Journal of Rural Studies xxx (xxxx) xxx

Contents lists available at ScienceDirect

Journal of Rural Studies

journal homepage: www.elsevier.com/locate/jrurstud

Rural boys, urban girls? The mystery of the diminishing urban-rural gender gap in Sweden

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ARTICLE INFO

JEL classification:
J60
N34

Keywords:
Rural
Internal migration
Sweden
Gender

ABSTRACT

In Sweden, there have been a surplus of men in rural areas and a surplus of women in urban areas for decades. However, the relative difference between rural and urban areas have decreased for about 70 years between the 1930s and the new millennium. We use two approaches to understand the decreasing regional gender gaps: 1. we decompose regional gender balance changes into the main components of population growth/decline i.e international net migration, internal net migration and net births. 2. We employ individual register data, estimate multinomial regressions every year 1991–2016 and analyse how the relationship between gender and the probability of moving from rural areas develops over time. We estimate separate regressions for Swedish-born and foreign-born. After controlling for traditional explanatory variables, we interpret the dichotomous gender variable as a measure of "gender norms". The question is if we can spot gender norm trends that can help explain the decreasing regional gender gaps over time. We find that the development of net birth rates in rural areas explains the decreased gender gap between rural and urban areas since 1968 while net immigration and net internal migration have rather contributed to increasing regional gender gaps. Despite this, the multinomial regressions do not support changing relationships between gender and the probability to out-migrate from rural areas after 1990 for the Swedish-born. For foreign-born, we find evidence of decreased gender differences regarding the probability to leave rural areas. This contributes to an increased surplus of rural men because foreign-born men have an increased probability to stay in rural municipalities in comparison to women. In sum, we do not find that changing gender norms, for Swedish-born or foreign-born, can explain the decreasing gender gaps between rural and urban areas. In fact, for the foreign-born, we find the opposite.

1. Introduction: the surplus of rural men and its change

Most European countries today experience a surplus of men in the rural areas. The Nordic countries have faced this situation for some time; Iceland, Norway, Sweden, Finland, and Denmark have all had historically high surpluses of rural men. Meanwhile, for the fast-growing Baltic states as well as some Central Eastern European countries, this is a new situation. As of 2017, countries like Slovenia, Estonia, Bulgaria, and Romania also show a surplus of rural men. For most countries, the rural gender gap has increased over the last decade (Eurostat). In Sweden, however, the relative difference between rural and urban areas have decreased for a long time even though rural areas still have more men than women. As we will show, the relative difference decreased for about 70 years until around the new millennium.

There is a vast amount of studies on the surplus of men in rural areas. Johansson (2016) investigates the deficit of young women in Västernorrland and compares it to the Stockholm region. According to Johansson (2016), negative net migration of women from rural areas only exists in the age group 18–24. In the age groups 25–29 and 30–34, the opposite takes place. Johansson connects the out-migration of women to women's demand for education and 'women-friendly' labour markets, but later when establishing a family, there seems to be a return-migration. Further, Edlund (2005) explains the surplus of rural men by arguing that women move to the city to get married to men that are high-earners. In Edlund's model, highly educated as well as lowly educated women consider the marriage market as well as the labour market when choosing to stay or to move. However, the above-mentioned studies do not explain why the surplus of rural men has decreased over time.

According to Lundholm (2007), patterns of labour market-related

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https://doi.org/10.1016/j.jrurstud.2021.05.011
Received 30 October 2020; Received in revised form 14 April 2021; Accepted 26 May 2021

migration has changed. Today, it is more common to migrate for education-related reasons prior to establishing oneself on the labour market. Lundholm further claims that changed household structures have had an impact on migration patterns. Interregional migration among families has diminished as dual income households have become the norm. Further, labour-related reasons have for long dominated interregional migration, but now several studies indicate that the labour market plays a secondary role and that it is reasonable to assume that a larger share of interregional moves today occur independently of labour market factors (Lundholm, 2007, p. 338). Social and environmental motives are more important, and a life-cycle perspective needs to complement traditional neo-classical explanations when looking at interregional migration. This perspective takes its starting point in life course events, such as family formation, career advancement, and changes in household structures.

As Lundholm (2007) points out, the second demographic transition[1] may both generate and constrain migration. Migration may be triggered by events such as household formation or dissolution, but household dissolution may also hold migration back since migration decisions are increasingly affected by family ties outside the household. Further, according to Lundholm, the dual-career households have changed how migration decisions are made. If earlier migration decisions were traditionally made within a family structure of a breadwinner husband and a housewife, the new dual household must take two careers into account.

Another aspect is international migration, the only component of population growth that generates population increases in many rural areas,[2] and which may affect the gender composition in rural areas. The study by Hedberg and Handrikman (2014) reveal a number of different motives for international migrants to move to rural areas such as quality of life and marriage migration. Using individual register data from 2008, Hedberg and Handrikman (2014) find, for example, that female south-Asian immigrants are more than six times as likely to live in rural areas compared to their male counterpart.

To conclude, previous research implies that migration and the mobility of people are more complex nowadays and that economic labour market models may be too simplistic. However, neither of the previous studies have taken a long-term perspective in order to analyse the decreasing rural-urban gender gap over time.

This paper builds on previous research that has emphasised the increased complexity of the process of migration. We use two explorative approaches to better understand the decreasing gender gap between rural and urban areas. The first approach uses descriptive statistics to analyse the period after 1968. By decomposing regional gender balance changes into its main components: net international migration, internal (national) net migration and net births (births – deaths), we get a clearer picture of the factors that may have affected the gender balance. The second approach analyses a shorter period, i.e., 1991–2016 (due to data availability). We use individual register data and multinomial regressions to investigate how the relationship between gender and the probability to move from rural areas to other regions in Sweden develops over time. The main question is whether we can spot trends that helps to explain the gender gap changes between rural and urban areas. Although the period 1991–2016 only covers a fraction of the entire period that we analyse, we still see signs of gender cap convergence between rural and urban areas at least until the new millennium. We cover the full period for which we have individual register data available, i.e., 1991–2016 and estimate multinomial cross-sectional regressions for each year separately. After controlling for traditional exploratory variables, which are normally included in neo-classical models, we are left with a gender dummy variable that we interpret as "the gender norm". Thus, we use available data to track whether we can observe long-term (25 years) effects of gender on migration decisions. We employ the Swedish Association of Local Authorities and Regions (SALAR) and their classification of municipalities into rural-urban, a choice which we discuss further latter in this paper.

The next section describes different theoretical perspectives that contribute to understanding the migration trends in relation to gender and motivate our choice of studying changes in the gender norm over time. Section three reviews descriptive statistics to illustrate the starting point for this article, namely the diminishing urban-rural gender gap over time. We decompose the changing gender balances and convergence of regional balances into international net migration, internal net migration and net births (i.e. approach 1). Section four introduces the method and data used for the multinomial regressions (i.e. approach two). Section five presents and discusses our regression results. Section six concludes.

2. Theoretical perspectives

2.1. Human capital theory and dual/segmented labour market theory

In neoclassical economic theory, individuals are rational and maximise their individual utility. In a market situation with competition, wages and employment are set where labour market demand meets labour market supply. Human capital theory belongs to the neoclassical school. Here, individuals make an investment in human capital (i.e. education) based on the predicted returns of this investment. The returns of the investment may be maximised if the individual moves to another place (Becker 1962, 1964; Sjaastad, 1962).

The theory of dual/segmented labour markets assumes that the labour market is divided into a primary and a secondary labour market. The jobs in the secondary labour market are poorly paid, temporary, unqualified, and have low social status. Central to the theory is that these jobs offer little opportunities for advancement to better-paid and more prestigious jobs. On the other hand, the primary labour market offers secure employment conditions, greater demands on professional skills, and stable career paths. In dual/segmented perspectives, the emergence of and the differences between a primary and a secondary labour market are explained by institutional and structural factors. Wages are not set in equilibrium, where supply and demand meet, but are determined by institutional factors and traditionally determined perceptions of fair and reasonable wage differences. Thus, the core of the theory is that a labour market is segmented into different sub-labour markets that are characterised by differences in wages, working conditions, and career opportunities (Gordon 1995; Piore 1979; Reisinger 2003).

According to Johansson et al. (2004), in the post-industrial society, the labour market is increasingly segmented. Today's structural change – automatisation, digitalisation, and deindustrialisation – ought to lead to increased migration, as it did in the first industrial revolution. However, due to the increasing segmentation of the labour market, this is not the case. Segmentation means that there are simply no jobs equivalent to the one you uphold and are educated for to move to elsewhere. However, as Berger and Frey (2016) pointed out, the new high-skilled labour market is in the city, and skilled labour can be expected to move to the city. Education data from Statistics Sweden is straightforward: the share of women with tertial education (three years post-secondary education or more) have exceeded the men's share for the last two decades. Thus,

[1] The *second demographic transition* refers to the period of lower birthrates and delayed marriage and childbearing. There was also a higher share of cohabitant households, more divorces, and consequently new household structures (see e.g. Kuijsten 1996; Lesthaege 1995).

[2] Accumulated net births and net internal migration from/to municipal classified as rural have been negative every year since 1968 (Statistics Sweden and author's calculations).

there is an expanding gender gap in education.[3] This expanding gap contradicts the diminishing urban-rural gender gap.

2.2. Amenity-based theories

In amenity-based theories (see e.g. Roback, 1982; 1988; Marston, 1985), variables like quality of life are used to explain wage, rent, and unemployment differences between local labour markets. To put it simply, amenities may compensate for a lower wage (or higher rent). However, amenities may also affect productivity. As Roback (1982) points out,

> For example, if workers require a compensating wage differential to live in a big, polluted, or otherwise unpleasant city, the firms in that city must have some productivity advantage to be able to pay the higher wage. (pp. 1257–1258)

Accordingly, amenities play a role, but how they interplay with housing and wages is far from straightforward. Marston (1985) shows that high unemployment areas tend to be those with attractive climates and amenities, high wages, and high unemployment insurance. Amenities and high wages may act as a magnet for (potential) labour, which Harris and Todaro (1970) pointed out in their model. In the Harris-Todaro model, high unemployment and high employment growth can co-exist because of expectations. People may move from rural areas to the city even though they do not have a job if they expect to get a job with a higher wage within reasonable time. Like wage differentials, amenities may also be a magnet on population. Amenities or dis-amenities (good quality of life vs poor quality of life) entail many aspects directly related to geographical location, neighbourhood, and housing – including climate, culture and entertainment, outdoor activities, accessibility to public transport and commuting conditions, crime, noise, the supply of public services (e.g. schools, healthcare, day-care of children), and housing standards (e.g. garden size, living area, living expenses etc.).

The extent to which men and women differ in their attitudes towards different types of amenities is unclear. Niedomysl and Hansen (2010) find that women rate culture and entertainment higher than men but find no considerable differences in attitudes towards outdoor activities and recreation. Moreover, previous research has found that men tend to commute longer distances than women, which may indicate that women value time higher than men (Bohman et al., 2020; Crane, 2007). This relates to the fact that women take bigger responsibilities at home and that female employment is particularly high in public and private services, jobs that are typically located close to home (Thevenon, 2013). In addition, commuting times and distances have increased over time (Frändberg and Vilhelmson, 2011), particularly in metropolitan regions, which may inhibit women from moving to metropolitan regions more than men. On the other hand, growing metropolitan regions over time may attract women if they rate cultural and entertainment facilities higher than men.

To conclude, the evolution of amenities and dis-amenities may have different impact on moving patterns across genders, although it is hard to tell in what direction. What is clear, however, is that traditional neoclassical theory needs to be complemented with other perspectives.

2.3. Gender norms and hegemonic masculinity

According to North (1990; 2005), norms can be considered as constraints on human behaviour. Using this terminology, gender norms may also act as constraints on human behaviour. Gender norms, such as norms of rural masculinity, constrain not only how men and women are expected to behave but also what matters (what is important in life for a man or for a woman) or where to live.

Leidner (1991) points out that one of the most important determinants of a job is its association with a gender because gender is a strong denominator for identity. The connection between the work they do and their identity is important for most people. This could also be interpreted along the lines of urbanity/rurality. However, what is considered as masculine work versus feminine work is not a given. Rather, it depends on the gender of the *typical incumbent*. Further, gender norms are constantly changed and reinvented. According to Leidner (1991), 'employers and workers retain the flexibility to reinterpret them [gender norms of work] in ways that support jobholders' gender identities' (p.171). Masculine work may have been considered as sweaty, dirty, and dangerous, but occupational gender norms can be elastic. Based on the concept of 'hegemonic masculinity' (Connell, 1987), certain masculinities are more dominant and idealised than others. However, what is considered hegemonic changes over time. There is a continuous struggle for hegemony 'and older forms of masculinity might be displaced by new ones' (Connell and Messerschmidt, 2005, p. 833).

