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# Welfare Dependency Among Immigrants to Norway: A Panel Data Study of Transfer Shares

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Additional information is available at the end of the chapter

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## Abstract

Using Norwegian panel data, we specify and estimate transfer share equations for immigrants belonging to different subgroups. The share measures how import transfers are relative to a gross income concept incorporating transfers and gross income coming from labor market participation. For both genders, we consider three types of immigrants: refugees, individuals immigrating for reunification with refugees and individuals immigrating because of work. The transfer share for an individual depends on different characteristics of it. The explanatory variables we consider are related to age, duration of stay in Norway, family composition, educational attainment and area of geographical residence in Norway. Unobserved individual-specific heterogeneity is represented by random effects. Of special concern, not at least from a policy point of view, is the effect of duration of stay on the transfer shares. For refugees and individuals reunifying with refugees we find, at least for a substantial number of years, that the transfer share decreases as the duration of stay becomes longer. An essential part of the analysis is that we compare the effects across gender. Among the refugees we find that the effect of duration of stay is quite similar for men and women.

**Keywords:** transfer share, immigrants, reunification, duration of stay, family composition, Norway

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## 1. Introduction

We study self-support and welfare dependency among immigrants to Norway by looking at their transfers from the welfare state as a fraction of their total income, and how this fraction varies with duration of residence in Norway and other characteristics of the immigrants. This is an important issue, as modern economies including Norway are concerned about how immigrants, especially those arriving as refugees or with the purpose of reunifying with refugees, are performing after some years in the host country when it comes to welfare

dependency and self-support. Lack of relevant education and lack of relevant work experience upon arrival in the host country might reduce their labor market opportunities and increase welfare dependency. A fundamental question is then, as time elapses, will they assimilate into the society, increase their labor market participation, reduce their welfare dependency and become more equal to the native population? Or will they become increasingly dependent on the welfare system as they age? There are at least two reasons why this question is often posed. Firstly, one is occupied with the welfare of the immigrants themselves. Participation in the labor market either as employee or employer will tend to make the immigrants better off. Secondly, one is concerned with governmental budgets. If immigrants show a poor ability to assimilate, governmental budgets will be strained, eventually making an increase in taxes or a cut in other governmental expenses necessary. Such a development may change attitudes in the native population toward immigrants with potential implications for the political landscape. Income from the oil and gas industry has been rather important for the Norwegian economy the last decades. Financed with large incomes from the petroleum sector the Norwegian welfare system has boosted, and the welfare system is characterized by a high degree of universality and high levels of income compensation, known as the Scandinavian welfare model. What we are studying here is then the welfare dependency among immigrants living in a country with a generous welfare system. However, in the years ahead incomes from the petroleum sector will decrease. This feature together with an increase in the share of elderly people will no doubt put pressure on the governmental budget. Given this development, governmental expenditure related to immigration should be monitored closely.

Earlier studies of welfare dependency in western countries comprise among others [1–6]. These studies consider different types of immigrants, and host country also differs. Ref. [1] compares how Turkish immigrants or individuals of Turkish descent and natives in Germany perform with respect to welfare dependency. After controlling for compositional heterogeneity, they find that the difference in welfare receipt is statistically significant only for second generation immigrants. They also find that the policy reform in 2005 led to an increase in the welfare use among both immigrants and natives. As is the case with our analysis, [2] focuses on non-Western immigration and the years after 2000. He is occupied with how a boost in the Danish macroeconomy influences assimilation out of welfare dependence and how different policy changes aiming to get immigrants out of welfare, work. An important finding of his study is that a booming economy makes integration of immigrants in the labor market much easier than when the economy is in a recession. The study reports small effects of policy changes intended to increase economic incentives for labor market participation in existing welfare programs. Also, [3] studies the importance of business cycle variation for immigrants' use of welfare benefits. This study is occupied with immigrants from new EU-members to Ireland. By comparing the rates of receipt of welfare for immigrants and natives in Ireland they find that immigrants are more sensitive to business cycle variations, particularly at the outset of the recession, where there is a large increase in the number of immigrants receiving welfare. However, after some time the number of immigrants on welfare seems to stabilize, while there is still an increase in the number of natives on welfare.

Ref. [4] considers the Spanish economy, which is somewhat different from the Norwegian when it comes to eligibility of governmental welfare arrangements. She analyzes how immigrants are

represented in different welfare programs and how this is related to the duration of stay in Spain. Duration is important since a substantial part of the welfare is dependent on a conditioned access to pensions. Mainly due to recently arrived immigrants, benefit intakes among immigrants appear to be lower than among natives. However, the use of unemployment benefit is larger among immigrants with more than 5 years of stay in Spain than among natives. Also, [6] considers the German economy. They make a distinction between eligibility to welfare and the probability of welfare take-up given eligibility. The authors find rather small differences between immigrants and natives with respect to both being eligible for welfare and the probability of take-up given eligibility.

A study of substantial interest to us, as it employs Norwegian data, is [5]. This study considers three outcome measures, (i) employment during the observation year, (ii) log annual earnings and (iii) participation in disability insurance programs. Using longitudinal data from 1970 they find that refugees and family migrants had increasing employment rates the first years in Norway, but after a decade the rates declined and there was an increase in the social insurance rates. Labor migrants from low-income countries showed declining employment rates and increasing disability rates, while labor migrants from rich countries performed as natives. Another issue is related to the wage rate obtained by an immigrant relative to a comparable native citizen. In many countries, one typically finds some form of catching-up effect. As the duration of the stay increases, the discrepancy between the wages earned by immigrants and native citizens decreases.

In contrast to the studies mentioned above, we focus on the transfer share of immigrants, i.e. how important are benefits from the government<sup>1</sup> compared to the income obtained by the immigrant's involvement in the labor market? We are interested in how the transfer share varies with observed characteristics of the immigrants, among them how the transfer share varies with the duration of stay in Norway. Our expectation is that the transfer share decreases when the duration of stay increases due to increased integration in the society. In addition, we consider characteristics such as reason for immigration, level of education and area of geographical residence. We also touch upon how variation in land background affects the transfer share. Initially we distinguish between three world regions, but we also report some additional results where we utilize single country information. To consider that the effects might vary across gender, men and women are treated separately in the analysis.

An advantage of our analysis compared to most other analyses using data for countries outside Scandinavia is that we have access to registry data for the entire population. The analysis is based on (unbalanced) panel data for the years 2000 to 2014. This type of data enables us to follow the individuals over time, and we get a more reliable estimate of the integration effect compared to an analysis using cross sectional data only. Using panel data, we can also take account of unobserved heterogeneity between the observational units. Considering unobserved heterogeneity is particularly important in this type of study since the immigrants have a large variation in cultural background as they are from a wide range of countries. As most of the explanatory variables are time-invariant, we have found it more

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<sup>1</sup>Governmental transfers constitute the lion's share of total transfers to the individuals.

suitable to employ a random effects model than a model with fixed effects. By dividing our data into different subsets according to both gender and reason for immigration in the estimation of the models, we account for systematic variation in the transfer share among different groups of immigrants. Altogether we specify and estimate models for six separate subgroups.

