Assimilating Immigrants

The Impact of an Integration Program*

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Abstract

We evaluate the impacts of an integration program for immigrants to Finland. The phase-in rules of the program made participation obligatory only for those who had entered the population register less than two years before the reform was launched. Exploiting this discontinuity, we find that the intervention dramatically improved employment and reduced social benefits. A rough cost-benefits analysis suggests that the program provided a high return to the public investment. We attribute these gains to the improved provision of language training.

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1 Introduction

Mandatory language training for disadvantaged immigrants can be an extraordinarily efficient policy intervention. We reach this conclusion by evaluating the introduction of 'integration plans' for recently arrived non-employed immigrants to Finland. The reform increased the provision of Finnish language courses, and dramatically improved employment and reduced social benefits among the targeted immigrants. A rough cost-benefits analysis suggests that the program yielded a large return to the public investment.

The Finnish reform provides an informative case study for three reasons. First, the program shares key features with similar interventions implemented in other European countries and in North America.[1] The integration plans consist of an individualized sequence of training and subsidized employment. Non-compliance is sanctioned by reductions in welfare benefits. Implementing or maintaining similar programs elsewhere is clearly feasible. Second, we are able to conduct the analysis using high-quality longitudinal data. These data are constructed by linking together several administrative registers and contain detailed information about labor market outcomes, social benefits, training and background characteristics at individual and family level. Third, the phase-in rules of the reform give rise to a clean research design. The program was launched on May 1st, 1999, but only those who had entered the population register after May 1st, 1997 had an obligation to participate. As a consequence, roughly a third of the May 1997 cohort was treated, while the participation rate among the April 1997 cohort was virtually zero.

The discontinuity in participation rates allows us to identify the causal effect of the intervention under the assumption that immigrants entering the population register just before and after the threshold date are comparable. The identifying assumption seems plausible as the threshold date was set more

[1] The Finnish program resembles the Immigration Settlement and Adaption Program (ISAP) in Canada (CIC, 2005). In Europe, comparable programs are present in Austria, Belgium, Denmark, France, Germany, the Netherlands, Portugal, Spain and Sweden (Carrera, 2006; Joppke, 2007). Integration programs are less common in the United States, but some training is provided by the state and local governments and by non-governmental organizations (Schmidt, 2007).

than a year after the affected immigrants had made their entry decisions. Furthermore, our conclusions survive a battery of robustness checks and falsification exercises.

According to the point estimates, the integration plans increased employment and annual earnings by threefold and halved social benefits. In order to understand these results, we examine the impact of the reform on incentives and training. We note that the reform did not change the legislation governing the sanctioning of non-compliance and show that the use of sanctions among immigrants and natives followed similar trends before and after the reform. Thus sanctions do not seem to drive the results. Interestingly, also the total amount of training provided by the Labor Administration appears to be unaffected by the reform. However, a closer look at the content of this training suggests that resources were shifted from 'general preparatory' training towards language courses. The reform also allowed immigrants to retain their unemployment benefits while taking a language course at a university or adult education center. Our data do not include information about these courses, but administrative reports suggest that 10–20 percent of the targeted immigrants used this opportunity. In short, the intervention appears to have worked primarily through improving access to language training.

The second part of our interpretation is that we identify a local average treatment effect among 'compliers at the threshold'. That is, we estimate the mean effect among immigrants who entered the population register on May 1st, 1997, who received an integration plan and who would not have received it if they had arrived on April 30th, 1997. Importantly, these immigrants were eligible only if they were out of work when the reform was launched in May 1999. Hence the compliers are likely to be a negatively selected subpopulation of immigrants. This interpretation is reinforced when we examine the potential outcomes for the compliers. The results suggest that in the absence of the reform, they would have made little progress in the labor market during the period we study and would have spent only two months in employment in 2003. With the help of the program, their assimilation process got started and they were already employed for six months, on average, in 2003. While an

impressive effect, these findings also put the success of the intervention into a perspective. Even after living in Finland for six years and having participated in more than three hundred days of training, the treated compliers struggled to find stable employment.

