



# Self-Selection into Circular Migration

Evidence from linked Finnish and Swedish Register Data

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**Abstract:** Circular migration in a setting of free mobility has received increasing attention among policy makers. However, to date we know relatively little about the mechanisms underlying circular migration. In this paper, we try to fill the gap in the literature by analysing circular migration between Finland and Sweden using unique linked register data. The data set covers the years 1987-2005 and provides information on individuals in Finland and Sweden, thus allowing us to follow migrants across national borders. We use event history analysis to assess (1) the effect of previous migration experience on the likelihood to circulate and (2) migrants' self-selection into circular migration by gender, social and human capital. Our study shows that the probability of moving again increases with every move. Moreover, selection into circular migration resembles that of the first emigration and return. Selection into emigrations differs from returns, even when migrants have moved multiple times.

Keywords: circular migration, selection, free mobility, linked register data



## 1. Introduction

Free mobility among the EU-member states has been a central issue in the public debate in many countries. Proponents of free mobility argue that immigration may alleviate the demographic decline and population ageing experienced in many European countries (EU Commission 2017; see also Coleman and Rowthorn 2004; Fehr et al. 2004; Angenendt 2009; Zimmermann 2014). Conversely, opponents contend that open borders are dangerous as they inhibit policy makers from controlling the number of immigrants who enter the country (Get Britain Out 2017). Such arguments were, for instance, pivotal in the Brexit campaign in the UK. It is clear that both proponents and opponents of intra-EU migration make strong arguments but lack accurate empirical analysis to support their claims.

Due to data constraints, few empirical studies analyse circular migration in the EU context (see Vadean and Piracha 2009; Kalter 2011; Constant and Zimmermann 2012 for notable exceptions). Still, previous literature on temporary migration between Australia and New Zealand, US and Mexico as well as studies on internal temporary migration show that migrants are more likely to move when they have the option to return. Given this flexibility, the more a migrant has previously moved, the higher the likelihood that he/she will move again (Goldstein 1964; Massey and Espinosa 1997; Lidgard and Gilson 2002; Hugo 2009; Poot 2009; Lee et al. 2011). However, to our knowledge, no empirical analysis has assessed the selection processes underlying circular migration. On the one hand, it may be that circular migrants are a third group, distinct from first time and return migrants. Once they have moved a few times, migrants may no longer consider the costs and benefits of each move separately and instead decide whether to circulate or not. On the other hand, selection into circular migration may resemble that of the initial emigration and return. In this way, self-selection into another emigration differs from that defining return migration, even when migrants have made multiple moves.

In this paper, we aim to fill the gap in the literature by studying how self-selection into circular migration relates to the first emigration and return using unique linked Finnish and Swedish register data. This data set allows us to follow migrants across national borders, meaning that we can observe multiple moves made by the same individual and study selection into each move separately. Additionally, we provide information from before and after migration. Using an event history set up, we study the effect of previous migration

experience on the likelihood to circulate, as well as, selection by gender, social and human capital. We measure social capital using unique variation in mother tongue among Finns and migrants' marital status. Human capital characteristics are operationalised using income and educational attainment. Finland and Sweden have been part of the common Nordic labour market since 1954, which means that migrants can move back and forth between the two countries without the need for residence or work permits. This allows us to analyse circular migration in a setting of free mobility.

Various definitions of circular migration have been proposed in the previous literature. In this paper, we conceptualise circular migration using three dimensions: spatial, temporal and iterative (Newland 2009). The spatial dimension includes two places, specifically a source and destination country. For the purpose of this paper, a circular migrant is someone who moves back and forth between Finland and Sweden. The temporal dimension can range from short-term to life-cycle moves. We have monthly information on migration and do not make any temporal restrictions so as to capture the bulk of movement taking place between Finland and Sweden. The iterative dimension includes more than one cycle. After having emigrated for the first time, some migrants return to the home country. Further moves between home and host country are then circular migration. The linked Finnish and Swedish register data set allows us to observe each move separately. Hence, in the following we analyse emigration 1, return 1, emigration 2 and return 2; the latter two being circular moves. We include emigration 1 and return 1 in order to compare circular migration patterns to those observed for the initial two moves.

Our study shows that individuals who have initiated migration are more likely to move again. Modelling each move separately, we moreover find that self-selection into emigration 2 differs from the selection that characterises return 2-migrants. Hence, circular migrants are not a third group, distinct from first time and return migrants, instead the nature of circular migration resembles emigration 1 and return 1. Our empirical results show that female migrants who have no familial commitments at home and see an economic advantage in moving to Sweden more often decide to make emigration 2 than their male counterparts with a family and stable income in Finland. The considerations underlying emigration 1 are similar. Conversely, migrants weighing the costs and benefits of returning for the first and second time seem to make their decision based on factors pulling them back to Finland. This suggests that the migration decision depends on the direction of the move, even when

migrants engage in circular migration. These findings underline the importance of distinguishing between circular moves that are another emigration and another return. Analysing migrants who make emigration 2 and return 2 jointly seems to group migrants with very different characteristics together. Our study also shows that we can learn a lot about circular migration from the first emigration and return.

The paper is set up as follows: We begin by discussing the theoretical background and findings from previous empirical research on circular migration. These lead us to some hypotheses regarding expected findings. We then explain the context of Finnish-Swedish migration. We continue by describing the linked register data set, as well as, the variables and methods used in the empirical part. Afterwards, we present the results with respect to the question sketched above and robustness checks. The article closes with a discussion of the findings and further research.

## **2. Theoretical background and previous empirical findings**

In a setting of free mobility, individuals can be flexible regarding their choice of location. Analysing migration between Finland and Sweden, we thus focus on migrations that are the result of individual decision and choice. Having emigrated once, migrants may stay permanently in the host country or decide to return and then possibly to move back and forth multiple times. Circular migration may be a strategy to maximise earnings abroad while simultaneously spending time with family at home. Furthermore, circular migration may allow migrants to maintain ties to both the home and host country, instead of having to make a definitive choice between the two.

Much of the literature on permanent and temporary migration discusses the complexity of migration decisions (see among others King 2002; Hadler 2006). Yet, the decision framework of multiple moves becomes only more intricate, as the choice to make another move may be an integral part of the initial migration decision or an ad hoc decision based on a change in circumstances. This is difficult to disentangle empirically; still in the following we aim to provide a framework that allows for a systematic analysis of circular migration by differentiating between the individual and group level.

### **At the individual level**

Massey and Espinosa (1997) argue that with every migration an individual is more likely to move again, as migrants acquire skills, ties and knowledge specific to migration and destination that decrease the cost of making another move. For example, having previously moved, migrants may already know where to find accommodation in the host country and what transport to take. Importantly, this knowledge increases with every move, consequently making an additional move more likely. Thus, once migration has begun, a number of feedback processes alter the context of migration-decision-making in such a way that additional movements become progressively more likely. In their empirical analysis of migration from Mexico to the US, Massey and Espinosa (1997) call these skills migration-specific capital and find that their measures of migration-specific human and social capital are important predictors of the likelihood to make another trip to the US.<sup>1</sup> These results are stronger for documented than undocumented Mexicans, suggesting that holding legal documents additionally facilitates repeat migration by decreasing the cost and risk of migration. Interestingly, they also find that individuals' social network, which is a strong predictor of the likelihood to initiate migration, becomes less important for later moves.

While literature on circular migration in the European context is scarce (some notable exceptions are Vadean and Piracha 2009; Kalter 2011; Constant and Zimmermann 2011, 2012; Constant et al. 2012), the literature on internal repeat migration (Goldstein 1964; DaVanzo and Morrison 1981; Hugo 1982; DaVanzo 1983), repeat migration between Mexico and the US (Massey and Espinosa 1997; Massey et al. 2002) and New Zealand and Australia (Lidgard and Gilson 2002; Poot 2009; Hugo 2008, 2009; McCann et al. 2010) is more substantive, in addition to a growing literature on circular migration in development studies (Hugo 1982; Lee et al. 2011; Deshingkar et al. 2008; Bird and Deshingkar 2009). Despite the varying contexts of these studies, there is a strong consensus that migrants who have moved more in the past are also more likely to migrate again in the future. More broadly, some migrants have a strong tendency to move several times over relatively short time spans.

Interestingly, trans-Tasman migration (between Australia and New Zealand) occurs in a very

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<sup>1</sup> The former is measured using: months of US experience acquired, number of prior US trips and occupational skill of a job held in the US. The latter is operationalized using an indicator of whether the spouse has begun migrating, a count of the respondents' children who have migrated and a dummy variable indicating whether or not any children have been born in the US. Arguably, these variables capture how much a migrant profits from working in the US and migrants' family ties to Mexico.

similar context to Finnish-Swedish migration. New Zealanders are allowed to live and work in Australia without the need to obtain visas or qualify on skills-based or humanitarian grounds, and vice versa Australians can unrestrictedly move to New Zealand (Green et al. 2008).<sup>2</sup> Migration between New Zealand and Australia is thus characterised by free movement. Moreover, the two countries have close physical, historical and cultural connections similar to Sweden and Finland (see the next section for details on the Finnish-Swedish context). Studying temporary migration of New Zealanders, Lidgard and Gilson (2002) find that at least a third of returnees are, or plan to become “circulators.” Furthermore, they argue that migrants from New Zealand can be categorised in three groups. One consists of people moving back and forth between New Zealand and Australia. The other comprises of “temporary” flows of young, single New Zealanders going to the United Kingdom for a “working holiday” and young United Kingdom citizens holidaying and working temporarily in New Zealand. The third group consists of more diffuse migration streams from other countries.