Stenbacka (2011) investigates the construction of rural masculinity by analysing three Swedish television productions. She argues that the programmes illustrate an urban hegemony and that they reveal how rural masculinities are constructed. According to Stenbacka, media constructs and emphasises a gap between the rural and the urban. The television productions show rural masculinities as help-seeking and backward, where rural men are illustrated as unequal and traditional as well as deviating and out of place. The stories in the television programmes are used to build up the hegemonic urban masculinity by mirroring the presented and constructed rural masculinity against the unspoken urban one. Thus, the concept of hegemonic masculinity may be used to understand human behaviour, specifically when it comes to residential mobility and labour markets.

To conclude, human capital theory and dual/segmented labour market theory seem to struggle with explaining the diminishing urban-rural gender gap because women are still more educated than men (and the educational gender gap is increasing). If amenities change, if they are valued differently over time, and if they are valued differently by men and women, this may help us to understand what is happening. However, amenity-based theory does not clearly point out how amenities affect the rural-urban gender gap, but if gender norms are changing (that is, disfavouring rural masculinity) this can be a factor for men moving from rural areas to urban areas. We will discuss this further in this article.

Changing relationships between gender and the probability to leaver rural areas in any direction may indicate that some explanations have played a more important role than others during the past 25 years. On the other hand, a stable relationship may indicate that the different mechanisms have not changed much recently or that gender norms have been stable over the period. Instead, it is possible that the decreasing regional gender gaps are pure demographical phenomenon, an option that we investigate in approach 1. Because of the complexity of the issue described above, we refrain from formulating specific hypothesis about expected results.

3. Approach 1: The Swedish urban-rural gender gap and Swedish demographics

In 2019, the total population of Sweden was around 10.300.000. Population growth has been exceptional over the last 15 years (around one per cent per year), and the male population has increased more than the female one. Fig. 1 shows the share of men and women in Sweden's population over 150 years.

Fig. 1 shows two periods when the share of men increased: 1930–1945 and 2000–2019. Before 2014, women were in majority, but

[3] There is a vast amount of research on the educational gender gap (see e.g. Falch and Naper, 2013; Holmlund and Sund, 2008; Lusher & Yasenov, 2018; Muntoni and Reteldorf, 2018). This aspect is beyond the scope of this article; however, the discussion shows that the problem has been identified and is widely discussed.

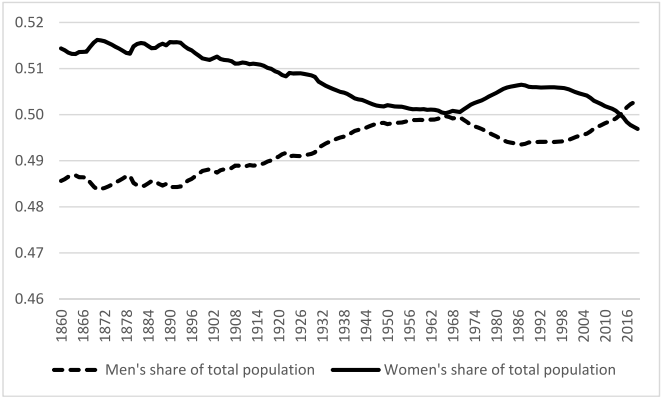


Fig. 1. The Swedish population 1860–2019. The share of men and women. Source: Statistics Sweden. Statistikdatabasen. Befolkning.

from 2015, the share of men has been higher than the share of women for the first time in the documented period. When analysing the rural/urban gender gap, the share of men and women on the national level must be considered. If there are more men than women at the national level, we can also expect more men than women in rural areas. Our definition of "regional gender gaps" means that they only exist if the regional women to men ratio (i.e. gender balance) deviates from the national ratio. Fig. 2 therefore compares the gender balance (number of women divided by number of men) in rural municipalities with entire Sweden for the period 1968–2020, for which data is available.[4] The left axis illustrates the actual gender balances (i.e. number of women/number of men, calculated for rural areas and all of Sweden respectively) while the right axis illustrates the *difference* in gender balance between rural areas and entire Sweden.

Fig. 2 shows that the gender balance in rural areas improved (i.e., less difference between number of men and women) between 1968 and 1998 but started to decrease thereafter. That is, the rural male surplus decreased before 1998 and started to increase again after 1998. However, we see a similar development for entire Sweden, although there has been predominantly a female surplus at the national level. For entire Sweden, there was a female surplus in 1968, i.e. the gender balance exceeded one. This female surplus increased until 1987 but has decreased successively since then. Thus, we can see that the difference between rural areas and entire Sweden (right axis) decreases until 2008,

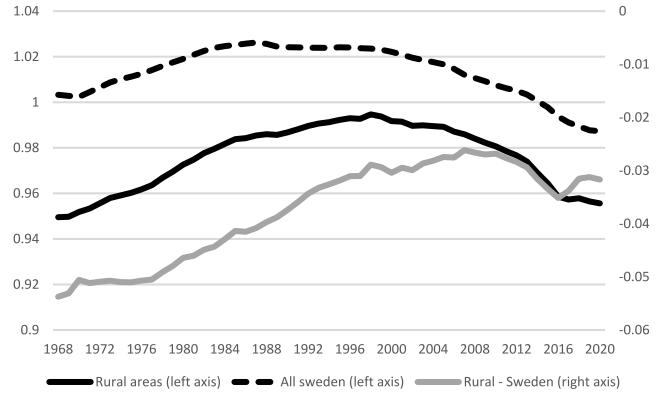


Fig. 2. The quota of women to men (left axis) and the difference in quotas between rural areas and Sweden (right axis).

after which it is hard to spot any direction (first the difference increases, then it decreases again). However, throughout the entire period (1968–2020), data predominantly suggest a convergence rather than divergences between rural areas and the rest of Sweden.

Fig. 3 a-d complements Fig. 2 and presents a specialisation index (S_{ij}) for the gender balance of different regions. As explained above, our definition implies that regional gender gaps only exist if the regional gender balance deviates from the national one. This can be determined more precise than illustrated in Fig. 2, by using a relative specialisation index, which we have calculated according to the following:

$$S_{ij} = \frac{\frac{x_{ij}}{x_j}}{\frac{x_i}{x}} \quad (1)$$

x = population
i = gender
j = geographic classification.

This gives the specialisation index (S_{ij}) a number <1>. If S_{ij} is < 1, this means the group is relatively underrepresented in the specific region: if S_{ij} >1, the group is relatively overrepresented in the region.

Fig. 3a–d interestingly show indications of convergence, especially between rural areas and metropolitan areas. The specialisation indexes are approaching one for several decades, implying diminishing gender gaps over time. However, in line with Fig. 2, the period after 2006–2008 does not reveal any apparent direction of the specialisation index. It appears as if the convergence phase has been on pause about the last 15 years.

Fig. 4a and b shows the relative specialisation for men and women in urban (Fig. 4a) and rural (Fig. 4b) areas over a longer period. These suggest that the convergence between urban and rural areas started already in the 1930s. Sweden faces a similar situation to that of many other countries, but the difference is that Sweden went from a deficit to a surplus of rural men (in nominal numbers) in the 1920s. However, as Fig. 4b shows, Sweden had a *relative* specialisation of rural men long before the 1920s. Already in the beginning of the 19th century, men were relatively specialised towards the rural areas. In nominal numbers, there were more women than men in rural areas, but because there were more women nationally, women were relatively underrepresented in the rural areas (Statistics Sweden, 1969).[5]

Although the depopulation of women in rural areas is not a new phenomenon, the characteristics of internal migration in general have shifted over time (Lundholm, 2007). The 1960s saw an increase of migration to the cities and urban areas, but this trend was reversed in the 1970s. In addition, in the 1990s, the internal migration of younger adults to the metropolitan areas and other cities increased because of the expansion of higher education. However, as Figs. 3 and 4 show, a change is visible in the new millennium when it comes to the gender gap - something that also occurred during 1935–1960.

Before throttling down into the econometric analysis with an isolated focus on out-migration, we will try to identify the fundamental factors behind the convergence of regional gender gaps between rural areas and the rest of Sweden. Changes of regional gender balances depend on international net migration, internal net migration and net birth rates (births – deaths). Fig. 5a–d therefore show how international net migration, internal net migration (to and from other regions) and net births (number of births – number of deaths) have affected the gender balance in rural areas, small cities, large cities and metropolitan areas

[4] For the classification of urban-rural, see section 4. Method and data.

[5] The classification of urban/rural is not comparable between the historical and more contemporary diagrams. In the contemporary diagrams, our starting point is the municipality, and each municipality is classified (which is described further down). This is not the case in the historical diagrams, where "rural" is small towns (*köping*) and rural municipalities (*landskommuner*) and "urban" is towns. This structure changed in the municipality reform of 1971, where the number of municipalities became less. Today, Sweden has 290 municipalities, whereas in 1930 it had 2532 towns, small towns, and rural municipalities.

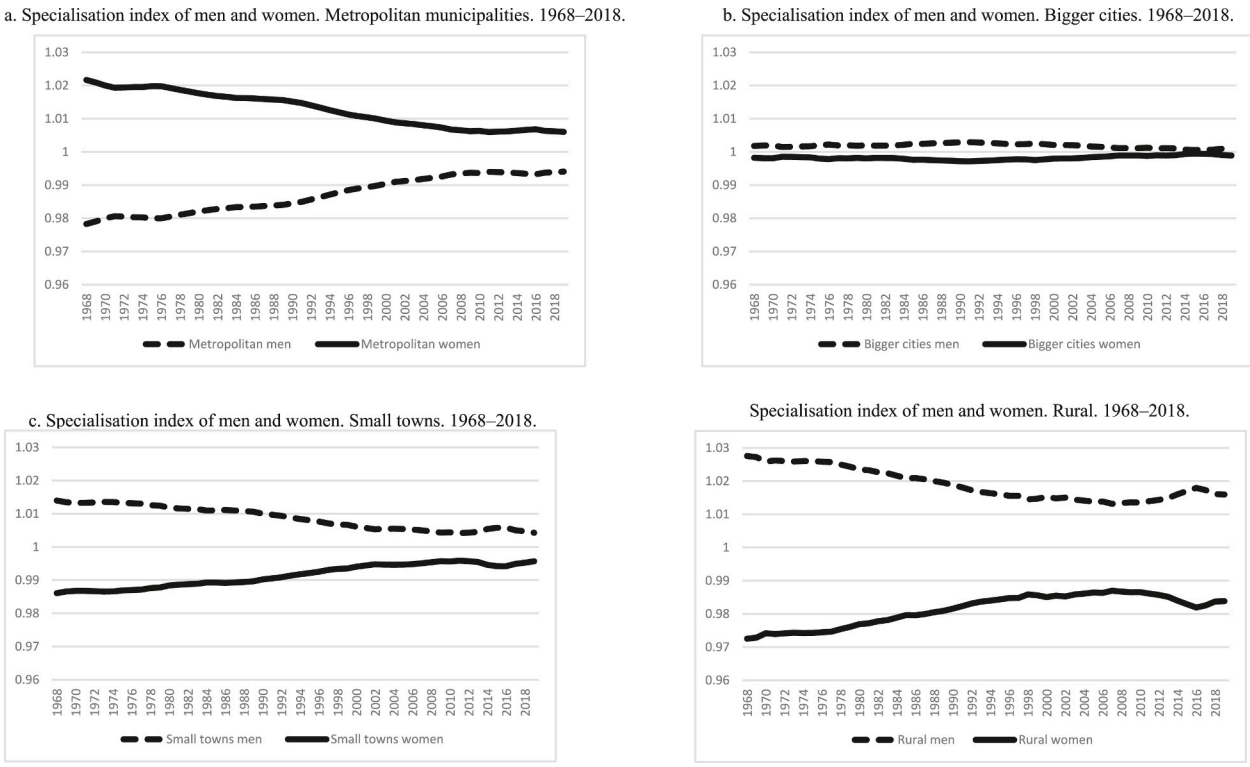


Fig. 3. a–d show the results for four categories of geographical regions: Metropolitan municipalities, large city municipalities, small city municipalities, and rural municipalities. 3a. Specialisation index of men and women. Metropolitan municipalities. 1968–2018. 3b. Specialisation index of men and women. Bigger cities. 1968–2018. 3c. Specialisation index of men and women. Small towns. 1968–2018. 3d. Specialisation index of men and women. Rural. 1968–2018.
Source: Statistics Sweden, Statistikdatabasen

since 1968.[6] These are the gender balances that occurs when isolating the effects of net immigration, net internal migration and net birth rates. We start with the actual gender balance in 1968 and then add actual population growth/decline of men and women for each of the described three factors separately up until 2020. Thus, for each factor we calculate a hypothetical gender balance for each region.

Fig. 5a–d indicate, to some extent in contrast to what is shown by Fig. 3a–d, that there are underlying forces that create divergence rather than convergence of regional gender gaps. It seems clear that net immigration has contributed to an increased male surplus in rural areas (Fig. 5a) since 1968, but we do not see the same tendency in other regions. Also, net internal migration has spurred the surplus of rural men further, but appears to have little effect on gender balances of other regions (except for large city municipalities). Instead, net births appear as the underlying mechanism that has generated gender gap convergence between rural areas and the rest of Sweden between 1968 and mid-1990s. Thus, for the entire period it seems that net births have reduced the surplus of men since 1968. This is due to differences in death rates between women and men. The total number of deaths in rural areas between 1968 and 2020 amounted to 271,212 and 237,712 for men and women respectively.[7] This is, to some extent, explained by the fact that more men than women live in rural municipalities, but also by the fact that rural men have historically had higher death rates than rural women. While women and men have similar death rates for entire Sweden, there is a considerable difference in rural areas. Table 1 summarizes the average annual death rates for all of Sweden and different types of municipalities between 1968 and 2020 using the classification Swedish Association of Local Authorities and Regions (SALAR).