According to our findings, the transfer share is larger among female immigrants than male immigrants. Labor immigrants have a relatively low share of transfers during their first years in Norway, but then the transfer share increases. The pattern is very similar for men and women. Refugees on the other hand have a larger transfer share when immigrating to Norway, but as duration of stay increases, the transfer share is being reduced. Also for this group of immigrants the relationship between the transfer share and duration of stay is quite similar for men and women. The relationship between transfer share and duration of stay for immigrants reunifying with a refugee resembles more the one for refugees than the one for labor immigrants. Having a partner reduces the transfer share, particularly among refugees and immigrants reunifying with a refugee. Higher levels of education are associated with lower levels of transfer shares. Among labor immigrants and refugees the effect of increased education is larger for women than for men except for individuals with low education. For low educated individuals as well as for individuals reunifying with a refugee, we do not find any significant differences across gender in the effect of increased education.

The chapter is organized as follows. Section 2 presents model specifications, while Section 3 presents the data used in the analysis and, also summary statistics. Section 4 presents the results. To reduce the size of the tables and increase the focus of the discussion of the results, we report the results for blocks of explanatory variables in different tables. We also compare the marginal effects across gender in this section, and provide figures for whether the estimated differences are statistically significant. Finally, the main findings are summarized in Section 5.

## 2. Model specifications

We focus on the relationship between the transfer share and the duration of stay by immigrants in Norway. Immigrant groups of special interest are refugees and individuals reunified with refugees. As duration of residence in Norway increases we expect transfers to decrease because the immigrants get better integrated by time. Since there may be a non-linear relationship between the transfer share and duration time, it seems somewhat too rigid to assume a linear relationship between the transfers share and duration time. As a simple non-linear specification, we therefore specify a second order polynomial in duration of stay.

Since we have a comprehensive amount of data at hand, we divide the immigrants into subgroups. An advantage of treating the subgroups separately in the estimations is that one then, implicitly, avoids imposing unwarranted parameter restrictions. Altogether we have 14 groups, brought about by cross-classifying immigrants according to gender and reason for immigration to Norway. **Table 1** provides the number of observations and the number of observation units in each of the subgroups.

Reason for immigration	Gender			
	Men		Women	
	No. of obs.	No. of obs. units	No. of obs.	No. of obs. units
Work	527,333	130,863	162,330	41,491
Refugee	643,583	71,180	400,186	45,377
Reunifying with refugee	84,809	11,518	224,604	25,317
Reunifying with other immigrants	125,692	19,138	297,001	52,660
Education	52,530	14,659	79,515	24,039
Unknown reason	206,919	19,421	182,745	16,639
Other reasons	3726	805	4068	961

**Table 1.** The number of observations and observational units in different subgroups obtained by cross-classifying individuals according to gender and reason for immigration.

Model specifications include a rather long list of explanatory variables, where most of them are either binary or integer variables. They capture age effects, duration of stay effects, world region background effects, educational effects, regional effects, family composition effects and calendar effects. Formally, we may write the equation to be estimated (for a specific subgroup) in the following way

$$TV_{it} = \alpha + C_t\beta + B_i\gamma + D_{it}\lambda + F_{it}\theta + E_{it}\rho + R_{it}\xi + \mu_i + \varepsilon_{it}. \quad (1)$$

The indices  $i$  and  $t$  represent, respectively, individual and year. The left-hand side variable,  $TV_{it}$ , denotes the transfer share variable for individual  $i$  in year  $t$ . It is bounded on the interval from 0 to 1. The symbols  $C_t$ ,  $B_i$ ,  $D_{it}$ ,  $F_{it}$ ,  $E_{it}$  and  $R_{it}$  are all (row) vectors with observed variables. Note that whereas the variables in the vector  $C_t$  are common to all individuals and the variables in the vector  $B_i$  are time-invariant, the variables in the vectors  $D_{it}$ ,  $F_{it}$ ,  $E_{it}$  and  $R_{it}$  vary both across individuals and years. An overview of the detailed content of these vectors are given in **Table 7** in Appendix A, but in short,  $C_t$  includes dummies for calendar year,  $B_i$  includes dummies for world region,  $D_{it}$  can be associated with duration of stay,  $F_{it}$  includes the number of children in different age groups,  $E_{it}$  includes dummies for educational attainment level while  $R_{it}$  includes dummies for regions in Norway. The reason we introduce different symbols for the vectors  $D_{it}$ ,  $F_{it}$ ,  $E_{it}$  and  $R_{it}$  is that we present the estimates of the effect of these variables in separate tables. The symbol  $\alpha$  denotes an intercept, whereas  $\beta$ ,  $\gamma$ ,  $\lambda$ ,  $\theta$ ,  $\rho$  and  $\xi$  are (column) vectors with unknown slope parameters. The two last symbols on the right-hand side of Eq. (1) are an individual-specific random effect ( $\mu_i$ ) and a genuine error term ( $\varepsilon_{it}$ ), which is assumed to be white noise. Both the terms have expectation equal to zero and their variances are constant for all  $i$  and  $t$ . Since not all observational units, i.e. individuals, are observed every year, we have an unbalanced panel data set. Eq. (1) is estimated by means of feasible GLS. Since an interesting question is whether males and females respond differently to explanatory variables, we also derive differences in parameter estimates between the two genders and assess

their significance. Under the assumption that the data used in the two involved regressions are from independent populations, we calculate the  $t$ -value of an estimated difference by dividing it by the square root of the sum of the estimated variances of the two estimated slope parameters which enter the difference.

