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Is internal migration declining in Iceland? Intensities, geographical patterns and population composition 1986-2017

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Abstract

The Nordic countries have higher rates of internal migration than most other Western societies and have not always shared in the declines noted in other countries. This paper examines migration in Iceland during the period 1986–2017 to add to the wider international literature on migration trends. Compared to its Nordic neighbours, Iceland has the highest rates of internal migration and currently also the greatest porosity in terms of international inflows and outflows. The main focus is on migration flows between the Reykjavík capital area – the only city in the country – the nearby exurban regions on the one hand and the more distant provinces at the other hand. We show that, despite continued high aggregate migration rates, there has been a slight but long-term downward trend in all moves. We also indicate that migration rates are highly sensitive to cyclic economic fluctuations. Migration between the Reykjavík capital area and its surrounding exurban regions is characterized by increasing mobility during economic booms but the Great Recession starting in 2008 led to a fall in migration. However, the slight decline in overall internal migration in Iceland since the 1990s can almost exclusively be attributed to the decline in migration from the provinces to the Reykjavík capital area, which predates the 2008 Great Recession.

Key words: Iceland; Migration; Geography; Temporal trends

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Introduction

Declining internal migration intensities – a reduction in the number of moves between addresses within a country – were first noted in the United States in the 1980s (Long 1988; Wolf and Longino 2005; Cooke 2011). Subsequent research uncovered similar trends in many other countries in Europe, East Asia and Australasia (Champion et al. 2018b). However, although quite a widespread trend, not all countries have shared equally in it and nor have they started from the same levels of internal migration. In Europe there is for instance a continuum from the lower migration South and East to the higher migration North and West, with internal migration rates being highest of all in the Nordic countries (Bell et al 2018). Temporal trends in migration can also vary across geographical scales; in Sweden, one of the high-migration Nordic countries, local moving between properties in the same municipalities appears to have fallen but there seems to be an increase in longer-distance moves between municipalities and counties (Shuttleworth et al. 2018). This heterogeneity within and between countries means that it is important to expand the national evidence base on internal migration rates and their

temporal trends. This increases the likelihood of understanding the processes and grasping the impact of national context on the general forces that shape internal migratory behaviour in contemporary societies.

Here we focus on temporal trends and geographical patterns of internal migration in Iceland between 1986 and 2017. Iceland is an excellent case study for a number of reasons. Similar to the other Nordic countries, Statistics Iceland collates, aggregates, and produces individual-level data from a National Register which includes all address changes that permit, for instance, analysis of migration events by age, immigration status, and for flexible geographical units. However, as a case for study, Iceland differs from the other high-migration Nordic countries in important respects. First, urbanisation in Iceland has been relatively simple with a single urban area generating much of the rural-to-urban internal migration that has been seen and recently a concentric pattern of exurbanisation with migration to settlements within commuting distance to the city; its small population size and monocentric geography permit the basic shapes of migration patterns to be clearly defined. Secondly, Iceland has had a unique economic path; the economic boom at the beginning of the century, the collapse of the Icelandic economy in 2008 and the subsequent recovery over the past decade allow us to examine the robustness of migration patterns under study across uncommonly variable economic conditions. The Icelandic experience thus allows us to examine whether migration trends seen internationally are replicated in the specific circumstances of Iceland, contributing evidence as to their generality.

The analysis concentrates on three interrelated themes. Firstly, we examine temporal trends in migration for different geographies and distances of move, including short-distance moves within municipalities, medium-distance moves within the city-exurban system or within regions, and long-distance moves between the Reykjavík capital area and more distant regions. Secondly, we consider to what extent the patterns observed can be attributed to changes in the age structure of the population. Finally, we consider the interplay of internal and international migration, notably the extent to which declining internal migration may be related to increased international migration. The paper starts by briefly reviewing the broader literature on temporal trends in internal migration. It then introduces the economic history and geography of Iceland. Following this it briefly discusses the data that were used before presenting the results and discussing their implications.