### **At the group level**

While there is some empirical evidence on the predictors of circular migration at the individual level, to our knowledge there is no empirical research on self-selection into circular migration. It could be that circular migrants are a third group, different from both first time and return migrants. Once a migrant circulates, he/she is acquainted with both the home and host country and may no longer distinguish between an emigration and a return. Alternatively, selection into circular migration may resemble that of the initial emigration and return. Thus, self-selection into another emigration differs from that defining return migration, even when migrants have made multiple moves. For instance, if circular migration is a strategy to minimize the psychic costs endured if the family stays at home while maximizing the financial benefits of working abroad, the decision underlying emigration 2 and return 2 is quite different (Bigsten 1996; Constant and Zimmermann 2011; Dustmann and Görlach 2015). This would be reflected by different types of selection defining emigration 2 and return 2.

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<sup>2</sup> *The Trans-Tasman Travel Arrangements (TTTA), signed in 1973, formalised free movement between New Zealand and Australia. However, also prior to 1973, neither New Zealand nor Australia exercised systematic control over immigration from the main Commonwealth, and New Zealanders and Australians were thus free to move between each country under informal arrangements (CANZUK 2017).*

The migration selection model posits that rational self-interested agents migrate if the expected benefit is greater than the cost of migration. Individuals with higher abilities and productivity (unobservable characteristics) are expected to move from countries with less dispersed earnings distributions to countries with wider earnings distributions. Additionally, persons with higher observable skills (educational level) are more likely to move from countries with relatively lower returns to educational attainment to countries with higher returns to education. This is because they can achieve relatively higher earnings for their observable and unobservable skills in the host country. By contrast, less skilled migrants find it relatively more rewarding to move to countries with narrower earnings distributions and where the returns to education are relatively lower (Borjas 1987).

The theory of selection in return migration incorporates reversible migration decisions. Borjas and Bratsberg (1994) argue that return migrants are those who made the smallest relative gain from migration, or were the most ambivalent about leaving the home country in the first place. In other words, they are marginal migrants. This implies that if the migration flow is negatively selected on skills, return migrants are the “best of the worst”, while return migrants are the “worst of the best” if first migration is positively selected on skills. In other words, return migration accentuates the selection that characterizes the initial migration flow. The intuition is that selectivity in return migration depends on the selectivity of the first emigration. Moreover, return migrants are the most similar in their characteristics to individuals who stayed in the home country. In an empirical study on return migration to Puerto Rico, Ramos (1992) finds empirical support for this theory (see also Nekby 2004; Jensen and Pedersen 2007; Rooth and Saarela 2007). Dustmann (1991) broadens the framework from human capital selection by incorporating migrants’ affinity for the home country and family considerations into migrants’ optimizing considerations. Constant and Zimmermann (2012) also find that the location of both human and social capital are significant indicators of the propensity to repeat migrate.

### **Hypotheses**

If similar selection mechanisms underlie further movement, we hypothesize that another emigration to the host country intensifies the type of selection underlying return migration. In other words, migrants who decide to emigrate for the second time, or circulate, are marginal return migrants. This also means that they are closest in characteristics to migrants who made emigration 1 and stayed in the host country. Additionally, return 2-migration intensifies the selection underlying emigration 2 (the previous move). Return 2-migrants are thus marginal

migrants among second time emigrants and have similar characteristics to return 1-migrants. Table 1 shows the expected migratory pattern over different groups by characteristics derived from theory. We start with the hypothesis that females are positively selected among first time migrants (panel 1). Previous literature on migration shows that women and men have distinct migration patterns, moreover the decisions to move seems to differ by gender. From a global perspective, gender inequalities are small in Finland and Sweden. Still, previous studies find life-course related differences in migration decisions among men and women (among others, Saarela and Finnäs 2009). If every move accentuates the type of selection underlying the previous move, we expect that females are less likely to return, conditional on having made the first emigration (column 3). But among return migrants, women are more prone to make emigration 2. Column 5 shows that return 2-migrants are, on average, less often female than male. In short, we observe that the signs of coefficients indicating selection switch back and forth. Additionally, this means that migrants emigrating for the first and second time are similar and return migrants are alike, independent of whether it is the first or second return.

Panel 2 shows the expected migratory pattern by age at previous move. Based on previous studies, we expect that migrants who were younger at the first migration are more likely to return in column 3 (Vadean and Piracha 2009). If we observe that emigration 2 intensifies selectivity by age, it follows that second time emigrants are positively, while return-2 migrants are negatively selected by age.

In terms of social capital, we expect that individuals with social attachments at home are less likely to initiate movement, but conditional on having emigrated, they are the most likely to return (see for example, Constant and Massey 2003). We measure social capital using information on mother tongue recorded in the Finnish population registers (Finnish or Swedish), as well as, migrants' marital status and changes therein. In panel 3, we hypothesize that Swedish speakers are more likely to emigrate than Finnish speakers (see the next section for details on differences between Swedish and Finnish speakers). If the migration selection model holds, Swedish speakers are less prone to return, conditional on having emigrated. In columns 4 and 5, Swedish speakers are more likely to emigrate for a second time, but less likely to make return 2. Next, singles have a higher propensity to emigrate than married individuals (column 2). Singles are less likely to return, but more prone to emigrate for a second time. Finally, they are less likely to make return 2 than married individuals,

conditional on having made emigration 2. Concerning the effect of a change in marital status on migration patterns, if a migrant marries or divorces in Sweden after the first emigration, the propensity to return is hypothesized to be lower. Arguably, a marriage in Sweden indicates stronger social attachments in the host country, while a divorce weakens ties to Finland. In line with our hypothesis, the signs for the subsequent moves switch back and forth.

Panel 4 shows the expected migratory pattern by human capital. The GINI coefficient (an indicator of the distribution of disposable income) rose in parallel in Finland and Sweden over time period 1987-2005. This means that unobservable skills are similarly remunerated in the two countries. Consequently, we do not expect strong selection by income net of education, indicated by neither positive nor negative selection in table 1. By contrast, the rate of return to education has been higher in Finland than Sweden throughout the 1980s and 90s. In 1995, for example, an additional year of schooling resulted in 9% higher income in Finland versus only a 4% higher income in Sweden (Colm et al. 2001). Rooth and Saarela (2007) find evidence of strong selection by educational attainment. However, it is worth noting that they restrict their sample to male migrants. In table 1 column 2, we hypothesize negative selection by educational attainment at emigration 1. We further expect that subsequent moves intensify the selection that characterizes the previous move. Hence, the signs switch back and forth.

The idea that every move intensifies the selection that characterises the previous move has mainly been tested for return migration. In this paper, we therefore empirically test whether this hypothesis holds for circular migration. Additionally, we analyse whether the finding that migrants who have moved more in the past are also more likely to migrate again in the future holds in the context of recent circular migration between Finland and Sweden.

(Table 1)

### **3. The Swedish-Finnish migration context**

In this paper, we analyse migration between Finland and Sweden over the observation period 1988 to 2005. The two countries have been part of the common Nordic labour market since 1954, meaning that migrants can move between Finland and Sweden without the need for

residence or work permits. This allows us to study temporary migration in a setting of free mobility, namely in a setting where all significant institutional barriers to labour mobility across national borders have been removed. Considering the establishment of the EU and free movement therein, evidence from the Nordic experiment may be of interest in a wider European perspective (see Kruse 1998 for a comparison of the common Nordic labour market and the EU).

Historically, migration between the Nordic countries has been strongly dominated by the migration flow from Finland to Sweden (Hedberg 2004, Pedersen, Roed and Wadensjö 2008). After WWII, more than 500,000 Finns moved to Sweden and almost half of them stayed permanently (Korkiasaari and Söderling 1998). Sweden attracted Finnish migrants with good employment opportunities, high salaries and higher living standards. Meanwhile, Finland's economy was undergoing structural changes and unemployment was high. National economic fluctuations provided strong economic push and pull factors for migration, which peaked in the late 1960s and early 70s (DeGeer and Wester 1975; DeGeer 1977; Häggstrom et al. 1990; Korkiasaari 2003; Hedberg and Kepsu 2003). Many Finnish immigrants who entered Sweden during these years came from a working class background and were employed in low-skilled jobs in the manufacturing industry and the service sector (Häggstrom et al. 1990; Allardt 1996). As the economic climate in Finland improved and the demand for labour declined in Sweden, migration slowed down and many Finnish citizens returned to their home country during the 1980s (Allardt 1996). This was followed by the economic depression of the 1990s, which hit both countries hard. During these years, emigration from Finland to other Nordic countries decreased from about 70 to 40% (Edin, LaLonde, Åslund 2000). As the economic situation improved again, migration from Finland to Sweden returned to a more "normal" level and has stayed fairly stable since then (Saarela and Finnäs 2012). Despite recent lower levels of immigration, Finnish migrants still constitute the largest immigrant group in the country. In 2016, Finnish migrants accounted for 9% of the total immigrant stock in Sweden (SCB 2017).

