Migration impacts most people worldwide either directly or indirectly (de Haas, 2021). Scholars have long recognized economic opportunities, particularly employment, as key factors influencing migration decisions (Greenwood, 2021). The main challenge in migration research is the lack of a unified theoretical framework to summarize extensive empirical insights (de Haas, 2021).

While it is possible to reference multiple systematic reviews on the determinants of international migration (e.g., Aslany et al., 2021; Mohamed & Abdul-Talib, 2020), this study aims to address this gap through a systematic review on the professional determinants within the internal migration literature. We mapped and summarised evidence spanning a 27-year period. The trend indicates that the vast majority of individuals do not undertake migration across borders; instead, many choose to migrate within their respective countries (McAuliffe & Triandafyllidou, 2021).

Most migration studies address sociodemographic factors. Our results indicate that younger individuals migrate for employment, while older people prioritize

Table 9 Factors influencing migration and corresponding studies

Factors influencing migration	Studies	N
Career and Employment Motives[a]	S1, S2, S3, S5, S6, S9, S11, S12, S13, (−S14), S15, (−S16); S17; S18; S19	15
Age[b]	(−S1), (−S2), S3, S4, (−S5), S6, (−S7), (−S9), (−S11), (−S12); (−S13); (−S17); (−S19)	13
Household Characteristics and Family Background	S1, S2, S4, S6, S9, S13, S15, S16; S17; S19	10
Economic Motives	S1, S4, S9, S12, S14, S15, S16; S17	8
Human Capital Development (education or others)	S3, S4, S6, S12, S14; S17; S18; S19	8
Education Level[c]	S3, S5, S7, S9, S11, S12; (−S19)	7
Area-related Motives[d]	S1, (−S2), S3, (±S6), S11, S14, S15	7
Gender[e]	S3, S4, (+S7), (+S9), S11, S12; S17	7
Social and Family-related Motives	S1, S3, S6, S12, S15; S17	6
Income Level[f]	S3, (+S6), S9, S11; (−S19)	5
Marital/Civil Status[g]	S3, (+S6), S9, (+S13)	4
Employment/Occupation status	S3, S5, S7, S11	4
Psychological and Cultural Factors	S5, S6, S7; S18	4
Lifestyle Improvement	S13; S17; S18; S19	4
Housing Motives	S1, S3, S5	3
Time and Distance[h]	S3, S5, (−S9)	3
Citizenship	S1	1

Where feasible, the relationship between each factor and its effect on migration was indicated by a positive or negative sign. For example, if migration trends were associated with young age, this was indicated by (−S…)

[a]The signal "−" indicates that a lack of employment is associated with an increased likelihood of migration

[b]The signal "−" indicates that younger age is associated with an increased likelihood of migration

[c]The signal "−" indicates that low education levels are associated with an increased likelihood of migration

[d]The signal "−" indicates that certain area-related factors inhibit migration

[e]The signal "+" indicates that being male is associated with an increased likelihood of migration

[f]The signal "−" indicates that low-income levels are associated with an increased likelihood of migration

[g]The signal "+" indicates that being single is associated with an increased likelihood of migration

[h]The signal "−" indicates an inverse relationship between migration and time/distance

housing and social factors. Men typically migrate for jobs, whereas women also focus on family and social reasons, often reflecting household decisions aimed at improving livelihood strategies, including poverty alleviation, better education, and marriage. This supports the notion that migration frequently represents a strategic investment for a better future, rather than merely a desperate escape from adverse conditions (de Haas, 2021). This also align with the new economics of labor migration theory, which suggests migration decisions are often made for household benefits rather than individual economic optimization. This approach shifts the focus of migration research from individual autonomy to mutual interdependence, emphasizing that labour migration involves more than just a response to wage differentials, as suggested by neo-classical theory (Stark, 1991). Education's role in migration varies by context, with higher education linked to employment and lifestyle improvements. The positive relationship between education and migration is taken for granted in much of the literature (e.g., Greenwood, 1975; Haapanen & Böckerman, 2017), however, this result vary, for example, by gender, field of study, and region (Haapanen & Böckerman, 2017). Marital status influences mobility, with single individuals more likely to migrate. Employment status and income level may also affect migration, with lower-income individuals moving short distances for jobs, probably reflecting the need to seek job opportunities closer to home, probably due to limited resources. Higher-income individuals for career advancement or lifestyle preferences, indicating greater mobility and flexibility in pursuing career advancement or lifestyle preferences. Household factors, property ownership, and family composition also shape migration decisions. Citizenship status, language, and cultural norms further influence migration trajectories and motivations, underlining the multifaceted nature of migration decisions.