Literature review

Historically, economic development has been assumed to lead to increased internal migration as modernisation erodes traditional social ties and place attachment. In the late 19th century, Ravenstein (1885, 1889) thus asserted that the economic opportunities in cities were the major cause of the steadily increasing migration from farms, villages and towns to larger cities, dwarfing other considerations such as legal constraints, taxation, climate or social surroundings. Early theorists such as Tönnies (1887), Durkheim (1893) and Simmel (1903) made a distinction between relatively immobile, undifferentiated rural societies characterised by strong, lifelong social ties and the mobile, complex urban societies characterised by fleeting, impersonal transactions. In a seminal article, Zelinsky (1971) later linked migration to stages of social and economic development in the 'mobility transition' in a style akin to the demographic transition. Zelinsky argued that migration increases as societies' transition from an agricultural base to mature industrialisation and, with remarkable insight, hypothesises that internal migration might decrease in the final super-advanced phase with the development of new types of technologies.

The ever-increasing mobility of contemporary societies has largely been taken as a given in the social sciences and various social theorists have attempted to conceptualise the transformative effects of mobilities on individual identities and collective societies alike (e.g. Appadurai 1990; Baumann 2011; Beck 2000; Ritzer 2003; Urry 2000). In the midst of the increasing movement of people and products across the globe, the decreasing internal mobility within many advanced industrial societies presents something of a puzzle. Viewed cross-sectionally at one moment in time, higher rates of internal migration are indeed positively correlated with national incomes and development (Bell et al 2018). Studies have shown a migration gradient across Europe with lower rates in the South and the East and higher rates in the higher income West and the North, especially in the Nordic countries (eg OECD 1990; Long 1992; Bell et al 2018). However, internal migration appears to have fallen through the late 20th century and early 21st century in many but not all countries (Champion et al. 2018a), regardless of their position on this gradient (Bell et al 2018).

Cooke (2011) in his analysis of declining internal migration before and during the economic crisis introduced the idea of 'secular rootedness' and pointed to fundamental social changes as possible causes of the falling propensity of people to move within the United States. About 63% of the decline in migration rates between 1999 and 2009 was attributed by Cooke (2011) to the direct effects of the economic crisis that began in 2007. Another 17% of the decline was apportioned to demographic changes (e.g. the aging of the population) but the remaining 20% of the decrease in migration is due to a decline in migration behaviour, or increased 'secular rootedness' across demographic categories. Further analysis across geographical scales

demonstrated falling rates of internal migration in the United States, including measures of all address changes, moves within states and moves between states (Cooke 2018). The argument that deep-rooted social changes are the cause of declining internal migration within the US stimulated research in other countries that had undergone many of the same changes, in particular high-income countries in Europe, East Asia and Australasia (Champion and Shuttleworth 2016a, 2016b; Champion et al 2018a).

The evidence reveals a complex set of patterns. In England and Wales, the largest decrease is in the all-address changing rate, with the greatest fall being short-distance moves of 10 km or less and fluctuations in longer-distance migration (Lomax and Stillwell 2018). This is in contrast to Australia, Japan and the USA where moves across all distances have fallen and Italy where there have been recent declines in long-distance moves albeit from a low and fluctuating base. Germany, in contrast, has seen stable and low levels of migration in the recent past (Sander 2018), after the high rates seen after the re-unification of East and West Germany in the early 1990s. However, decreases in some types of migration (e.g. older people moving from major cities) have been balanced by increases in others (e.g. younger people over long distances to university towns). Sweden provides a greater contrast in that it has always been a high migration country and after a slight decline in mobility in the 1970s and 1990s it has seen some indications of an increase in the last two decades (Kulu et al. 2018; Shuttleworth et al. 2018).

The task of establishing a wider international evidence base about internal migration trends is still ongoing and substantial work remains in understanding why levels of migration have changed, generally in the direction of less mobility. Common features associated with declining internal migration in contemporary high-income countries include population ageing, delays in young people leaving home, and the growth of dual-career families (Green 2018; Bonifazi et al 2018; Coulter et al 2016). On the other side of the equation, the expansion of higher education in many countries has led to growth in the share of the population in these traditionally mobile groups as have occupational shifts towards higher-skilled and educated occupations associated which are traditionally associated with high spatial mobility (Green 2018). In other words, structural changes in society lead to changes in aggregate migration rates and the changes observed are partially a result of the net balance of trends pushing migration upward and downward. In many cases, the push downward has been stronger, while in others the push upwards has prevailed.