The structure of migration from Finland to Sweden has also changed considerably over the years. While migration from Finland to Sweden comprised mainly of labour migration in the post-WWII period, migration since the 1970s is characterised by individuals outside the labour force. Indeed, economic push and pull factors have become less important for the migration flow. Allardt (1996) notes that a growing number of migrants were clerks, students

and researchers in 1980s and 90s. Similarly, Hedberg and Kepsu (2003) find that many migrants were children and students. Migration from rural areas in Finland appears to be predominantly connected to ‘nest-leaving’ events, such as getting a university education in Sweden. Still, some migrants are somewhat older, have higher education and move from urban parts of Finland, suggesting that they are rather career-orientated movers. Considering the number of companies that have branches in Sweden and Finland, city-migrants may move between the two countries within a firm. Comparing migrants’ socio-economic background, Hedberg and Kepsu (2003) additionally find that Finnish migrants arriving in Sweden between the late 1970s and 2000 come from a higher socio-economic background than their counterparts who moved during the 1960s and 70s. This finding is in corroboration with Saarela and Finnäs (2009) finding that a higher socio-economic background indicated a much higher likelihood of moving. Additionally, individuals with the lowest education have the highest migration rates around age 20, while at higher ages the best educated are more prone to migrate.

Due to cultural geographic and historic proximity, as well as, free movement laws, the threshold to migration between the two countries is low. Indeed, circulation is estimated to be common between Finland and Sweden, and between the Nordic countries more generally (Hedberg 2004; Regeringskansliet 2010; Johansson 2016). Still, there are large differences in migration and integration patterns within the Finnish migrant population, as Finnish migrants can be said to come from two distinct groups. There is a sizeable Swedish-speaking minority in Finland and Finnish migrants to Sweden may therefore grow up speaking Swedish or Finnish as their mother tongue. Swedish and Finnish-speaking Finns differ in terms of their social structures, with Swedish speakers identifying much more with Sweden than their Finnish-speaking counterparts. Knowledge of the Swedish language makes Sweden also more attractive for Swedish speakers (for a more detailed discussion, see Hedberg 2004; Saarela and Scott 2015). Rooth and Saarela (2007) find that income and employment levels among Swedish-speaking immigrants are at parity with those of native Swedes, whereas the labour market performance of Finnish-speaking immigrants is clearly lower. Saarela and Scott (2015) exploit this within-country variation to analyse return migration. Specifically, they find that migrants’ main language affects integration patterns and their social network in Sweden, which in turn influence return decisions. In terms of social capital, Swedish speakers seem to have an advantage in Sweden, while Finnish speakers are expected to have more social capital in Finland. As language is intimately associated with migrants’ social capital in

Sweden, integration and return migration, it stands to reason that language is also associated with circular migration.

#### **4. Data and Method**

We analyse a unique data set that we constructed by integrating records on Finnish immigrants in Sweden from population registers in both Sweden and Finland (permission number from Statistics Sweden is 8547689/181453 and from Statistics Finland TK-52-215-11). The two data sets were linked by the identification of migrants based on their personal identity numbers (PIN). These identify people by their birth date and sex, as well as, by municipality of residence and year of last immigration to Sweden. Importantly, the linkage allows us to identify migrants moving back and forth between the two countries and in this way provides a highly reliable measure of circular migration. Specifically, we measure migration by registration and deregistration from the population registers in Sweden and Finland. It could be that a person moves from Finland, but does not deregister. However, considering that we observe migrants before and after the move in this data set, we are able to measure migration by emigrating from one country and appearing in the other register. This allows us to check for the reliability of the migration measure. Comparing the month of emigration from Finland with the month of immigration recorded in Sweden, we find that these measures are close to equal (see Table A1 in the Appendix). This shows that we have remarkably accurate information on migration, which is the result of direct cooperation between the Swedish and Finnish public authorities. Namely, if someone from Finland registers in Sweden the Swedish authorities will notify the Finnish authorities to deregister them in Finland, have they not done so already (Kruse 1998). Additionally, there is a high incentive to register. One needs to do so in order to get a personal identification number and to open a bank account, for instance. We measure migration on a monthly basis and with a focus on the detailed information provided by the data we do not restrict our analysis to moves that occur after a certain length of stay in either country.

The data from Sweden cover the period 1985-2005 and contain rich information on socio-economic, demographic and labour market characteristics of migrants who immigrated to Sweden during the time period. The data from Finland contain analogous variables and cover the period 1987 to 2007. Additionally, the Finnish data set provides information both on individuals linked to the Swedish registers and on a sample of the total population. Thus, the

Finnish data provide us with a population at risk for making the first migration, as well as, migrants' characteristics prior to emigration 1. In order to exploit this information, we restrict our analysis to Finnish migrants who we observe emigrating for the first time between 1988 and 2005 while our years of analysis are 1987 to 2005. In short, the longest total follow-up period since emigration 1 is 17 years. We additionally restrict our sample to migrants who make emigration 1 between the ages 25 and 55. In line with previous studies on labour migration, we use 25 as the lower age limit, as many migrants below 25 move to study abroad (among others, see Saarela and Scott 2015). Including student migrants in the analysis makes it difficult to interpret the effect of educational achievement and income. Most of all, the association between completed schooling and the risk of moving is likely highly correlated with age in such a sample. Age 55 is the upper age limit, because labour market characteristics are a central part of our analysis.

Thus, we analyse 231,775 Finns, of whom 12,364 persons (or 5%) move at least once. Table 2 provides the sample sizes of the different groups, as well as, some descriptive statistics. In order to avoid problems of left truncation in our model specification, we focus on migrants who move for the first time during the observation period (records on individuals' previous migrations in the Swedish data set allow us to establish migrants' first move). This means that we define emigration 1 as the first move undertaken from Finland to Sweden between 1988 and 2005. Return 1 is back to Finland. 6,976 persons return (nearly 60% of one-time migrants). Less than 20% of migrants, who return, make emigration 2, i.e., migrate for a second time to Sweden or circulate (1,057 individuals). 490 migrants make return 2 (that is, 45% of migrants, who emigrate a second time). For subsequent moves, the numbers become small. Still, during our 18-year observation period about 14 persons move back and forth four times.

In the empirical analysis, we use an event history set up and model each move separately. The process time for emigration 1 starts at age 25 and the population at risk is the total Finnish population, conditional on the fact that they have not moved before turning 25. Persons are censored at the time of death or at the end of the observation period in 2005. Independent variables included in the model for emigration 1 are measured at the end of the calendar year before emigration 1 in Finland or in a randomly chosen year if the person does

not move.<sup>3</sup> Figure A2 in the Appendix provides the raw hazards for making the different moves. Panel a shows that the hazard of moving for the first time increases just before 20 and then plateaus for a few years after which the risk decreases again. Individuals enter the risk of returning when they have completed emigration 1. The population at risk for return 1 consists of individuals who have emigrated once. Process time starts when the migrant has made emigration 1 and controls for return 1 are measured the year after emigration 1 in Sweden. Panel b in figure A2 shows that the hazard of returning peaks one year after emigration 1.

More interestingly, the set up for circular migration is similar to that of return 1. Namely, the population at risk for emigration 2 (circular migration) consists of individuals who have made return 1. Process time starts when the migrant has returned and the event of interest is emigration 2. Persons are similarly censored at the time of death or at the end of the observation period in 2005. All variables in the model estimating the hazard of emigrating a second time are measured at the end of the calendar year proceeding return 1. This means that variables are measured in Finland. Panel c in figure A2 shows that the risk of making emigration 2 is high already a few months after returning indicating that individuals are most likely to move again soon after returning. For return 2, or the second circulatory move, persons enter the risk set when they have completed emigration 2. The population at risk consists of all individuals who made emigration 2. Independent variables for return 2 are measured the year after emigration 2 (at the beginning of process time). In particular, variables are recorded in Sweden. Figure A2 panel d shows that return 2 also occurs shortly after emigration 2.

In Table 2, we report some descriptive statistics of the variables used in the analysis below. Panel 1 shows that the proportion of women circulating is roughly 0.4. Panel 2 shows the mean age among stayers and at the time of migration for movers. We find that the mean age at emigration 2 and return 2 is 26 and 27, respectively.

To capture the impact of migrants' social capital in Finland and Sweden, we distinguish between Swedish and Finnish speakers and analyse migrants' marital status. Table 2 shows that Swedish speakers constitute a small percentage of the overall Finnish population (about 5 %), but they are strongly overrepresented among migrants (making up 26% of first time

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<sup>3</sup> We do not incorporate them as time changing variables as migrants move back and forth in very short intervals (as shown in Figure A2).

migrants) (panel 3, columns 2 and 3). Somewhat fewer Swedish than Finnish speakers return, while a fourth of migrants who emigrate a second time are Swedish speakers. Finnish speakers are more prone to make return 2. Marital status differentiates between singles, married individuals and a change in marital status. Seeing that we have information from both countries, we provide over a rough proxy of the family's location by observing changes in marital status. Specifically, a change in marital status occurs if a migrant gets married or divorced after having made emigration 1, return 1 or emigrated a second time. Considering the differential effect family ties in Sweden or Finland have on the decision to move again, this is an important variable in our analysis. Table 2 shows that 7-15% of migrants change their marital status between moves. Additionally, we can see that a disproportionately large number of migrants are single compared to stayers. Still, the share of married individuals is larger among those who make return 1 and return 2 than among migrants who emigrate for the first and second time.