Using panel data, it is possible to account for time-invariant individual-specific unobserved heterogeneity. This is usually done by either including fixed effects or random effects in the regression equation. The reason we have chosen to apply a random effects specification, based on the assumption that the random effects are uncorrelated with all the incorporated regressors, is that there is an identification problem in fixed effects models with explanatory variables which are either time-invariant or close to being so. The effects of time-invariant variables are not identified in fixed effects models without imposing additional restrictions. In this chapter we have a special focus on how duration of stay impacts the transfer share. Since age is present in the regression and duration of stay is identical to the individual's age, less his age when immigrating to Norway, the (linear) effect of duration of stay is not identified in the fixed effects model. Also, the educational variables and the variables capturing region in Norway vary little for a specific individual. Thus, even if these variables are not strictly time-invariant, the parameter estimates of them may be doubtful. To solve this problem, some researchers are using a so-called fixed effects vector decomposition estimator to identify the effects of time-invariant regressor in a fixed effects environment. They first run a fixed effects regression using only explanatory variables that vary both across time and across individuals. Then they estimate a regression where fitted fixed effects are regressed on time-invariant variables and the individual-specific mean of variables varying both across time and across observation units. However, as ascertained by ([7], pp. 364–370) such a procedure only works when some of the regressors are uncorrelated with the random effects, cf. for instance [8].<sup>2</sup>

### 3. Data

The basic data sets used in this analysis are the population registries covering the total Norwegian population for the years 2000–2014. These data include information about all immigrants to Norway, their country of birth, year of first arrival to Norway, municipality and the number of children in different age groups (0–4, 4–6, 7–18). In the selection of the data we only include immigrants from the non-Nordic countries. More precisely, we have excluded people born in Norway with at least one parent born abroad, and in addition people born abroad with at least one parent born in Norway. For an individual to be included in the data in a specific year, we check whether the individual is included in the population file at the end of that year. Due to return migration, an individual might be included in the data set for some years, then he might be missing in the data set due to migration from Norway, before he

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<sup>2</sup>We have run the Hausman-test to test the random effects model against the fixed effects model using only the regressors that are identified in the fixed effects case. It gave rejection in all cases. According to our experience this is very common when one has a large data set at hand, which also is the case in our analysis.

eventually appears in the dataset again because of having returned to Norway. The sample size also varies across years due to inflow of new immigrants.

We operate with three groups of countries. The first group consists of all countries in Western-Europe with the addition of Canada, United States, Australia and New Zealand. The second group consists of the new EU-members, i.e. the 11 countries in Eastern Europe which have become members since May 2004. These countries are Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. The third group consists of all countries which are not included in group 1 and group 2, that is, countries in the rest of Eastern Europe, Africa, Asia (including Turkey), Latin-America and the countries in Oceania except Australia and New Zealand. This way of grouping the countries corresponds to the one used in the official Norwegian population projections.

The sample is also constrained to include only persons aged 19–64 years. The lower age limit excludes children from the analysis, while the upper age limit excludes many persons that might retire from the labor market due to old age pension. For persons aged 62–66 years in our sample there is a difference in the early retirement system between those employed in the public and the private sector of the labor market. Under certain conditions related to work history, persons in the public sector can withdraw from the labor market on early retirement pension when they become 62 years. In the private sector only a fraction of the firms has early retirement schemes. Almost all persons in Norway get ordinary old age pension from the age of 67.

To the unbalanced panel data set described above we have linked the Norwegian income registries with information about the persons' total income as well as total transfers, both measured before income taxation. From these variables, we can, for all individuals in the sample, calculate the fraction between income transfers and total income, i.e., the main variable of this analysis. Total income and total transfers are based on detailed information from the tax assessment, and they are constructed by Statistics Norway to ensure time consistency in the definition. Total income is a gross income measure that includes wages, incomes from self-employment, income transfers as well as gross capital incomes. Interest expenses on debt are excluded. Income transfers on the other hand include both taxable and non-taxable transfers. Among the taxable transfers, the most important ones from our point of view are the disability benefit, the work assessment allowance, unemployment benefit, sickness benefit, parental benefit, qualification benefit and introduction benefit. The parental benefit is intended to ensure parents an income when giving birth or adopting a child. Qualification benefit is for those that require extra follow-up to participate in the labor market. The introduction benefit is a payment for people with a refugee background participating in the introductory program.

Among the non-taxable benefits we find child benefit, housing allowance, scholarship of education including a specific grant for refugees in upper secondary education, social benefits and a cash-for-care benefit. The cash-for-care benefit is an income transfer received by the family if the child is between the ages of 1 and 2 and does not attend a government subsidized kindergarten. In most cases it is the mother that receives the transfer, but if the parents have shared parenting, special rules apply. The benefit has been debated frequently, last time during the parliamentary elections in the autumn of 2017, where it was argued that it provides disincentives for female immigrants from participating in the labor market.

In addition to the variables described above, we have also included information about the individuals' highest level of education from the Norwegian educational database (NUDB). Based on this information we have constructed nine dummies representing different educational achievement measured in years, cf. **Table 4** for an overview of the levels. NUDB also yields information about ongoing educational activity, and based on this information we have constructed a dummy variable for being enrolled in education. The values of all these educational dummies for a specific individual may vary over time, in view of changes in education status.

The regional variables reflecting centrality are based on the Standard for centrality in Statistics Norway.<sup>3</sup> This standard classifies the municipalities into 7 levels of centrality, see lower part of **Table 9** in Appendix A, based on traveling time from the municipality to the nearest regional center.

Duration of stay (residence) in Norway is calculated as the number of years since first arrival year to Norway. Observations with duration of stay less than 1 year are omitted from the sample as it takes some time to settle in the country. Adult persons with the same family number in the population registries are classified as having a partner. As these registries do not include information about family members in the country of origin, persons might be classified as not having a partner even if they have one in the country of origin.

**Table 1** in the main text and **Tables 8** and **9** in Appendix A show detailed summary statistics for the sample. In the empirical analysis, we focus on three groups of immigrants, those coming to Norway for work, refugees and those reunifying with refugees. A specific feature of our data is that we can distinguish between those reunifying with refugees and other reunifying immigrants. This distinction is important as there are differences in the transfer share between these two groups. According to **Table 1**, fourth column, family immigration is an important reason for immigration among females, and one out of three is reunifying with a refugee. **Table 1** also shows that there are important differences across gender in the reason for immigrating to Norway. While work is the dominating reason for immigration among men, there is a much more even distribution for women. However, escape is an important reason for immigration for both genders. Another interesting feature of **Table 1** is that while the fraction between the number of observations and the number of observation units is about 4 for labor immigrants, the fraction is about 9 for refugees. This difference indicates that duration of stay in Norway is much higher for refugees than for work immigrants in our sample. The main reason for this difference is that most labor immigration to Norway has taken place after the expansion of the European union in 2004.

**Table 8** in Appendix A shows the distribution of the transfer share variable – the main variable of our analysis – and how the distribution evolves over time for three different sub-periods during the years 2000–2014. To identify the quartiles, we order the observations for a specific period according to the size of the transfer share. The first quartile is the transfer share of the observation that lies 25% up from the bottom of the distribution, that is, 25% of the

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<sup>3</sup>See <http://www.ssb.no/klasse/klassifikasjoner/128>.

observations have a lower transfer share than the observation we are considering. For the second and third quartiles, the percentages are 50 and 75, respectively. Per definition the second quartile coincides with the median value. From the table, we notice that there is a big difference in the transfer share for females and males, particularly among individuals who are reunifying with a refugee. For labor immigrants, the difference across gender is much smaller.