Several analyses have also indicated that the migratory behaviour of people has changed (Bell et al. 2018; Cooke 2011; Shuttleworth et al 2019). The reasons for this are much less understood but might include residential moves being substituted by other types of mobility such as longer daily commutes and the use of new information and transport technologies

which diminish the need to relocate. At the same time, however, such technological advances should also allow people to more easily choose residence in high-amenity areas further from their place of work. Increased migration across national boundaries may also to some extent have taken the place of internal migration within such borders, and immigrants from other countries may display different patterns of mobility than the local population. Our paper thus has two objectives. Firstly, and most directly, it offers a new national case study that adds to our understanding of internal migration patterns through time and between different places for moves of different distances and types. Secondly, the information at hand permits analysis by age and whether movers are Icelandic or foreign born. To this extent, it makes a contribution by providing comparative material to contrast with other national case studies.

Iceland as a case study

Iceland is sparsely populated with about a third of a million inhabitants, but the landmass is about a quarter of the area of Germany. The highlands covering most of the island are largely uninhabited and most settlements are along the coast. Until the late 19th century, Iceland was a traditional rural society reliant on animal husbandry and seasonal fisheries. Until the 1840s, the population oscillated between 40,000 and 50,000, subject to physical constraints from the climate and volcanic events (Gunnlaugsson 1988; Garðarsdóttir 2016).

Starting in the late 19th century, the industrialisation of fishing and fish processing transformed Iceland from a society largely based on traditional sustenance farming into an industrialised market economy and spurred the growth of emerging city of Reykjavík and a large number of towns and villages around the coastline (Magnússon 1985; Gunnlaugsson and Guttormsson 1993). Other light industries soon followed, and energy-intensive metal smelters became important to the national economy in the 1970s, surpassing agriculture exports in 1970 and fishing exports in 2008 (Statistics Iceland 2019a). As in other western countries, the service sector grew rapidly in the 20th century, and at the turn of this century, Iceland enjoyed a decade of spectacular growth in banking and other financial services. Iceland then experienced an economic collapse in October 2008 when the three largest banks defaulted (Sigurjonsson 2010). The economic recovery of the last decade has largely been due to a remarkable growth in the tourism and the construction industry (Skaptadóttir and Loftsdóttir 2017).

The population of Iceland grew from about 50 thousand in 1828 to 100 thousand in 1926, 200 thousand in 1968 and 300 thousand in 2006 (Statistics Iceland 2019b). Until the late 20th century, population growth in Iceland was almost exclusively due to high natural fertility rates, and reduction in infant mortality, while the country generally had a slight deficit in international migration (Garðarsdóttir 2007, 2012, Garðarsdóttir et. al. 2009). The other Nordic countries

experienced growing international migration during the economic boom of the 1960s, recruiting workers from countries outside Northern and Western Europe. In Iceland the development was different and until the 1990s the few immigrants came mostly from the other Nordic countries or a handful of other Western societies. Iceland differs from other Nordic countries in high rates of international migration for Icelandic born. This trend started in the late 1960s with the collapse of the herring industry and the following deep economic recession when it became increasingly common for Icelanders to live abroad for extended periods of time. About 80% of emigrated Icelanders later return, which is a much higher return rate than in the other Nordic countries (Garðarsdóttir 2012; Harðarson 2010; Skaptadóttir and Garðarsdóttir, 2019).

With declining fertility rates and increasing international mobility during the late 1990s and the early 2000s, the immigration of foreign citizens accounted for a notable proportion of the population increase (Garðarsdóttir 2009). The proportion of the immigrant population (for definition of immigrant population, see method section below) in Iceland has thus increased from about 2% in 1996 to 13% in 2018 and currently Iceland has one of the highest immigration rates in Europe (Eurostat, 2019). Immigration to Iceland is almost exclusively employment driven. Only very recently has the refugee population started to increase and currently the refugees are only 0.16% of the population of Iceland (World Bank 2019). The employment related mobility to Iceland intensified with the economic boom of the mid 2000s; especially after 2006 when people from the new member states of the European Union (approved in the 2004 expansion) no longer needed to secure work permits before coming to Iceland. The majority of Icelandic immigrants (70%) are from other countries of the European Economic Area (European Union and Norway) (Statistics Iceland, 2019c). These are subject to same labour- and housing market conditions as the native-born residents. Other immigrant workers need a work permit before entering the country (Registers Iceland, 2019). The refugee population suffers from more severe restrictions in terms of residence and working permits.

