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ASSIMILATION TO A
WELFARE STATE:
LABOR MARKET
PERFORMANCE AND
USE OF SOCIAL
BENEFITS BY
IMMIGRANTS TO
FINLAND*

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Abstract: I study the assimilation of immigrants to the Finnish labor market and welfare system. The initial immigrant-native earnings gaps are large. While long-term immigrants experience a rapid earnings growth, only men from OECD countries converge to natives' earnings. Among all immigrant groups earnings grow predominantly due to improving employment rates rather than wage growth. Earnings profiles for temporary immigrants are flat. Furthermore, direct study of the use of social benefits suggests that immigrants learn to use the welfare system gradually. In particular, non-OECD households substantially increase their use of social assistance during their first five years in the country despite simultaneously doubling their earnings.

Key words: Immigrants, assimilation, welfare state, social benefits

JEL classification: J61, J31, F22

Tiivistelmä: Tämä tutkimus tarkastelee maahanmuuttajien kotoutumista suomalaisille työmarkkinoille ja hyvinvointijärjestelmään. Maahanmuuttajien tulot ovat alkuvaiheessa huomattavasti kantaväestön tuloja pienemmät. Ajan myötä erot pienenevät, mutta ainoastaan OECD-maista tulleiden miesten tulot saavuttavat samankaltaisten suomalaisten miesten tulot. Muiden maahanmuuttajaryhmien kohdalla tulot jäävät pysyvästi kantaväestön tuloja pienemmiksi. Kaikkien maahanmuuttajaryhmien tulojen kasvu syntyy pääasiassa paranevasta työllisyystilanteesta. Sen sijaan palkkojen kasvun merkitys on varsin pientä. Väliaikaisesti Suomessa asuvien maahanmuuttajien tuloprofiilit ovat tasaisia. Tulokset viittavat myös siihen, että maahanmuuttajat oppivat ajan myötä käyttämään sosiaaliturvajärjestelmää. Erityisesti OECD-maiden ulkopuolelta tulevat kotitaloudet lisäävät toimeentulotuen käyttöä ensimmäisen viiden maassa vietytyn vuoden aikana, huolimatta siitä että heidän ansiotulonsa samaan aikaan kaksinkertaistuvat.

Asiasanat: Maahanmuutto, kotoutuminen, hyvinvointivaltio, sosiaaliturva

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1 Introduction

Immigration is among the most controversial policy topics in many countries. One of the key themes in the debate concerns immigrants' performance in the labor market and the consequent impact on public finances. The discussion is fueled by the fact that, at least initially, immigrants tend to have lower earnings and to receive more public assistance than natives.

A central, and to some extent unresolved, question is whether immigrants recover from their initial disadvantage. In a seminal paper, Chiswick (1978) argued that while immigrants to the United States earned significantly less than comparable natives upon arrival, they overtook natives in 10 to 15 years. Later studies have shown that while the earnings of immigrants grow faster than those of natives, Chiswick's early results were overly optimistic due to biases created by changes in the cohort "quality" (Borjas, 1985) and non-random return migration (Hu, 2000; Lubotsky, 2007). Furthermore, studies focusing on other countries suggest that both the initial gaps and the assimilation profiles differ vastly across countries and time periods (see Borjas, 1994; Boeri et al., 2002; Pekkala, 2005, for surveys).

This paper contributes to the literature in three ways. First, it is the first study on assimilation of immigrants to Finland. While Finland may not be of great general interest *per se*, focusing on a country with short immigration history and generous welfare state provides useful insights. In particular, it adds to the emerging literature on the impact of labor market institutions on assimilation. In a recent paper, Antecol et al. (2006) suggest that compressed wage distribution and generous welfare benefits may force assimilation to occur through improving employment and to reduce the potential for wage growth. My results are consistent with this argument. This suggests that differences in labor market institutions – along with differences in immigration policy – may explain why immigrants' labor market performance varies between countries. It also has an important implication on the distribution of the costs of assimilation. That is, if immigrants earn lower wages but have high employment rates, the costs fall primarily on immigrants themselves. When assimilation occurs through improving employment and unemployed immigrants are eligible for social benefits, the costs are split between immigrants and host country's tax payers.

Second, I assess the extent of which lower earnings truly translate into

higher social benefits. The answer is surprisingly complex. I find that while immigrants from OECD countries earn substantially less than comparable natives, they receive similar amounts of social benefits. While temporary immigrants have lower earnings than long-term immigrants, they receive less social benefits. Furthermore, among non-OECD households the propensity to receive means-tested social assistance increases during the first five years to Finland, in spite of rapidly increasing earnings. Eligibility criteria or other characteristics of the welfare system do not explain these findings. Rather, the results point towards the possibility that immigrants' take-up rate is initially very low. However, over time they assimilate also in the sense of learning to use the welfare system.

The final contribution is methodological. Most importantly, I show that the standard practice of using log earnings or log wages as a measure of immigrants labor market performance – and thus excluding those with zero earnings – may yield severely distorted estimates. Since immigrants with lower earnings capacity enter the employed sample gradually, the standard approach may underestimate both the initial earnings gaps and the rate of earnings growth. Another methodological contribution is to study assimilation profiles of long- and short-term immigrants separately. This may be important, because incentives to invest in host-country specific human capital depend on the length of the period the immigrant plans to stay in the host-country (Dustmann, 1993). Thus earnings profiles for temporary migrants are likely to be flatter than those of permanent migrants. This is exactly what I find. Hence this paper highlights the possibility that non-random return migration biases conventional assimilation measures both due to temporary migrants differing from permanent migrants in their time-invariant unobservable characteristics and due to differing assimilation profiles.

The paper proceeds as follows. The next Section discusses the institutional setting. Section 3 describes the data. Section 4 presents the empirical framework and Section 5 reports the results. Section 6 concludes.

2 Background

2.1 Immigration to Finland

The main reasons to immigrate to Finland have traditionally been either having a Finnish spouse or facing strong push factors in the home country.

For the most part of its history, Finland has been characterized by emigration. The most intense period of emigration occurred in 1969–1970 when over 100,000 Finns (roughly 2% of the 1968 population) left the country, mainly to Sweden. In total, roughly 806,000 persons have emigrated during the period from 1945 to 2003, while net migration for the same period is some 224,000 negative.¹ As a result, early immigration to Finland consisted primarily of return migrants and their families. First refugees arrived in 1973, but the numbers remained small throughout the 1980s. The circumstances changed rapidly in the early 1990s as Finland simultaneously received a large flow of immigrants from the former Soviet Union and an increased number of refugees from the former Yugoslavia, Iran, Iraq and Somalia. The largest new immigrant group consisted of ethnic-Finns from the former Soviet Union, who were granted the right to return in 1990.² Also relatively large group of Estonians – whose lingual proximity distinguishes them from other immigrants – migrated to Finland. As a result, the population share of immigrants raised from 0.4% to 2.4% between 1980 and 2003.