In developing countries, key pull factors for internal migration include job prospects, better living standards, health systems, education, and living environment. Push factors include insufficient employment, low income, lack of infrastructure and services, environmental disasters, and household concerns. Migration barriers include agricultural and family responsibilities, local employment availability, insufficient education, household demographics, health issues, and geographical distance. The concept of push and pull factors influencing migration has gained popularity in migration literature, becoming the predominant model in secondary and university education (de Haas, 2008). Conventional migration theories often conceptualise migrants as individuals influenced by various push and pull forces (de Haas, 2021). However, these theories often overlook factors such as culture, education, and media exposure, which can influence people's preferences, ideas of what is a good life, personal goals, and their awareness of opportunities in different places (de Haas, 2021). Although the results highlight key factors influencing migration, push–pull models fail to explain migration as a social process, as they do not specify the interactions between these factors or provide a structural account of the social dynamics driving population movements (de Haas, 2021). Future studies should aim to develop a more comprehensive, contextualized, and integrated theorization of human mobility (de Haas, 2021).

Young individuals in developing economies typically migrate short distances to escape poverty and seek job. In developed nations, short-distance migration is often driven by housing, while long-distance migration is job-oriented, with education also important. Social reasons influence both short and long-distance moves. Socio-demographic factors like education and employment status significantly impact migration distance, with younger, highly educated, and unemployed individuals who transition to employment more likely to migrate long distances. More men engage in long-distance migration. Over time, the likelihood of long-distance moves decreases.

Factors such as employment, education, safety, and housing are universally important in determining place attractiveness, while others vary depending on individual circumstances and place characteristics. Good infrastructure, such as road accessibility, can reduce migration. Families in rural areas are more likely to migrate long distances to escape similar local conditions. In metropolitan areas, employment and education drive residency, while in non-metropolitan areas residents are attracted to better living environments, low housing costs, and office access. Environmental quality and public transport also influence migration decisions.

One study on psychological and behavioural factors identifies four key variables influencing internal migration decisions: self-determination, environmental awareness, spiritual growth, and health promotion motives. It focuses on urban individuals in mature societies considering rural migration. Predictors of rural migration include medium to high environmental concern, good health practices, and being 49 or younger. Environmental concerns and health promotion motives were associated with starting the migration process, while spiritual growth and employment status were crucial for completing the move.

The majority of migration studies focus on the various factors influencing migration, highlighting the significant role functionalist theories play in this research domain. This study investigates whether the factors influencing migration exhibit a reductionist character, potentially oversimplifying migration's complex nature. A key issue is the tendency to list influencing factors without sufficient contextualization, leading to contradictory findings. For instance, marital status significantly impacts migration decisions but varies across cultural and socio-economic contexts. In Japan, being married deters migration, perhaps reflecting cultural emphasis on family stability. Conversely, in India, male migrants are predominantly married, possibly indicating that marriage might provide the social stability or economic necessity for migration. This discrepancy underscores the importance of contextualizing factors within specific cultural and social frameworks to avoid reductionist interpretations and better understand diverse migration motivations and constraints.

This study examines whether articles up to February 2023 focus solely on identifying factors leading to internal migration or if they offer deeper insights. Although studies included in this review must examine work-related internal migration factors, recent research emphasizes the analysis of these factors, highlighting the importance of functionalist theories (de Haas, 2021). However, recent literature suggests a shift towards a more comprehensive understanding of internal migration. Studies by Malamassam et al. (2021), Nakagawa (2018) or Farah et al. (2012) go beyond identifying migration factors, incorporating cultural, psychological, and behavioral aspects. These studies suggest internal migration is influenced by a complex

interplay of individual motives and broader social contexts, taking a step towards conceptual eclecticism and viewing migration as an intrinsic component of broader social transformation processes (de Haas, 2021).