As shown in Figure 1, two-thirds of the 357 thousand inhabitants of Iceland lived in the Reykjavík capital area in 2019. Another 52 thousand lived in the Southwest exurban regions within commuting distance from Reykjavík and about 19 thousand in Akureyri regional centre, the only major urban area outside the southwest of the island. The remaining 55 thousand inhabitants live in smaller towns, villages and farming communities in the different, sparsely populated regions of the island. Traditionally, Iceland is divided into the eight regions shown in Figure 1 (Akureyri is labelled separately as the largest settlement in Northern Iceland). This regional division was for instance used in the cross-national comparative study of Bell et al. (2018) to define different spatial scales of internal migration in Iceland. This traditional regional division is however somewhat problematic for the study of short-distance and long-distance internal migration. The south-western exurban regions surrounding the Reykjavík capital area

intersect with three of the traditional regions and address changes within a short commuting distance are thus registered as inter-regional moves. At the same time, intra-regional moves within the more rural regions may include long-distant address changes of more than 400 km.

In the following analysis, we examine trends in migration within and between the traditional regions of Iceland as well as between Iceland and other countries. We then divide the country into the “Reykjavík capital area” (66% of the national population), the “exurban regions” of the south-west from Suðurnes to Flóahreppur, Árborg, Hvalfjarðarsveit and Akranes (15% of the national population) and the remaining regions – for these the term ‘province’ is used interchangeably. (19% of the national population). Our definition of the “exurban regions” follows Bjarnason and Thordardottir (2018) who show that more-than 10% of employed residents in this region work in the Reykjavík capital area, with rates of commuting in excess of 20% in the communities closest to the city. Some residents of the exurban regions may thus view their homes as a suburban residence within commuting distance from the city while others may view proximity to the Reykjavík capital area as a resource for their local rural communities.

Data and methods

As other Nordic countries, Iceland has a well-developed population data system, linking statistics on vital events with address registration information and administrative data from other sources, and with considerable historical depth. Migration data is retrieved from the National Registry where migration is measured as an address change. Migration is thus measured as an event rather than a transition. If measured just as a transition, migration is defined by a move between different addresses between time T and time $T+1$ – this would record just one move, for example as a change of address between January 2018 and January 2019. However, if migration is measured as an event, it captures all moves between time T and $T+1$ and is therefore a multiple measure. Event-based statistical systems better capture the full degree of mobility and its complexity as multiple migration events per person can be measured. The use of geocoded addresses also provides flexibility in allowing the data to be aggregated and re-aggregated for different geographical units and allowed, for example in this case, the flexible definition of spatial units discussed earlier.

In theory, it is possible to use register-based data at an individual-level (with appropriate permissions and protections in place) permitting the application of sophisticated multivariate methods. In this case, as this was a first attempt to survey the Icelandic migration scene, the analysis was based on two aggregated tabular datasets. The first was a count of moves between and within regions and municipalities by age and year. The second was a special tabulation from Statistics Iceland where the exurban area was defined differently around Reykjavik to measure moves within the capital region as migration within the urban system

rather than 'long' long-distance/inter-regional moves. This latter dataset also had data on immigrant populations, in this case classified as people who were born overseas with two parents who were also born outside Iceland.

The methods employed were necessarily descriptive given the nature of the tabular data that were available but they sufficed for the scene-setting analysis that was the purpose of the paper. They did, however, allow for age standardisation to be undertaken to explore how this key element of population change played out in the Icelandic context. For this, direct age standardisation of migration rates for different types of move was done, using the 1986 age structure as the base/reference. This is presented later.

Results

Overall flows

The starting point is provided in Figure 2 which shows the interaction between the regions of Iceland and overseas in 1986 and 2017, the years which bookend our analysis. Circular migration plots are well suited to visualize complex and dynamic system such as migration patterns (Abel and Sander, 2014). Each migration move between defined residential group is represented twice in the graphs, first in the place of origin and then where the arrow point at the place of destination thus summarize vividly the main flows in a complex and dynamic migration system. Note that that Figure 2 displays migration flows on different scales due to population growth and an overall increase in international migration from 1986 to 2017. The size of each of the arc segments can however be compared over time to evaluate the relative contribution of each region in the migration system.