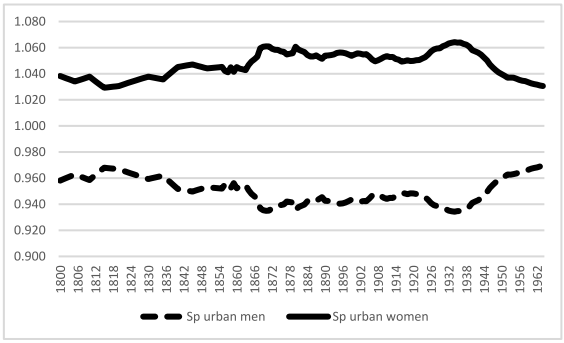
Table 1 shows that rural men, on average, had higher death rates than rural women 1968–2020. However, the fact that net birth rates appear to affect the gender balance in rural areas less after the mid-1990s (Fig. 5a) may be an indicator of recent convergence between female and male death rates. We lack data of longevity in rural areas, but official data for entire Sweden reveals that longevity have increased more for men than for women since 1980, although women still live longer.[8] To investigate the situation in rural areas further, Fig. 6 illustrates death rates for women and men in rural municipalities every year since 1968.

Although average death rates are higher for men than for women, Fig. 6 reveals a convergence between women and men over time. This process of convergence appears complete around the new millennium, which is also about when the convergence of the regional gender gap appears to cease (recall e.g. Fig. 3a and d). This can explain why we see that net birth rates slowly starts to generate a surplus of men after the mid-1990s (Fig. 5a). Recall that we see the opposite taking place for the metropolitan areas, and that net birth rates have resulted in a reduction of excess of women, although this trend starts a bit earlier than in the rural areas (Fig. 5d). This is also because longevity is increasing more for men than for women and because of the related convergence of death rate between women and men. Because metropolitan areas have a reversed situation compared to rural areas, i.e. surplus of women, the death rate convergence between women and men reduces the surplus of women in metropolitan after the 1980s. Fig. A3 in the appendix illustrates death rates for women and men in metropolitan areas.

The results in this section have revealed that there can be regional

[6] We can't go further back due to data availability.
[7] Statistics Swedan and author's calculations.
[8] In terms of longevity, women increased their advantage over men during the period 1970–1980. During this period the difference in longevity increased from 4.86 to 6.05 years. However, 1980–2020, the difference decreased to 3.69 years (Statistics Sweden, https://www.scb.se/hitta-statistik/sverige-i-siffror/manniskorna-i-sverige/medellivslangd-i-sverige/2020-04-01).

Specialisation index of men and women. Urban. 1800–1964.



Source: Statistics Sweden, (1969), Historisk statistik för Sverige (Historical statistics for Sweden)

b. Specialisation index of men and women. Rural. 1800–1964.

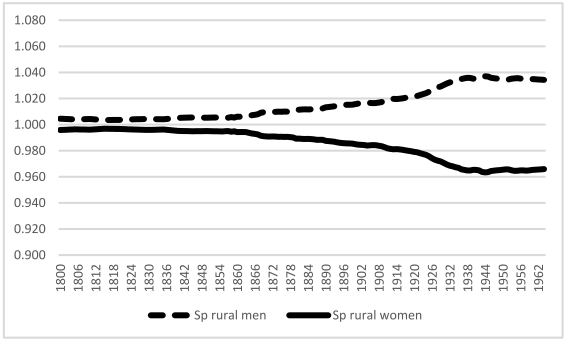


Fig. 4. a. Specialisation index of men and women. Urban. 1800–1964. 4b. Specialisation index of men and women. Rural. 1800–1964.
Source: Statistics Sweden, (1969), Historisk statistik för Sverige (Historical statistics for Sweden)

gender gap convergence even if migration flows amplify already existing gender gaps. The question for the next section is thus whether there are gender norm trends regarding the probability to move out from rural areas that can help us to understand the decreasing gender gap further or if the explanation is purely a demographic one.

4. Method and data for approach two

In this section, we focus on the period 1991–2016. The data that we use derives from the LISA database (Longitudinal integration database for health insurance and labour market studies), managed by Statistics Sweden. LISA holds annual registers since 1990 and includes all individuals age 16 years and older that were registered in Sweden as of December 31 for the year in question. The data originates from different registers such as Försäkringskassan (Swedish Social Insurance Agency) and the taxation registry. LISA contains data regarding residence, education, salaries, employment, and more. Due to the Swedish system of personal numbers, which are individual and unique for each and every individual, the yearly observations can be linked over time, creating a longitudinal database. The longitudinal data allows for following individuals over time.

This section aims to investigate changes in the urban-rural gender gap by studying migration from rural municipalities in Sweden over time. We investigate how different individual characteristics affect the probability of migration from rural municipalities. Our focus is on how gender interacts with the probability of moving from rural areas and whether this changes over time. The main question is whether we can spot trends that helps to explain the gender gap changes between rural and urban areas. Although 1991–2016 only covers a small fraction of the entire period that we analyse, we still see signs of gender gap convergence between rural and urban areas at least up to the new millennium.

We separate between individuals born in Sweden (Swedish-born) and individuals born abroad (foreign-born) because their internal migration ratios vary greatly. Specifically, foreign-born men move more frequently than foreign-born women do, whereas it is the other way around for Swedish-born men and women.

We employ multinomial logit regressions and estimate cross-sectional regressions every year during the period 1991–2016 for 55 rural municipalities. We model the probability to 0 = stay in a rural municipality (the reference category), 1 = move to other rural municipalities, 2 = move to small city municipalities, 3 = move to large city municipalities, and 4 = move to metropolitan municipalities.[9] Thus, the starting point is to live in a rural municipality year 0 (the base year in each and every regression in the period) and we estimate the probability for the same individual to be registered in another category year 1 (the year that they moved or stayed). For the classification of municipalities into rural-urban, we use the Swedish Association of Local Authorities and Regions (SALAR) classification. They use a classification of nine groups – from metropolitan (Stockholm, Gothenburg, Malmö), commuting municipalities, towns, minor towns, to rural and rural with tourism (see SKL, 2019). Based on these, we have generated four categories of municipalities that will be used consistently throughout this paper. These are illustrated in Table 2.

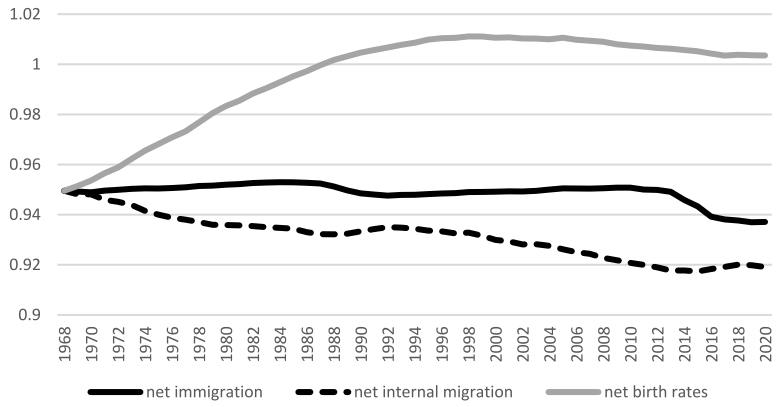
Rural municipalities have been losing population relative to the rest of Sweden for a long time. For example, the rural population's share of the total Swedish population decreased from about 9.4 to 7.2 per cent between 1991 and 2016 (Statistics Sweden).

Because we model intermunicipal migration, we classify that an individual has moved if his or her municipality of residence changes between one year and the next. For example, an individual has migrated during 1991 if he or she lived in one municipality in 1990 and another in 1991. This means that we do not analyse migration within municipalities. We are aware that this approach does not account for the rural-urban dimension within municipalities. Defining a municipality as rural (or urban) is a simplification. Municipalities are geographical entities that entail urban as well as rural areas, and one municipality is seldom completely rural or completely urban. However, municipalities are the smallest administrative units, with responsibility for several public services, such as schools, healthcare, and social protection (see e.g. Karpestam, 2014). When municipalities lose or gain population, they also lose/gain tax revenues (and the responsibility for those that move). In sum, focusing on internal migration from "rural" municipalities is highly relevant and a complement to other studies that focus on smaller geographical areas. We do not focus on one specific rural area, but on all rural municipalities in Sweden. Moreover, focusing on geographical units that are not *too* small allows estimating regression models that would otherwise be (potentially) too burdensome to estimate.

As mentioned above, we estimate multinomial logit regressions, which allow modelling probabilities of different outcomes as a function of individual and characteristics. A multinomial logit model is computationally less burdensome than a multinomial probit, a highly relevant aspect in our context, as we estimate 52 different regressions with, in total, 450,000 observations. However, in contrast to a multinomial logit, the multinomial probit does not rely on the IIA-assumption (Independence of irrelevant alternatives). IIA implies that the choices defined in the dependent variable must not be close substitutes and removing alternatives/categories should not affect regression results for other categories. Multinomial probit regressions do not require IIA to hold because it allows the residuals to be correlated across choices. However, in practice, the benefits of the multinomial probit are few. Parameter estimates are scaled differently, but both models yield qualitatively

[9] This division is also employed by the Swedish Asssociaton of Local Authorities and Regions (SKR). See www.skr.se.

a. Hypothetical gender balance (number of women / number of men) due to net immigration, net internal migration and net birth rates since 1968. Rural municipalities.



b. Hypothetical gender balance (number of women / number of men) due to net immigration, net internal migration and net birth rates since 1968. Small city municipalities.

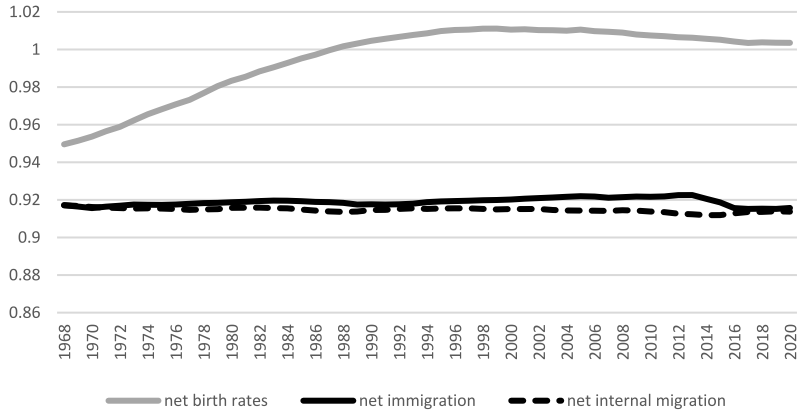


Fig. 5. a. Hypothetical gender balance (number of women/number of men) due to net immigration, net internal migration and net birth rates since 1968. Rural municipalities. 5b. Hypothetical gender balance (number of women/number of men) due to net immigration, net internal migration and net birth rates since 1968. Small city municipalities. 5c. Hypothetical gender balance (number of women/number of men) due to net immigration, net internal migration and net birth rates since 1968. Large city municipalities. 5d. Hypothetical gender balance (number of women/number of men) due to net immigration, net internal migration and net birth rates since 1968. Metropolitan municipalities.
Source: Statistics Sweden, Statistikdatabasen. Author's calculations.

similar results (Cameron and Trivendi, 2010); we therefore employ the multinomial logit model. The probability of choosing outcome m is expressed as follows:

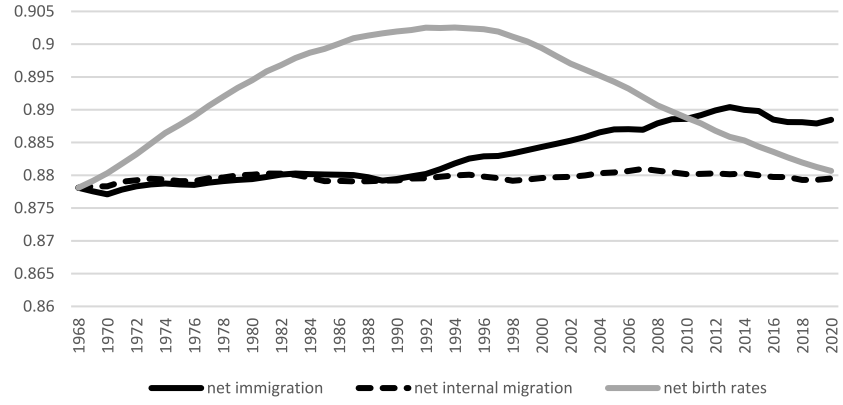
$$p(y_i = m) = F_j(X_{ij}) = \frac{\exp(X_{ij} * \beta_m)}{\sum_{i=1}^{M} \exp(X_{ij} * \beta_m)} \quad (2)$$

β_m is the matrix of regression coefficients to be estimated. There is one unique β-parameter for each independent variable and each possible outcome (m). The interpretation of the β_m-parameters is not straightforward. In fact, a positive number for a certain variable and outcome does not necessarily mean that a positive change of the variable positively affects the probability of choosing outcome m. For example, a positive regression coefficient of the explanatory variable *age* for outcome 2 (moving to another rural municipality) does not necessarily mean that the probability of migrating to another rural municipality increases with *age*. This is because there can be positive regression coefficients for *age* for other outcomes that dominate over choosing outcome 2. However, increasing the regression coefficient for a specific variable and outcome always implies that the probability of choosing m in relation to the base outcome (staying) increases with the explanatory variable.