We use income and educational level to measure migrants' human capital. We inflation adjust income and measure it per unit time in the country (monthly basis). We group income into quintiles with observations with zero income in quintile 1. Table 2 panel 4 shows that, compared to stayers, a higher percentage of persons who make emigration 1 is in the first and fifth income quintile the year before the move. Return 1 and 2 migrants are more likely to be in income quintiles 3 and 4, while migrants who make emigration 2 often are in income quintile 1 and 5. The second variable operationalising human capital is educational attainment. We use three distinct categories to measure educational level: low (< 11 years), intermediate (11-12 years) and high education (13+ years). Due to problems of missing and misclassified information on educational achievement in register data, we complement the information in the Swedish registers with that from Finland if we have missing or lower schooling recorded after the move (see Saarela and Weber 2017 for a more thorough discussion). 80% of first-time and return migrants have intermediate and high education. Low educational attainment is somewhat more prevalent among migrants who emigrate a second time, while 44% of return 2-migrants have completed high education.

(Table 2)

In our empirical analysis we first plot survival and hazard curves to provide descriptive insight into the migration patterns. Second, we estimate separate cox regressions for

emigration 1, return 1, emigration 2, return 2, in order to compare the effect of migrants' gender, social and human capital on the likelihood to make these four moves. By running separate cox regressions, we allow the baseline hazard to vary and be independent for each individual move.

## 5. Empirical results

We begin by investigating whether migrants who have moved more in the past are also more likely to migrate again in the future in the Finnish-Swedish context. Figure 1 provides the survival curves for emigration 1, return 1, emigration 2 and return 2. Process time for emigration 1 starts at age 25. The flat survival curve shows that few individuals in the total population decide to migrate, namely the risk of making emigration 1 is relatively low. This finding is in corroboration with previous findings in the literature, as well as, the sample sizes provided in table 2 (5% of the Finnish population makes emigration 1). By contrast, the risk of making return 1 is considerably higher, shown by the steep survival curve. Again, table 2 also shows that nearly 60% of first-time migrants return. Regarding circular migration, we see that the likelihood of second emigration, conditional on the first return taking place, is higher than the propensity to make emigration 1. However, compared to return 1 emigration 2 is much less common. The survival curve for return 2 is close to that for return 1. The line is somewhat less stable due to smaller sample sizes. Overall, the figure shows that the survival curves for return 1 and 2, and emigration 2 are steeper than for emigration 1 suggesting that once an individual initiates migration, he/she is more likely to move again between Finland and Sweden. This finding is consistent with the theoretical hypothesis outlined above. However, it also shows that the survival curve for return 2 is more similar to return 1, than to emigration 2. The survival curve for emigration 2 instead resembles that of emigration 1. This evidence suggests that similar mechanisms underlie emigration 1 and 2. Similarly, mechanisms defining return migration are alike. But the mechanisms underlying emigration 2 and return 2 seem to differ. In the following we investigate this in more detail.

(Figure 1)

To our knowledge, previous empirical studies of circular migration have not been able to model each move separately. Hence, we know little about potential distinctions between circular moves to date. Using linked Finnish and Swedish register data both unique in detail and reliability, we are able to study selection into all four moves separately. In Figure 2, we

plot hazard rates by gender and mother tongue for the four moves. The hazard rates for the initial emigration show strong selection by mother tongue, while differences by gender are small (panel a). In other words, Swedish-speaking men and women are significantly more likely to make emigration 1 than Finnish speakers. In panel b, gender differences start to emerge. Men have a higher propensity to make return 1 than women and Finnish speakers are more likely to return than Swedish speakers. Turning to the more novel findings on circular migration, panel c provides the hazard rates of second emigration. We observe that Swedish speakers have a much higher propensity to emigrate a second time than Finnish speakers, conditional on having made the previous moves. Similarly, women are somewhat more prone to move than men, though differences among Finnish speakers are small. Panel d shows that Finnish-speaking men are the most likely to make return 2, followed by Finnish-speaking women and then Swedish-speaking men and women, respectively. Overall, we find differences in the hazard rates up to 6 years after migration. After this gender and mother tongue differences in the risk of moving again become small.

These results show that selection by gender and mother tongue into emigration 2 and return 2 is different. Swedish speakers are positively selected among second time emigrants, while they are negatively selected among return 2-migrants. Selection also switches by gender though differences tend to be smaller. This is descriptive evidence supporting the hypothesis that each move intensifies the type of selection underlying the previous migration, as return 2 intensifies the type of selection defining emigration 2. Migrants who make return 2 are marginal return migrants among second time emigrants and perhaps ambivalent about the decision to make emigration 2. This indicates that circular migrants are not a third group, distinct from first time and return migrants. Instead, comparing the hazard plots for circular migration to those for emigration 1 and return 1, we observe that migrants making emigration 2 are likely similar in gender and mother tongue to emigration 1-migrants, while migrants prone to make return 2 and migrants returning for the first time are more alike. Thus, the nature of circular moves abroad resembles that of the first emigration and circular return migration is similar to the first return. This finding further corroborates the hypothesis that migrants sort themselves into emigrations and returns. To the extent that gender and mother tongue differences in migration patterns reflect differences in migration decisions, Figure 2 suggests that the decision to make another emigration is distinct from another return.

(Figure 2)

In a third step, we quantify the results using cox regression (table 3). We assess selection by gender, social and human capital into the four moves and additionally control for birth cohort, region of residence (at the beginning of process time) and year fixed effects. The coefficients for birth cohort, region and year fixed effects are highly significant, but in the interest of space not reported. In panel 1, we observe that women are more likely to emigrate for the first time than men, though the difference is not significant (column 2). Column 3 shows that women negatively select into return 1. Going on to the more novel results on circular migration, we find that women are more likely to make emigration 2, conditional on having returned. By contrast, they have a somewhat lower risk of making return 2. Net of other factors, gender differences are similar to those provided in figure 2. Moreover, the coefficients are in line with our expectations shown in table 1. Namely, selection into emigration 2 and return 2 differs. If these gender differences reflect life-course related differences in migration decisions, these estimates suggest that individuals who find it more attractive to emigrate for the second time do not necessarily also make return 2. Instead, migrants emigrating for the second time resemble those who emigrated for the first time. In the same way, return 2-migrants are similar to return 1-migrants.

In panel 2, we record the estimates for age at the previous move. We include it as a non-linear variable in the model and find a significant association. Column 3 shows that migrants have a higher propensity to make return 1 if they emigrated at a later age, while the effect of age is the opposite for emigration 2 and return 2. Namely, individuals who were younger at the previous move are more likely to undertake another trip. In contrast to our hypothesis, selectivity by age does not intensify with every move, rather we find that younger migrants are more likely to circulate.

In panel 3, we analyse the effect of social capital on the likelihood of moving. Beginning with mother tongue, we find that Swedish speakers are more likely to emigrate for the first time, while they have a lower propensity to return. Among those who returned, Swedish speakers more often emigrate for a second time than their Finnish-speaking counterparts, while the opposite holds for the second return. All effects are large and significant. Assuming that Swedish speakers have more social ties in Sweden, as well as, a general preference for Sweden, these may act as pull factors increasing the propensity to make emigration 1, but also emigration 2. On the other hand, language considerations may make Finland more attractive for Finnish speakers. Additionally, Finnish speakers may have a larger social

network in Finland making return migration more beneficial, independent of whether it is the first or second return. Next, the estimates for marital status reveal that singles have a significantly higher propensity to make emigration 1 and 2 than their married counterparts. By contrast, married migrants are more likely to make return 1 and 2 than singles, though the estimates for return 2 are not significant. Looking at the effect of a change in marital status, column 3 shows that migrants who marry or divorce in Sweden after having made emigration 1 are less likely to return when compared to migrants who were married in Finland prior to migration. In column 4, we find that migrants who marry or divorce in Finland after returning are more likely to make emigration 2 than migrants who married previously. Net of other factors the coefficient in column 5 is not significant, however, we find a nonsignificant negative effect of marrying or divorcing in Sweden on the return 2-propensity. Summarising selection by marital status, the results show that singles are more mobile than married individuals. Among migrants who change their marital status, we find a clear affinity to stay abroad if they marry or divorce in Sweden and to emigrate again.

These results are in line with our hypotheses displayed in table 1. Conditional on having returned, Swedish speakers and singles are, on average, more likely to make emigration 2. Conversely, Finnish speakers and married individuals are overrepresented among return 2-migrants. Additionally, migrants who got married or divorced in Sweden are more likely to make emigration 2, but have a lower propensity to make return 2. In this way, selection into emigration 2 and return 2 differs by migrants' social capital. Indeed, circular migrants do not seem to be a group distinct from first time and return migrants, instead migrants emigrating a second time tend to resemble first time-emigrants by their social capital characteristics. First time emigrants are more often Swedish speakers and singles, as are second time emigrants. On the other hand, Finnish speakers who are married are more likely to return for the first and second time. In short, we find that each move accentuates the selection by social capital underlying the previous migration.