Different sets of determinants seem to contribute to internal migration. Studies have focused on the effects of intrapersonal-level determinants, as also place determinants. The information provided reveals several key insights into the factors influencing migration decisions. This study aimed to delve into the professional determinants influencing internal migration decisions. Our focus in this review was deliberately narrow, aimed at isolating and comprehensively understanding the specific factors within the professional considerations that significantly impact migration choices. By narrowing our scope, we aimed to provide a nuanced analysis that elucidates the pivotal role of professional determinants in shaping internal migration patterns.

While our objective was to list the factors affecting migration, it is important to exercise caution. Knowing what motivates individuals to migrate doesn't always explain the broader process, patterns and drivers of migration (de Haas, 2021). Age, gender, education, marital status, income level, employment status, household and family factors, citizenship, cultural norms, language, job prospects, living standards, infrastructure and services, environmental disasters, agricultural and family responsibilities, health issues, geographical distance, housing needs, educational opportunities, safety, environmental quality, self-determination, environmental awareness, spiritual growth, and health promotion motives are examples of the factors identified in this study. The complex interplay of these factors underscores the importance of considering diverse contexts and historical norms when analysing migration behaviour.

It is crucial to consider that certain groups of identified factors, such as psychological factors, are represented by only a few or even just one study. Drawing definitive conclusions from a limited number of studies presents inherent challenges; however, it is essential to acknowledge and incorporate these factor groups into our analysis. While some studies may be deemed of lower quality compared to others (see Table 1), their findings align with the conclusions drawn from higher-quality studies. Therefore, any concerns regarding the validity of assumptions derived from the included studies are effectively addressed. The extensive variability among the studies included in this work also presents challenges in deriving conclusions. Given that the studies encompass diverse countries, cultures, norms, and factors, comparability is hindered, making it difficult to formulate broad conclusions. Despite these limitations, the authors believe that recognizing and addressing these factors contributes to a more comprehensive understanding of the complexities involved in the analysis of internal migration dynamics.

This study identified a wide variety of factors. We could have analysed the positive or negative impact of these factors on migration in greater depth, instead of merely describing them and attempting to categorize them. However, since to the best of our knowledge there are no other literature reviews on the topic addressed here, we opted for a more descriptive approach. Nevertheless, it would be of interest to analyse in subsequent work whether the impact of the factors is positive or

negative, considering the broader context and cultural norms, as well as the relationship and behaviour of distinct factors together. It would also be interesting to remove the condition 'factor' and 'determinants' from the inclusion criteria, observing whether the studies carried out more recently are already beginning to take a broader view of migration, including knowledge from different fields of knowledge, or to validate the aspirations-capabilities theory proposed by de Haas (2021).

Limitations of the study

This review presents two methodological limitations. First, we excluded studies that relied solely on secondary data – such as government census data or large administrative datasets – focusing instead on studies where data were collected directly by the investigators for the purposes of the reported research. While this criterion ensured a closer alignment between research design and data, it may have limited the scope of our findings by excluding large-scale studies that could have contributed with additional insights. Future reviews may benefit from incorporating such data sources to enhance the breadth and depth of the evidence base. Second, we excluded studies focused exclusively on specific professional groups (e.g., nurses, teachers, doctors) in order to maintain a broader and more generalizable scope. While this decision enabled a synthesis of cross-sectoral professional factors, it may have excluded studies with valuable insights—particularly those that examine professional migration in depth within a single occupational group and that intersect with important variables such as gender or education. Future research could address this limitation by conducting subgroup analyses or targeted reviews of specific occupational domains.

Conclusion

This systematic review critically examined the professional determinants of internal migration, synthesizing evidence from 17 studies conducted primarily in developing contexts. While employment-related motivations remain central, the findings highlight a more complex interplay of sociodemographic, structural, and behavioural dimensions, including age, gender, educational attainment, household characteristics, and context-specific place attributes.

Although the review focused on professional determinants, substantial conceptual overlap with broader life-course, family, and contextual elements was evident. Many studies relied on functionalist push–pull frameworks and treated influencing variables as discrete and decontextualized. However, emerging research adopts more integrative perspectives, signalling a shift toward theoretical frameworks that account for the complex interdependencies and contextual contingencies among influencing variables. To advance the field, future research should move beyond descriptive taxonomies and engage frameworks that recognize the interdependence and contingency of migration determinants.