To facilitate the interpretation of results, we do not report regression coefficients (but these are available upon request). Instead, we use the regression coefficient and report estimations of how changes in the explanatory variables affect the probabilities of staying and moving (i.e. marginal effects).

X_{ij} is the matrix of independent variables, including our main variable of interest (gender) and control variables. The included control variables are standard in the migration literature and are in line with stylised facts about determinants of internal migration as well as with human capital theory and neoclassical theory. Factors that affect expected earnings and chances of employment at the origin/destination are expected to affect the probability of moving. According to neoclassical theory, labour market related characteristics at the origin and

c. Hypothetical gender balance (number of women / number of men) due to net immigration, net internal migration and net birth rates since 1968. Large city municipalities.



d. Hypothetical gender balance (number of women / number of men) due to net immigration, net internal migration and net birth rates since 1968. Metropolitan municipalities.

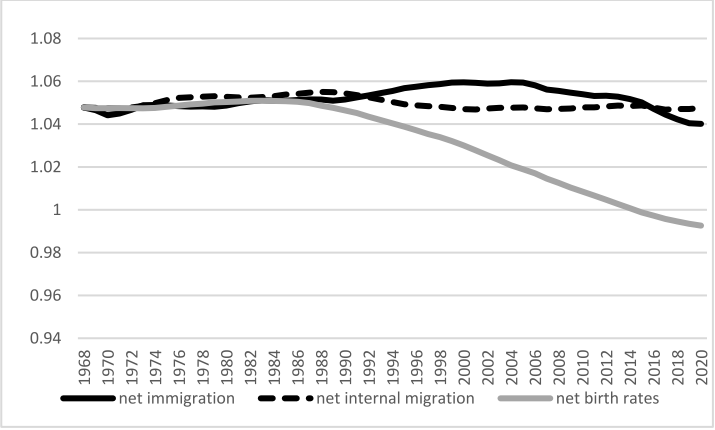


Fig. 5. (*continued*).

Table 1
Average annual death rate for women and men 1968–2020.

	Women	Men
Rural municipalities	1,3%	1,44%
Small city municipalities	1,09%	1,1%
Large city municipalities	0,99%	0,93%
Metropolitan municipalities	0,88%	0,92%
Sweden	0,999%	0,998%

Source: Statistics Sweden and authors calculations

destination affect the probability of migrating because they affect chances of employment and expected earnings (Sjaastad, 1962; Todaro, 1969; Harris-Todaro, 1970; Gärtner, 2014).

Individual characteristics may also affect chances of employment and earnings. Positive selection implies that highly educated and relatively skilled individuals are more likely to migrate because they have higher chances of employment and higher earnings at the destination (Borjas, 1987). Age is expected to correlate negatively with the decision to migrate (Becker, 1964) because it is well known that the probability of migration is highest for young adults between 20 and 30 years of age (Johansson, 2016). In contrast, we expect individuals with employment to be less eager to move compared to the unemployed. We also expect a negative correlation with the employment status of a potential partner. While our data does not allow controlling distance to family members outside the household, we can control for marital/partner status and any children in the household. Finally, and as mentioned above, we run separate regressions for Swedish-born and foreign-born individuals. All the variables used in the study are defined in Table 3.

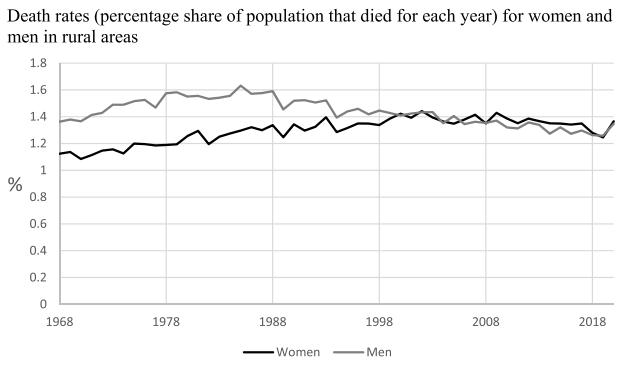


Fig. 6. Death rates (percentage share of population that died for each year) for women and men in rural areas.
Source: Statistics Sweden and author's calculations.

Table 2
Municipal categories.

Category number	Category label	Number of municipalities
1	Rural Municipalities	55
2	Small city municipalities	116
3	Large city municipalities	95
4	Metropolitan municipalities	24
	Total	290

Source: The Swedish Association of Local Authorities and Regions. Categories 2–4 also contain adjacent commuting municipalities to the central cities/municipalities. To ensure compatibility over time, we have remerged municipalities that were divided between 1991 and 2016.

Table 3
Variable definitions.

MIG (dependent variable)	0 = stayed in rural home municipality 1 = moved to other rural municipality 2 = moved to another large municipality 3 = moved to large city municipality 4 = moved to metropolitan municipality
Age	Age (current year- birth year) during year 1.
Partner	1 = if married or in domestic partnership during year zero; 0 otherwise.
Student	1 if enrolled in tertiary education the year prior to migrating (year 0); 0 otherwise
UNI	1 if obtained at least 3 years of tertiary education the year prior to migrating (year 0); 0 otherwise
Gender	1 = Female; 0 = Male (year 0)
Kidsathome	Number of children below 17 years of age the year prior to migration; 0 otherwise.
Employed	1 if employed the year prior to migrating; 0 otherwise
Employed Partner	1 if partner is employed the year prior to migration; 0 otherwise.
Foreign	1 = born abroad; 0 = born in Sweden (at year 0)
Recent arrived	1 if the foreign born arrived in Sweden no more than three years prior to making the choice of staying or migrating, 0 otherwise.

Note: The action of migrating or staying is taken during "year one" in all our regressions. Year 0 refers to the year before year 1.

4.1. Moving ratios of women and men

Before presenting our regressions results, we present some descriptive statistics. Summary statistics for all variables are in the appendix (Tables A1 and A2). Two interesting things deserve comments: (1) The average age in rural areas has increased over time, while the average number of children in households has decreased. They are both a consequence of the fact that the share of the population in the "family forming age" has decreased over time due to rural out-migration. (2) The share of the population with higher education has increased over time due to the expansion of higher education starting in 1993.

However, for the objective of this paper, we find it more relevant to study how the moving ratios of rural women develops in relation to the moving ratios of rural men. Fig. 7a–b illustrate the moving ratios of rural women divided by the moving ratios of rural men between 1991 and 2016 as three-year moving averages. A value exceeding one means that women have higher moving ratios than men, and a value below one means that men have higher moving ratios. We separate between individuals born in Sweden (Fig. 7a) and born abroad (Fig. 7b) as their moving ratio differs greatly. Our data does not reveal why the foreign-born moved to Sweden but even so, we see considerable differences between foreign-born and Swedish-born individuals. We use the categories presented in section four to separate between migration from rural municipalities to (1) other rural municipalities, (2) small city municipalities, (3) large city municipalities, and (4) metropolitan municipalities.

Fig. 7a–b illustrate that ratios exceed one for Swedish-born individuals and are below one for foreign-born ones for almost every year and all categories (with few exceptions). This means that Swedish-born women move more than Swedish-born men do, while it is the other way around for the foreign-born.

For Swedish-born individuals (Fig. 7a), we see evidence of decreasing gender differences in the beginning of the period (i.e. decreasing ratios) that start to increase again around 1998. Recall Fig. 3a–d, which showed that regional gender gaps decreased a long time up to the beginning of the new millennium. Altogether, however, it is hard to spot evidence of any long-term trend but if there is any trend at all, it suggest that after year 2000, women are slowly becoming more and more prone to move from rural areas in comparison to men.

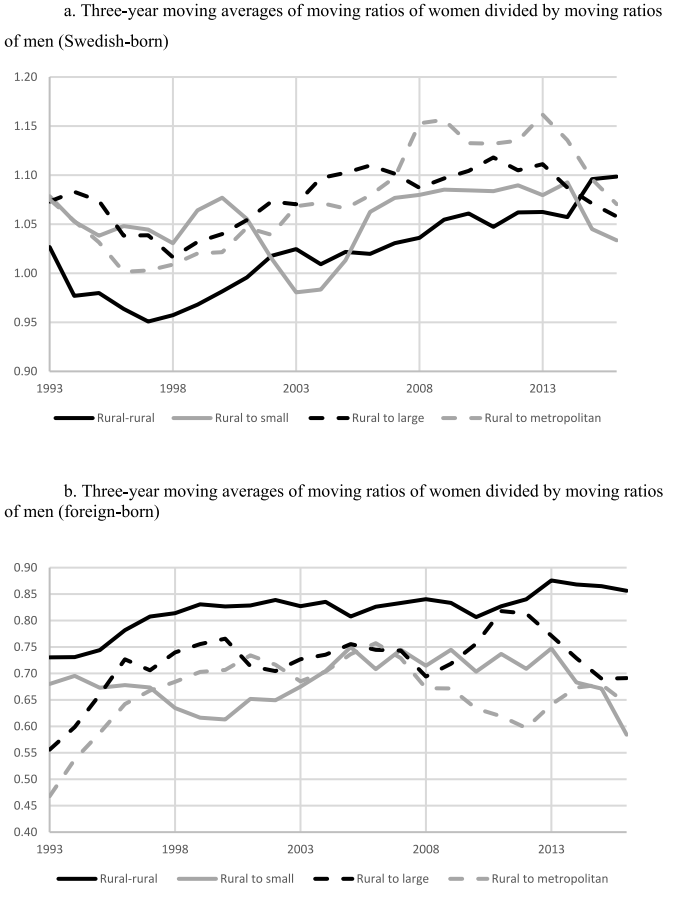


Fig. 7. a. Three-year moving averages of moving ratios of women divided by moving ratios of men (Swedish-born). b. Three-year moving averages of moving ratios of women divided by moving ratios of men (foreign-born).

For foreign-born individuals (Fig. 7b), we see a slightly different pattern. Foreign-born men are more mobile than foreign-born women (i.e. the quotas are below one). However, women seem to catch up with men at the beginning of the period, with an exception for category three (rural to small). Conclusively, although foreign-born men still have higher moving ratios than foreign-born women do, this difference has decreased throughout the period and foreign-born women have started to catch up with men. However, the development after the second half of the period may suggest that this trend has halted.

5. Regression results (approach two)

Descriptive statistics do not allow inference about causality. Further, changing migration probabilities for males and females over time can also be explained by changes in the distribution of other variables besides gender. In this section, we present the results of our multinomial logit regression where the impact of gender is conditioned on other explanatory variables. As mentioned previously, our main objective is to analyse whether the relationship between gender and the probability to migrate from rural areas to other areas in Sweden changes over time. If we, after controlling for other factors (control variables), detect changing differences between women and men regarding the probability to move out from rural areas, we interpret this as changing gender norms.

Rather than presenting regression coefficients, we use the obtained regression coefficients to estimate differences in probabilities of moving and staying between women and men.[10] These are the equivalent of marginal effects for discrete changes in explanatory variables (e.g. a change from zero to one for a dummy variable). Because control variables, when significant, are mainly in line with the discussion in section four, we do not comment on those in the text. All marginal effects and their significance levels are in the appendix.

As mentioned above, we run separate regressions for Swedish-born and foreign-born individuals. For the Swedish-born ones, marginal effects of gender are always significant at the one per cent level, except for category three (rural to small) in 2003. The marginal effects of gender for foreign-born individuals are more often insignificant, and this is particularly the case for category two (rural to rural). However, the marginal effects are always significant for category one (stay) and mostly for the other categories (rural to small, rural to large, and rural to metro) but unsurprisingly, more often insignificant for category one (migration to other rutal municipalities). All marginal effects for all variables and years are in Tables A3 and A4.

The marginal effects of gender for Swedish-born and foreign-born individuals are illustrated in Fig. 8a and b. Starting with the Swedish-born sample (Fig. 8a), we find that, as expected and in line with the descriptive statistics, women have a higher probability of migrating than men (i.e. the differences between women and men are consistently positive). However, it is hard to spot any trend over time. There is a considerably increased difference between women and men before 1996, which shrinks again between 1996 and 1998. The period after 1998 is stable. Thus, we do not see evidence of changing gender norms, at least not since 1990. It appears as if the explanations for the decreasing regional gender gaps (recall Fig. 3a–b) are to be found elsewhere.