We also find that the transfer share is smaller among labor immigrants than for the two other groups, which have some connection with escape. A potential explanation for this finding is that many refugees might struggle with inferior health due to the situation in their country of origin. However, looking at the mean values for the three sub-periods, we notice that while the mean transfer has increased from 2000 to 2004 to 2010–2014 among labor immigrants, the mean transfer share is almost unchanged among refugees and immigrants reunifying with a refugee. Among labor immigrants the mean transfer share was lower during the period 2005–2009 than for the other two periods in the table.

**Table 9** in Appendix A shows the distribution of the other variables used in the analysis. As also noted above, mean duration of stay is much longer among refugees and individuals reunifying with a refugee compared to labor immigrants. For individuals with a connection to escape there is also a significant increase in duration of stay from the period 2000–2004 to 2010–2014.

Looking at the section in the middle of **Table 9**, we notice that particularly among labor immigrants but also immigrants reunifying with refugees, educational information is missing for a relatively large share of the immigrants. About one out of three female refugees and males and females reunifying with refugees only have upper secondary, basic education. Among labor immigrants the educational level is a bit higher, particularly among the females. Most immigrants live in Oslo, the capital city of Norway, but there are also large fractions in regional metropolises and other regional centers. About one out of three labor immigrants live with a partner in Norway, while the fraction is about one out of two among most of the other groups.

#### 4. Empirical results

Instead of reporting all estimated parameters for a subgroup in a single table, we report estimates of slope parameters of blocks of explanatory variables in different tables for selected subgroups. The estimates related to age and duration of stay are reported in **Table 2**, the estimates related to family composition variables are reported in **Table 3** while the estimates related to educational variables are reported in **Table 4**. The estimates related to regional variables are reported in **Table 5**. These tables also include figures for the differences in the estimated marginal effects across gender and the precision of these estimates. Finally, in **Table 6** we report estimated country of birth effects when we only employ data from world region 3.<sup>4</sup>

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<sup>4</sup>In addition, all models contain a constant term, annual dummies for all the years except the initial year in the sample and, where relevant, two land background variables. To save space estimates of the effects of these additional variables are not reported.

Variable	Male		Female		Difference	
	Estimate	<i>t</i> -value	Estimate	<i>t</i> -value	Estimate	<i>t</i> -value
Work						
Age	0.002	37.1	0.000	4.2	0.001	11.1
Duration of stay	0.009	36.3	0.009	17.8	-0.000	-0.3
Duration of stay squared divided by 100	-0.032	-21.7	-0.035	-11.7	0.003	0.8
Refugee						
Age	0.010	87.4	0.009	67.9	0.002	10.5
Duration of stay	-0.037	-147.0	-0.038	-130.3	0.002	4.0
Duration of stay squared divided by 100	0.076	111.6	0.080	97.6	-0.003	-3.3
Reunifying with refugee						
Age	0.005	18.5	0.007	36.0	-0.002	-5.8
Duration of stay	-0.014	-19.2	-0.037	-75.1	0.023	26.1
Duration of stay squared divided by 100	0.030	12.9	0.083	52.8	-0.054	-19.3

<sup>a</sup>The table shows results for six separate regression. In the two last columns we report, respectively, the estimate for men less the estimate for women and the *t*-value of this estimated difference.

**Table 2.** Feasible GLS estimates related to age and duration of stay in a random effects model for transfer share.<sup>a</sup>

Given the scope of the article our analysis will only involve the following six subgroups: Male work immigrant, Female work immigrant, Male refugee, Female refugee, Male immigrant reunifying with female refugee and Female immigrant reunifying with male refugee. Male workers and male refugees constitute the two groups with most observations. Males reunified with female refugees constitutes the smallest group. In **Table 10** in Appendix A we report the estimates of the variances of the random effect and the genuine error term, respectively. The last row in the table shows the ratio between the estimates of the two variances. It varies between 0.5 and 1.2 and is somewhat higher for those coming as refugees or for reunification with refugees compared to those that state work as the reason for immigration.

**Table 2** reports the estimates of the slope parameters attached to age and the two variables representing duration of stay, which is of great interest, for males and females, respectively. The transfer share is specified as linear in age but quadratic in duration of stay to capture that the marginal effect might vary with duration. All estimates turned out as statistically significant. Generally, the transfer share increases with age, but somewhat more for refugees and individuals coming to Norway because of reunification with refugees than for those coming because of work. Focusing on the effect of duration of stay, we find that for refugees, the transfer share decreases for a long period with the duration of stay, but at a decreasing rate. In contrast, for immigrants coming because of work the transfer share increases with duration of stay, but at a decreasing rate. In [9] it is shown that immigrants with relation to escape have particularly low self-support fractions when considering income from work, especially among females. On the other hand, female work immigrants are self-supported to the same degree as male work immigrants.

Variable	Male		Female		Difference	
	Est.	<i>t</i> -value	Est.	<i>t</i> -value	Est.	<i>t</i> -value
Work						
No. of children aged 0–3 years	0.017	15.3	0.106	82.3	−0.091	−56.9
No. of children aged 4–6 years	0.011	9.7	0.048	27.3	−0.038	−18.1
No. of children aged 7–18 years	0.007	9.7	0.041	31.7	−0.034	−22.7
Partner	−0.024	−22.6	−0.003	−2.0	−0.020	−10.1
Refugee						
No. of children aged 0–3 years	0.032	32.2	0.122	118.5	−0.090	63.3
No. of children aged 4–6 years	0.024	23.0	0.066	61.4	−0.043	−28.4
No. of children aged 7–18 years	−0.000	−0.05	0.014	24.0	−0.014	−17.3
Partner	−0.066	−42.9	−0.102	−62.2	0.037	16.4
Reunifying with refugee						
No. of children aged 0–3 years	0.017	6.7	0.138	110.4	−0.122	−44.0
No. of children aged 4–6 years	0.019	6.6	0.068	52.2	−0.049	−15.7
No. of children aged 7–18 years	0.013	6.9	0.028	32.2	−0.015	−7.1
Partner	−0.090	−23.5	−0.119	−51.7	0.029	6.6

<sup>a</sup>The table shows results for six separate regression. In the two last columns we report, respectively, the estimate for men less the estimate for women and the *t*-value of this estimated difference.

**Table 3.** Feasible GLS estimates related to family composition variables in a random effects model for transfer share.<sup>a</sup>

To compare the effects across gender, we present the differences in the marginal effects and the corresponding *t*-value in columns 5 and 6 of the table. Looking first at the marginal effect of age, we notice that there is a statistically significant difference across gender, but the difference is quite small for all three groups. For labor immigrants and refugees the marginal effect of age is somewhat larger for men than for women, while for persons reunifying with a refugee, the age effect is larger for women than for men.

The differences across gender are more complex when we look at the effect of duration of stay. For labor immigrants we find no significant differences. The parameter estimates are practically the same, and the *t*-values indicate that the differences are not statistically significant.