Data limitations prevent us from evaluating the full costs and benefits of the intervention. However, even a very conservative reading of the results suggests that the integration programs yielded a large return to the public investment. On the benefits side, we find a roughly 20,000 euro increase in gross earnings during 2000–2003. In comparison, the cost of training was roughly 13,000 euro. Given that most of the costs occur during the first years after immigration, while the benefits are likely to accumulate over a long period, this comparison should be interpreted as a lower bound of the true cost-benefit ratio. Furthermore, the medium-term impact on income taxes and social benefits alone covers the full cost of the program.

Our results contribute to two branches of literature. First, while the labor market assimilation of immigrants has been extensively documented,[2] there is relatively little research assessing the factors affecting this process. Improving language skills is often hypothesized to play an important role, but empirical work examining this channel has faced severe measurement error and endogeneity problems.[3] Our results complement the existing studies by focusing on an intervention that works through improving the language skills of immigrants.

Second, we add to the vast literature on the impact of active labor market policies (ALMP). To the best of our knowledge, earlier evaluations of ALMP for immigrants are limited to Cohen-Goldner and Eckstein (2008, 2010) and

[2]Examples include, but are not limited to, Chiswick (1978, 1980), Borjas (1985, 1995), Baker and Benjamin (1994), Bell (1997), Grant (1999), Friedberg (2000), Edin, LaLonde, and Åslund (2000), Hu (2000), Barth, Bratsberg, and Raaum (2004), Eckstein and Weiss (2004), Antecol, Kuhn, and Trejo (2006), Lubotsky (2007) and Sarvimäki (2011).

[3]Studies documenting the association between language skills and labor market performance include Chiswick (1991), Dustmann (1994), Chiswick and Miller (1995, 2007), Dustmann and van Soest (2001, 2002), Berman, Lang, and Siniver (2003) and Dustmann and Fabbri (2003). Bleakley and Chin (2004) exploit the differences in the age of entry in order to estimate the causal effect of language skills on labor market outcomes.

Åslund and Johansson (2011).[4] In comparison to these studies, our research design allows for a causal interpretation under weak assumptions. In particular, we complement the structural approach of Cohen-Goldner and Eckstein (2008, 2010) who conclude that returns to knowledge of Hebrew are very high in the Israeli labor market. Our findings, together with theirs, point towards the possibility that providing appropriate training for immigrants may have much larger effects than what is typically found in the evaluations of ALMP for natives.

The rest of this paper is organized as follows. The next section provides background information on immigrants to Finland and details on the reform. We discuss our empirical strategy in Section 3 and present the data in Section 4. Section 5 reports the results and discusses their interpretation. Section 5.6 concludes.

2 The Treatment

2.1 Background

We examine a program that was introduced as a part of the Act on the Integration of Immigrants and Reception of Asylum Seekers (hereafter the 'reform') that came into force in May 1st, 1999. The background was the rapidly increasing immigration to Finland and the poor labor market performance of the new arrivals. Historically, immigrants had mostly been return migrants of Finnish origin and their family members. Genuine immigration only began in the early-1990s. The immigrant population grew fourfold between 1990–1999. However, at the time the reform was launched, their share of the population remained relatively low at roughly two per cent.

Increasing immigration was accompanied with a change in the composition of origin countries. In 1990, almost half of the immigrants came from Western

[4]See, for example, Heckman, LaLonde, and Smith (1999) and Card, Kluve, and Weber (2010) for surveys of ALMP for natives. Studies examining the impact of non-ALPM policies targeted on immigrants include Borjas (1993, 2002), Antecol, Kuhn, and Trejo (2003) and Rosholm and Vejlin (2010).

Europe. At the end of the decade, the largest source areas were the former Soviet Union and Asia. The trend of a declining proportion of Western Europeans coincides with the experience of most other OECD countries. However, the share of immigrants from the former Soviet Union is unusually high in Finland. In addition, refugees—primarily from Iran, Iraq, Somalia and former Yugoslavia—made up roughly a sixth of the immigrant population in the late 1990s.