In conclusion, internal migration is a multifaceted process wherein professional determinants interact with broader social and spatial dynamics. This review contributes to the literature on internal migration by attempting to summarise the findings from studies on its professional determinants, thereby illuminating the limitations of decontextualized models and underscoring the need for context-sensitive approaches. A more robust understanding of these dynamics requires multifaceted approach that integrates individual-level factors with macro-structural influences, particularly as internal migration becomes increasingly salient in global demographic and development agendas.

Appendix A

Factors influencing internal migration of human capital and corresponding studies

Factors influencing migration	Studies	N
Career and employment-related[1]:	S1; S2, S3, S5, S6, S9, S11; S12; S13, (−S14), S15, (−S16); S17; S18; S19	**15**
Salary	(−S2), S3; S6; (−S14), (−S15), (−S16)	6
Age[2]	(−S1), (−S2), S3, S4, (−S5), S6, (−S7), (−S9), (−S11), (−S12); (−S13); (−S17); (−S19)	**13**
Human Capital Development (education or others)	S3; S4; S6; S12; S14; S17; S18; S19	**8**
Economic Motives:	S1; S4; S9, S12, S14, S15, S16; S17	**8**
Pay debts and health treatments	S4; S14	2
Availability of food	(−S15)	1
Household characteristics:	S2, S4; S6, S13, S15, S16; S17; S19	**8**
Household size	(−S9); (+S6); (+S15); S16; S19	5
Land	(−S1); (−S6); (−S16)	3
Labour force size and composition	(−S2); (−S6);	2
Children	(−S13)	1
Household strategy	S17	1
Education level[3]	S3, S5, S7, S9, S11, S12; (−S19)	**7**
Area-related motives[4]:	S1, (−S2), S3, (±S6), S11, S14, S15	**7**
Infrasctruture (health, transportation, etc.)	S1; (−S2); (±S6); S11; (−S14); (−S15);	6
Environment and natural disasters	(+S14), (+S15)	2
Scarcity of arable land	(+S15)	1
Insecurity	(+S15)	1
Recreation activities	S11	1
Gender[5]	S3, S4, (+S7), (+S9), S11, S12; S17	**7**
Income level[6]	S3, (±S6), (−S9), S11; (−S19)	**5**
Family-related motives	S3, S6, S12, S15; S17	**5**
Marital/civil status[7]:	S3, S6, S9, S13	**4**
Single	(+S6); (+S13)	2
Employment/occupation status	S3, S5, S7, S11	**4**

Factors influencing migration	Studies	N
Family background	S4, S6, S9	3
Lifestyle improvement	S13; S17; S18; S19	**4**
Social motives	S1, S3, S6, S15	**4**
Psychological and cultural factors	S5, S6, S7; S18	**4**
Place attachment	S5; S6	2
Environmental awareness	S7	1
Spiritual growth	S7	1
Housing motives	S1; S3, S5	**3**
Distance[8]	S3, S5; (− S9)	**3**
Time[9]	(− S5)	**1**
Citizenship	S1	**1**
Health promotion motive	S7	**1**

Where feasible, the relationship between each factor and its effect on migration was indicated by a positive or negative sign. For example, if migration trends were associated with young age, this was indicated by (−S…).

[1]The signal "−" indicates that a lack of employment is associated with an increased likelihood of migration.

[2]The signal "−" indicates that younger age is associated with an increased likelihood of migration.

[3]The signal "−" indicates that low education levels are associated with an increased likelihood of migration.

[4]The signal "−" indicates that certain area-related factors inhibit migration.

[5]The signal "+" indicates that being male is associated with an increased likelihood of migration.

[6]The signal "−" indicates that low-income levels are associated with an increased likelihood of migration.

[7]The signal "+" indicates that being single is associated with an increased likelihood of migration.

[8]The signal "−" indicates an inverse relationship between migration and distance.

[9]The signal "−" indicates an inverse relationship between migration and time.

Funding Open access funding provided by FCT|FCCN (b-on). This work was supported by FCT—Fundação para a Ciência e Tecnologia, I.P. by project reference 2022.11231.BDANA and DOI identifierhttps://doi.org/10.54499/2022.11231.BDANA.

Data availability The data underlying this article will be shared on reasonable request to the corresponding author.

Declarations

Conflict of interest We have no conflicts of interest to disclose.

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