Also among refugees the effect of duration of stay is quite similar for men and women, but for this group the difference is statistically significant. However, for persons reunifying with a refugee, the difference is larger. For both men and women, the transfer share decreases with duration of stay, but the decrease is larger among women than among men.

In **Table 3** we report estimates related to family composition variables. The message from the table seems clear. An additional child in either of the age intervals increases the transfer share. The only exception is related to the number of children in the oldest age group for refugee men, which does not affect the transfer share. Generally, the younger an additional child is, the

larger is the increase in the transfer share. An explanation for this finding is that many women work part-time when the children are young. Another explanation is that parents who do not use child care in child care centers get a cash for care if the child is less than 2 years. In addition, there is a child allowance that is generally proportional to the number of children aged less than 17 years. Also note that more children increase the transfer share for individuals who have come to Norway for work, but that the estimated effect for these two groups is significantly smaller than for refugee immigrants and immigrants coming to Norway for reunification with refugees. By comparing the estimates across gender, we notice that the effects are higher among women than men. We also find that the younger the children are, the larger is the difference between men and women in the effect of having an additional child. These findings are due to the fact that many women reduce their labor market participation when they are having children.

**Table 3** also shows the effect on the transfer share of having a married or cohabiting partner. Having a partner reduces the transfer share. This holds for all six groups, but again the effect is larger for refugees and immigrants being reunified with their family than for immigrants having come to Norway because of work. The effect of having a partner is also significantly different across gender. For labor immigrants the effect is larger among men than for women, while for refugees and persons reunifying with a refugee, the effect is larger for women than for men.

**Table 4** shows how variation in educational attainment influences the transfer share for the six subgroups. The reference group is constituted by immigrants without any formal and registered education and the estimates of the other educational categories provide information about how these perform relative to the reference category. Initially, we concentrate on refugees and immigrants reunified with refugees. For all four subgroups, the reference category has the highest transfer share when the individuals are assumed equal with respect to all other observed variables. The estimated differences when comparing with the reference group are all statistically significant at the 5% significance level. Note especially that, according to our

Variable	Male		Female		Difference	
	Est.	<i>t</i> -value	Est.	<i>t</i> -value	Est.	<i>t</i> -value
Work						
Primary education	0.025	2.3	0.015	0.6	0.010	0.3
Lower secondary education	0.008	1.1	-0.001	-0.06	0.010	0.5
Upper secondary, basic education	-0.021	-2.6	-0.063	-3.3	0.042	2.0
Upper secondary, final year	-0.023	-3.0	-0.061	-3.4	0.037	1.9
Post-secondary, not higher education	-0.002	-0.2	-0.058	-2.6	0.056	2.2
First stage of higher education, undergraduate level	-0.028	-3.5	-0.087	-4.8	0.059	3.0
First stage of higher edu., grad. level	-0.048	-6.0	-0.107	-6.0	0.159	3.0
Second stage of higher education, postgraduate education	-0.031	-3.7	-0.086	-4.7	0.055	2.7
Unspecified education	-0.014	-1.8	-0.067	-3.8	0.053	2.7
Enrolled in education	0.091	43.3	0.083	33.2	0.007	2.3

Variable	Male		Female		Difference	
	Est.	<i>t</i> -value	Est.	<i>t</i> -value	Est.	<i>t</i> -value
Refugee						
Primary education	-0.018	-2.7	-0.025	-4.1	0.007	0.8
Lower secondary education	-0.089	-15.2	-0.094	-18.7	0.004	0.6
Upper secondary, basic education	-0.119	-15.0	-0.128	-15.3	0.009	0.8
Upper secondary, final year	-0.164	-27.0	-0.225	-42.8	0.061	7.6
Post-secondary, not higher education	-0.141	-16.4	-0.198	-20.1	0.057	4.4
First stage of higher education, undergraduate level	-0.200	-32.3	-0.296	-53.8	0.096	11.6
First stage of higher edu., grad. level	-0.279	-40.0	-0.389	-55.3	0.110	11.1
Second stage of higher education, postgraduate education	-0.235	-17.2	-0.337	-17.5	0.102	4.3
Unspecified education	-0.067	-10.7	-0.049	-8.9	-0.018	-2.2
Enrolled in education	0.150	99.1	0.111	70.3	0.039	17.6
Refugee						
Primary education	-0.074	-2.5	-0.033	-2.7	-0.041	-1.3
Lower secondary education	-0.101	-4.2	-0.136	-15.1	0.035	1.4
Upper secondary, basic education	-0.175	-5.8	-0.149	-11.3	-0.026	-0.8
Upper secondary, final year	-0.199	-8.2	-0.223	-23.9	0.024	0.9
Post-secondary, not higher education	-0.151	-5.2	-0.194	-11.9	0.042	1.3
First stage of higher education, undergraduate level	-0.264	-10.7	-0.267	27.8	0.003	0.1
First stage of higher edu., grad. level	-0.326	-12.3	-0.351	-29.0	0.025	0.9
Second stage of higher education, postgraduate education	-0.192	-4.3	-0.249	-8.7	0.057	1.1
Unspecified education	-0.105	-4.3	-0.094	-10.3	-0.010	-0.4
Enrolled in education	0.153	42.4	0.133	58.2	0.020	4.7

<sup>a</sup>The table shows results for six separate regression. In the two last columns we report, respectively, the estimate for men less the estimate for women and the *t*-value of this estimated difference.

**Table 4.** Feasible GLS estimates related to educational variables in a random effects model for transfer share.<sup>a</sup>

estimation results, also immigrants with unspecified education have lower transfer shares than those without education. This suggests that immigrants with unspecified education also include individuals with some education. There is a clear tendency that higher level of education goes along with lower transfer shares. For all four subgroups, it is the case that the lowest transfer share is found for immigrants with first stage of higher graduate education, graduate level. There is some variation between the subgroups when it comes to which educational category has the second lowest transfer share. For refugees of both gender this is those with second stage of higher education, graduate level, whereas for immigrants, of both gender, who are reunified with refugees those with first stage of higher education, undergraduate level, have the second lowest transfer share. Furthermore, for all four subgroups, immigrants with

post-secondary, not higher education have a significant lower transfer share than immigrants with some type of secondary education.

If we compare the effects across gender, we find that the effect of educational achievement compared to not having any formal education is not significantly different for any education level among persons reunifying with a refugee. For refugees we find another pattern. For these individuals the effect of getting additional education is significantly different across gender for most groups, except for those with very low education. Compared to the reference group, women benefit more from having additional education than men according to our estimation results.