We should mention that the largest difference between women and men are found for category three (moving from rural to large municipalities), but still appear stable throughout the entire period. We know that the expansion of higher education in the 1990s induced a shift when it came to internal migration: the migrants became younger (Johansson, 2016). The expansion of higher education in 1993 have affected migration to large cities because the main universities are found in large cities. The high gender differences for category three implies that women who leave rural areas are particularly drawn to large cities but does not support either convergence or divergence between women and men.

To investigate whether the expansion of higher education has any implications for our results, we run additional regressions. We include dummy variables that indicate whether the individuals enrolled or unregistered from post-secondary education during the year 1 (i.e. if their status had changed year 1, in comparison to the year before, year 0, which is the base year in all our calculations). As expected, the decision to start studying or stop studying have positive relationships with the decision to leave rural areas. More importantly, while the inclusion of these dummies generate lower differences between women and men regarding the probability to leave rural areas, they do not considerably alter the pattern that we see over time. If anything, we rather see increasing gender differences regarding the probability to leave rural areas, which amplifies rather than weakens the regional gender gaps. The estimated marginal effects for gender when including these two extra dummies are presented Figs. A1 and A2 in the appendix.[11]

For foreign-born individuals (Fig. 8b), we see a different pattern. In contrast to Swedish-born men, foreign-born men are more likely to migrate than women are, but this difference decreases over the entire period: first rapidly 1997–1998 and then slowly up until 2016. This development is mainly explained by a female catch-up of the likelihood to migrate to large cities and metropolitan areas at the beginning of the period (category three and four). Similar to the Swedish-born, the difference between women and men decreases when including the stopped-studying and started-studying dummies. Over time, we still see a decreased difference between women and men, although at a slower pace.

To summarise, the results suggest a decreasing difference of the probability to leave rural areas for foreign-born individuals but it is harder to see any evident trend for the Swedish-born. As mentioned above, for Swedish-born individuals, we see a relatively stable relationship after 1998. Unfortunately, regression results give no clearer indications than this.

Importantly, foreign-born individuals show decreasing gender differences. Sweden has had large waves of immigration in recent years, and the share of foreign-born individuals in the Swedish population has increased from 11.3 to 19.6 per cent between 2000 and 2019 (Statistics Sweden). Our data does not allow separating between different types foreign-born individuals (e.g. labour migrants or refugees), but we include a dummy variable indicating whether a foreign-born individual arrived recently in Sweden. For refugees, secondary migration is common. When regressions coefficients are significant, results support that recently arrived individuals are more likely to move from rural areas compared to those who did not arrive recently. One explanation is that refugees are often placed in remote locations, and after obtaining a residence permit, they are allowed to move elsewhere. However, the huge wave of immigration in 2015 does not appear to affect the results considerably, although the difference between men and women somewhat increased again between 2011 and 2016 (Fig. 5b). This is expected because a high stare of the refugees that arrived during 2015 were men.[12]

6. Conclusions

In Sweden, there has been a surplus of men in rural areas and a

[10] We used the following values for the other values: UNI = 0, Partner = 0, Employed = 0, Student = 0, Age = 42, Foreign = 0 (in the full sample regression), Recentarrived = 0 (in the regressions that were estimated for foreign-born individuals), and Kidsathome = 0.

[11] The regression coefficients and estimated marginal effects for all the other variable when including the started and stopped studying dummies are available upon request.

[12] Out of 162,877 asylum seekers, 114,728 were men (Statistics Sweden).

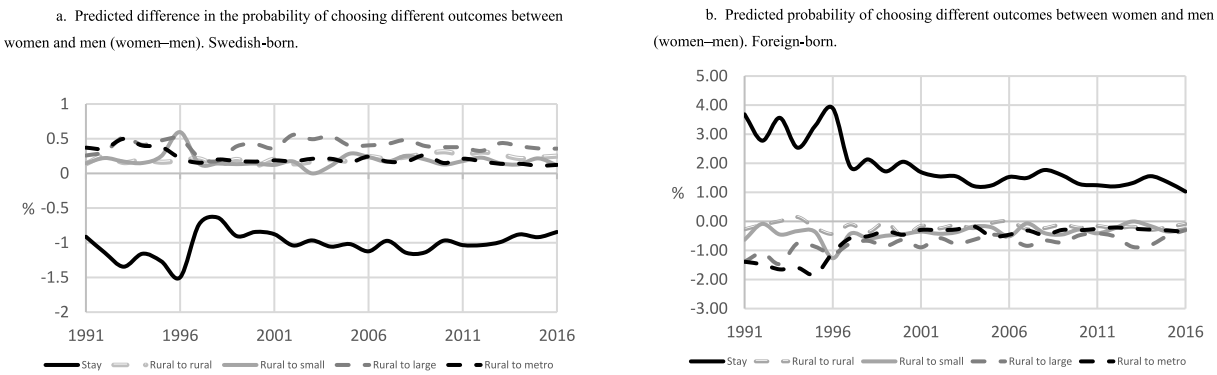


Fig. 8. a. Predicted difference in the probability of choosing different outcomes between women and men (women–men). Swedish-born.7b. Predicted probability of choosing different outcomes between women and men (women–men). Foreign-born.

surplus of women in urban areas for decades. However, the relative difference between rural and urban areas has decreased from the 1930s up to the new millennium. A lot has happened since the 1990s, however. We know that the 1990s induced a shift towards study-related reasons to migrate, but even so, the surplus of rural men continued to decrease between 1990 and 2000. The new digitalised economy can be considered as skilled-biased, which should favour rural out-migration of women instead of men because more women have post-secondary education. Further, the urbanisation process has transformed cities and rural areas in ways that may affect women and men differently. However, traditional economic theories have essential problems to explain migration patterns from rural areas during the 20th and early-21st centuries; hence, additional explanations are necessary. Given this background, we employed two approaches to better understand the decreasing gender gap between rural and urban areas: 1. We investigated how the main components of population growth has contributed to this development and 2. We used individual register data and multinomial regressions to investigate how the relationship between gender and the probability to move from rural areas changes over time.

We found that the development of net birth rates in rural areas is the main explanation behind the decreased gender gap between rural Sweden and the rest of Sweden after 1968. Net immigration as well as net internal migration have instead contributed to increased gender gaps since 1968. We did not find evidence of changed relationship between gender and the probability of out-migration from rural areas after 1990. After controlling for the effect of traditional explanatory variables, which are normally included in neoclassical models, we were left with a gender dummy that we interpret as the gender norm. For Swedish-born, the difference between women and men appear stable over time, although there are short-term fluctuations. In any case, we can notice small changes of gender norms. When it comes to staying in rural municipalities, men's dominance seem to increase somewhat again after he end of 1990s. Specifically, women seem to move more frequently from rural municipalities to large cities from the end of 1990s. For foreign-born, we see a decreasing differences between women and men. However, this amplifies existing regional gender gaps. As already explained the decreasing rural-urban gender gap is due to the effect of net births, not to migration flows or changing gender norms.

A caveat with our second approach is the limited period analysed (1991–2016), which does not allow detecting changes in gender norms occurring before the 1990s, when the rural urban gender gap decreased more rapidly. Our analysis instead focuses on the period after 1990, characterised by a relatively stable gender balance (or slowly decreasing) in rural (and other) municipalities. Not surprisingly, results suggest rather stable gender norms after 1990, although not necessarily for the foreign-born. However, we find this "non-result" interesting in itself. As Williamson (2000, p. 596) points out, 'Institutions [norms] at this level change very slowly – on the order of centuries or millennia', it seems that the gender norm persists – men stay in their rural municipality, women move. To the extent that gender norms have changed significantly in the past, this is not the case for the period after 1990. At least not for the Swedish-born.

Appendix A

Table A1
Distribution of categorical variables.[a]

Variable	Values	1991	1996	2001	2006	2011	2016
Migration (dependent variable)	0	515621	505739	513072	503184	500891	500143
	1	2817	2571	2926	2907	3088	3325
	2	2442	2459	3068	3072	3323	3641
	3	5480	5861	7788	7576	7905	7744
	4	2583	2948	3388	3132	3303	3042
Gender	1	264131	260459	264275	259977	258046	255327
	0	264812	259119	265967	259894	260464	262568
UNI	1	24522	27187	35678	44990	53216	60743
	0	461171	468571	482145	466687	456721	448248
Partner	1	301375	287268	244880	274430	267020	258073
	0	227568	232310	285362	245441	251490	259822
Student	1	8913	10753	12850	15057	14253	11114
	0	520030	508825	517392	504814	518510	506781
Employed	1	311459	216692	235653	280788	274844	270760
	0	217484	302886	294653	239083	243666	247135
Employed Partner	1	219208	216692	235589	206868	219280	195437
	0	309735	302886	294653	313003	299230	322458

(*continued on next page*)

Table A1 (*continued*)

Variable	Values	1991	1996	2001	2006	2011	2016
Foreign	1	33843	36047	38803	43850	52095	64481
	0	495081	483510	491410	475964	466354	453514
Recentarrived	1	3762	3931	2095	3699	5745	8296
	0	525181	515647	530242	516172	512765	509599

[a] For space-related reasons, we settle for providing summary statistics every fifth year as opposed to every year.

Table A2
Summary statistics for quantitative variables.[a]

		Mean	Std.deviation	N
Kidsathome	1991	0.47	0.90	528943
	1996	0.48	0.926	519578
	2001	0.45	0.891	530242
	2006	0.412	0.841	519871
	2011	0.367	0.806	518510
	2016	0.371	0.83	517895
Age	1991	51.47	19.00	528943
	1996	52,02	18.94	519578
	2001	53,2	18.67	530242
	2006	53.89	18.60	519871
	2011	54.08	18.92	518510
	2016	54.39	19.17	517895

[a] For space-related reasons, we settle for providing summary statistics every fifth year as opposed to every year.

Table A3
Estimated marginal effects for Swedish-born (%).

#Obs	Pseudo R^2	year	Age					Partner					Student				
			stay	Rural to rural	Rural to small	Rural to large	Rural to metro	stay	Rural to rural	Rural to small	Rural to large	Rural to metro	stay	Rural to rural	Rural to small	Rural to large	Rural to metro
466662	0,13	1991	0,35	−0,04	−0,06	−0,16	−0,11	0,46026**	−0,25	**0,08**	**−0,16**	**−0,13**	−9,83	**−0,04**	0,56	6,21	3,09
469522	0,14	1992	0,35	−0,04	−0,05	−0,16	−0,10	1,38	−0,58	−0,39	−0,33	**−0,08**	−11,28	**0,04**	0,37	7,46	3,41
472882	0,15	1993	0,37	−0,04	−0,05	−0,17	−0,11	1,80	−0,42	**−0,13**	−0,77	−0,49	−12,99	−0,03	0,75	8,35	3,91
476067	0,15	1994	0,39	−0,04	−0,05	−0,17	−0,12	1,21	−0,19	−0,42	−0,43	**−0,17**	−15,30	**0,07**	0,95	8,89	5,39
476487	0,15	1995	0,42	−0,04	−0,06	−0,18	−0,14	1,45	−0,44	−0,16057*	−0,42	−0,43	−12,86	**−0,08**	0,74	7,58	4,63
493137	0,13	1996	0,63	−0,04	−0,18	−0,25	−0,15	1,61	−0,51	−0,94	**−0,05**	**−0,11**	−13,50	**−0,08**	1,96	6,56	5,06
471655	0,14	1997	0,27	−0,04	−0,05	−0,13	−0,06	0,59	−0,40	**0,00**	**−0,18**	**−0,01**	−5,83	**0,03**	0,28	4,33	1,19
490537	0,14	1998	0,31	−0,05	−0,05	−0,15	−0,07	0,69	−0,40	**−0,14**	**−0,11**	**−0,04**	−5,20	**0,04**	0,51	3,69	0,97
48819	0,14	1999	0,31	−0,05	−0,05	−0,15	−0,07	1,06	−0,53	−0,25	**0,24**	−0,52	−5,28	**−0,07**	0,55	3,49	1,30
48564	0,15	2000	0,33	−0,05	−0,05	−0,16	−0,07	**0,51**	**−0,18**	**−0,17**	**−0,19**	**0,03**	−5,33	**−0,10**	0,35	3,80	1,27
48215	0,14	2001	0,33	−0,05	−0,05	−0,16	−0,07	0,54596*	−0,40	**−0,08**	**0,12**	**−0,19**	−3,59	−0,19	0,19	2,86	0,74
478689	0,14	2002	0,33	−0,05	−0,06	−0,16	−0,06	**0,43**	−0,37	−0,27	0,45224*	−0,25	−2,97	−0,25	0,15583*	2,34	0,72
476454	0,14	2003	0,33	−0,04	−0,07	−0,16	−0,06	**−0,47**	**−0,17**	−0,40	0,56	0,47	−2,83	−0,18	**0,13**	2,32	0,57
474816	0,14	2004	0,32	−0,05	−0,06	−0,16	−0,06	0,58	−0,22	**−0,13**	**0,13**	−0,37	−2,86	−0,25	0,20	2,06	0,84
473800	0,14	2005	0,33	−0,05	−0,06	−0,16	−0,07	1,39	−0,46	−0,24	−0,84	**0,15**	−3,24	−0,15628*	0,41	2,22	0,77
471957	0,14	2006	0,34	−0,05	−0,06	−0,16	−0,07	0,92	−0,35	−0,30	**−0,10**	**−0,17**	−3,04	−0,26	0,18	2,21	0,90
469893	0,13	2007	0,33	−0,05	−0,06	−0,16	−0,07	1,05	−0,48	**0,01**	−0,39	**−0,19**	−2,97	**−0,21**	0,34	1,82	1,02
468315	0,14	2008	0,31	−0,04	−0,06	−0,15	−0,06	0,95	−0,42	−0,22	**0,04**	−0,35	−4,01	0,01	0,34	2,51	1,15
466345	0,14	2009	0,32	−0,05	−0,06	−0,15	−0,06	1,39	−0,36	**−0,35**	**−0,38**	**−0,30**	−3,95	**−0,02**	0,27	2,62	1,08
465065	0,14	2010	0,30	−0,04	−0,06	−0,14	−0,05	0,47206*	−0,30	**−0,15**	**0,08**	**−0,10**	−4,14	**0,09753***	0,31	2,66	1,06
463735	0,13	2011	0,30	−0,05	−0,06	−0,14	−0,06	0,65	−0,28	0,13	**−0,15**	**−0,35**	−4,00	−0,14763*	0,25	2,65	1,24
461766	0,12	2012	0,29	−0,04	−0,05	−0,14	−0,05	0,78	**−0,12**	−0,27	**−0,29**	**−0,09**	−4,00	−0,14634*	0,35	2,47	1,33
459599	0,13	2013	0,28	−0,05	−0,05	−0,13	−0,06	1,74	−0,64	−0,35	−0,64	**−0,10**	−4,85	−0,21	0,46	3,37	1,23
456831	0,12	2014	0,28	−0,05	−0,06	−0,12	−0,05	1,00	−0,46	**0,05**	−0,47	**−0,12**	−5,13	−0,1526*	0,35	3,43	1,49
454233	0,12	2015	0,28	−0,05	−0,05	−0,13	−0,05	1,05	−0,35	**−0,11**	−0,2539*	−0,34	−4,53	−0,27	0,32	3,18	1,31
451001	0,12	2016	0,27	−0,05	−0,05	−0,12	−0,05	1,33	−0,40	−0,32	−0,34	−0,28	−5,08	**−0,05**	0,55	3,03	1,56