These chord diagrams introduce two of the major themes that have shaped the Icelandic migration experience since the late 20th century. One is the growing number of flows to and from places outside Iceland, with the Reykjavík capital area being a particular focus; the system has simply become more international with time. The second is that there seem to be smaller flows from the provinces to the capital area in 2017 than in 1986; this theme will be returned to later as the analysis develops. Iceland remains a highly mobile country throughout the analytical period. From 1986 to 2017 the relative contribution of both external migration (mostly to the Reykjavík capital area) and exurban immigration increased while the relative contribution of the capital area and the provinces have decreased.

Migration patterns according to official regional boundaries

Figure 3 shows mobility by different geographical scales as defined by Statistics Iceland. As is the case for their Nordic neighbours (Shuttleworth et al 2018), the Icelandic population is highly mobile. For all address changes (excluding international migration), the migration rate during the period 1986 to 2017 fluctuated between 150 and 200 per 1,000 people (Figure 3A). Those are higher rates than, for example, Sweden where mobility measured as all address changes increased from around 130 to 150 during the same time period. However, when adjusting internal migration for age, (see pecked line in Figure 3), it becomes evident that the rates of mobility in Iceland and Sweden are comparable (Statistics Sweden 2019). Iceland, however, reveals more fluctuations across time than is the case with Sweden perhaps because the greater volatility of its economic cycles.

As in most other countries, the population of Iceland aged between 1986 and 2017. Since older people are less migratory than the young, the proportionate increase in older age groups will everything else being equal, lead to lower aggregate levels of migration. Accordingly, direct age standardisation was conducted, using the 1986 population distribution as the reference. This shows that changes in population age structures led to migration rates being lower than if the population distribution would have remained unchanged. Nevertheless, the differences are not large and do not override the trends observed in the raw data suggesting that age compositional change, whilst having expected impacts of type and direction, is not the only factor of importance.

Figure 3 shows that there is a long-term downward trend in inter-regional moves as well as a slight decline in all-address changes rates. This latter is mainly driven by the decline in inter-regional migration (compare Figures 3A and D). However, the inter-regional decrease is partially countered by stability in address changes within municipalities (Figure 3B) and an increase in moves between municipalities but within regions (Figure 3C). The effects of economic shocks can also be observed. During the economic peak beginning in the early 2000s and ending with the Great Recession in 2008, migration increased at all geographical scales. There was then a decline during the recession and a slight upward trend in line with the economic recovery.

The most pronounced fluctuations are observed in international migration (Figure 3D). During the economic boom in 2005-06, immigration levels rose to 40 per 1,000 population per annum, which is higher than in most other European countries. In Sweden, for example, which traditionally has had higher rates than the other Nordic countries, immigration rates did not exceed 15 per 1,000 population per year. During the Great Recession starting in 2008 a reverse trend was observed and in 2009 and 2010 net international migration was negative. The recovery was quick as the most recent tourist-based economic revival took hold and in

2017, immigration rates exceeded the levels observed in 2007 and 2008. Similar effects are seen for inter-municipality migration within regions as well as in intra-municipality moves whereas inter-regional migration still displays a slight downward trend.

The striking increase in the immigration rates in Iceland since the turn of the century raises the question to what extent the immigrant population has influenced the internal migration levels. Figure 4 therefore presents results for inter-regional migration within Iceland disaggregating between immigrants (people born abroad with both parents born abroad) and the rest of the population (here called Icelandic), and standardising once again to the 1986 age structures of both groups. The age standardisation is revealing; the Icelandic born have lower actual migration rates than would be expected because of changes in population age composition from 1986. For the foreign born, the situation is reversed with actual migration levels being higher than expected. Since the immigrant population is younger than the Iceland-born population, their raw rates are higher than their age-standardised rates.

The raw figures show that inter-regional migration rates for immigrants are not consistently higher or lower than the rates for the Iceland born. However, the patterns of immigrant and Icelandic migration are different. At the turn of the 21st century, migration rates of immigrants were considerably higher than for the Iceland born and the same is true for the period around the economic boom of the mid-2000s. Mass immigration did not start until the 1990s and the immigrant population was both small and recently arrived. This might explain a relatively high mobility of the group around 2000. During the Great Recession starting in late 2008, the internal migration rates among immigrants fell below the levels of Icelanders. To some extent this could be a statistical artefact. Even with a register-based system there are lags in reporting some types of moves. Some immigrants may have left Iceland at the onset of the recession but their absence may not have been reported. This would have artificially boosted the denominator and therefore led to a smaller estimate of immigrants' migration rates than otherwise was the case. The same process might have worked in reverse when there was high immigration earlier in the decade.