The statistics on the reasons for immigration are incomplete, but it is widely agreed that the proportion of economic migrants is low. This is likely to explain immigrants' poor labor performance. Upon arrival, their employment rates are very low and hence they earn substantially less than comparable natives. While the gap decreases over time, only the earnings of men from the OECD countries have converged to the earnings of comparable natives within twenty years of arrival (Sarvimäki, 2011). As everyone living in Finland on a permanent basis is eligible for most social benefits, low average employment rates lead to high average social benefits among immigrant households.

2.2 Eligibility and Phase-in Rules

The reform created an obligation for the labor administration to prepare integration plans—individualized sequences of active labor market policy measures—for recently arrived non-employed immigrants.[5] The eligibility criteria are that the immigrant (a) is a registered unemployed job-seeker or lives in a household that receives social assistance and (b) has entered the population register within the past three years.[6] When these criteria are fulfilled, an integration plan has to be drawn-up within the first five months of an unemployment or a social assistance spell. Eligibility is combined with an obligation to partici-

[5]The reform also set new rules for the division of responsibilities between the central and local administrations (municipalities) and required the latter to prepare municipality-level integration programs. This part of the reform is likely to affect all immigrants and its impacts are therefore difficult to evaluate. For details (in English), see Ministry of Labour (2003)

[6]Immigrants have a strong incentive to register to the population register soon upon arrival as it is a requirement for applying for benefits, for the payment of wages and for opening a bank account.

pate. Refusal to participate in the preparation process or failure to follow the plan is sanctioned by a reduction in social benefits. These sanctions would typically reduce the benefits by 20–40 percent from a baseline level of roughly 500 euro per month.

Importantly, the phase-in rules of the reform dictated that the obligation to participate only applied to those who had entered the population register after May 1st, 1997. Earlier cohorts had a right, but not an obligation, to get an integration plan. As we discuss in more detail below, we will exploit this discontinuity to evaluate the impact of receiving an integration plan. Before turning to the empirical strategy, however, we discuss how the reform affected the rules governing the provision of training and the sanctioning of non-compliance.

2.3 Training

Before the reform, immigrants and natives were treated similarly in terms of eligibility for social security and services provided by local employment agencies. The content of the training was not designed for immigrants. Particularly, the supply of language courses was low and only a quarter of the immigrants received language training soon after arrival. Furthermore, participation in courses outside of the Labor Administration was strongly discouraged as anyone enrolled in such a course was considered a student and thus ineligible for most social benefits.

The reform introduced two changes. First, it required the Labor Administration to prepare integration plans that would closely consider the individual characteristics of each immigrant and adapt the offered sequence of training accordingly. Second, the integration plan was allowed to include courses provided outside of the Labor Administration, conditional on the courses facilitating integration. Thus immigrants were allowed to participate in a wider range of training without loosing their eligibility for benefits. This training mostly consists of language courses provided by adult education centers or universities.

2.4 Sanctions

The possibility to withdraw social benefits in case of a refusal to prepare or a failure to follow an integration plan was based on the existing legislation. Monitoring of the unemployed—regardless of their immigrant status—was already present before the Integration Act and refusal to participate in offered training was sanctioned. Thus the reform had no impact on the formal rules governing the use of sanctions.

However, the reform could have increased awareness of sanctions among immigrants or the intensity of monitoring at the Labor Administration. Figure 1 examines this possibility by plotting the decisions of the Labor Administration that led to a withdrawal of benefits due to refusal or failure to participate in offered training between 1993–2002. In order to make the figures roughly comparable across years, the sanctioning decisions are scaled with the total number of registered decision (most of which consist of registering a person as unemployed and offering her training or employment). Figure 1 shows that the share of decisions leading to sanctions varies across years and that there was an increase between 1998 and 1999. However, a similar increase occurred among the natives, suggesting that this variation was not driven by the reform.