The period of rapidly increasing immigration coincided with a period of severe recession. Figure 1 plots the annual GDP growth and unemployment rates for natives and immigrants. By the first quarter of 1993, the GDP had shrunk by 14.4% from its peak of the first quarter of 1990. The situation was particularly harsh for the non-OECD immigrants, whose unemployment rate rose to 55 percent in 1996.

High unemployment rates of natives were also likely to contribute to a strict policy towards economic migrants. Throughout the analysis period of this study, current residents were given prioritized access to vacant posts. Before granting a work permit, the labor administration evaluated whether a worker is available “in a reasonable time”. In practice, the requirement seems to have been that no suitable EU/EEA citizen or an immigrant already in the country applied for the job in a few weeks.

¹These figures are from Statistics Finland website (PX-Web Statfin, Table: “Väestönmuutokset ja väkiluku 1749–2007”), visited in August 15th, 2008.

²The evaluation of their Finnish ancestry was based on Soviet documents and it is not clear how much the ethnic-Finns differ from other Russian immigrants. For example, Ministry of Labour (1998) reports that in the in particular the younger cohorts of Soviet-born ethnic-Finns living in Finland have weak Finnish language skills.

2.2 Labor Market Institutions

The Finnish wage bargaining system is based on centralized negotiations between the labor unions and the employer organizations. Typically, union and employer federations negotiate a framework agreement, which is followed by industry level negotiations between individual unions and employer organizations. These collective labor contracts set minimum wages at job-complexity–education level. The agreements bind also non-union members, if more than half of the employees in the industry are members. Due to the high unionization rate, 95% of the employees are covered by these contracts.

Naturally, the collective agreements may be violated. The National Bureau of Investigation (NBI) estimates that annually about 20,000 employees are involved in the informal labor market, out of which 3,000–4,000 are immigrants (Adam and Laitinen, 2006). Most of these migrants are in the country legally, but violate employment or tax legislation. According to the NBI, there are only “a few hundred” migrants working in Finland without a work permission. However, it appears that the vast majority of the violations are related to foreign companies sending short-term posted workers to Finland.

2.3 Social Benefits

The Finnish welfare system provides a wide range of public services and high level of income security to all permanent residents (see the Appendix for details). For most benefits, eligibility does not depend on nationality or the residence permit status, but on living in Finland on “permanent basis”, defined as *planning* to stay for at least a year.³ In practice, one has to file applications to a magistrate and the Social Insurance Institution of Finland and the plausibility of the applicant’s plans are evaluated on an individual basis. Given that the analysis below is based on register data and observations from the first months since arrival are excluded, it seems safe to assume that almost everyone in the sample are fully eligible.

³The exceptions are student allowance (immigrants are eligible only if they have initially migrated to Finland for other reasons than to study) and pensions not tied to past employment (available only for immigrants who have stayed in Finland for more than five years). However, these transfers make up a negligible share of total transfers also for natives in the (25–60 year old) sample used in the analysis below.

3 Data

The analysis is based on individual-level panel data. Statistics Finland has put together these data by linking several administrative registers, including population register, tax register and register on social assistance maintained by the National Research and Development Centre for Welfare and Health (STAKES). The base sample contains annual observations of a 15% (2%) random sample of working age immigrants (natives) living in Finland in 1989 and a similar sample of new immigrants arriving to Finland (natives turning 15 years old) between 1990 and 2004. Each person is followed until the end of year 2004, emigration or death. Furthermore, the data include detailed information on the characteristics of a possible spouse and an indicator on whether the person is still living in Finland at December 31st, 2005. Immigrants are defined as individuals born abroad, who do not speak Finnish as their native tongue and who enter the sample as non-citizens. Those still residing in Finland at the end of year 2005 are classified as “long-term” immigrants and the others as “temporary” immigrants.

The estimation sample is constructed as following. First, since complete benefit information is available only for 1993–2003, only data from these years are used. In order to focus on working age population, the analysis is further restricted to those born between 1944 and 1968. Everyone in this cohort had turned 25 year old by 1993 and were under 60 years of age in 2003. Finally, everyone arriving to Finland after year 2000, those who were less than 16 years of age at the time of arrival and those in the top percentile of the earnings and personal tax distributions are excluded.⁴ The final estimation sample consists of 55,927 observations for 6,949 immigrants and 407,929 observations for 38,419 natives.

Table 1 reports the sample means and standard deviations. It shows that immigrants are far more likely to live in urban, relatively low unemployment areas than natives. In most other respects, long-term immigrants from OECD countries closely resemble natives. In contrast, non-OECD immigrants differ substantially from the rest of the population. In particular,

⁴The data include some extremely high levels of earnings and benefits. Most of these observations are likely to be either typing errors or atypically high earnings from bonus programs based on stock options (which the Finnish tax code regards as earnings). The main impact of exclusion the top 1% of the earnings and benefits distribution is a decrease in the standard errors, while impact on point estimates is small and qualitatively unimportant.

they are far less likely to be employed than natives. As a consequence, their mean annual earnings are less than half of native earnings, while they receive almost twice as much benefits. Furthermore, comparisons between long-term and temporary immigrants reveal that the latter have lower earnings, but nevertheless receive less social benefits. More than a third of the OECD-born immigrants in the sample remigrate prior to the end of year 2005, while the share of temporary immigrants is 14% among non-OECD immigrants.

4 Empirical Framework

The primary interest of this paper is in the evolution of the economic performance of immigrants and in how their performance compares to that of comparable natives. Formally, the quantities of interest can be written as

$$g(k, x) = \mathbb{E}[y|I = 1, YSM = k, X = x] - \mathbb{E}[y|I = 0, X = x] \quad (1)$$

which measures the difference in expectation between an immigrant ($I = 1$), who has stayed in the host country for k years and a native ($I = 0$) with identical observable characteristics x . Immigrants are said to be assimilating, if $g(k, x)$ approaches zero as k increases. Since it is also informative to learn how immigrants perform in absolute terms, the expectations will be reported separately.