The huge economic fluctuations during this century are reflected in changes in the housing market in Iceland. During the economic boom before the Great Recession, the price of residential housing increased sharply. The standard price index for personal consumption expenditures increased by 44% from 2000 to 2008 but "only" by 28% if housing cost is excluded (Statistics Iceland 2019a). Our analysis above shows that the economic boom of the mid-2000s enhanced migration and at all geographical scales migration increased during the boom. The Great Recession then led to a decline in migration at all scales (see Figure 3 above). In the following we will look closer at the trends in migration in the three geographical units defined above (see Figure 1).

Trends in migration between the Reykjavík capital area, the exurban regions and the other regions

One main focus, as noted in the introduction, is on migration between the Reykjavík capital area and the exurban regions on the one hand and the more distant regions on the other hand, in other words separating migrations within the greater Reykjavik housing market from longer-distance regional moves. The cost of housing is far higher in the Reykjavík capital area than outside and it has been argued this has played a role in net-migration flow away from the area especially during the economic booms (Byggðastofnun, 2019). It is also worth noting that economic growth varied considerably between regions both before and after the Great Recession. From 2004 to 2009 the economic growth varied between regions from 7% in the North to 52% in the East, from 2008–2016 the growth varied from -1% in the east to 18% in the South (Byggðastofnun 2011, 2019). The potential effects of those macro-economic changes and variations on migration patterns have not been explored in detail. Karlsson (2013a) suggests that improvements in transportation infrastructure have influenced migration rates in nonlinear manner even though a repeated survey suggests that social factors play a greater role in migration behavior than economic factors in West Iceland (Karlsson 2013b).

Figures 5A to 5D shows different aspects of the interregional migration flows between the Reykjavík capital area and other regions of Iceland. The rates shown in 5A and B are calculated on the basis of the population in the exurban regions and the provinces respectively whereas Figures 5C and 5D use the population of the capital area as the denominator. It is evident that the economic swings have impacted the internal migration patterns in different ways.

Figure 5A shows that total migration (in and out-migration combined) between the exurban regions and the Reykjavík capital area increased from 49 per 1,000 exurban inhabitants in 1986 to a high of 91 in 2005 and then returned from a short-term setback during the Great Recession to 75 per 1,000 exurban inhabitants in 2017. Figure 5A also shows that this increase can be attributed to migration from the capital area to the exurban regions. In-migration to the exurban regions more than doubled between 1986 and 2017 whereas out-migration from the exurban regions to the capital area fluctuated between 30 and 40 per 1,000. Until the late 1990s, the exurban regions lost population to the Reykjavík capital area but this changed with improved transportation infrastructure facilitating commuting for work from the exurban regions and the Reykjavík capital area towards the end of the 20th century (Bjarnason and Thordardóttir 2018). During the economic boom of the mid 2000s, the flow from the capital area to the exurban regions accelerated. This was to some extent driven by rising housing prices but might also be influenced by other factors in locales surrounding the capital area such as economic growth related to the international airport in the Suðurnes region, heavy industry in the

Vesturland region and tourism in the Suðurland region, technological changes that have made work less place dependent and a potential counterurban shift in parts of the population emphasising rural amenities over urban amenities. The trend was temporarily reversed at the start of the Great Recession when the migration rate from the capital area to the exurban regions dropped. During this era the exurban regions lost population to the Reykjavík capital area. The economic recovery has then again lead to a more intensive flows from the capital area to the exurban regions.

Figure 5B shows that migration flows between the Reykjavík capital area and the provinces are much less sensitive to economic fluctuations than is the case with the flows between the capital area and the exurban regions. Total migration between the provinces and the Reykjavík capital area increased from 54 out of 1,000 inhabitants in the provinces in 1986 to a high of 72 per 1,000 in 1996 and then gradually declining again to a level of about 50 per 1,000 inhabitants in the provinces at the beginning of the Great Recession in 2009. It is evident that the changes in migration levels between the Reykjavík capital area and the provinces can almost exclusively be attributed to declining migration from the provinces to Reykjavík. Out-migration from the province thus decreased from ca 45 per 1,000 in 1998 to slightly more than 30 after the turn of the century. Migration rates then remained at this level until 2009 when it dropped below 25 per 1,000 inhabitants in 2009. In-migration from the capital area to the province remained stable at about 22 per 1,000. Net migration thus went from being -11 in 1986, -18 in the late 1990s to -4 per 1,000 provincial residents during the period 2009–2017.