Further, panel 4 shows human capital selection into moving back and forth. The estimates for income show that individuals in income quintiles 1, 2 and 5 are significantly more likely to make emigration 1 than persons in income quintiles 3 and 4. In column 3 we find that migrants in income quintiles 1 and 3 have a higher propensity to return, conditional on having made the first emigration. This shows that while the lowest and highest-income earners were the most likely to initiate movement, mid-income earners and low income earners more often return. The results on circular migration reveal that the lowest and highest-income earners are

more likely to make emigration 2 than mid-income earners. By contrast, migrants in income quintile 3 are more prone to make return 2 than their counterparts who earn more or less. These results diverge from our theoretically derived hypotheses shown in table 1. Although the difference in GINI coefficients in Finland and Sweden was small during the observation period 1988-2005, more specific factors may have encouraged the most and least skilled to emigrate to Sweden, while individuals in the middle of the earnings distribution were most responsive to changing conditions in Finland. We find a non-linear effect of income. Still, we clearly observe that each move accentuates the selection of the previous move, as the signs switch back and forth. For instance, migrants in income quintiles 1 and 5 are the most likely to make emigration 2, while they are the least likely to make return 2. Moreover, both the lowest and highest income earners are the most likely to make emigration 1 and 2, while mid-income earners are more prone to return.

We find relatively weak effects by educational attainment. First-time emigrants and return migrants are positively selected by education. The estimates for circular migration are non-significant and indicate that individuals with higher educational attainment are less likely to make emigration 2 and return 2. This result is contrary to our expectations and Rooth and Saarela's (2007) finding that migrants from Finland to Sweden were negatively selected by completed schooling. It furthermore contradicts our hypothesis that each move accentuates the selection by education that characterises the previous migration. As aforementioned, Rooth and Saarela (2007) exclude female migrants from their analysis, as do many empirical studies on migration selection. In additional analyses we run separate models for males and females to investigate whether this explains our diverging results. The results are shown in the section on robustness checks below.

Summarising the estimates in table 3, we find that migrants' self-selection into emigration 2 differs from selection into return 2. *Ceteris paribus*, Swedish-speaking women who are single and either have a very high or low income are more likely to emigrate for a second time than Finnish-speaking men who are married and are mid-income earners. The characteristics of migrants making emigration 1 are similar to those of second time emigrants. By contrast, out of those migrants who made emigration 2, it is the married Finnish-speaking men with a stable income who are generally more prone to make return 2. They are also more likely to make return 1, conditional on having initiated migration. The results for age and educational level do not match these patterns. Instead, we find that younger migrants are overall more

likely to circulate, independent of whether it is emigration 2 or return 2. Similarly, those with lower educational attainment seem to be more likely to engage in circular migration. To the extent that gender, social capital and income differences in migration patterns reflect differences in migration decisions, these results suggest that another emigration is distinct from another return. Namely, our results show that circular migrants are not a third group, different from first time and return migrants. Instead, the nature of circular emigrations resembles that of the first emigration and circular return migration is similar to the first return.

(Table 3)

## **6. Robustness Checks**

In our main analysis, we control for gender in all models but do not run separate regressions for men and women. Considering that much of the literature on migration selection focuses on male labour migrants, we estimate the cox models shown in table 3 separately for men and women. The results are reported in table A3. We find that all estimates except those for educational attainment are similar for men and women. We find stronger selection by educational attainment among females than males. Moreover, in column 3 we find that a non-significant effect of educational attainment on the propensities to return among men. But for women, we observe that migrants with higher education are more likely to return, conditional of having initiated migration. For emigration 2 and return 2, the estimates are not significant, but the coefficients have opposite signs for men and women. This suggests that selection by educational attainment may not follow the theoretically derived hypothesis among women.

In additional analyses, we run models for a sample with the lower age limit to 18 years of age at the first emigration. We restrict the migrant population to ages 25 to 55 in the main analysis, so as to exclude student migrants from our analysis. However, figure A2 shows that we thus exclude a considerable share of migrants who make their first emigration around age 19. The estimates from cox regressions using the larger sample are similar to those reported in table 3 though, as expected, the effect of education is less clear (Saarela and Finnäs 2009). We also verify that we observe similar results when we run the analysis for persons who stay for at least one year in the respective country, in this way ensuring that our results are not driven by short-term migration. Additionally, we exclude persons who stay for 10 years or longer in the host country arguing that the decision framework underlying another move is

likely to differ that of a move after a shorter stay in the host country. The results are similar to those reported in the main analysis.

## **7. Discussion and Conclusion**

In this paper, we study self-selection into circular migration between Finland and Sweden. In particular, we assess the effect of previous migration experience on the likelihood to circulate, as well as, selection by gender, social and human capital. Using detailed linked Finnish and Swedish register data covering the years 1987 to 2005, we show that individuals who have moved in the past are more likely to move again in the future. This empirical result is in corroboration with previous studies from other migration contexts and suggests that migration-specific capital, i.e., skills, ties and knowledge specific to migration, are important indicators of the likelihood of making another move in the context of recent circular migration between Finland and Sweden. In line with the literature on trans-Tasman migration, our findings indicate that even in a context of free mobility and between countries that are geographically and historically very close, migrants' knowledge about the host country situation and the trip are significant for the propensity to move another time. Some insightful parallels may be drawn between trans-Tasman migration flows and those occurring in the European context since the establishment of free movement therein.

Moreover, this paper shows that the nature of circular migration resembles the nature of emigration 1 and return 1. To date we know little about potential distinctions between circular moves. In this paper, we are able to fill this gap in the literature by modelling each move separately. In particular, we estimate hazard rates and cox regressions for the initial emigration, return 1, emigration 2 and return 2; the latter two being circular moves. Our empirical results show that every move accentuates the selection that characterizes the previous migration flow. In particular, females, Swedish-speakers, singles and high and low-income earners are more prone to initiate migration, while they are less likely to make return 1. They are overrepresented among second time emigrants, but show a lower propensity to make return 2. Though our estimates for age and educational attainment are not in line with these patterns, our results for gender, social capital and income meet the hypothesis derived from the migration selection model. Borjas and Bratsberg (1994) predict that selectivity in return migration depends on the selectivity of the first emigration. Specifically, return migration intensifies the selection that characterizes the initial migration flow. This implies

that return migrants are most similar to stayers, or individuals who did not leave the country during the observation period. Borjas and Bratsberg (1994) focus on selectivity by skills, but Dustmann (1991) and Constant and Zimmermann (2012) , among others broaden the framework to incorporate selectivity by a broader set of characteristics. Our results show that selectivity into further moves also depends on the selectivity of the previous moves. In other words, selection into the second emigration intensifies the selection that characterizes return migration. Additionally, selection into return 2 accentuates selection mechanisms underlying emigration 2. Importantly, these results show that circular migrants are not a third group, distinct from first time and return migrants. Indeed, migrants seem to consider each move separately instead of making a decision to circulate.

Additionally, this finding shows that migrants' self-selection into emigrations and returns is similar, independent of whether it is the first or second emigration, or the first or second return. In other words, the migration decision depends on the direction of the move. For instance, migrants who have no familial commitments at home and see an economic advantage in moving to Sweden more often decide to make emigration 2 than their counterparts with a family and stable income in Finland. The considerations underlying emigration 1 are similar. Conversely, migrants weighing the costs and benefits of returning for the first and second time seem to make their decision based on factors pulling them back to Finland.

Our empirical findings have a number of implications. First, our study underlines the importance of distinguishing between separate moves even when they are circular ones. Analysing migrants who make emigration 2 and return 2 jointly seems to group very different migrants together, which may not provide particularly informative results. Our study also shows that we can learn a lot about circular migration from the patterns underlying first emigration and return, seeing that the nature of circular migration resembles that of the first emigration and return. Third, our results indicate that findings from other settings may be informative in a context of free mobility, though they need to be interpreted with care. In further studies, it will be important to analyse the decision process underlying circular migration in more detail. Additionally, a more thorough investigation of the geographic dimensions in circular migration, as well as, changes in educational attainment and income from one move to the next may be worthwhile. Finally, social ties and family considerations seem highly significant in migration decisions. These need to be studied in more detail.