Estimation of these expectations typically follows the framework based on Chiswick (1978) and Borjas (1985). The estimation equation for immigrants is

$$y_{jt} = YSM_{jt}\alpha + \sum_m \beta_m C_{jm} + A_{jt}\delta^I + \sum_s \gamma_s^I \Pi_{js} + X_{jt}\phi^I + \epsilon_{jt} \quad (2)$$

where y_{jt} is the outcome of interest for person j at time t , YSM_{jt} is a vector of polynomials on the number of years immigrant has resided in the host country, C_{jm} is a vector of indicator variables for the year of arrival m , A_{jt} is a vector of polynomials of age, Π_{js} is a vector of indicator variables denoting the year of observation, X_{jt} is a set of control variables and ϵ_{jt} summarizes the impact of unobservable characteristics. Similarly, the estimation

equation for natives is

$$y_{jrt} = A_{jt}\delta^N + \sum_s \gamma_s^N \Pi_{js} + X_{jt}\phi^N + \epsilon_{jt} \quad (3)$$

The first challenge in consistently estimating (2) and (3) arises from the fact that year of arrival, time in the host country and calendar year are perfectly collinear. Hence, some restriction must be imposed in order to separately identify α , β , γ^I and γ^N . I follow Barth et al. (2004) and model the time effects as

$$\begin{aligned} \gamma_{rt} = & \gamma_t + \gamma_r + \eta_0 \ln u_{rt} + \eta_I (I \times \ln u_{rt}) \\ & + (YSM \times \ln u_{rt}) \eta_{YSM} + (A \times \ln u_{rt}) \eta_A \end{aligned} \quad (4)$$

where γ_t captures the time-effects common to all regions, γ_r is a set of regional fixed-effects, u_{rt} is the local unemployment rate and other variables are as above.⁵

The second problem arises from nonrandom return migration. Hu (2000); Lubotsky (2007) and Edin et al. (2000) show that the least successful immigrants are the most likely to leave, at least from the U.S and Sweden. As a result, the observed immigrant population becomes increasingly favorably self-selected over time and consequently the estimates of the rate of assimilation are biased upwards.

My approach is to estimate the assimilation profiles separately for temporary and long-term immigrants. Since there is no attrition from the population of long-term immigrants, this yields unbiased assimilation profiles for this sub-sample. Furthermore, separate regressions allow me to assess whether assimilation profiles of temporary immigrants are flatter than those of long-term immigrants. This seems likely for two reasons. First, some immigrants may leave the country due to negative spurious shocks, such as becoming unemployed. In other words, they leave because they fail to assimilate. Second, some migrations were planned to be short-term. The assimilation profiles of these immigrants are likely to be flat, since their in-

⁵A more common identifying assumption is that aggregate economic conditions have similar impact on immigrants and natives ($\gamma_t^I = \gamma_t^N$). However, Bratsberg et al. (2006) and Barth et al. (2004) present evidence that wages of immigrants are more sensitive to local unemployment rates than those of natives in the U.S. and Norwegian labor markets. Thus estimates based on the common time effects assumptions are biased in the presence of a trend in unemployment during the observation period.

centives to invest in host country specific human capital are low (Dustmann, 1993). Since equation (2) includes an implicit assumption of common α , mixing temporary and long-term migrants would decrease informativeness of the estimates for both groups.

A drawback of the approach is that I only observe whether the immigrant left Finland prior to the end of year 2005. Thus I am forced to set up an *ad hoc* criterion on who is considered to be a long-term immigrant. Clearly, some of these immigrants will emigrate later and may thus make lower human capital investments. The problem is mitigated by including only immigrants who arrived prior to January 2000 in the estimation sample. Perhaps more importantly, the long-term sample is likely to over-present “lucky” immigrants, since those who left due to unsuccessful assimilation end up to the sub-sample of the temporary immigrants. Thus the assimilation profiles of long-term immigrants could, in principle, be upward sloping due to human capital investment or due to the stayers being favorably self-selected with respect to their assimilation profiles. Whatever the reason, the estimates are nevertheless informative about the population of immigrants who ended up being long-term immigrants. On the other hand, the estimates for temporary migrants still suffer from the attrition bias. That is, those who leave after ten years are likely to differ in their unobserved characteristics from those who leave after a year. To decrease this source of bias, I control for the number of years the temporary immigrant eventually stays in Finland.

The second selection issue concerns selection into employment when estimating wage equations. To see why this might pose a problem, suppose that immigrants accept (or are allowed to accept) wage offers only if they exceed some threshold. If wage offers are an increasing function of time in the host country, those with the most favorable unobserved characteristics are most likely to be employed upon arrival, while others become employed later. Thus the unobserved component and time in the host country would be negatively correlated and the estimates for both the initial wage gap and wage growth would be biased downwards. A standard approach for correcting such selection bias is to use a control function framework. However, in my view, the data does not include any plausible exclusion restrictions. Thus my approach is to acknowledge the problem when interpreting wage assimilation profiles and to draw conclusions mainly from annual data – including

zeros – on employment, earnings and benefits.

To illustrate the results, I calculate the two expectations in (1) for each *immigrant* observation in the data. I remove the impact of business cycle by setting local unemployment rate at 13.4% (mean of the immigrant sample) and year dummies to their means. Other variables are left as they are. This yields two sets of expectations for each immigrant. The first are expectations of her outcomes, had the general labor market conditions remained constant over time. The second are expectations for natives with identical observable characteristics. The assimilation profiles reported in the next section are averages of these expectations over years in Finland.⁶

5 Results

This section reports the results from estimating the model discussed above using several outcomes and running the regressions separately for men and women, for long-term and temporary migrants and for those born in the OECD and non-OECD countries. Given the specification used, natives and immigrants are comparable in the sense that they are of similar age, live in similar labor markets and have similar family structure.⁷ However, it is important to note that they may – and are likely to – differ in factors such as education and relevant work experience. Omitting education from the specification is motivated by the practical reason of not observing education obtained abroad. On the other hand, even if the data would include accurate information on educational attainment, it is not clear whether one should condition on it as immigrants often study in their host countries. Thus the specification used below allows for a broader notion of assimilation that includes post-migration investments on formal education. In order to provide

⁶ $E[y|I = 1, YSM = k, X = x]$ is calculated using estimates from equation (2) and $E[y|I = 0, X = x]$ by using estimates of equation (3). Native profiles are comparable to the profiles of long-term immigrants. Profiles for temporary immigrants come from a separate regression and allow temporary and long-term immigrants to differ in their observable characteristic

⁷The covariates are a cubic of time in the host country and age, year of entry to Finland, indicator for being single, number of children under 18-years old, three indicators for children younger than 3, 7 or 18 years old living in the household and type of municipality of residence indicators (urban, semi-urban, rural). The specification also includes interactions with all these variables and immigrant status. Furthermore, local unemployment rate, year dummies and 20 region dummies enter the specification as shown in equation (4) and the specification for temporary migrants include a vector of indicators for the number of years the immigrant eventually lives in Finland.

another yardstick towards which to measure immigrants' performance, I also report profiles separately for low-skilled natives, defined as those 28% of the native sample who have less a secondary degree.