#Obs	Pseudo r2	year	UNI					Gender					Children below 16				
			Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro
466662	0,13	1991	−10,55	0,68	1,99	4,53	3,35	−0,91	0,14	0,15	0,26	0,37	0,60	**−0,02**	−0,10	−0,27	−0,21
469522	0,14	1992	−9,70	1,00	1,60	4,01	3,10	−1,14	0,25	0,22	0,31	0,36	0,71	−0,12	−0,08	−0,26	−0,25
472882	0,15	1993	−9,65	0,80	1,38	3,78	3,69	−1,35	0,16	0,17	0,52	0,50	0,71	**−0,02**	−0,12	−0,33	−0,23
476067	0,15	1994	−11,01	0,95	2,27	4,28	3,51	−1,16	0,20	0,15	0,41	0,40	0,87	−0,09	**−0,05**	−0,38	−0,35
476487	0,15	1995	−11,11	0,56	2,08	3,92	4,56	−1,27	0,16	0,25	0,48	0,38	0,88	−0,10	−0,16	−0,28	−0,34
493137	0,13	1996	−11,04	0,96	2,19	3,62	4,27	−1,50	0,18	0,59	0,50	0,22	1,06	−0,04788*	−0,25	−0,35	−0,41
471655	0,14	1997	−6,41	0,53	1,22	2,78	1,88	−0,74	0,21	0,14	0,23	0,15	0,61	−0,12	−0,11	−0,19	−0,19

(*continued on next page*)

Table A3 (*continued*)

#Obs	Pseudo r2	year	UNI					Gender					Children below 16				
			Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro
490537	0,14	1998	−7,32	0,92	1,28	3,34	1,77	−0,64	0,12	0,14	0,18	0,20	0,63	−0,07	−0,14	−0,20	−0,23
48819	0,14	1999	−7,01	0,87	1,32	2,88	1,94	−0,90	0,20	0,13	0,39	0,18	0,75	−0,14	−0,08	−0,33	−0,20
48564	0,15	2000	−5,62	0,65	0,98	2,51	1,47	−0,84	0,11	0,14	0,42	0,17	0,78	−0,13	−0,08	−0,32	−0,25
48215	0,14	2001	−5,17	0,70	1,08	1,84	1,55	−0,88	0,20	0,12	0,36	0,19	0,95	−0,19	−0,15	−0,38	−0,23
478689	0,14	2002	−4,21	0,67	0,84	1,48	1,21	−1,04	0,14	0,17	0,56	0,17	0,94	−0,16	−0,14	−0,43	−0,21
476454	0,14	2003	−4,13	0,44	1,16	1,58	0,95	−0,97	0,17	0,09485*	0,49	0,21	1,07	−0,05389*	−0,23	−0,51	−0,27
474816	0,14	2004	−3,84	0,48	1,09	1,29	0,97	−1,06	0,20	0,11	0,54	0,21	0,96	−0,09	−0,11	−0,51	−0,25
473800	0,14	2005	−3,89	0,50	0,59	1,58	1,21	−1,02	0,17	0,28	0,40	0,16	0,88	−0,15	−0,21	−0,31	−0,22
471957	0,14	2006	−4,42	0,55	0,82	1,69	1,35	−1,12	0,24	0,24	0,40	0,24	1,22	−0,15	−0,19	−0,57	−0,32
469893	0,13	2007	−3,79	0,32	0,59	1,76	1,12	−0,97	0,21	0,17	0,43	0,17	1,18	−0,20	−0,20	−0,50	−0,28
468315	0,14	2008	−3,92	0,37	0,73	1,45	1,37	−1,14	0,24	0,25	0,48	0,17	1,00	−0,07	−0,18	−0,45	−0,30
466345	0,14	2009	−2,81	**0,10**	0,62	1,21	0,87	−1,14	0,28	0,20	0,39	0,26	0,96	**−0,05**	−0,15	−0,53	−0,22
465065	0,14	2010	−3,53	0,20	0,50	1,73	1,10	−0,97	0,31	0,13	0,38	0,15	1,14	−0,15	−0,22	−0,54	−0,24
463735	0,13	2011	−3,92	0,36	0,69	1,54	1,33	−1,03	0,27	0,18	0,37	0,21	1,17	−0,14	−0,25	−0,46	−0,32
461766	0,12	2012	−3,00	**0,11**	0,41	1,41	1,06	−1,03	0,31	0,23	0,32	0,17	1,17	−0,09	−0,22	−0,55	−0,30
459599	0,13	2013	−3,25	0,20	0,60	1,08	1,37	−0,99	0,27	0,14	0,44	0,14	0,95	−0,13	−0,16	−0,38	−0,29
456831	0,12	2014	−3,00	0,17	0,63	1,08	1,12	−0,88	0,21	0,13	0,39	0,14	1,09	−0,09	−0,17	−0,45	−0,37
454233	0,12	2015	−3,09	0,19	0,51	1,16	1,23	−0,92	0,23	0,22	0,36	0,11	1,30	−0,25	−0,22	−0,54	−0,30
451001	0,12	2016	−3,05	**0,13**	0,62	1,18	1,13	−0,84	0,25	0,12	0,36	0,12	1,21	−0,12	−0,20	−0,47	−0,42

#Obs	Pseudo r2	year	Employment					Employed partner				
			Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro
466662	0,13	1991	1,73	−0,16	−0,34	−0,90	−0,33	3,23	−0,37	−0,54	−1,33	−0,99
469522	0,14	1992	2,27	−0,31	−0,43	−1,13	−0,40	2,62	**0,07**	−0,40	−1,36	−0,93
472882	0,15	1993	2,69	−0,30	−0,42	−1,32	−0,65	2,95	−0,27	−0,50	−1,21	−0,97
476067	0,15	1994	2,78	−0,32	−0,46	−1,33	−0,67	3,67	−0,42	−0,43	−1,62	−1,19
476487	0,15	1995	3,04	−0,39	−0,51	−1,34	−0,81	3,54	−0,32	−0,51	−1,56	−1,16
493137	0,13	1996	3,88	−0,42	−0,79	−1,83	−0,85	5,56	−0,23	−1,56	−2,45	−1,32
471655	0,14	1997	1,94	−0,30	−0,35	−0,93	−0,35	2,43	−0,22	−0,44	−1,19	−0,58
490537	0,14	1998	2,12	−0,39	−0,39	−0,99	−0,36	2,58	−0,31	−0,42	−1,32	−0,53
48819	0,14	1999	2,17	−0,41	−0,38	−0,97	−0,41	2,27	−0,22	−0,41	−1,31	−0,33
48564	0,15	2000	2,14	−0,38	−0,32	−1,13	−0,32	3,04	−0,50	−0,49	−1,44	−0,60
48215	0,14	2001	2,02	−0,42	−0,37	−0,93	−0,30	2,88	−0,36	−0,51	−1,47	−0,54
478689	0,14	2002	2,13	−0,37	−0,45	−0,97	−0,35	2,98	−0,38	−0,43	−1,66	−0,51
476454	0,14	2003	2,25	−0,29	−0,57	−1,07	−0,32	3,24	−0,61	−0,37	−1,67	−0,60
474816	0,14	2004	2,23	−0,39	−0,43	−0,99	−0,42	3,11	−0,56	−0,64	−1,53	−0,38
473800	0,14	2005	2,13	−0,37	−0,40	−0,97	−0,38	2,61	−0,25	−0,44	−1,24	−0,68
471957	0,14	2006	2,28	−0,37	−0,40	−1,05	−0,45	2,89	−0,44	−0,39	−1,45	−0,62
469893	0,13	2007	2,21	−0,37	−0,42	−1,01	−0,41	2,89	−0,30	−0,56	−1,43	−0,60
468315	0,14	2008	1,97	−0,34	−0,39	−0,90	−0,35	2,85	−0,40	−0,47	−1,54	−0,44
466345	0,14	2009	2,28	−0,38	−0,52	−1,00	−0,37	2,90	−0,47	−0,47	−1,39	−0,58
465065	0,14	2010	1,90	−0,26	−0,42	−0,92	−0,29	2,96	−0,41	−0,52	−1,46	−0,56
463735	0,13	2011	1,87	−0,31	−0,36	−0,81	−0,39	2,94	−0,53	−0,65	−1,29	−0,47
461766	0,12	2012	1,90	−0,33	−0,35	−0,90	−0,32	2,88	−0,57	−0,44	−1,26	−0,61
459599	0,13	2013	1,80	−0,29	−0,35	−0,82	−0,34	2,09	**0,04**	−0,43	−1,10	−0,60
456831	0,12	2014	1,72	−0,29	−0,40	−0,74	−0,30	2,71	−0,33	−0,65	−1,18	−0,55
454233	0,12	2015	1,63	−0,30	−0,31	−0,71	−0,31	2,43	−0,28	−0,52	−1,27	−0,37
451001	0,12	2016	1,56	−0,30	−0,27	−0,67	−0,33	2,35	−0,43	−0,46	−1,05	−0,42

Note: Unless indicated, variables are significant at least at the five per cent level. * = 10 per cent significance (0.05<p-value < −0.1). Bold letters indicate insignificance (p-value>0.1 (i.e. >10%)).

Table A4
Estimated marginal effects for Foreign-born (%).