From the perspective of the exurban regions and the provinces we can conclude that in-migration from the capital area has increased in the exurban regions and out-migration to the Reykjavík capital area has decreased in the provinces. In both cases, the change in net migration has been favourable to the regions outside the Reykjavík capital area; leading to a considerable level of positive net migration in the exurban regions and almost balanced net migration with the provinces.

Figures 5C and D show the same data from the perspective of the Reykjavík capital area, with migration calculated on the basis of the population in the capital area rather than the exurban regions and the provinces. While the trends to some extent mirror Figures 5A and B, the population of the capital area is much larger and grew from 133 thousand in 1986 to 222 thousand in 2018. As a result, the number of migrants has a much smaller effect on migration rates in the capital area and the rate based on that number decreases over time. Figure 5C thus shows that migration from the capital area to exurban regions increased from 5 to 10 per 1,000 in the capital area, compared to 21 to 45 per 1,000 in the exurban regions. The total migration between the capital area and the exurban regions similarly corresponded to a rate

of 16 per 1,000 inhabitants in the capital area but 74 per 1,000 inhabitants in the exurban regions.

Figure 5D shows that even as rural-to-urban migration decreased in terms of the population of the provinces, it has decreased even more in terms of the growing population of the Reykjavík capital area. Total migration between the capital area and the provinces thus corresponded to a rate of 30 per 1,000 Reykjavík capital area inhabitants in 1986 and a rate of only 17 per 1,000 in 2017. For the capital area, the relative magnitude of urban migration from the provinces decreased from 20 per 1,000 in 1986 to 9 in 2017 and the relative magnitude of counter-urban migration to the provinces decreased from 13 to 8 per 1,000 residents of the capital area in the same time period. Migrants to and from the provinces thus have a much smaller impact in the capital area over time.

(Im)mobility in provincial Iceland

The results presented in the previous section suggest that declining internal migration in Iceland is largely limited to declining migration from the regions to the Reykjavík capital area. This raises the question of whether residents of these regions have become less mobile or if other types of daily, weekly, monthly or even international mobility have become more important for them. Firstly, it is possible that the recent growth of the exurban regions is in part due to migrants from the more distant regions who prefer the mix of urban and rural amenities available in the exurban regions. Secondly, it is possible that increased globalisation and Iceland's participation in the common European labour market have led to increased flows of migration between the provinces and other countries, at the expense of such flows between the provinces and the Reykjavík capital area. Finally, it is possible that mobility between the more distant regions has increased as longer distance internal migration flows to and from the capital area have decreased.

Figure 6 shows the mobility of the population living in the more remote regions, focusing on (1) emigration, (2) migration to the Reykjavík capital area, (3) migration to the exurban regions and (4) migration between provinces measured as movements across traditional regional borders (see Figure 3). As shown before, the total migration rate between the provinces and the capital area increased substantially in the late 1980s and the early 1990s. Between 1986 and 1993 the migration rate to the capital area fluctuated round 35 per 1,000 inhabitants in the provinces. There was a decline in such migration and was 26.6 in 2017, the lowest recorded level in the period under study.

Interestingly, there are few signs of changes in other types of mobility in the same time period. Despite increased opportunities for international immigration and emigration, the migration

rates from the provinces to other countries have remained stable around an average of 7.3 per 1,000 inhabitants in the provinces and despite the growth of the exurban regions, those migration rates have also remained stable around 7.8. The figure also shows that migration between the different provinces is more prevalent than migration rates between the provinces and the exurban regions and other countries combined. Furthermore, the rate of migration between the provinces have remained relatively stable around an average of 18.1 pr. 1,000 inhabitants and a standard deviation of 1.6 over the analytical period.

Discussion and conclusion

This Icelandic case study fits another jigsaw piece into the national evidence base on internal migration trends. It is another high-migration Nordic country. Within the set of Nordic countries, it is the one with the highest rates of internal migration and also the one with the greatest porosity to international in- and outflows. The analysis reveals little evidence for across the board migration decline, unlike the USA, Australia and the UK where there is stronger evidence for increasing population immobility. The trends are somewhat similar to those noted by Shuttleworth et al (2018) in Sweden. Not only do Nordic countries tend to have higher migration rates than other European countries but these rates show little consistent sign of falling across all distance scales as in some other advanced economies. This calls into question the application of macro-structural explanations that seek to explain changed migration behaviour in terms of large-scale changes in the way that society works. Iceland, for example, has experienced a shift towards service employment just as have most other advanced economies, and similar demographic developments. In the absence of ageing since the 1980s, migration rates in general would have been higher than they would have been, but just as other standardised results elsewhere, they suggest the contribution of ageing explains only a relatively small fraction of the migration decrease.