3 Empirical Strategy

3.1 Identification

Our identification strategy is based on the phase-in rule of the reform that made integration plans (hereafter the 'treatment') obligatory for non-working immigrants who had entered the population register after May 1st, 1997. This rule creates a fuzzy RD design that allows us to uncover the causal effect of the treatment under two identifying assumptions.[7] Most importantly, those entering the register just before and after May 1997 have to be comparable. Formally, we define potential outcomes as $Y_i(1)$ and $Y_i(0)$, where the former

[7]For introduction to RD designs, see Imbens and Lemieux (2008) and Lee and Lemieux (2010).

is the outcome for immigrant i in the state of the world where he receives the treatment and the latter is his outcome in the state of the world where he does not receive the treatment. The first identifying assumption is that the expectations of the potential outcomes are continuous over the entry dates at the threshold. We argue that this is a plausible assumption given that immigrants arriving around May 1997 made their entry decisions two years before the Integration Act was introduced.[8] Furthermore, there were no other policy reforms that would have affected potential outcomes at the threshold. The second identifying assumption is local monotonicity. That is, we need to assume that the probability of being treated did not decrease for anyone who entered the population register after May 1st, 1997 rather than before. It seems very unlikely that this assumption would be violated.

Given the two assumptions, local average treatment effect is identified by the local Wald estimator

$$\tau = \frac{\lim_{r \to r_0^+} \mathbb{E}\left[Y|R=r\right] - \lim_{r \to r_0^-} \mathbb{E}\left[Y|R=r\right]}{\lim_{r \to r_0^+} \mathbb{E}\left[D|R=r\right] - \lim_{r \to r_0^-} \mathbb{E}\left[D|R=r\right]} \tag{1}$$

where $\lim_{r \to r_0^+} \mathbb{E}\left[Y|R=r\right]$ is the limit of the outcome y in expectation when approaching the threshold r_0 from above and $\lim_{r \to r_0^-} \mathbb{E}\left[Y|R=r\right]$ is the limit from below. In our application, the running variable R is the date of entering the population register and the threshold r_0 is May 1st, 1997. Similarly $\lim_{r \to r_0^+} \mathbb{E}\left[D|R=r\right]$ and $\lim_{r \to r_0^-} \mathbb{E}\left[D|R=r\right]$ are the limits for the probability of being treated when approaching the threshold from above and below.

The numerator of equation (1) is the jump in the expected outcome at the threshold for the entire immigrant population. This quantity is often referred to as the intention-to-treat effect (ITT) as it corresponds to the overall impact of introducing the integration plans. Dividing ITT by the jump in the likelihood of being treated identifies a local average treatment effect (LATE) at the threshold, $\mathbb{E}\left[Y_i\left(1\right) - Y_i\left(0\right)|D_{i1} \geq D_{i0}, R_i = r_0\right]$, where D_{i1} is the treatment

[8]The threshold date was published on May 8th, 1998 when the government introduced the bill to the parliament. Next day, the leading Finnish newspaper, *Helsingin Sanomat,* had a short article about the bill, but did not mention this threshold date.

status for individual i if he enters the population register after the threshold day, r_0, and D_{i0} is his treatment status if he enters the register before. (Imbens and Angrist, 1994; Hahn, Todd, and Klaauw, 2001). In words, we identify the average effect among those entering the population register on May 1st, 1997, who received an integration plan, but would not have received it if they had entered the register on April 30th, 1997. This population is typically referred to as the 'compliers'.

In addition to the differences in potential outcomes, we are interested in their levels. We follow Frandsen, Frölich, and Blaise (2010), who adjust the results of Imbens and Rubin (1997) and Abadie (2003) to an RD setting. This yields

$$\mathbb{E}\left[Y\left(1\right)|D_1 \geq D_0, R = r_0\right] = \frac{\lim_{r \to r_0^+} \mathbb{E}\left[YD|R = r\right] - \lim_{r \to r_0^-} \mathbb{E}\left[YD|R = r\right]}{\lim_{r \to r_0^+} \mathbb{E}\left[D|R = r\right] - \lim_{r \to r_0^-} \mathbb{E}\left[D|R = r\right]} \tag{2}$$

Similarly, the expectation for the compliers at the threshold when they do not get an integration plan is

$$\mathbb{E}\left[Y\left(0\right)|D_1 \geq D_0, R = r_0\right] = \frac{\lim_{r \to r_0^+} \mathbb{E}\left[Y\left(1-D\right)|R = r\right] - \lim_{r \to r_0^-} \mathbb{E}\left[Y\left(1-D\right)|R = r\right]}{\lim_{r \to r_0^+} \mathbb{E}\left[\left(1-D\right)|R = r\right] - \lim_{r \to r_0^-} \mathbb{E}\left[\left(1-D\right)|R = r\right]} \tag{3}$$