#Obs	Pseudo R^2	year	Age					Partner					Student				
			Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro
32112	0.1084	1991	0,59	−0,05	−0,09	−0,22	−0,23	−2,42	**0,26**	**−0,27**	0,98058*	1,45	−13,60	**−0,03**	**0,46**	6,44	6,72
31171	0.1051	1992	0,62	−0,05	−0,07	−0,23	−0,28	**−0,31**	−0,84	−0,69	**−0,38**	2,22	−12,47	−1,67	**0,18**	8,87	5,09
30899	0.1034	1993	0,68	−0,04	−0,07	−0,25	−0,31	**1,45**	**−0,85**	**−1,08**	−0,50	**0,98**	−14,75	**−0,22**	***−0,16***	8,66	6,47
30487	0.1060	1994	0,74	−0,05	−0,09	−0,27	−0,32	**1,04**	**−0,14**	**−0,50**	−1,14601*	**0,75**	−15,49	**−0,08**	**1,08**	6,36	8,13
34751	0.1008	1995	0,69	−0,03	−0,06	−0,26	−0,34	**0,82**	−0,62	**0,10**	−0,91379*	**0,62**	−17,68	**−0,32**	**0,15**	8,29	9,57
36770	0.0949	1996	0,92	−0,04	−0,24	−0,33	−0,31	**1,43**	**−0,40**	**−0,60**	**0,32**	**−0,75**	−15,57	**0,13**	**0,75**	7,50	7,19
32893	0.0876	1997	0,39	−0,05	−0,05	−0,16	−0,12	−1,60*	**0,12**	**−0,38**	**0,79**	**1,08**	−6,90	**0,04**	1,72	4,16	**0,98**
34747	0.0929	1998	0,47	−0,06	−0,08	−0,19	−0,14	**−0,74**	−1,05	**0,46**	**−0,44**	1,77	−5,31	**−0,27**	**0,54**	3,16	1,89
34591	0.0837	1999	0,47	−0,04	−0,08	−0,21	−0,13	**0,98**	**−0,41**	**−0,18**	−1,37	0,98033*	−4,49	**−0,20**	**−0,17**	3,80	**1,05**
34993	0.0892	2000	0,50	−0,05	−0,09	−0,22	−0,15	1,85	−1,30	**−0,12**	**−0,15**	**−0,28**	−4,43	**−0,31**	**0,37**	3,39	**0,98**
35653	0.0861	2001	0,46	−0,04	−0,07	−0,22	−0,12	**0,04**	**0,11**	**0,25**	**−0,10**	**−0,30**	−2,88	−0,66599*	−0,81	3,61	**0,74**
35913	0.0805	2002	0,40	−0,05	−0,09	−0,17	−0,10	1,58	**−0,32**	0,82183*	−1,30	−0,78	−2,92	**−0,61**	1,43718*	1,94	**0,15**
37198	0.0949	2003	0,41	−0,05	−0,05	−0,20	−0,10	**0,53**	−0,66	−0,67	**0,46**	**0,34**	−4,49	**−0,21**	**0,37**	3,51	0,8142*

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Table A4 (*continued*)

#Obs	Pseudo R^2	year	Age					Partner					Student				
			Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro
37940	0.0867	2004	0,43	−0,05	−0,07	−0,20	−0,10	2,05	**−0,20**	**−0,41**	−1,05	**−0,39**	−4,85	**−0,52**	**0,44**	3,81	1,11134*
38698	0.0856	2005	0,38	−0,05	−0,06	−0,18	−0,09	**0,78**	−0,65	**0,41**	**−0,25**	**−0,29**	−2,74	−0,83	−0,51122*	3,24	**0,85**
39677	0.0770	2006	0,41	−0,04	−0,07	−0,21	−0,09	2,26	**−0,35**	**−0,28**	−0,97	−0,66	−5,17	**0,06**	**0,58**	1,96	2,56
40374	0.0809	2007	0,40	−0,03	−0,06	−0,20	−0,11	2,41	**0,17**	−0,55	−1,30	−0,74	−6,24	1,2485*	**0,82**	3,35	**0,82**
42158	0.0755	2008	0,37	−0,04	−0,06	−0,17	−0,09	**0,23**	**−0,32**	**0,30**	**−0,16**	**−0,05**	−3,81	**−0,58**	**−0,40**	3,51	1,29
43624	0.0878	2009	0,38	−0,04	−0,05	−0,19	−0,10	**−0,92**	−0,54	**−0,12**	1,49	**0,09**	−3,00	**0,52**	−0,94	1,92	1,51
44727	0.0796	2010	0,30	−0,04	−0,05	−0,13	−0,09	**0,20**	−0,43	**0,13**	**0,21**	**−0,11**	−5,72	**0,21**	0,80381*	3,58	1,13
46152	0.0818	2011	0,35	−0,04	−0,06	−0,17	−0,08	**−0,01**	**−0,19**	**−0,31**	**0,58**	**−0,08**	−5,63	**−0,31**	**0,20**	3,57	2,18
47692	0.0850	2012	0,31	−0,03	−0,06	−0,15	−0,07	1,17	−0,42	**−0,12**	**−0,22**	−0,41	−5,65	**0,32**	**0,26**	3,07	2,01
49015	0.0871	2013	0,34	−0,05	−0,03	−0,17	−0,09	1,02584*	**−0,31**	**0,11**	−0,83	**0,00**	−6,19	**−0,24**	**0,45**	3,67	2,31
50901	0.0945	2014	0,31	−0,04	−0,05	−0,15	−0,07	1,63	−0,75	**0,22**	−0,84	**−0,26**	−5,91	**−0,24**	**0,19**	3,43	2,54
54198	0.0921	**2015**	0,31	−0,04	−0,04	−0,15	−0,08	1,65	−0,49	**0,02**	−0,56023*	−0,62	−5,96	**0,02**	**0,25**	2,65	3,04
5799	0.0932	2016	0,25	−0,04	−0,04	−0,12	−0,05	**−0,34**	−0,40	0,56	0,59132*	−0,41	−7,36	**0,50**	**0,28**	3,78	2,80

#Obs	Pseudo R^2	year	UNI					Gender					Kidsathome				
			Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro
32112	0.1084	1991	−5,86	**−0,18**	**0,37**	3,49	2,18	3,68	**−0,27**	−0,63	−1,39	−1,39	−0,97	−0,09	−0,27	0,54	0,79
31171	0.1051	1992	−7,33	**0,19**	1,08496*	2,67	3,38	2,78	**−0,12**	**−0,09**	−1,09	−1,48	−1,07	**0,00**	**0,05**	**0,23**	0,80
30899	0.1034	1993	−9,53	**0,46**	**0,64**	3,81	4,62	3,56	**0,01**	−0,45	−1,47	−1,65	−1,17	**−0,05**	**0,09**	0,40	0,73
30487	0.1060	1994	−9,02	**−0,42**	1,49	2,87	5,08	2,54	**0,15**	−0,33444*	−0,76	−1,59	−0,77	**−0,09**	**−0,19**	0,64	0,42
34751	0.1008	1995	−8,93	**0,85**	0,71	2,15	5,22	3,28	**−0,22**	−0,36	−0,87	−1,83	−0,66	**0,04**	0,28	**−0,03**	0,37
36770	0.0949	1996	−7,88	**−0,12**	1,11382*	2,15	4,73	3,89	−0,43	−1,27	−1,11	−1,08	−0,95	0,1659*	0,44	0,43	**−0,09**
32893	0.0876	1997	−5,41	1,10	**0,59**	1,94	1,78	1,87	**−0,11**	−0,42	−0,76	−0,58	−0,39	**−0,03**	**0,13**	0,26	**0,03**
34747	0.0929	1998	−4,26	**0,27**	**0,21**	2,09	1,69	2,13	−0,37	−0,58	−0,67	−0,51	−0,87	**0,14**	0,32	0,49	**−0,09**
34591	0.0837	1999	−6,79	0,37	2,08	2,57	1,77	1,72	**−0,04**	−0,49	−0,85	−0,33903*	**0,06**	**−0,08**	**−0,13**	**0,21**	**−0,06**
34993	0.0892	2000	−4,46	**0,10**	0,96	1,16	2,25	2,05	−0,52	−0,44	−0,63	−0,46	0,48	**−0,13**	**−0,05**	**−0,23**	**−0,06**
35653	0.0861	2001	−3,57	**−0,07**	**0,13**	1,65	1,86	1,69	**−0,16**	−0,35	−0,89	−0,29272*	**0,42**	−0,1795*	**0,06**	**−0,11**	**−0,20**
35913	0.0805	2002	−2,09	−0,66	**−0,02**	1,03	1,73	1,55	**−0,25**	−0,43	−0,58	−0,30319*	**0,11**	**−0,01**	**0,14**	**0,11**	−0,35
37198	0.0949	2003	−1,82	**0,10**	**0,20**	**0,56**	0,95	1,55	**−0,12**	−0,38	−0,77	−0,28	**0,14**	**0,05**	**0,07**	**−0,19**	**−0,07**
37940	0.0867	2004	−2,50	0,64112*	0,74	**0,63**	**0,49**	1,21	**−0,23**	**−0,18**	−0,63	**−0,17**	**0,29**	**−0,15**	**0,08**	**−0,03**	−0,19412*
38698	0.0856	2005	−0,97957*	−0,60	**0,41**	0,66947*	**0,50**	1,24	**−0,06**	**−0,20**	−0,46	−0,52	**−0,22**	**−0,15**	**0,05**	**0,17**	**0,14**
39677	0.0770	2006	**−1,13**	**−0,21**	**0,07**	**0,58**	0,69	1,53	**0,00**	−0,51	−0,56	−0,46	0,92	−0,36	**−0,14**	**−0,08**	−0,33
40374	0.0809	2007	−3,12	**−0,18**	**0,15**	1,56	1,59	1,49	−0,27	**−0,07**	−0,84	−0,31199*	0,86	−0,26	−0,25	**−0,04**	−0,31
42158	0.0755	2008	−1,43	**0,24**	**0,08**	0,67856*	**0,44**	1,77	−0,23569*	−0,40	−0,66	−0,47	0,57	−0,19464*	**0,00**	**0,13**	−0,50
43624	0.0878	2009	−1,45	**−0,15**	**0,24**	0,59552*	0,76	1,59	**−0,12**	−0,45	−0,73	−0,29	**0,19**	**−0,02**	**−0,06**	**0,16**	−0,27
44727	0.0796	2010	−2,94	**0,35**	0,49	0,95	1,15	1,28	−0,22206*	−0,28	−0,48	−0,31	0,31359*	−0,31	0,15	**0,16**	−0,31
46152	0.0818	2011	−2,23	**−0,26**	**0,32**	1,26	0,92	1,24	−0,16	−0,41	−0,42	−0,25546*	**0,17**	−0,21	**0,04**	**0,11**	**−0,11**
47692	0.0850	2012	**−0,59**	**−0,11**	**0,13**	**−0,06**	0,63	1,20	**−0,24251***	−0,23	−0,52	−0,20828*	**−0,01**	**−0,04**	**−0,10**	0,30	−0,15
49015	0.0871	2013	−1,43	0,47	**−0,04**	**0,50**	0,50	1,32	**−0,19**	**0,00**	−0,88	−0,2512*	**−0,11**	−0,14963*	0,07834*	0,47	−0,28
50901	0.0945	2014	**−0,55**	**−0,15**	**0,01**	**0,01**	0,68	1,56	−0,30	**−0,16**	−0,82	−0,28	**−0,10**	−0,15257*	**0,01**	0,46	−0,22
54198	0.0921	**2015**	−1,50	−0,29237*	**0,19**	0,96	0,64	1,35	−0,19633*	−0,35	−0,49	−0,31	**0,22**	**−0,11**	**0,08**	**0,11**	−0,29
5799	0.0932	2016	−1,25	**0,19**	**0,06**	0,54	0,46	1,03	**−0,09**	−0,26	−0,30	−0,37	0,34	−0,16	**−0,01**	**−0,12**	**−0,05**