5.1 Labor Market Performance

I begin by studying how immigrants' labor market performance evolves as they spend more time in Finland. Figure 2 presents annual earnings of immigrants and comparable natives over the first two decades in Finland. Earnings are measured in thousands of euros and observations with zero earnings are included. The results reveal a dramatic earnings gap between newly arrived immigrants and natives. According to the point estimates, non-OECD immigrants earn only 20% (men) and 8% (women) of the level of comparable natives during their first full year in Finland. The corresponding figures for OECD immigrants are 65% (men) and 46% (women).

While it is surprisingly hard to find comparable estimates for other countries, these gaps appear to be among the largest in the literature.⁸ One can speculate on several possible reasons. For instance, compressed wage distribution and generous welfare state could attract negatively self-selected immigrants to Finland. Alternatively, large initial gaps are consistent with long-term immigrants initially investing heavily in the acquisition of Finland-specific human capital. The optimal investment may be larger than in many other countries, in particular because the Finnish language differs substantially from most European languages.

These explanations have different implications for the slope of the earn-

⁸The problems with comparability raise from three reasons: (1) some studies condition on education while others do not, (2) most studies report estimates for log earnings or log wages and thus omit individuals who are not employed, and (3) most studies use repeated cross-sectional data and thus non-random return migration biases the results. Perhaps the most comparable results are by Lubotsky (2007), who uses similar longitudinal data as used here for long-term immigrants to study log earnings assimilation of immigrants to the U.S. He reports (Lubotsky, 2007, Table 5) initial median earnings gap ranging between .17 and .41 log points depending on the year of entry. Immigrants who have been the to U.S. for 11–15 years have .15 log points higher median earnings than otherwise similar immigrants who have been to the U.S. for 1–5 years. Pooling the data of long-term immigrants together and fitting a roughly similar model to my data yields an initial gap of .58 log points for median earnings. However, long-term immigrants to Finland appear to experience exceptionally fast earnings growth: according to the point estimates those who have been in the country for 11-15 years have .38 log points higher median earnings than recent arrivals. Papers studying immigrant assimilation to other Nordic countries include Barth et al. (2004) for Norway, Edin et al. (2000) for Sweden and Husted et al. (2001) for Denmark.

ings profiles. If immigrants come to Finland simply to enjoy the welfare state, the gap between natives and immigrants should be permanent; if the human-capital investment explanation is valid, the gap should shrink as immigrants start to receive returns to their investments. Furthermore, given that temporary migrants have fewer incentives to invest in host-country specific human capital, their earnings profiles should be flatter than those of long-term immigrants.

Figure 2 is in line with the human-capital investment explanation. According to the point estimate, the earnings of long-term non-OECD immigrants grow a staggering 340% (men) and 870% (women) over the first 15 years in the country. Earnings growth for OECD immigrants is roughly 50% over the same period, while earnings of temporary immigrants remain almost constant. However, the earnings gap to natives is closed only by OECD men. For other groups, large immigrant-native earnings differences persist even after two decades in Finland. Indeed, non-OECD women's earnings do not converge even to the level of low-skilled natives.

I next turn to the sources of earnings growth. Note that earnings reflect both wages or entrepreneurial income when working and the hours worked. Figures 3 and 4 plot profiles for months employed during a year and monthly earnings. As discussed in the previous Section, non-random selection to employment is likely to bias the monthly earnings profiles downwards. Nevertheless, it seems fair to conclude that the increase in employment rather than wage growth is driving earnings assimilation. For OECD immigrants, monthly wages are similar to those of comparable natives and remain almost constant throughout the observation period. In contrast, expected months in employment increase by three months during the first 15 years in the country and, among men, reach the level of natives. Non-OECD immigrants assimilate in both the employment and wage dimensions. However, a back-of-the-envelope calculations, similar to those by Antecol et al. (2006), suggest that roughly 90% of the earnings growth among men and 85% among women can be attributed to increase in employment.

Comparing Figures 2 and 4 also reveals a simple, but important methodological point. Most studies on immigrant assimilation use either log earnings or log wages as the outcome variable and thus exclude those who are not employed from the estimation sample. At least in the Finnish case, the standard approach would lead to severe underestimation of both the initial earnings

gap and the rate of assimilation. For instance, recall that the estimates above suggested that natives earn five times more than newly arrived non-OECD men. Using log annual earning or level of monthly earnings would lead to a conclusion that the difference is only 3.5 fold or 1.5 fold, respectively. Furthermore, instead of concluding that the earnings of non-OECD men grow 3.4 fold over the first 15 years in Finland, estimates based on log annual earnings and level of monthly earnings would suggest that the growth is 2.1 fold and 1.5 fold, respectively. This is not surprising, of course, as the assimilation process is driven by increasing employment. Thus those with lowest earnings capacity are likely to have zero earnings upon arrival and enter to the lower part of the conditional-on-positive earnings distribution over time in the host country.

5.2 Social Benefits

Given these results, one would expect immigrants to collect considerably more social benefits than comparable natives upon arrival and this gap to decrease as immigrants' earnings increase over time. Figure 5 takes a direct look at the issue by presenting the benefit profiles. Since many benefits depend on total household income, the profiles are calculated at the household-level and "immigrants" are defined as a household where the adult male (top row) or female (bottom row) is an immigrant regardless of the immigrant status of the spouse.

Upon arrival, non-OECD households receive more than twice the benefits of comparable native households. While the gap decreases over time, the difference appears to be permanent. Surprisingly, however, OECD households receive the same amount of social benefits as native households throughout the observation period. This occurs in spite of their initially lower earnings and later earnings converge. Furthermore, among those born outside the OECD countries, temporary immigrants earn similar or lower earnings as long-term immigrants, but receive substantially less benefits. Turning to the participation rates of four subcategories of benefits, presented in Figure 6, reveals a third surprising result: non-OECD households substantially increase their use of social assistance over the first five years in the country despite of their rapid earnings growth and decline in the use of other means-tested benefits.

To the best of my knowledge, the institutional setting does not explain

these findings. As discussed in Section 2.3, eligibility to the social benefits is only conditional on living in Finland on permanent basis and this requirement is fulfilled by virtually everyone in the sample. One possible explanation with regard to the rising social assistance rates could be that immigrants switch from receiving unemployment benefits to collecting social assistance. Such benefits substitution could be motivated, for example, by unemployment benefits being conditional on participation to labor market training. Yet, social assistance seems to complement rather than substitute other benefits. That is, 78% of the immigrants who collect social assistance also receive unemployment benefits. Furthermore, only 9% of those who start to collect social assistance stop receiving unemployment benefits during the first two years on social assistance. Looking at the whole immigrant population, just 0.5% switches from receiving only unemployment benefits to collecting only social assistance during any three year period.