3.2 Estimation

We estimate τ of equation (1) using a standard 2SLS estimator using data on immigrants arriving to Finland between January 1990 and April 1999. The choice of using observations far away from the threshold is driven by the relatively small sample size and corresponds to the parametric approach of van der Klaauw (2002). In the Online Appendix we report local linear estimates for a wide range of bandwidths as a robustness check. Both approaches yield the same conclusions, but the parametric estimates are more precise.

Our second-stage equation is

$$y_i = \alpha + \tau D_i + \sum_{k=1}^{K} \gamma_{0k} r_i^k + \sum_{k=1}^{K} \gamma_{1k} r_i^k 1\left(r_i \geq r_0\right) + X_i\beta + \epsilon_{it} \tag{4}$$

where y_i is the outcome of interest for immigrant i, D_{it} is a dummy for having received an integration plan, r_i^k is a k^{th} order polynomial of the date of entering the population register, $1\left(r_i \geq r_0\right)$ is a dummy for having entered on or after May 1st, 1997, X_i is a vector of observed background characteristics measured at the year of arrival and ϵ_{it} summarizes unobserved factors affecting the outcome.

The first-stage equation is

$$D_i = \eta + \delta 1\left(r_i \geq r_0\right) + \sum_{k=1}^{K} \kappa_{0k} r_i^k + \sum_{k=1}^{K} \kappa_{1k} r_i^k 1\left(r_i > r_0\right) + X_i\pi + \nu_i \tag{5}$$

where $1\left(r_i \geq r_0\right)$ is the instrument excluded from equation (4). Expected potential outcomes, as defined in equations (2) and (3), are estimated analogously using $y_{it}D_i$ and $y_{it}\left(1 - D_i\right)$ as the dependent variable, and $\left(1 - D_i\right)$ as the treatment variable for the latter. Since we observe only the month of entry to the population register, we cluster the standard errors at this level in order to adjust for the consequent group structure in the error term (Lee and Card, 2008).

The logic of the approach is that the underlying dependence between the date of arrival and the outcome is controlled by the polynomials of r. In the second-stage, this dependence follows from the assimilation process: the labor market performance of immigrants tends to improve as they spend more time in the host country. Failing to take this into account would lead to biased estimates. Similarly, in the first-stage, we need to control for the fact that the likelihood of being treated increases over time (due to only non-working immigrants being eligible). Conditioning for the background characteristics, X_i, is not required for consistency, but may improve precision.

4 Data

We use individual-level panel data created by linking information from the population register, the tax register, the pension and benefit registers, the student register, the register of unemployed job-seekers and the register on social assistance. The data were created by drawing a 15 percent random sample of the new immigrants arriving in each year between 1990 and 2003. They include annual observations for each individual and his (possible) spouse until the end of the year 2003, death or emigration. Information on training is available on individual $\times$ course level until May 2007. The data sources were combined by Statistics Finland using personal identity numbers. All monetary values are transformed to 2003 euro using CPI.

For our baseline estimates, we restrict the estimation sample using the following criteria. First, we exclude immigrants who arrived after the reform was launched in May 1999. Second, we follow the convention of the assimilation literature and examine 25–60 year old male immigrants, who were at least 16 years old at the time of immigration. Third, we focus on the population targeted by the policy and include only those who experienced unemployment or received social assistance during their first three years in Finland. This sample selection rule excludes 1,428 immigrants (a third of the full sample). Fourth, we exclude 24 immigrants who had extremely large income, defined as being in the top 0.1 percent of the earnings or social benefits distributions. In the Online Appendix, we show that these sample selection rules improve the precision of the estimates, but do not affect our broad conclusions.