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## References

- Angenendt S (2009) Labor Migration Management in Times of Recession: Is Circular Migration a Solution. Transatlantic Academy Paper Series, pp 1-20
- Allardt E (1996) Samhällsutvecklingen i Finland och Sverige efter 1945 – bakgrunden till ut-och invandringen. In: Lainio J (ed) Finnarnas historia i Sverige 3. Tiden efter 1945, Finska historia samfundet och Nordiska museet, Helsingfors, pp 17-35
- Bigsten A, (1996) The Circular Migration of Smallholders in Kenya. *J Afr Econ* 5(1):1-20. doi: [10.1093/oxfordjournals.jae.a020893](https://doi.org/10.1093/oxfordjournals.jae.a020893)
- Bird K, Deshingkar P (2009) Circular Migration in India. ODI Policy Brief No. 4.
- Borjas, GT (1987) Self-selection and the Earnings of Immigrants. *The American Economic Review* 77(4):531-553.
- Borjas GT, Bratsberg B (1994) Who leaves? The outmigration of the foreign born. NBER Working Paper Series No. 4913. doi: 10.3386/w4913
- CANZUK (2017) The Future of the Trans-Tasman Travel Agreement. Recommendations for the Australian Foreign Policy White Paper
- Coleman D, Rowthorn R (2004) The Economic Effects of Immigration into the United Kingdom. *Population and Development Review* 30(4):579-624. doi: 10.1111/j.1728-4457.2004.00034.x
- Colm H, Walker I, Westergaard-Nielsen N (2001) Education and Earnings in Europe: A Cross Country Analysis of the Returns to Education. Edward Elgar, Cheltenham
- Constant A, Massey D (2003) Self-selection, earnings, and out-migration: A longitudinal study of immigrants to Germany, *J Popul Econ* 16:631-653. doi: 10.1007/s00148-003-0168-8
- Constant A, Zimmermann K (2011) Circular and Repeat Migration: Counts of Exits and Years Away from the Host Country. *Popul Res Policy Rev* 30:495–515. doi: 10.1007/s11113-010-9198-6
- Constant A, Zimmermann K (2012) The Dynamics of Repeat Migration: A Markov Chain Analysis. *IMR* 46(2):362-88. doi: 10.1111/j.1747-7379.2012.00890.x
- Constant A, Nottmeyer, O, Zimmermann K (2012) The Economics of Circular Migration. IZA Discussion Paper No. 6940:1-44
- DaVanzo J, Morrison PA (1981) Return and other sequences of migration in the United States. *Demography* 18(1):85-101
- DaVanzo J (1983) Repeat Migration in the United States: Who Moves Back and Who Moves On? *The Review of Economics and Statistics* 65:552–559

DeGeer E, Wester H (1975) Utrikes resor, arbetsvandringar och flyttningar i Finland och Vasa län 1861-1890. In: Österbotten 1975, Skrifter utg. Av Svensk-Österbottiska Samfundet, Vasa

DeGeer E (1977) Migration och Influensfält. Studier av emigration och intern migration i Finland och Sverige 1816-1972. Acta Universitatis Upsaliensis, Almqvist and Wiksell International, Stockholm

Deshingkar P, Sharma P, Kumar S et al (2008) Circular migration in Madhya Pradesh: changing patterns and social protection needs. *European Journal of Development Research* 20 (4):612-28

Dustmann C (1991) Why Go Back? Return Motives of Migrant Workers, Working Paper

Dustmann C, Görlach J (2015) The Economics of Temporary Migration. CDP 03/15

Edin P, Lalonde RP, Åslund O (2000) Emigration of immigrants and measures of immigrant assimilation: evidence from Sweden. *Swed Econ Rev* 7:163-204

European Commission (2017) European Agenda on Migration. [https://ec.europa.eu/home-affairs/what-we-do/policies/european-agenda-migration\\_en](https://ec.europa.eu/home-affairs/what-we-do/policies/european-agenda-migration_en). Accessed 11 July 2017

Fehr H, Jokish S, Kotlikoff L (2004) The Role of Immigration in Dealing with the Developed World's Demographic Transition. [FinanzArchiv: Public Finance Analysis](#) 60(3):296-324

Get Britain Out (2017) EU's Open Borders Threaten UK Security.

<https://getbritainout.org/eus-open-borders-threaten-uk-security/>. Accessed 11 July 2017

Green A, Power M, Jang D (2008) Trans-Tasman migration: New Zealanders' explanation for their move home. *New Zealand Geographer* 61(4):34–45. doi: 10.1111/j.1745-7939.2008.00125.x

Goldstein S (1964) The Extent of Repeated Migration: An Analysis Based on the Danish Population Register. *Journal of the American Statistical Association* 59(308):1121-1132

Hadler M (2006) Intentions to migrate within the European Union: A Challenge for Simple Economic Macro-Level Explanations. *European Societies* 8(1):111-140. doi: [10.1080/14616690500491324](https://doi.org/10.1080/14616690500491324)

Hedberg C, Kepsu K (2003) Migration as a Cultural Expression? The Case of the Finland-Swedish Minority's Migration to Sweden. *Geogr Ann* 85(2):67-84. doi: 10.1111/1468-0467.00132

Hedberg C (2004) The Finland-Swedish Wheel of Migration: Identity, Networks and Integration 1976-2000. Dissertation, Uppsala University

Hugo G (1982) Circular Migration in Indonesia. *Population and Development Review* 8(1):59-83

Hugo G (2008) In and Out of Australia. *Asian Population Studies* 4(3):267-291. doi: [10.1080/17441730802496508](https://doi.org/10.1080/17441730802496508)

Hugo G (2009) Migration between the Asia-Pacific and Australia—A Development Perspective. Migration Task Force Meeting, Mexico City

Hägström N, Borgegård LE, Rosengren A (1990) När finländarna kom. Migrationen Finland-Sverige efter andra världskriget. Statens institut för byggnadsforskning, Gävle

Jensen P, Pedersen PJ (2007) To stay or not to stay? Out-migration of immigrants from Denmark. *International Migration* 45(5):87-113. doi: 10.1111/j.1468-2435.2007.00428.x

Johansson T (2016) Från lokal till global cirkulär migration. SCB 55.  
<http://www.scb.se/sv/Hitta-statistik/Artiklar/Fran-lokal-till-global-cirkular-migration/>.  
Accessed 11 July 2017

Kalter F (2011) Social Capital and the Dynamics of Temporary Labour Migration from Poland to Germany. *Eur Sociol Rev* 27(5):555-69. doi: [10.1093/esr/jcq025](https://doi.org/10.1093/esr/jcq025)

King R (2002) Towards a New Map of European Migration. *Int J Popul Geogr* 8:89-106. doi: 10.1002/ijpg.246

Korkiasaari J (2003) Utvandring från Finland till Sverige genom tiderna, Åbo: Migrationsinstitutet

Korkiasaari J, Söderling I (1998) Finland: From a country of emigration into a country of immigration. In: Söderling I (ed) *A Changing Patterns of Migration in Finland and Its Surroundings*, Population research institute D 32, Helsinki

Kruse A (1998) The European Union and the Common Nordic Labour market. In: Edström, Ö (ed) *Sweden and the Free Movement of Workers in the European Union*, Centre for European Law Department of Legal Science, Umeå University, pp 101-108

Lee S, Sukrakarn N, Choi J (2011) Repeat migration and remittances: Evidence from Thai migrant workers. *Journal of Asian Economics* 22:142-151. doi: [10.1016/j.asieco.2010.11.005](https://doi.org/10.1016/j.asieco.2010.11.005)

Lidgard J, Gilson C (2002) Return Migration of New Zealanders: Shuttle and Circular Migrants. *New Zealand Population Review* 28(1):99-128

Massey D, Durand J, Malone N (2002) *Beyond Smoke and Mirrors: Mexican Immigration in an Age of Economic Integration*. Russell Sage Foundation, New York

Massey D, Espinoza K (1997) What's driving Mexico-U.S. migration? A theoretical, empirical, and policy analysis. *American Journal of Sociology* 102(4):939-99. doi:

[10.1086/231037](https://doi.org/10.1086/231037)

McCann P, Poot J, Sanderson L(2010) Migration, relationship capital and international travel: theory and evidence. *Journal of Economic Geography* 10(3):361-387. doi:

[10.1093/jeg/lbp044](https://doi.org/10.1093/jeg/lbp044)

Nekby L (2006) The emigration of immigrants, return vs onward migration: evidence from Sweden. *J Popul Econ* 19(2):197-226. doi: 10.1007/s00148-006-0080-0

Newland K (2009) Circular Migration and Human Development. Human Development Research Paper 42: pp 1-26

Pedersen P, Roed M, Wadensjö E (2008) The Common Nordic Labour Market at 50. Tema Nord 506

Poot J (2009) Trans-Tasman Migration, Transnationalism and Economic Development in Australasia. Motu WP 09-05:1-21

Ramos F (1992) Out-Migration and Return Migration of Puerto Ricans. In: Brojas G, Freeman R (eds) *Immigration and the Workforce: Economic Consequences for the United States and Source Areas*, University of Chicago Press, pp 49-66

Regeringskansliet (2010) Sweden's Committee for Circular migration and Development. <http://www.regeringen.se/49bb7d/contentassets/ffeea1d4f22045e3b917282a74b8b035/swedens-committee-for-circular-migration-and-development>. Accessed 11 July 2017

Rooth D, Saarela J (2007) Selection in migration and return migration: Evidence from micro data. *Economics Letters* 94:90–5. doi: [10.1016/j.econlet.2006.08.006](https://doi.org/10.1016/j.econlet.2006.08.006)

Saarela J, Finnäs F (2009) The Influence of Education and Socioeconomic Background on Age-Specific Migration from Finland. *The Open Sociology Journal* 2:42-48. doi:

[10.2174/1874946100902010042](https://doi.org/10.2174/1874946100902010042)

Saarela J, Finnäs F (2012) The International Family Migration of Swedish-Speaking Finns: The Role of Spousal Education. *Journal of Ethnic and Migration Studies* 39(3):391-408. doi:

[10.1080/1369183X.2013.733860](https://doi.org/10.1080/1369183X.2013.733860)

Saarela J, Rooth D (2012) Uncertainty and international return migration: some evidence from linked register data. *Applied Economic Letters* 19:893-7. doi:

[10.1080/13504851.2012.674196](https://doi.org/10.1080/13504851.2012.674196)

Saarela J, Scott K (2015) Mother Tongue, Host Country Earnings, and Return Migration: Evidence from Cross-National Administrative Records. *IMR* 51(2):542–564. doi:

10.1111/imre.12230

Saarela J, Weber R (2017) Assessment of educational misclassification in register-based data on Finnish immigrants in Sweden. *Scandinavian Journal of Public Health* 45(17\_suppl):20-24. doi: [10.1177/1457496917702322](https://doi.org/10.1177/1457496917702322)

[SCB \(2017\) Befolkningsstatistik:Utrikes födda efter födelseland och invandringsår 31 december 2016. http://www.scb.se/hitta-statistik/statistik-efter-amne/befolkning/befolkningens-sammansattning/befolkningsstatistik/](http://www.scb.se/hitta-statistik/statistik-efter-amne/befolkning/befolkningens-sammansattning/befolkningsstatistik/). Accessed 13 July 2017

Vadean F, Piracha M (2009) Circular Migration or Permanent Return: What Determines Different Forms of Migration?. *IZA DP No 4287*:1-26

Zimmermann K (2014) Circular Migration. *IZA World of Labor* 1: 1-10. doi: 10.15185/izawo1.1

## Figures & Tables

Table 1. The expected sign of the effect of gender, social and human capital on the risk of moving again.

	Emigration 1	Return 1	Emigration 2	Return 2
<i>1. Gender</i>				
Female	+	-	+	-
<i>2. Age at previous migration</i>				
		-	+	-
<i>3. Social capital</i>				
Swedish speakers	+	-	+	-
Married				
Single	+	-	+	-
Δ Marital status		-	+	-
<i>4. Human capital</i>				
Income quintile 1	o	o	o	o
Income quintile 2	o	o	o	o
Income quintile 3 (ref.)				
Income quintile 4	o	o	o	o
Income quintile 5	o	o	o	o
Low education (<11 yrs, ref. )				
Intermediate education (12-13 yrs)	-	+	-	+
High education (13 + yrs)	-	+	-	+

Table 2. Descriptive statistics. 1988-2005.

	Stayers	Emigration 1	Return 1	Emigration 2	Return 2
<i>1. Gender</i>					
Female	0.48	0.47	0.42	0.41	0.36
<i>2. Age</i>					
Mean age	28	25	25	26	27
<i>3. Social capital</i>					
Swedish speakers	0.05	0.26	0.20	0.25	0.21
Married	0.54	0.29	0.32	0.22	0.29
Single	0.45	0.71	0.61	0.63	0.60
Δ Marital status			0.07	0.15	0.11
<i>4. Human capital</i>					
Income quintile 1	0.21	0.30	0.18	0.24	0.21
Income quintile 2	0.20	0.21	0.20	0.17	0.17
Income quintile 3	0.19	0.13	0.28	0.14	0.26
Income quintile 4	0.19	0.11	0.18	0.12	0.18
Income quintile 5	0.20	0.25	0.16	0.34	0.18
Low education (<11 yrs)	0.23	0.20	0.19	0.23	0.22
Intermediate education (12-13 yrs)	0.47	0.40	0.35	0.35	0.34
High education (13 + yrs)	0.30	0.40	0.46	0.42	0.44
N	231,775	12,364	6,976	1,057	490

Source. Linked Finnish-Swedish register Data 1987-2005.

Figure 1. Kaplan-Meier survival estimates by move.

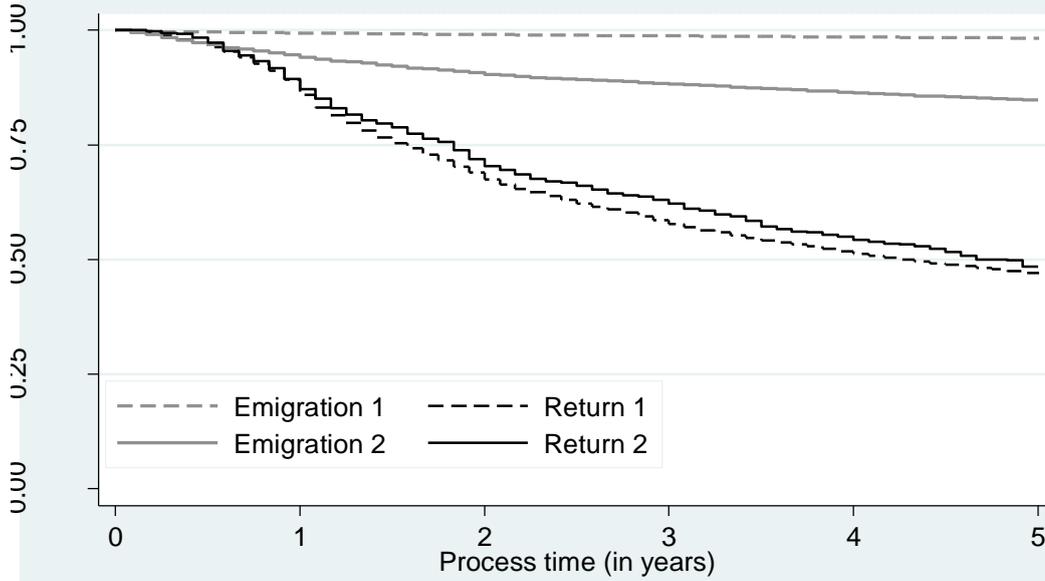


Figure 2. One-month migration risks by mother tongue and gender. 1988-2005.

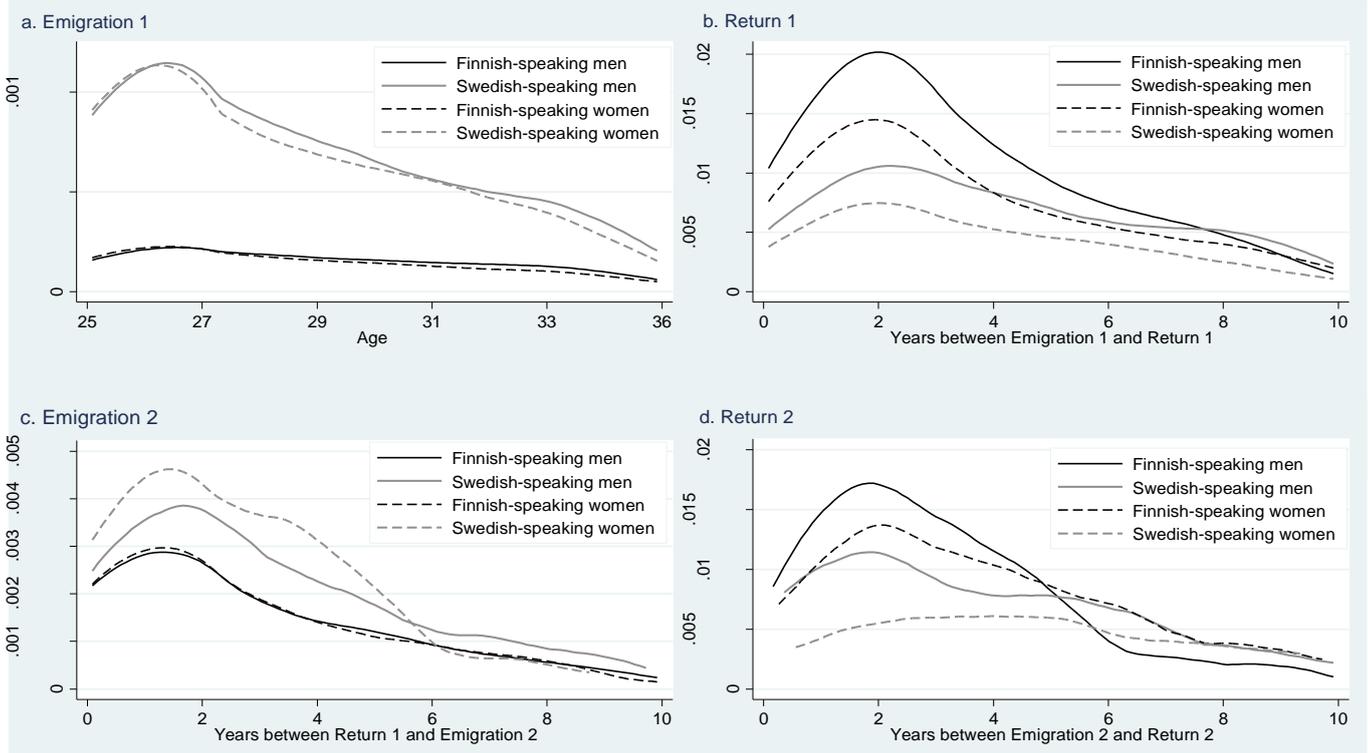


Table 3. Cox regression analysing the time-dependent risk of making another move.