Let us now turn to those individuals who have immigrated to Norway because of work. Also for these subgroups there is a tendency that higher education goes along with lower transfer shares. However, for both genders, we find no statistically significant difference between those with lower secondary education, primary education and those belonging to the reference category, which consists of those without any formal education. For those with unspecified education, we only find a significant difference for women. As for refugees and immigrants the educational category with the lowest transfer share is first stage of higher education, graduate level. For both genders the transfer shares for those with either first stage of higher education, undergraduate level or second stage of higher education, postgraduate education seem rather equal and they are somewhat higher than for those with the lowest transfer share. For women, there is little difference between those with some type of secondary education and post-secondary, not higher education. However, the three categories have significantly lower transfer shares than the reference category. For men, this only holds true for those with some type of secondary education, whereas those with post-secondary, not higher education, do not have a transfer share that is statistically different from those without any education, who belong to the reference category.

Also for labor immigrants we find that the effect of educational achievement on the transfer share varies systematically across gender. As for the refugees, the difference is most pronounced among individuals with higher education, and in particular among individuals with first stage of higher education, graduate level.

**Table 4** also reports the estimate of the effect of the binary variable indicating whether the individual is enrolled in education. Being enrolled in education goes along with a higher transfer share. This is the case for all six subgroups. However, the estimated effect is somewhat smaller for those who have stated work as their reason for coming to Norway than for those coming as refugees or for reunification with refugees. Again, the effect is higher among women than men, in particular among refugees but also among individuals reunifying with a refugee.

**Table 5** shows how regional variables related to traveling distance to the nearest regional center and the existence of a university in the region influence immigrants' transfer share. One might suspect that the probability of finding an appropriate job varies systematically with population density in different regions, and that this might influence wage incomes and unemployment benefits received by immigrants. Immigrants living in the capital city constitute the reference group and the signs of the reported estimates hence indicate whether the transfer share of an individual living in one of the indicated regions, listed in the text column, is larger or smaller than for individuals living in the capital city, controlling for all other

Variable	Male		Female		Difference	
	Est.	<i>t</i> -value	Est.	<i>t</i> -value	Est.	<i>t</i> -value
Work						
Regional metropolises	-0.017	-16.3	-0.020	-8.7	0.003	1.1
Regional centers with a university	-0.021	-6.3	-0.023	-3.8	0.002	0.4
Other regional centers	0.006	5.6	0.014	5.9	-0.008	-3.1
Medium-sized towns and regions	0.007	4.3	0.015	4.2	-0.008	-2.0
Small labor areas	-0.007	-3.8	-0.001	-0.3	-0.005	-1.3
Micro labor areas	-0.009	-6.9	-0.013	-4.7	0.004	1.2
Refugee						
Regional metropolises	0.015	6.1	-0.005	-1.5	0.020	5.0
Regional centers with a university	-0.046	-6.3	-0.031	-3.3	-0.015	-1.3
Other regional centers	0.046	23.0	0.028	11.8	0.018	5.8
Medium-sized towns and regions	0.043	13.9	0.033	9.2	0.010	2.0
Small labor areas	0.020	5.7	0.012	2.7	0.009	1.6
Micro labor areas	-0.002	-0.7	-0.035	-10.0	0.033	7.4
Reunifying with refugee						
Regional metropolises	0.007	1.1	0.001	0.3	0.005	0.7
Regional centers with a university	-0.044	-2.3	-0.064	-4.3	0.020	0.8
Other regional centers	0.027	5.3	0.020	5.9	0.007	1.1
Medium-sized towns and regions	0.040	4.7	0.016	2.8	0.024	2.4
Small labor areas	0.047	4.4	0.018	2.6	0.030	2.3
Micro labor areas	-0.009	-1.0	-0.035	-6.3	0.026	2.5

<sup>a</sup>The table shows results for six separate regression. In the two last columns we report, respectively, the estimate for men less the estimate for women and the *t*-value of this estimated difference.

**Table 5.** Feasible GLS estimates related to regional variables in a random effects model for transfer share.<sup>a</sup>

observed variables. Let us first concentrate on the four subgroups constituted by refugees and immigrants who have come to Norway because of reunification. For regional metropolises, we find only one significant difference when comparing with immigrants living in the capital city. Males reunified with female immigrants in this area have a significantly higher transfer share than similar individuals living in the capital city. For all four subgroups, we find that living in regional centers with a university yields a significantly lower transfer share than living in the capital city. Immigrants in the four mentioned subgroups living in other regional centers, medium-sized towns and regions and small labor areas have a higher transfer share than those living in the capital city, but in view of how large the data sets are, the significance of the estimated differences cannot be said to be overwhelming compared with the capital city. Looking at the most rural areas, i.e., micro labor areas, we find no significant difference for

male refugees and males who have come to Norway because of family reunification compared to similar individuals living in the capital city. In contrast, for the two corresponding female subgroups we find that the transfer share is significantly lower in these areas than for similar women living in the capital city.

By comparing the effects of regional variables across gender the overall impression is that the effect of not residing in the capital city is smaller among females than males, but 40% of the differences are not statistically significant. Among individuals reunifying with a refugee the difference across gender is larger in smaller areas compared to bigger ones. For refugees the results are more mixed.

For male and female immigrants who have immigrated to Norway because of work, the empirical results related to regionality differ, to some extent, from those found for the four other subgroups related to refugees and reunifications with refugees. For both genders, we find that the transfer share is significantly lower for an individual living in regional metropolises than for a similar individual living in the capital city. In four out of six cases the difference across gender is not statistically significant. For regional centers and medium-sized towns and regions we find, qualitatively, the same types of effects for labor immigrants as for the four other subgroups, but the magnitude of the effects (in absolute values) is generally smaller. For small labor areas, we only find a significant effect for male immigrants. In contrast to male refugees and males who have come to Norway for reunification with female refugees, male immigrants who have immigrated because of work have a significantly smaller transfer share than similar male immigrants living in the capital city.

In total, these findings indicate that there is large heterogeneity in the effects of the regional variables on the transfer rate. Note, however, that the estimates might not reflect causal effects. The effects we find might equally well be associated with selection when it comes to immigrants' choice of residents. If there is systematic variation among different groups of immigrants in their propensity of moving to different areas within the country, this variation might explain our findings.

So far, we have represented land background with world region dummies, where we have divided the world into three parts. However, since we have information on the land background of each immigrant a more detailed analysis is feasible. In the following we only employ data for world region 3 and consider the four subgroups consisting of refugees of both gender and individuals of both gender reunifying with refugees. We employ a specification which resembles the one given by Eq. (1). What is different is that the world region dummies are removed and thereafter the specification is augmented by country dummies for the most important ones when it comes to the number of immigrants that have emigrated to Norway as refugees or for reunification with refugees. The countries we consider are Russia, Ethiopia, Chile, Sri Lanka, Kosovo,<sup>5</sup> Eritrea, Afghanistan, Bosnia-Herzegovina, Vietnam, Iran, Iraq and Somalia. All other countries are captured by the intercept of the equations to be estimated. The indicated countries represent, for both genders, about 83.3% of the total number of observations for refugees from world region 3. For immigrants reunifying with refugees the shares are, respectively, 69.4 and 76.7% for males and females.