Table 1 presents the sample means for the resulting data for different arrival cohorts. Columns (4) and (5) suggest that the cohorts arriving two years before and after May 1997 were similar to each other.[9] Extending the observation period reveals some trends. Family unification has become more common over time and consequently the share of those arriving as single has decreased

[9]We have also regressed background characteristics on a dummy for arriving after May 1997 and several alternative specifications for the month of entering the population register. The estimates tend to be statistically insignificant and the point estimates are sensitive to the chosen specification. Often, the sign of the estimates changes across specifications.

and the share of those having an immigrant spouse on arrival has increased. Furthermore, the local unemployment rate varied as Finland went through a severe recession in the early 1990s. These changes are likely to be relatively smooth and thus captured by the polynomials of the entry date. This assumption is further supported by the fact that the key results are virtually identical with and without controlling for the observable characteristics.

5 Results

5.1 First-Stage Estimates

Figure 2 provides a graphical presentation of the first-stage by plotting the proportion of immigrants who receive an integration plan against the date of entering the population register. The circles correspond to the monthly averages, typically representing about 20 immigrants. The lines are the fitted values from linear and quadratic OLS specifications corresponding to equation (5) without additional covariates. In addition, we present local linear estimates using a bandwidth of 18 months.

The reform provides a strong first-stage.[10] The linear specification suggests that those who arrived in May 1997 were 41 percentage points (standard error 5 percentage points) more likely to receive an integration plan than those arriving in April 1997. Quadratic and local linear specifications yield slightly larger point estimates. The reason why participation does not go from zero to one at the threshold is that immigrants who had found employment by May 1999 were not eligible for an integration plan. This also explains the larger participation rate among the later cohorts: they simply had had less time to become employed at the time of the reform. In Section 5.4, we discuss how this observation affects the interpretation of the results.

[10] In the linear specification the partial R^2 and F-statistics for the excluded instrument are 0.10 and 66, respectively. The corresponding figures in a linear specification controlling for background characteristics are 0.09 and 80.

5.2 ITT and LATE Estimates

Figure 3 presents graphical analysis for employment, earnings, social benefits and disposable income measured in 2003. Again, the circles correspond to monthly averages and the lines represent fitted values from OLS and local linear regressions without additional covariates. Panel A examines the number of months employed in the open labor market (i.e. excluding subsidized work) during the year 2003. The downward sloping lines indicate that the labor market prospects of immigrants improve as they spend more time in Finland. That is, those who arrived in the early 1990s worked more in 2003 than those who arrived in the late 1990s. Panel B shows a similar pattern for annual earnings (including zero income). These observations are in line with previous studies on the assimilation of immigrants in Finland and other countries.

Importantly, there is a large jump between those arriving in April 1997 and May 1997. This discontinuity corresponds to the intention-to-treat (ITT) estimates discussed in Section 3. According to the linear specification, the policy change increased average employment by 1.5 months (standard error 0.6 months) and annual earnings by 3,322 euro (standard error 1,282 euro).

The patterns for social benefits presented in panel (c) of Figure 3 mirror the employment and earnings patterns. As many benefits are targeted to households rather than individuals, we sum over all benefits received by the immigrant or his spouse and use the OECD equivalence scale to take into account differences in the size of the households.[11] Using this measure, the improvement in labor market performance at the May 1997 threshold shows up as a decrease in annual social benefits by 1,327 euro (standard error 375 euro).

In order to put the pieces together, panel (d) of Figure 3 reports disposable income at household level using the OECD equivalence scale. It illustrates the high effective tax rates present in the Finnish tax and benefits system: a large fraction of the increase in gross earnings is offset by the income tax and, more importantly, the withdrawal of social benefits. This is a common

[11]The scale assigns a value of 1 to the first household member, 0.7 to other adults and 0.5 to each child. Observations with zero benefits are included in Figure 3c.

feature of most European welfare systems (see e.g. Immervoll et al., 2007). As a consequence, the point estimate for the jump in disposable income at the threshold is positive at 700 euro (standard error 745 euro), but not statistically significant.

Panel A of Table 2 reports similar estimates after controlling for demographic characteristics, region of origin, legal status for a residence permit, local unemployment rate, type of residence municipality, living in the Uusimaa region (where the capital, Helsinki, is located) and the quarter of the year when entering the population register. All background characteristics are measured at the year of arrival. The results reported in columns (1), (3) and (5) are similar to those obtained without control variables.