	Emigration 1		Return 1		Emigration 2		Return 2	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>1. Gender</i>								
Female	0.02	(0.02)	-0.19***	(0.03)	0.15**	(0.07)	-0.19	(0.13)
<i>2. Age</i>								
Age at previous move			0.34***	(0.02)	-0.52***	(0.05)	-0.18*	(0.09)
Age at previous move sq.			0.01**	(0.00)	0.01	(0.00)	0.01	(0.00)
<i>3. Social capital</i>								
Swedish speakers	0.89***	(0.02)	-0.39***	(0.03)	0.19***	(0.09)	-0.49***	(0.15)
Married (ref.)								
Single	0.76***	(0.02)	-0.33***	(0.03)	0.34***	(0.09)	-0.08	(0.15)
Δ Marital status			-0.19***	(0.05)	0.46***	(0.11)	-0.03	(0.22)
<i>4. Human capital</i>								
Income quintile 1	0.59***	(0.03)	0.20***	(0.05)	0.49***	(0.12)	-0.50**	(0.23)
Income quintile 2	0.41***	(0.03)	-0.39***	(0.04)	0.29**	(0.14)	-0.32	(0.23)
Income quintile 3 (ref.)								
Income quintile 4	-0.16***	(0.04)	-0.16***	(0.05)	-0.15	(0.14)	0.04	(0.20)
Income quintile 5	0.65***	(0.03)	-0.17*	(0.05)	0.62***	(0.13)	-0.10	(0.19)
Low education (<11 yrs, ref.)								
Intermediate education (12-13 yrs)	0.30***	(0.03)	0.01	(0.04)	-0.03	(0.10)	-0.06	(0.20)
High education (13 + yrs)	0.64***	(0.03)	0.08*	(0.04)	-0.10	(0.11)	-0.01	(0.19)
Birth cohort FE		X		X		X		X
Region FE		X		X		X		X
Year of previous move FE				X		X		
n failures		12,364		6,976		1,057		490
N		243,339		12,364		6,976		1,057

Source. Linked Finnish-Swedish Register Data 1987-2005.

Note. The model for Return 2 does not control for the year of the previous move, due to small sample sizes.

## Appendix

Table A1. Difference in migration registration in Finland and Sweden.

Month	Frequency	Month	Frequency
-10	0.01	10	0.01
-8	0.01	11	0.02
-3	0.01	12	0.05
-2	0.03	13	0.02
-1	0.5	20	0.02
<b>0</b>	<b>68.89</b>	21	0.01
<b>1</b>	<b>24.56</b>	24	0.02
2	4.55	29	0.03
3	0.75	34	0.02
4	0.28	35	0.01
5	0.08	36	0.01
6	0.05	39	0.01
7	0.03	46	0.01
8	0.02	60	0.01
9	0.01		

N 12,364

Note. 70 individuals have missing information on emigration in the Finnish registers.  
Source. Linked Finnish-Swedish register data 1987-2005.

Figure A2. One-month migration risks, 1988-2005.

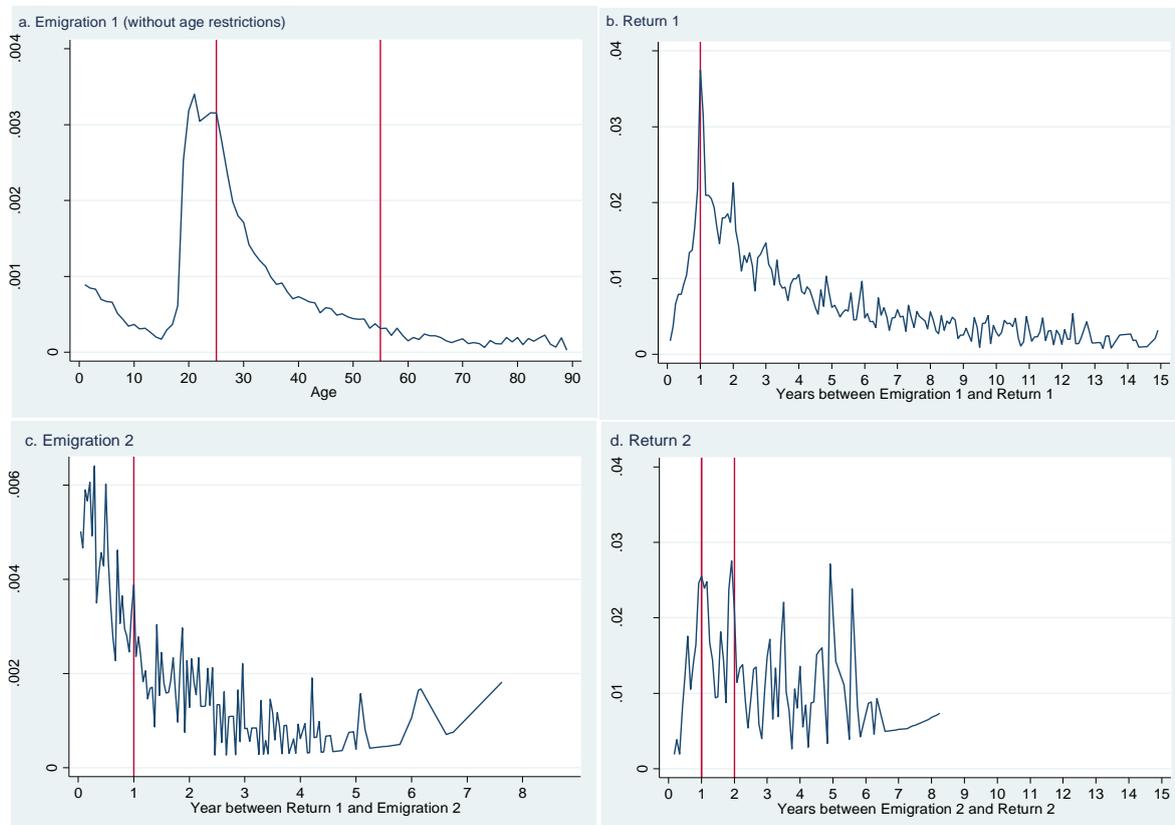


Table A3. Cox regression separately for males and females analysing the time-dependent risk of making another move.

	Emigration 1		Return 1		Emigration 2		Return 2									
	Male Coeff	Female S.E.	Male Coeff	Female S.E.	Male Coeff	Female S.E.	Male Coeff	Female S.E.								
<i>2. Age</i>																
Age at previous move																
Age at previous move sq.																
<i>3. Social capital</i>																
Swedish speakers	0.89***	(0.04)	0.87***	(0.04)	-0.41***	(0.05)	-0.39***	(0.05)	0.10	(0.13)	0.30**	(0.14)	-0.40**	(0.17)	-0.65***	(0.22)
Married (ref.)																
Single	0.59***	(0.03)	0.85***	(0.03)	-0.25***	(0.04)	-0.44***	(0.05)	0.34**	(0.14)	0.29*	(0.15)	-0.23	(0.15)	-0.10	(0.22)
Δ Marital status					-0.19***	(0.07)	-0.17***	(0.08)	0.31**	(0.16)	0.55***	(0.18)	0.16	(0.23)	-0.06	(0.29)
<i>4. Human capital</i>																
Income quintile 1	0.65***	(0.05)	0.54***	(0.04)	0.22***	(0.06)	0.13*	(0.07)	0.58***	(0.15)	0.42**	(0.18)	-0.66***	(0.21)	0.08	(0.27)
Income quintile 2	0.44***	(0.05)	0.39***	(0.04)	-0.41***	(0.05)	-0.39***	(0.06)	0.29	(0.18)	0.43**	(0.19)	-0.19	(0.22)	-0.38	(0.36)
Income quintile 3 (ref.)																
Income quintile 4	-0.35***	(0.05)	-0.01	(0.05)	-0.03	(0.07)	-0.29***	(0.07)	-0.24	(0.19)	-0.13	(0.21)	-0.54**	(0.21)	-0.50**	(0.25)
Income quintile 5	0.49***	(0.05)	0.88***	(0.05)	-0.14**	(0.07)	-0.19***	(0.08)	0.61***	(0.18)	0.71***	(0.21)	-0.48**	(0.21)	-0.79***	(0.28)
<i>Low education (&lt;11 yrs, ref.)</i>																
Intermediate education (12-13 yr)	0.22***	(0.04)	0.45***	(0.05)	-0.05	(0.05)	0.13*	(0.07)	-0.01	(0.12)	0.15	(0.20)	-0.08	(0.17)	0.06	(0.30)
High education (13+ yrs)	0.54***	(0.04)	0.78***	(0.05)	0.07	(0.05)	0.12*	(0.07)	-0.10	(0.14)	0.09	(0.21)	-0.08	(0.18)	0.36	(0.29)
<i>Fixed effects</i>																
Birth cohort FE	X		X		X		X		X		X		X		X	
Region FE	X		X		X		X		X		X		X		X	
Year of previous move FE					X		X		X		X		X		X	
n failures	6,576		5,788		4,053		2,923		625		432		315		175	
N	125,828		117,511		6,576		5,788		4,053		2,923		625		432	

Source: Linked Finnish-Swedish Register Data 1987-2005.

Note: The models for Emigration 2 and Return 2 Female do not control for all the fixed effects, due to small sample sizes.

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