Thus the results seem to point towards the possibility that immigrants learn to use the welfare system as they spend more time in the host country (Borjas and Hilton, 1996). In other words, upon arrival they may simply be unaware of their eligibility to social assistance and hence their initial take-up rates may be low.⁹ Furthermore, the distinguishing feature of social assistance in comparison to other benefits is that the case-workers are able to apply some discretion when deciding on eligibility and the amount. Hence, spending time in the host country could increase both the information of the available benefits and the ability to talk to the case-workers.

6 Conclusions

Ever since Chiswick's (1978) study, a vast number of papers have assessed the labor market assimilation of immigrants. In an influential review article, Borjas (1994, p. 1671) summarized the motivation behind this literature as following: "These studies view the labor market performance of immi-

⁹Previous research suggests that take-up rates for social assistance among natives are around 50–60% (Bargain et al., 2007). Unfortunately, the available data does not allow for direct study of take-up rates among immigrants. As an indirect way to assess take-up rates, I have experimented with regressing participation on social assistance on the same covariates as above plus a vector of dummies on household's income from other sources. Results from these regressions suggest that keeping household characteristics and income constant, the use of social assistance increases over the first six years to Finland and remains roughly constant thereafter.

grants in the host country as a measure of the immigrant contribution to the economy's skill endowment and productivity. In addition, the trends in immigrant skills help determine the impact of immigration on the employment opportunities of native-born workers and on expenditures in social insurance programs".

The results presented above suggest that the contribution of immigrants to Finland is, at best, modest. The initial earnings gaps are large and while immigrants' earnings grow rapidly, only men from OECD-countries reach natives. Earnings of women from non-OECD countries do not converge even to the level of low-skilled natives.

In a sense, these findings are not surprising given that I study a country that has allowed primarily non-economic immigrants to enter. Furthermore, Finland has a short immigration history and a generous welfare system placing no restrictions on the eligibility of immigrants. To make matters worse, many immigrants arrived during an unusually severe recession. Thus one may be willing to consider these results as something close to a worse case scenario. In particular, given that Finland appears to be moving towards an immigration policy designed to attract economic immigrants, there is no reason to expect that future immigrants to Finland would fare as badly as those studied above.

The results also provide three more general lessons. First, they lend further support to the hypothesis that relatively compressed wage distribution may force assimilation to take place in the employment dimension. As a consequence, countries where low wage jobs are not available should expect their tax-payers to bear a larger share of the costs associated with labor market assimilation.

Second, the estimates suggest that the relationship between immigrants' earnings and the cost they place on social insurance programs is not as straightforward as the quotation above seems to imply. Rather the findings point towards under-utilization of the welfare system among newly arrived immigrants. As a consequence, both earnings and the use of social benefits could, in principle, increase as immigrants become more accustomed to the host country.

Finally, I have illustrated some weaknesses in the standard methodology of estimating assimilation profiles. This paper has provided further evidence that neglecting non-random return migration leads to upward biased esti-

mates of the rate of assimilation. Unfortunately, avoiding this bias requires longitudinal data and such data are rare. However, the second methodological point is simple and easily executed with typical datasets. That is, measuring immigrants' labor market performance with log earnings or hourly wages may lead to wrong conclusions. Neglecting non-random selection into employment is likely to bias estimates of immigrants' initial earnings upwards and estimates of their earnings growth downwards. Thus using the level of annual earnings and including those with zero earnings to the estimation sample should provide a more informative picture of the assimilation process than the current practice.

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A The Social Benefits System

Unemployment benefits are paid through a three-tier system. First, all registered unemployed who have worked for at least 43 weeks during the past 28 months receive a basic benefit. On top of this, those who have contributed to a voluntary unemployment insurance fund for at least ten months prior to the claim, receive an earnings related benefit. These benefits are paid for maximum of 500 work days. Those unemployed who do not meet the employment condition or who have received the basic allowance for the maximum period are eligible for labor market subsidy (LMS). The subsidy is means-tested and has no maximum duration. The amount of LMS is equal to or less than the basic unemployment benefit. The income-test is applied to the household income and the benefit gradually decreases as household income increases. After a cut-off point, no subsidy is paid. However, if the person participates in a labor market policy measure, LMS is paid without means-testing.

Social assistance is a residual benefit which acts as a last resort of economic assistance. It is means-tested based on household's expenses, income (including other forms of transfers) and assets. The transfer consists of a fixed basic amount and an additional allowance. When these expenses exceed household's net income, social assistance makes up the difference. The basic amount is designed to cover the costs of food, clothes, hygiene, transport, newspaper, telephone, TV license, minor health care costs and 7% of housing costs. The additional allowance is designed to cover other cost such as rest of the "reasonable" housing costs, children's day care fees and large health care costs. Some municipalities also grant one-off supplements. These may be related to special situations (sickness, change in family circumstances and other "life events"); for supporting re-integration or rehabilitation measures; or as a preventive measure (e.g. support for job-search, to cope with sudden problems due to debts).

Housing allowance covers up to 80% of acceptable housing costs for low-income households. The definition of acceptable housing expenditure depends on the size of housing, geographical location, construction year and heating system. The allowance decreases as household income increases and stops after an upper threshold. Single students receive a separate housing allowance (see below).

Student allowances consists of a study grant, housing allowance and government guarantees for student loans. It is granted based on mechanical rules depending on the level of education, age, marital status, mode of accommodation and other income. Non-citizens arriving to Finland to study are not eligible, but those who have migrated to Finland on other purpose than studying are eligible. Student allowances are available for the maximum of 55 months.

Pensions are paid through two system: earnings-related pensions related to past employment and national pensions related to residence in Finland. All employees and self-employed are covered by the mandatory earnings-related pension insurance. The amount of national pension is determined by household's other pension income and becomes zero after a cut-off point. Both systems include a wide range of retirement benefits for individuals below the formal retirement age such as disability pension, early retirement pension and unemployment pension. In addition, the earnings-related pension system has provisions for partial disability and part-time pensions. Many of these pensions have eligibility rules that are hard to fulfill for immigrants. For example, the amount of national pensions is affected by the length of residence in Finland. However, a Special Assistance for Immigrants is available for immigrants, who have lived in Finland for at least five years. This, in effect, provides old-age and disability national pensions to those who are ineligible for a standard national pension.