This is not to say that all types of migration rates over various distance bands have remained constant. As is the case in other countries, there is a great deal of complexity in Iceland. Moves within the Reykjavík capital area and from and to its neighbouring exurban regions – in essence relatively short-distance address changes probably a result of a conjunction of multiple factors – have kept aggregate levels up at the same time as there has been a decrease in long-distance inter-regional moves to the Reykjavik area. This does not seem to be a short-term trend but rather a pattern that has become established over twenty years. The likelihood is that Icelandic regions now relate in a different way to the Reykjavík capital area than they did in the past. The hypothesis that inter-regional moves from provinces were substituted by other types of migration, particularly emigration overseas, was not supported. This leads on to other potential explanations.

One is that beyond the growth of the Reykjavík capital area, processes of urbanisation have led to larger and stronger regional centres in the provinces that may be better able to compete with the diversity of occupations and services offered in the capital area or in major cities abroad. As an example, the population of the regional centre of Akureyri has grown to be more than half the entire population of Northern Iceland. Another possibility is that changes in priorities, and prior migration flows, have led to a more content provincial population with lower out-migration. A third possibility is that rural populations have aged in place and the age profile of the regions far from Reykjavik are proportionately older than those elsewhere. This ageing may have reduced migration rates. It might also be that individuals may wish to move but may face obstacles that they cannot overcome such as house price differentials or a lack of resources. Furthermore, technological advances might have decreased the need for geographical mobility to obtain the occupational and leisure opportunities previously restricted to more urban areas. The use of IT might increase internal migration through providing better and more information about opportunities but in some national contexts (Cooke and Shuttleworth 2017), it may well act to reduce it. Despite little change in women's labour force participation in recent years (it rose from about 33% in 1960 to about 76% in 1991 and gradually reached 80% in 2016) (Statistics Iceland 2017) regional and urban/rural dynamics of women's labour force and educational attainment may play a role in the migration pattern that was seen.

Further, the changes in the housing market policy and dynamics in a small fluctuating economy with a tiny unstable currency and its effect on internal and international migration in Iceland is material for a large body of research. Sveinsson (2010, p. 49) pointed out that the "the growing strength of neo-liberal ideological hegemony" changed the social-housing program such that it will increase the share of renting in the housing market. This predicted change has materialized in part in recent years and may interact with global labour market reforms characterized in part with by the emergence of a precariat class (as described by Standing, 2015) may also have influenced internal migration flows in Iceland. Future research could further explore such alternative explanations.

The relatively large immigrant population of Iceland provides a good context to investigate the spatial mobility experience of this group. Iceland, as part of the European Economic Area has been open to immigration from the 2004 EU accession states and it has many industries (for example, fishing, food processing and tourism) which are associated with international workforces in other contexts. As groups which have had recent international migration experiences, they are often considered to be at greater risk of moving within countries (until they age, acculturate, settle and become more like the host community). The Icelandic evidence shows that the difference in mobility of immigrants and Icelanders is small even

though our data suggests that immigrants are slightly more sensitive to economic fluctuations. During economic boom of the mid-2000s, the internal migration of immigrants was higher than for the rest of the population and there was a more pronounced drop in internal migration among immigrants during the Great Recession albeit with the caveat that lags in registering incomers and leavers may bias the estimates upwards or downwards depending on the balance of net migration.

Our analysis has merely scratched the surface of what Iceland can offer migration scholars and raises more questions than it answers; there is the potential to study migration back to the 19th century on a consistent and georeferenced basis if census data can be collected and collated. The availability of register data from the early 20th century is also a resource of international significance. With these population data, it will prove possible to study migration, and indeed other demographic and social phenomena, over far longer periods than is the case in many other countries, allowing the full sweep of migration history in a changing society to be assessed. Moreover, with full access to individual records, multivariate methods could be applied to understand associations, patterns and structures in the data better.

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