The local average treatment effect (LATE) estimates reported in the second column of Table 2 suggest that integration plans increased employment by more than four months in the years 2002 and 2003. In order to put this finding into a perspective, Panel B examines what the employment of compliers would have been in the absence of the integration plants. The point estimates suggest that without the reform, an average complier would have spent only two months in employment in 2003. Thus the integration plans seem to have increased months in employment by threefold. The relative magnitude of the point estimates for annual earnings is similar. Furthermore, the point estimates suggest that the integration plan halved social benefits received by the treated immigrant households and increased disposable income by about 15 percent.

We acknowledge that the estimates are imprecise and one should be cautious in drawing strong conclusions about the magnitude of the effects. Nevertheless, we can comfortably reject the null hypothesis of no effects on employment and benefits. The findings also survive a battery of robustness checks and falsification exercises reported in the Online Appendix.[12] Thus it seems

[12] Another possible interpretation is that the reform decreased inflow to unemployment or to social assistance. In this case, the group of immigrants affected by the treatment would be larger than those who ended up being formally treated and the true denominator of equation (1) would be larger than what our first-stage estimates imply. While we do not expect this to be of major importance, a conservative interpretation is that the LATE

reasonable to think that the integration plans had a positive effect and that this effect was probably large.

5.3 The Content of the Treatment

In order to understand these results, we first need to examine the content of the treatment. Panel A of Table 3 reports estimates for the days in training within the Labor Administration among the treated compliers. According to the point estimates, an average integration plan included roughly 330 days of training. Almost a third of these days were spent in Finnish language courses. Another hundred days was dedicated to 'preparatory training' including courses specifically designed for immigrants (e.g. information about the Finnish society and labor markets) and more general training aimed at providing sufficient skills to participate in vocational training or job placement (e.g. basic computer skills). Sometimes the preparatory training may also include specific language training (e.g. the vocabulary of a certain profession). The rest of the training consisted of roughly a hundred days in job placements and some vocational training (see the Online Appendix for details).

Panel B of Table 3 presents estimates for the training that the compliers would have received in the absence of integration plans. Panel C reports the estimates for the difference between the two potential outcomes. The estimates are quite sensitive to the choice of the functional form and should thus be interpreted with caution. Nevertheless, they suggest that the reform did not increase the total training days within the Labor Administration. Rather, there seems to be a shift of resources from general preparatory training towards language training. These findings are in line with the stated aims of the reform and with the fact that the reform did not allocate extra resources to immigrant training.

In addition, the reform allowed immigrants to retain their benefits while participating in appropriate courses outside of the Labor Administration—typically language training at a university or an adult education center. Our

estimates are an upper bound and the ITT estimates are the lower bound of the treatment effect.

data do not contain information about these courses, but according to Ministry of Labour (2002), 10–20 percent of the treated immigrants participated during the years 1999–2001. Thus this part of the reform reinforced the increase in the provision of language training. Unfortunately, we have not been able to find information on the average time that immigrants spent in these courses.

5.4 Characterizing the Compliers

The second ingredient in interpreting the LATE estimates concerns the characteristics of the compliers. First-stage estimates using the full immigration population suggest that the compliers made up roughly a third of the entire immigrant population at the threshold.[13] It seems reasonable to think that they represented the least successful third. The reason is that their eligibility for an integration plan required that they were out of work at some point between May 1999 (when the reform was launched) and April 2000 (after which they did not meet the requirement for having entered the population register within three years).

The estimates for the potential outcomes of the compliers also suggest that we identify the impact of the integration plans among immigrants who found it particularly hard to find employment in the Finnish labor markets. Above we saw that in the absence of the treatment the compliers would have spent only two months in employment in 2003, on average. In comparison, the corresponding number for the non-treated immigrants who had entered the population register between May 1997 and April 1998 was 7.5 months. Furthermore, while the point estimates presented in Panel B of Table 2 suggest that the compliers would have made modest progress between 2000–2003 even without the reform, we cannot reject the null hypothesis that their labor market performance would have remained stagnant.