Families with children receive a variety of cash-transfers. First, mothers are entitled to maternity allowance for 105 working days. This is followed by parental allowance for 158 working days to the parent who takes leave from work. The amounts are proportional to pre-parental-leave earnings. Second, home care allowance is available to families with children under the age of three, on the condition that the children do not use public day care. The allowance consists of care allowance and an income-tested home care supplement. Some municipalities also grant special municipal supplements. After the child turns three, private day care allowance is available for families with children under the age of seven, who participate in private day care. Again, the allowance consists of a basic part, of an income-tested supplement and sometimes of a special municipality supplement. On top of these, every family with children under the age of 17 receives family allowance. The amount of this allowance depends on the number of children and whether

both parents are present in the household, but not on household income.

Table 1: Sample means

	Natives	Long-Term Immigrants		Temporary Immigrants	
		OECD	non-OECD	OECD	non-OECD
Age	42.2 (7.75)	40.5 (7.24)	39.0 (6.92)	37.7 (7.17)	36.8 (7.27)
Age at arrival	0.50 (6.86)	30.5 (6.61)	32.8 (6.87)	32.0 (6.73)	32.0 (6.96)
Women	0.29 (0.50)	0.36 (0.48)	0.53 (0.50)	0.37 (0.48)	0.40 (0.49)
Single	0.01 (0.46)	0.21 (0.41)	0.28 (0.45)	0.29 (0.45)	0.35 (0.48)
Has an immigrant spouse	0.01 (0.11)	0.09 (0.28)	0.44 (0.50)	0.20 (0.40)	0.35 (0.48)
...a native spouse	0.69 (0.46)	0.70 (0.46)	0.28 (0.45)	0.50 (0.50)	0.29 (0.46)
Single parent	0.05 (0.22)	0.03 (0.18)	0.09 (0.28)	0.02 (0.14)	0.05 (0.21)
Number of children	0.92 (1.16)	1.12 (1.20)	1.12 (1.27)	0.75 (1.04)	0.80 (1.11)
Lives in urban municipality	0.61 (0.49)	0.76 (0.43)	0.88 (0.33)	0.84 (0.36)	0.86 (0.35)
...semi-urban municipality	0.18 (0.38)	0.09 (0.29)	0.07 (0.25)	0.08 (0.27)	0.06 (0.24)
...rural municipality	0.21 (0.41)	0.15 (0.36)	0.06 (0.23)	0.08 (0.27)	0.08 (0.27)
Local unemployment rate	16.2 (5.56)	12.9 (5.74)	13.5 (5.03)	15.3 (5.13)	15.0 (4.88)
Owner occupied housing	0.72 (0.45)	0.56 (0.50)	0.25 (0.43)	0.44 (0.50)	0.24 (0.43)
Months employed	8.7 (4.97)	7.5 (5.30)	4.4 (5.31)	4.3 (5.08)	3.0 (4.65)
Zero Earnings	0.14 (0.34)	0.21 (0.41)	0.44 (0.50)	0.40 (0.49)	0.52 (0.50)
Annual Earnings	19,176 (14,329)	17,105 (16,310)	8,097 (11,459)	10,631 (14,514)	6,172 (10,661)
Annual Benefits	5,130 (5,814)	5,086 (5,776)	9,077 (7,473)	4,328 (5,552)	6,711 (7,046)
Receives social assistance	0.09 (0.29)	0.10 (0.29)	0.33 (0.47)	0.12 (0.32)	0.24 (0.43)
...housing allowance	0.07 (0.26)	0.06 (0.24)	0.32 (0.47)	0.06 (0.24)	0.22 (0.42)
...unemployment benefits	0.23 (0.42)	0.22 (0.42)	0.54 (0.50)	0.23 (0.42)	0.37 (0.48)
...other benefits	0.22 (0.41)	0.20 (0.40)	0.20 (0.40)	0.16 (0.37)	0.19 (0.39)
Individuals	38,419	989	4,665	563	732
Observations	407,929	9,063	41,836	1,981	3,047