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<sup>5</sup>Kosovo is a disputed territory and partially recognized state in Southeastern Europe that declared independence from Serbia in February 2008 as the Republic of Kosovo.

In **Table 6** we report estimates of country-specific effects using the model specification outlined above. Recall that these estimates must be interpreted relative to the estimated intercepts, which are also reported in **Table 6**. A negative estimate implies that the individuals from the indicated country, on average, has a lower level of transfer share than the reference category, whereas a positive estimate means that the indicated country has a higher transfer

Country	Refugee		Reunifying with refugee	
	Male	Female	Male	Female
Constant term	0.356 (46.668)	0.517 (68.712)	0.258 (9.818)	0.547 (45.962)
Russia	-0.023 (-2.719)	-0.032 (-4.039)	0.024 (0.853)	-0.124 (-7.235)
Ethiopia	-0.060 (-7.586)	-0.090 (-11.163)	0.057 (3.383)	-0.112 (-9.400)
Chile	-0.121 (-15.968)	-0.022 (-2.630)	-0.063 (-4.394)	-0.128 (-11.735)
Sri Lanka	-0.157 (-25.403)	-0.085 (-8.588)	-0.073 (-5.527)	-0.128 (-19.659)
Kosovo	-0.081 (-14.112)	0.006 (0.989)	-0.051 (-4.108)	-0.081 (-8.096)
Eritrea	0.048 (8.499)	-0.022 (-3.501)	0.223 (11.471)	-0.020 (-1.605)
Bosnia-Herzeg.	-0.116 (-21.864)	0.054 (7.166)	0.032 (2.312)	0.066 (7.991)
Afghanistan	-0.105 (-20.139)	-0.094 (-17.716)	-0.100 (-6.364)	-0.183 (-15.521)
Vietnam	-0.085 (-14.618)	-0.038 (-5.933)	-0.041 (-3.720)	-0.162 (-23.576)
Iran	0.005 (1.075)	0.027 (4.758)	0.055 (4.074)	-0.066 (-8.562)
Iraq	-0.008 (-1.952)	0.092 (15.825)	0.085 (9.153)	0.051 (9.142)
Somalia	0.071 (16.074)	0.093 (18.739)	0.257 (30.741)	0.103 (15.943)
No. of obs.	624,202	82,022	382,902	216,972

<sup>a</sup>*t*-values in parentheses. The models also include controls for age, duration of stay, family composition, educational attainment level, educational enrolment, area of geographic residence in Norway and year dummies.

**Table 6.** Estimates of country-specific effects in transfer share equations using data from world region 3.<sup>a</sup>

level than the reference category when controlling for differences in observed characteristics and random effects. If one for instance look at male refugees we find that immigrants from Somalia have 7% point higher transfer share than the reference category when one controls for observed characteristics and with random effects set to zero. Besides Somalia, there is one more country with a significant positive estimate of the country effect among men, namely Eritrea. Looking at female refugees, the countries with significant positive estimated country effects are in descending order Somalia, Iraq, Bosnia-Herzegovina and Iran. It is natural to associate these results with cultural factors, since it is well known that women in these countries have low participation rates in the labor market. Also for males emigrating to Norway for reunification with female refugees, Somalia and Eritrea are the two countries with the highest estimated country effects. Other countries with positive and significant country effects are in descending order Iraq, Ethiopia, Iran and Bosnia- Herzegovina. Finally, we consider female immigrants reunifying with male immigrants. For this subgroup, there are three countries with positive and significant estimated country effects. These are in descending order Somalia, Bosnia-Herzegovina and Iraq.

## 5. Concluding remarks

We have analyzed the transfer share among non-Nordic immigrants coming to Norway during the period 2000–2014 and how it evolves with duration of stay in Norway and is related to other characteristics of them. For labor immigrants, we find that the transfer share increases with duration of stay, but at a decreasing rate. This means that while labor immigrants have low transfer shares during their first years in Norway, there is an increase in the transfer share as duration of stay increases. A possible explanation for this finding is that there is a selection effect going on when the labor immigrants come to Norway for the first time as only the healthy immigrants come to Norway for work. Refugees on the other hand, have a high transfer share initially, but after having spent some time in Norway, they become more integrated into the society and the labor market, and then the transfer share is being reduced. For both labor immigrants and refugees the integration process with respect to the transfer share seems to be quite similar for men and women as we do not find any important differences across gender in the effect of increased duration of stay.

A special feature of our data is that we can identify persons reunifying with a refugee. This group of immigrants has the same pattern with respect to duration of stay as refugees. As duration of stay increases, there is a decrease in the transfer share, and the reduction is larger among female immigrants compared to males. Having a partner, reduces the transfer share both for refugees and immigrants reunifying with a refugee, while the effect is smaller but of the same sign for labor immigrants.

Our model specifications implicitly assume that the parameters reflecting the effects of the covariates are constant over time. If there are significant changes in the labor market or in the social security system, this assumption might not hold. In Norway, there was a change in the social security system as of 2010. This year three different transfers related to rehabilitation, vocational training and a duration constrained disability benefit were replaced by one single

transfer, i.e., the work assessment allowance. The reform was introduced to reduce welfare dependency and increase labor market participation. It is not clear to us whether this change implied a change in the transfers towards the groups we are analyzing, but it is well known that the outflow from the work assessment program has been slower than assumed initially when the arrangement was introduced.

A common feature of many analyses of welfare dependency and self-support is that the unit of analysis is the individual and not the family. Many immigrants are from countries with a much more unequal division of household work and market work between husband and wife than what is the case in Norway and many other European countries. In this case, we would expect to find a small transfer share for the family member in paid work and a larger share for the family member involved in household work. Due to lack of income from paid work, the transfer share might be quite large even if the transfer level is quite low for this individual, who is often a woman. Then the transfer share is not a good measure of self-support as many women caring for their family are supported by their male partner. This problem calls for studies of self-support that treat the family as the relevant unit of analysis. From an empirical point of view there are, however, several issues related to this type of analysis. Most importantly, it requires data about family formation and other types of data for both family members. Another issue is that the family is a dynamic arrangement involving family formation and family dissolution. This issue complicates analyses of self-support at the family level as the family unit may change over time.

## Acknowledgements

We thank Marianne Tønnessen for valuable comments.

## Appendix A

See Tables 7–10.