#Obs	Pseudo R^2	year	Employment					Employed partner					Recently arrived				
			Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro
32112	0.1084	1991	3,99	**−0,30**	−0,60	−1,52	−1,57	6,41	**−0,95**	−0,31	−2,48	−2,68	−10,61	0,84	**0,32**	3,65	5,80
31171	0.1051	1992	5,29	−0,85	−0,61	−1,84	−1,99	5,58	**−0,18**	**−0,11**	−2,00	−3,30	−7,40	0,76	**0,45**	2,99	3,19
30899	0.1034	1993	6,25	−0,85	−0,60	−2,40	−2,40	6,59	**−0,04**	**−0,46**	−2,35	−3,75	−8,00	**0,51**	**0,67**	3,98	2,83
30487	0.1060	1994	6,23	−0,70	−0,72	−2,52	−2,29	7,55	−0,64	**−0,22**	−2,50	−4,19	−4,68	**1,27**	**0,91**	**0,76**	**1,74**
34751	0.1008	1995	6,51	−0,55	−0,57	−2,77	−2,62	5,34	**0,01**	−0,78	−0,89289*	−3,67	−6,71	**0,16**	1,94	3,88	**0,73**
36770	0.0949	1996	8,15	−0,77	−1,98	−3,13	−2,27	6,76	−0,4646*	−1,20	−2,60	−2,49	−6,36	**0,19**	3,30	1,65	1,22
32893	0.0876	1997	3,80	−0,82	−0,52	−1,32	−1,15	3,85	−0,75	**−0,34**	−1,59	**−1,17**	−4,87	**0,02**	1,51	2,56	0,77
34747	0.0929	1998	4,11245*	**−0,77**	−0,66	−1,66	−1,02	2,06	1,32	−0,77	−1,20	−1,40	−3,49	**0,25**	**0,68**	1,79	0,77457*
34591	0.0837	1999	3,61	−0,57	−1,03	−1,46	−0,56	2,41	**−0,23**	**0,02**	**−0,82**	−1,38	−2,08	**0,32**	**0,18**	**0,40**	1,18
34993	0.0892	2000	3,65	−0,71	−0,60	−1,24	−1,11	**−0,22**	**2,29**	**−0,03**	−1,25	−0,79	−2,50	**0,60**	**0,17**	1,21	**0,52**
35653	0.0861	2001	2,21	−0,41	**−0,07**	−1,36	−0,36	3,55	**−0,37**	−0,84	−1,44	−0,91	**−0,92**	**0,51**	0,55015*	**−0,13**	**−0,01**
35913	0.0805	2002	2,43	−0,43	−0,61	−0,97	−0,42	2,21	−0,65	−1,13	−0,62	0,18	−1,53	0,63	0,21	0,38	0,30
37198	0.0949	2003	1,83	**−0,42**	−0,21	−0,93	−0,26986*	2,97	**−0,34**	**0,11**	−1,95	−0,78	−1,19	1,05	0,58	**−0,16**	**−0,28**
37940	0.0867	2004	3,03	−0,60	−0,56	−1,49	−0,37	3,17	−0,68	−0,66	−1,04	−0,78	**0,06**	**0,09**	**0,04**	**−0,29**	**0,10**
38698	0.0856	2005	2,14	−0,40	−0,39	−0,91	−0,44	2,61	**0,04**	−0,56	−1,26	−0,83	−1,99	**0,20**	**0,00**	1,26	0,53256*
39677	0.0770	2006	2,74	−0,41	−0,52	−1,25	−0,56	**1,16**	**−0,22**	**−0,47**	−0,87123*	**0,39**	**−0,78**	0,82	**0,09**	**−0,07**	**−0,07**
40374	0.0809	2007	2,47	**−0,03**	−0,38	−1,23	−0,84	**0,65**	−0,58	**0,63**	**−0,49**	**−0,21**	−1,82	1,31	**0,17**	**0,38**	**−0,03**
42158	0.0755	2008	1,91	−0,25309*	−0,30	−0,99	−0,37	2,88	**−0,21**	−0,56	−1,40	−0,71	−2,16	0,64	**0,30**	0,78	0,43645*
43624	0.0878	2009	1,64	**−0,16**	−0,32	−0,72	−0,45	3,66	**0,12**	−0,69	−2,20	−0,89	−2,00	0,48	0,56	**0,34**	0,62
44727	0.0796	2010	1,87	−0,34	**−0,21**	−1,02	−0,29	3,48	**−0,25**	−0,77	−1,67	−0,78	−2,98	1,35	0,41	0,75	0,47
46152	0.0818	2011	2,38	−0,51	−0,44	−1,09	−0,34	3,70	−0,44	−0,44	−1,86	−0,97	−2,05	0,91	0,51	**0,02**	0,60
47692	0.0850	2012	1,67	**−0,20**	−0,21143*	−0,92	−0,34	2,58	−0,51	−0,32342*	−1,55	**−0,19**	−4,50	0,77	0,68	2,08	0,97
49015	0.0871	2013	2,14	−0,34	−0,18365*	−1,15	−0,46	2,97	**−0,28**	−0,41	−1,30	−0,98	−4,91	0,75	1,15	2,16	0,84

(*continued on next page*)

Table A4 (*continued*)

#Obs	Pseudo R^2	year	Employment					Employed partner					Recently arrived				
			Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro	Stay	Rural to rural	Rural to small	Rural to large	Rural to metro
50901	0.0945	2014	1,74	**−0,23**	−0,24	−1,05	−0,21797*	1,97	**−0,03**	−0,60	−0,69	−0,66	−7,54	1,16	2,15	3,30	0,93
54198	0.0921	**2015**	1,55	−0,34	−0,24	−0,83	**−0,14**	2,58	**−0,29**	−0,82	−1,05	**−0,42**	−6,72	1,44	2,34	2,43	0,52
5799	0.0932	2016	0,82	−0,33	**−0,09**	−0,38	**−0,03**	3,46	−0,32022*	−0,67	−1,68	−0,78	−6,92	1,25	1,61	2,54	1,52

Note: Unless indicated, variables are significant at least at the five per cent level. * = 10 per cent significance (0.05<p-value < −0.1). Bold letters indicate insignificance (p-value>0.1 (i.e. >10%)).

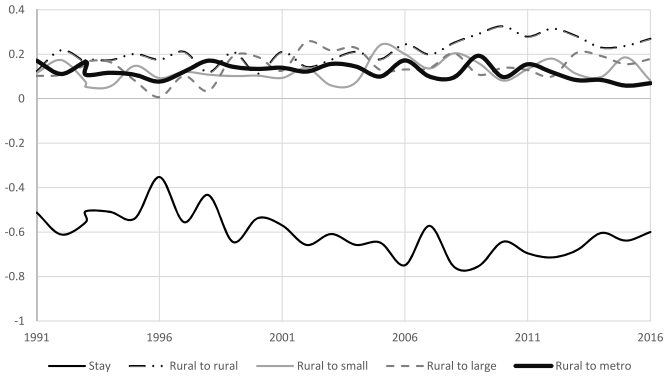


Fig. A1. Predicted difference in the probability of choosing different outcomes between women and men (women–men) after controlling for starting or stopping post-secondary education. Swedish-born.

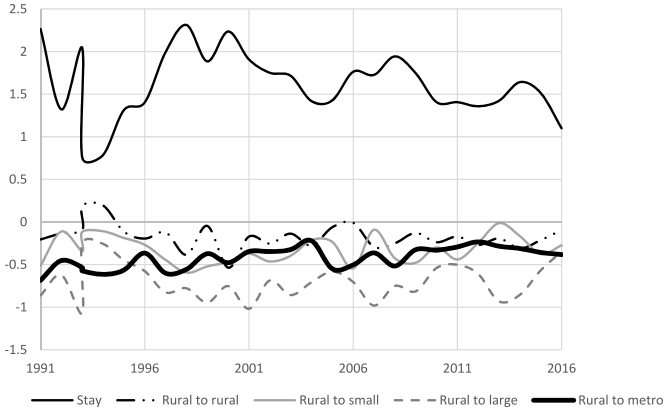
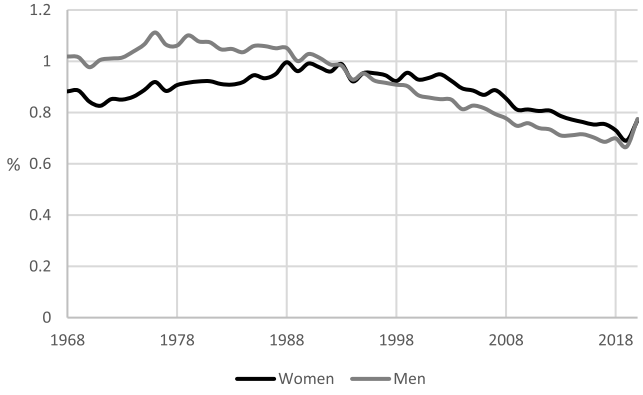


Fig. A2. Fig. A1. Predicted difference in the probability of choosing different outcomes between women and men (women–men) after controlling for starting or stopping post-secondary education. Foreign-born.



Source: Statistics Sweden and author's calculations.

Fig. A3. Death rates (percentage share of population that died for each year) for women and men in metropolitan areas.

References

Becker, G.S., 1962. Investment in human capital: a theoretical analysis. J. Polit. Econ. 70 (5), 9–49.
Becker, G., 1964. Human Capital. University of Chicago Press, Chicago.
Berger, T., Frey, C.B., 2016. Structural Transformation in the OECD. Digitalisation, Deindustrialisation and the Future of Work, *OECD Social, Employment and Migration Working Papers*, No. 193. OECD Publishing, Paris.
Bohman, H., Jandric, Osland, L., 2020. On an equal footing? Comparing commuting patterns across space and gender. In: Gladoic Håkansson, P., Bohman, H. (Eds.), Investigating Spatial Inequalities. Mobility, Housing and Employment in Scandinavia and South East Europe.
Borjas, G.J., 1987. Self-selection and the earnings of immigrants. Am. Econ. Rev. 77 (4), 531–553.
Cameron, C.A., Trivedi, P.K., 2010. Microeconometrics Using Stata, Revised Edition. Stata Press, Texas.
Connell, R.W., 1987. Gender and Power. Polity Press, Cambridge.
Connell, R.W., Messerschmidt, J.W., 2005. Hegemonic masculinity: rethinking the concept. Gend. Soc. 19 (6), 829–859.
Crane, R., 2007. Is there a quiet revolution in women's travel? Revisiting the gender gap in commuting. J. Am. Plann. Assoc. 73 (3), 298–316.
Edlund, L., 2005. Sex and the city. Scand. J. Econ. 107 (1), 25–44.
Falch, T., Naper, L.R., 2013. Educational evaluation schemes and gender gaps in student achievement. Econ. Educ. Rev. 36, 12–25.
Frändberg, L., Vilhelmson, B., 2011. More or less travel: personal mobility trends in the Swedish population focusing gender and cohort. J. Transport Geogr. 19, 1235–1244.
Gordon, I., 1995. Migration in a segmented labour market. Trans. Inst. Br. Geogr. 20 (2), 139–155.
Gärtner, S., 2014. New macroeconomic evidence on internal migration in Sweden, 1967–2003. Reg. Stud. 50 (1), 137–153.
Harris, J., Todaro, M., 1970. Migration, unemployment and development: a two-sector analysis. Am. Econ. Rev. 60, 126–142.
Hedberg, C., Haandrikman, K., 2014. Repopulation of the Swedish countryside: globalisation by international migration. J. Rural Stud. 34, 128–138.
Holmlund, H., Sund, K., 2008. Is the gender gap in school performance affected by the sex of the teacher? Lab. Econ. 15 (1), 37–53.
Johansson, M., Nygren, O., Wictorin, B., 2004. Boendeflyttare och jobbflyttare – orsaker och drivkrafter till nya flyttmönster i det postindustriella samhället. Rapport R204: 010. Institutet För Tillväxtpolitiska Studier: Östersund.
Johansson, M., 2016. Young women and rural exodus – Swedish experiences. J. Rural Stud. 43, 291–300. Report 2016:13. Karlskrona, Sweden.
Karpestam, P., 2014. Housing, Internal Migration and Economic Growth in Sweden. The Swedish National Board of Housing.
Kuijsten, A.C., 1996. Changing family patterns in europe: a case of divergence? European Journal of Population-Revue Europeenne De Demographie 12, 115–143.
Leidner, R., 1991. Serving hamburgers and selling insurance: gender, work, and identity in interactive service jobs. Gend. Soc. 5 (2), 154–177.
Lesthaege, R., 1995. The second demographic transition in western countries: an interpretation. In: Mason, K.O., Jensen, A.-M. (Eds.), Gender and Family Change in Industrialised Countries. Clarendon Press, Oxford.
Lundholm, E., 2007. Are movers still the same? Characteristics of interregional migrants in Sweden 1970-2001. Tijdschr. Econ. Soc. Geogr. 98 (3), 336–348.
Lusher, L., Yasenov, V., 2018. Gender performance gaps: quasi-experimental evidence on the role of gender differences in sleep cycles. Econ. Inq. 56 (1), 252–262.
Marston, S.T., 1985. Two views of the geographic distribution of unemployment. Q. J. Econ. 100 (1), 57–79.
Muntoni, F., Retelsdorf, J., 2018. Gender-specific teacher expectations in reading—the role of teachers' gender stereotypes. Contemp. Educ. Psychol. 54, 212–220.
Niedomysl, T., Kalso Hansen, H., 2010. What matters more for the decision to move. Jobs versus amenites. *Environment and Planning A* 42, 1636–1649.
North, D.C., 2005. Understanding the Process of Economic Change. Princeton University Press, Princeton and Oxford.
North, D.C., 1990. Institutions, Institutional Change and Economic Performance. Press Syndicatee of the University of Cambridge, Cambridge.
Piore, M.J., 1979. Introduction. In: Piore, M.J. (Ed.), Unemployment and Inflation: Institutionalist and Structuralist Views. White Plains, N. Y.
Reisinger, M.E., 2003. Sectoral shifts and occupational migration in the United States. Prof. Geogr. 55 (3), 383–395.
Roback, J., 1982. Wages, rents, and the quality of life. J. Polit. Econ. 90 (6), 1257–1278.
Roback, J., 1988. Wages, rents, and amenities: differences among workers and regions. Econ. Inq. 26 (1), 23–41.
Sjaastad, L.A., 1962. The costs and returns of human migration. J. Polit. Econ. 70 (5), 80–93.
SKL, 2019. www.skl.se.
Statistics Sweden, [SCB], 1969. Historisk Statistik För Sverige. Del 1. Befolkning. Andra Upplagan. 1720–1967.
Stenbacka, S., 2011. Othering the rural: about the construction of rural masculinities and the unspoken urban hegemonic ideal in Swedish media. J. Rural Stud. 27, 235–244.
Thévenon, O., 2013. Drivers of female labour force participation in the OECD. OECD Social, Employment and Migration Working Papers 145, 1–50.
Williamson, Oliver E., 2000. The new institutional economics: taking stock, looking ahead. J. Econ. Lit. 38 (3), 595–613.

Databases

Eurostat, 2018. Database, Regional Statistics, Population on 1 January by Broad Age Group, Sex and Other Typologies. Downloaded, pp. 10–29.
Statistics Sweden, Longitudinal integration database for health insurance and labour market studies (LISA).
Statistics Sweden. Statistikdatabasen. Befolkning.