Figure 1: Unemployment Rate and GDP growth, 1989–2003

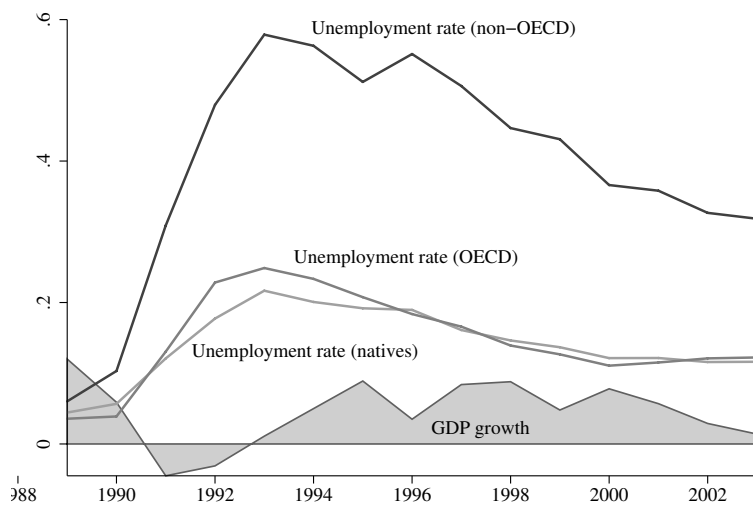
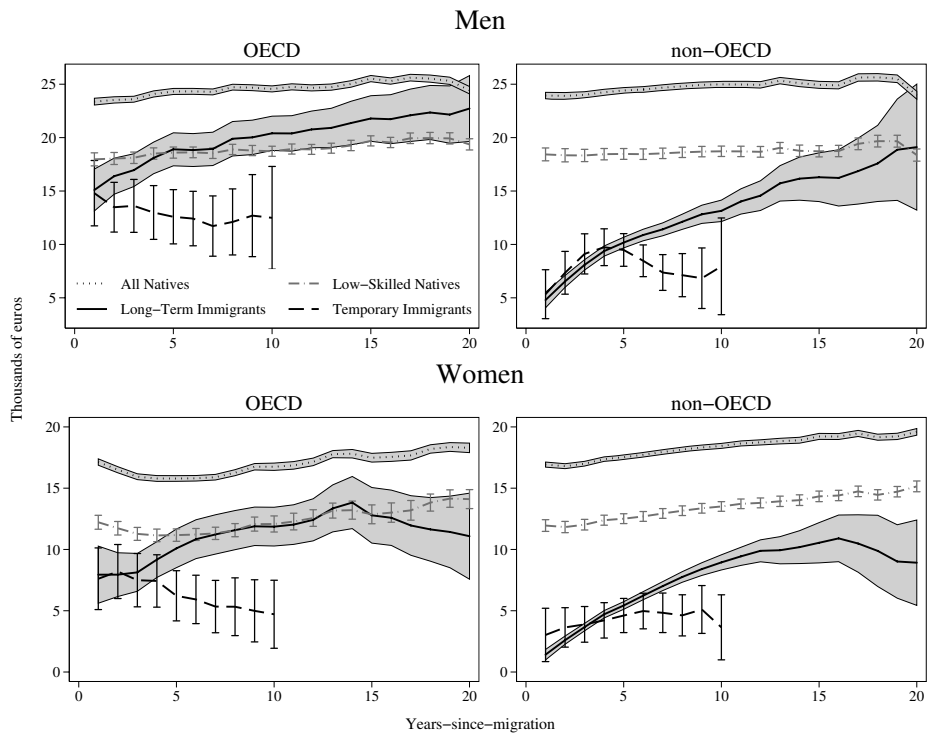
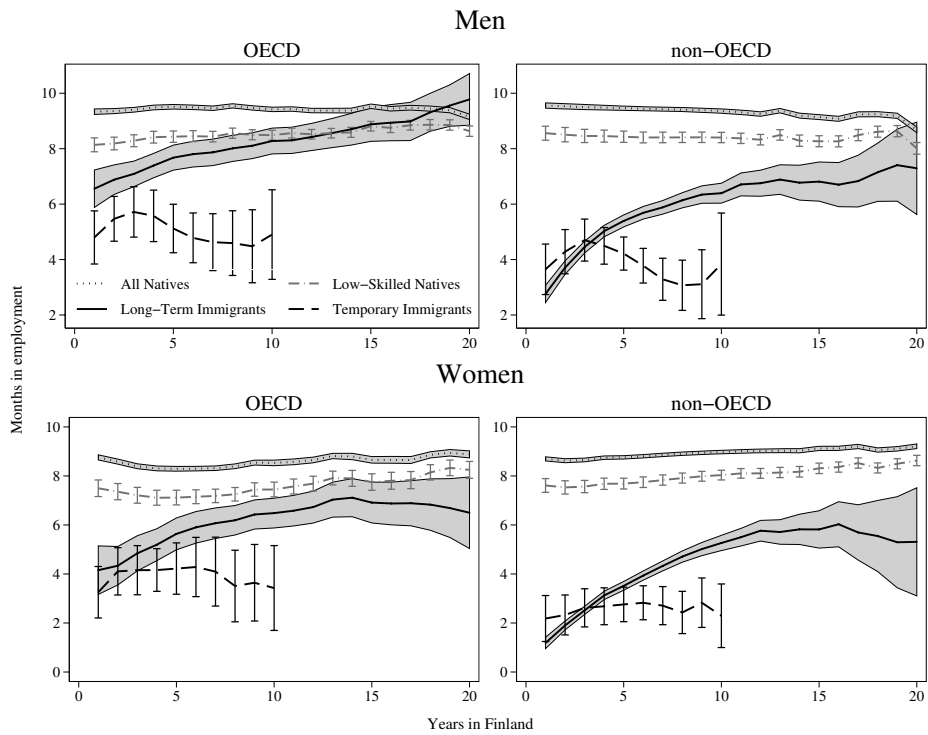


Figure 2: Earnings profiles



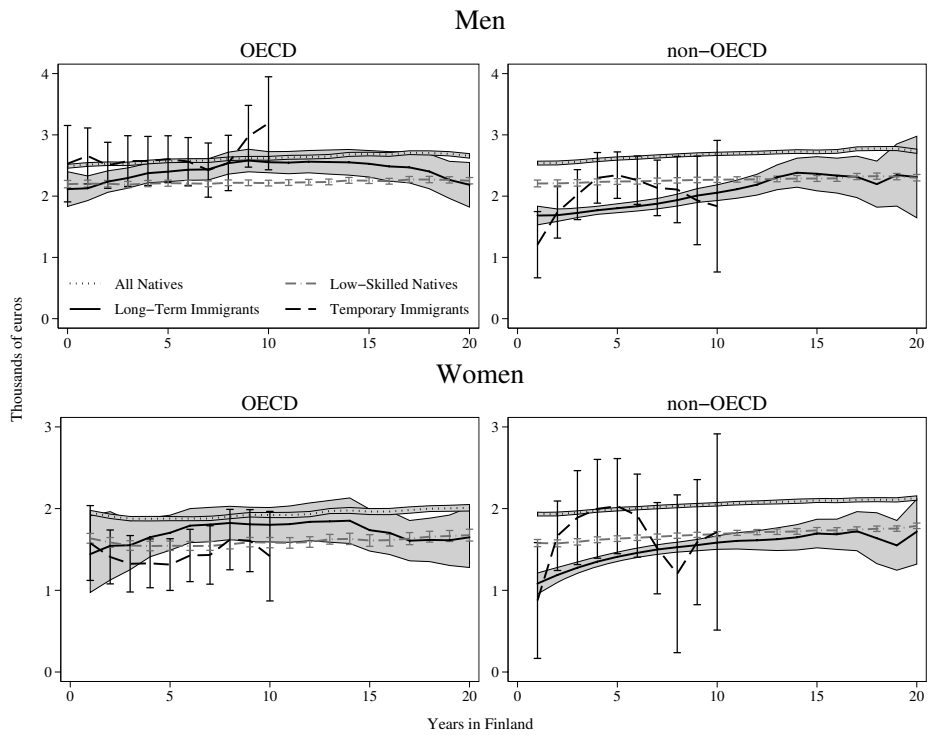
Note: Expected annual earnings and 95% confidence intervals over time in Finland for long-term immigrants (solid line), temporary immigrants (dashed line), comparable natives (dotted line) and comparable low-skilled natives (dotted gray line). Local unemployment rate fixed at 13.4%. Confidence intervals are robust to intra-individual autocorrelation.