Vectors of explanatory variables	A description of the content of the vectors in the text column
$C_t$	Year dummies for each of the years from 2001 to 2014. Altogether 14 variables. The binary variable for year $t$ is 1 if the observation is from year $t$ , otherwise zero. <sup>a</sup>
$B_i$	Two dummies for world regions 2 and 3, respectively. The dummy for world region $j$ is 1 if the individual is from area $j$ , otherwise zero. <sup>b</sup>
$D_{it}$	The vector contains three variables. The first (integer) variable is, simply, the age of individual $i$ in year $t$ . The second (integer) variable is the duration of stay for individual $i$ in year $t$ . The third variable is the square of the second variable divided by 100.
$F_{it}$	The vector contains four variables, whereof the first three are integer variables and the last one a binary variable. The first three contain information on the number of children aged, respectively, 0–3 years, 4–6 years and 7–18 years. The last variable takes the value 1 if the individual has a partner, otherwise zero.

Vectors of explanatory variables	A description of the content of the vectors in the text column
$E_{it}$	There are nine dummy variables related to education. The first eight of them are related to what is the individual's highest level of completed education. The following classification is employed: (1) Primary education, (2) Lower secondary education, (3) Upper secondary, basic education, (4) Upper secondary, final year education, (5) First stage of higher education, undergraduate level, (6) First stage of higher education, graduate level, (7). Second stage of higher education (postgraduate education) and (8) Unspecified education. If individual $i$ in year $t$ has primary education as the highest completed education, the dummy variable for Primary education will be 1, whereas all other seven dummy variables will be zero. Other constellations are defined in an analogous way. <sup>c</sup> The ninth dummy variable takes the value 1 if the individual is enrolled in education, and otherwise zero.
$R_{it}$	There are six dummy variables related to regions, where the individuals reside. The following classification is employed: (1) Regional metropolises, (2) Regional centers with a university, (3) Other regional centers, (4) Medium-sized towns and regions, (5) Small labor areas and (6) Micro labor areas. If individual $i$ in year $t$ resides in a regional metropolis the dummy variable for Regional metropolises takes the value 1, whereas all the other regional dummy variables take the value 0. Other constellations are defined in an analogous way. <sup>d</sup>

<sup>a</sup>The dummy variable for the year 2000 has been omitted to avoid perfect co-linearity.  
<sup>b</sup>The dummy variable for area 1 has been omitted to avoid perfect co-linearity.  
<sup>c</sup>The dummy variable for those with zero education has been omitted to avoid perfect co-linearity.  
<sup>d</sup>The dummy variable for those residing in the capital city has been omitted to avoid perfect co-linearity.

**Table 7.** An overview of the right-hand observed variables.

Period/Statistics	Type of immigrant					
	Work		Refugee		Reunifying with refugee	
	Male	Female	Male	Female	Male	Female
2000–2004						
Mean	0.054	0.091	0.363	0.500	0.321	0.555
Std. dev.	0.184	0.218	0.419	0.418	0.403	0.417
First quartile	0	0	0	0.082	0	0.110
Second quartile	0	0	0.109	0.400	0.066	0.581
Third quartile	0	0.060	0.886	0.999	0.730	1
2005–2009						
Mean	0.060	0.077	0.357	0.500	0.265	0.526
Std. dev.	0.168	0.199	0.425	0.430	0.384	0.427
First quartile	0	0	0	0.058	0	0.081
Second quartile	0	0	0.068	0.412	0	0.476
Third quartile	0.031	0.050	0.903	0.999	0.487	0.999

Period/Statistics	Type of immigrant					
	Work		Refugee		Reunifying with refugee	
	Male	Female	Male	Female	Male	Female
2010–2014						
Mean	0.087	0.121	0.402	0.522	0.304	0.514
Std. dev.	0.212	0.255	0.441	0.438	0.407	0.432
First quartile	0	0	0	0.048	0	0.065
Second quartile	0	0	0.130	0.522	0.019	0.451
Third quartile	0.053	0.081	0.985	1	0.705	1

**Table 8.** Summary statistics for the transfer share variable.

Variables and measures	Type of immigrant							
	Work		Refugee		Reunifying with refugee			
	Male	Female	Male	Female	Male	Female		
Mean duration of stay in years								
2000–2004			4.148	3.807	10.168	10.047	8.223	6.958
2005–2009			3.196	3.655	12.391	12.270	9.730	8.812
2010–2014			4.088	3.919	14.211	13.974	12.344	11.318
Mean no. of children 2000–2014								
Aged 0–3 years			0.108	0.238	0.208	0.263	0.267	0.465
Aged 4–6 years			0.068	0.095	0.157	0.199	0.155	0.314
Aged 7–18 years			0.171	0.229	0.574	0.810	0.347	0.858
Share having a partner 2000–2014			0.277	0.310	0.507	0.480	0.457	0.716
Share of educational categ. 2000–2014								
No education			0.003	0.002	0.026	0.055	0.012	0.033
Primary education			0.003	0.002	0.070	0.077	0.024	0.038
Lower secondary education			0.084	0.061	0.296	0.301	0.395	0.312
Upper secondary, basic education			0.029	0.018	0.044	0.035	0.025	0.033
Upper secondary, final year			0.252	0.165	0.235	0.240	0.211	0.190
Post-secondary, not higher education			0.001	0.002	0.017	0.009	0.009	0.005
First stage of higher edu., undergraduate level			0.129	0.263	0.180	0.164	0.101	0.121

Variables and measures	Type of immigrant					
	Work		Refugee		Reunifying with refugee	
	Male	Female	Male	Female	Male	Female
First stage of higher edu., graduate level	0.092	0.176	0.059	0.041	0.030	0.025
Sec. stage of higher edu., postgraduate education	0.031	0.036	0.005	0.003	0.003	0.002
Unspecified education	0.375	0.275	0.068	0.076	0.190	0.241
Share of geographical area 2000–2014						
Capital city	0.307	0.324	0.413	0.393	0.483	0.501
Regional metropolises	0.236	0.218	0.162	0.158	0.172	0.151
Reg. centers with a univers.	0.013	0.019	0.008	0.006	0.007	0.004
Other regional centers	0.229	0.209	0.252	0.269	0.221	0.221
Med.-sized towns and reg.	0.061	0.058	0.062	0.068	0.049	0.049
Small labor areas	0.055	0.054	0.040	0.043	0.028	0.032
Micro labor areas	0.099	0.118	0.064	0.061	0.040	0.042

**Table 9.** Summary statistics for selected explanatory variables.

Measure	Work		Refugee		Reunifying with refugee	
	Male	Female	Male	Female	Male	Female
Variance of random effects	0.0131	0.0226	0.0841	0.0722	0.0708	0.0679
Variance of genuine error term	0.0262	0.0297	0.0753	0.0621	0.0719	0.0730
Variance ratio	0.5000	0.7609	1.1169	1.1626	0.9847	0.9301

**Table 10.** Estimates of variance parameters in a random effects model for transfer share.

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