Figure 3: Employment profiles



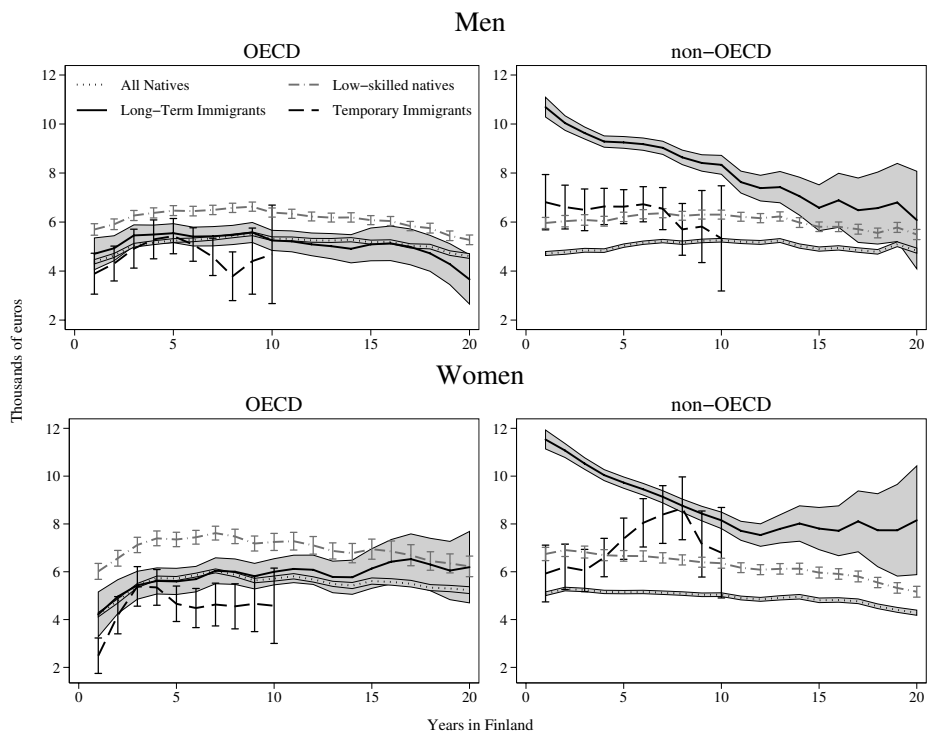
Note: Expected months in employment (excluding subsidized work) and 95% confidence intervals over time in Finland for long-term immigrants (solid line), temporary immigrants (dashed line), comparable natives (dotted line) and comparable low-skilled natives (dotted gray line). Local unemployment rate fixed at 13.4%. Confidence intervals are robust to intra-individual autocorrelation.

Figure 4: Monthly Earnings



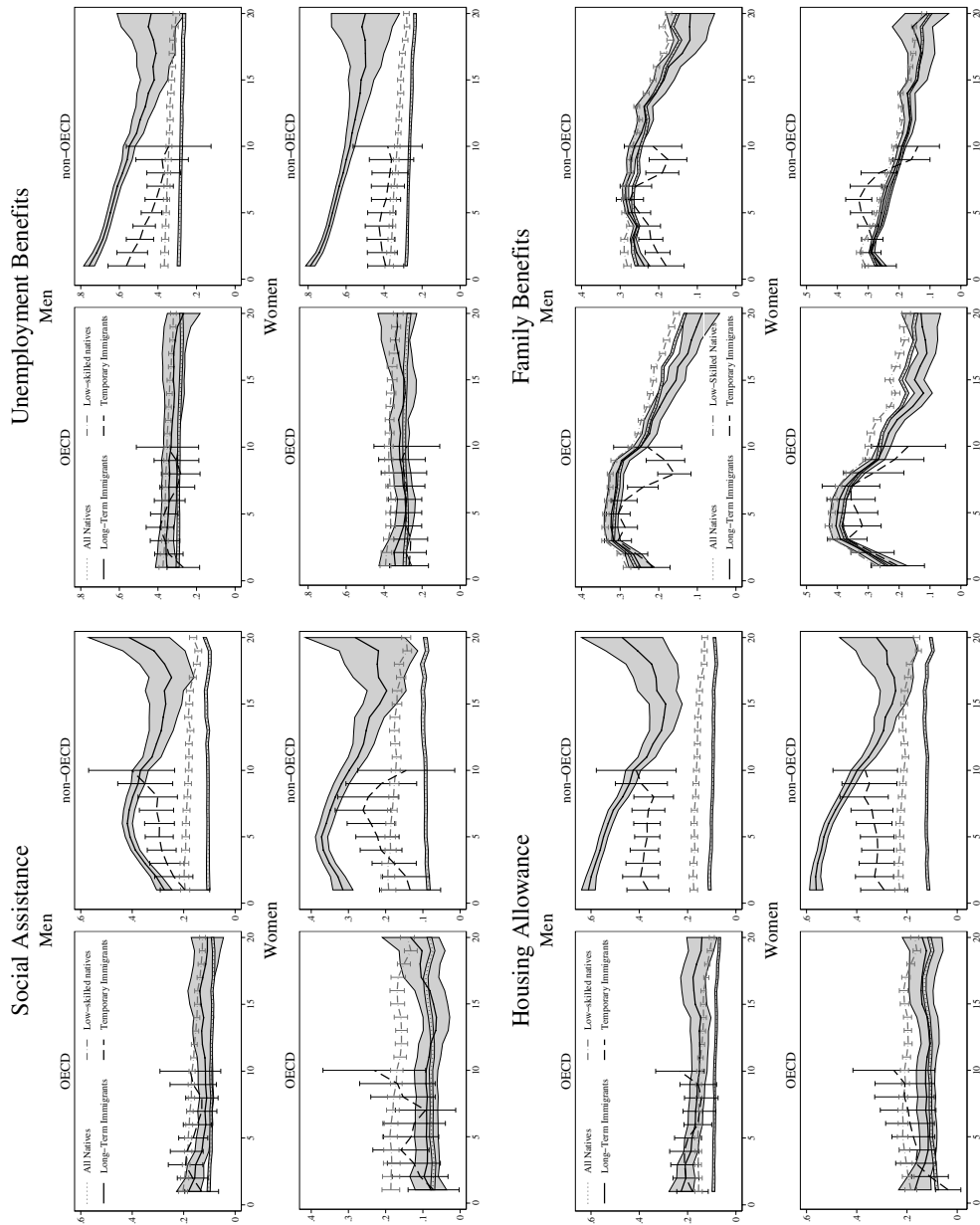
Note: Expected monthly earnings and 95% confidence intervals over time in Finland for long-term immigrants (solid line), temporary immigrants (dashed line), comparable natives (dotted line) and comparable low-skilled natives (dotted gray line). Local unemployment rate fixed at 13.4%. Confidence intervals are robust to intra-individual autocorrelation.

Figure 5: Benefit profiles



Note: Expected annual benefits and 95% confidence intervals over time in Finland for long-term immigrants (solid line), temporary immigrants (dashed line), comparable natives (dotted line) and comparable low-skilled natives (dotted gray line). Local unemployment rate fixed at 13.4%. Confidence intervals are robust to intra-individual autocorrelation.

Figure 6: Participation Rates



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