Another way to characterize the compliers is to examine their background

[13] Using the data on all immigrants—including those who never experience unemployment or receive social assistance—and regressing the treatment status on a dummy for entering the population register after May 1997 yields estimates of 0.30 (standard error 0.05) and 0.35 (standard error 0.05) when using linear and quadratic specifications, respectively.

characteristics. Estimates reported in the Online Appendix suggest that in comparison to other immigrants, the compliers were more likely to be refugees, to come from the former Soviet Union, the former Yugoslavia, Africa and Asia and to have an immigrant spouse. Correspondingly, they were less likely to come from Western Europe or to have a native spouse.

5.5 Comparison of Costs and Benefits

We end this section by comparing the costs and the benefits. Unfortunately, our data do not allow us to conduct a full cost-benefits analysis. However, we argue that even a conservative reading of the available data suggest that the program was unusually cost-efficient.

The treatment increased gross income by roughly 20,000 euro between 2000–2003, while the direct cost of the training organized by the Labor Administration was roughly 13,000 euro per immigrant (see the Online Appendix for details). In addition, immigrants received about 8,500 euro in unemployment benefits during their training. However, they would have gotten exactly the same benefits even if they had stayed home. Given the low expected employment in the absence of the treatment, it seems unlikely that the program would have had an important 'lock-in' effect. Thus benefits should probably not be included in the costs of the program.

We acknowledge that comparing the 20,000 gains to the 13,000 (or 21,500) costs is a very rough and incomplete cost-benefit calculation. It is based on imprecise estimates; it ignores the costs of training after the first six years and the benefits after the year 2003; it does not take into account costs due to training provided outside of the Labor Administration, the opportunity cost of participation or the deadweight loss caused by raising taxes to finance the policy; and it implicitly assumes that the pre-reform training had no impact.

However, it is important to note that the available data are likely to understate the benefits more than they understate the costs. Particularly, our estimates suggest that the integration program moved the compliers to a new trajectory. Thus it is conceivable that the benefits will accumulate over sev-

eral decades and perhaps even affect future generations. On the other hand, since most of the training is provided during the first years since immigration, we capture a large fraction of the costs. Adding the costs of training outside of the Labor Administration would not have a large impact since a relatively small fraction of the compliers participated in these courses. Furthermore, the opportunity cost of participation is small due to the low employment rates of the targeted population.

An alternative way to assess the cost-efficiency of the reform is to ask how it affected the government budget. The government covered all direct pecuniary costs. However, given the high effective tax rates for low-income workers discussed in Section 5.2, one would expect that the government also captured most of the benefits. As we show in the Online Appendix, this hypothesis is supported by the data. According to the point estimates, the impact on taxes and social benefits only in 2000–2003 exceeded the costs of the program.

5.6 Conclusions

We found that an integration program substantially increased employment and reduced social benefits among male immigrants to Finland. Strikingly, these gains appear to rise from a more efficient use of existing resources. We find no evidence on the reform having an impact on the total amount of training. Instead, it seems to have increased the provision of Finnish language courses while scaling down other forms of training. Most of the gains appear to be captured by the government, while the estimates for the impact on disposable income among immigrants are modest and statistically insignificant.

These findings point towards two general lessons. First, it is possible to create cost-efficient policy interventions that facilitate the assimilation process. Our results are particularly relevant for many European countries, where a non-trivial fraction of immigrants remain dependent on social benefits even after a prolonged stay in the host country. An important question for future research concerns the extent to which these findings generalize to other settings such as the U.S. labor markets.

Second, our results suggest that language training is a key component in the design of successful integration policies. We stress that we do not provide evidence for or against the other aspects of the integration plans. Particularly, given that participation in an equal amount of training was mandatory both before and after the reform, our research design is not suitable for assessing the impact of sanctioning non-compliance. However, we note that our results do not support the idea that simply 'taxing leisure' in the form of mandatory training programs would be sufficient for getting disadvantaged immigrants to work.

Finally, it is important to acknowledge that while the integration plans created impressive effects, they were no panacea. Even with the help of an integration plan, an average complier was out of work for half of his sixth year to Finland. Thus there remains much scope for future research and policy experimentation.

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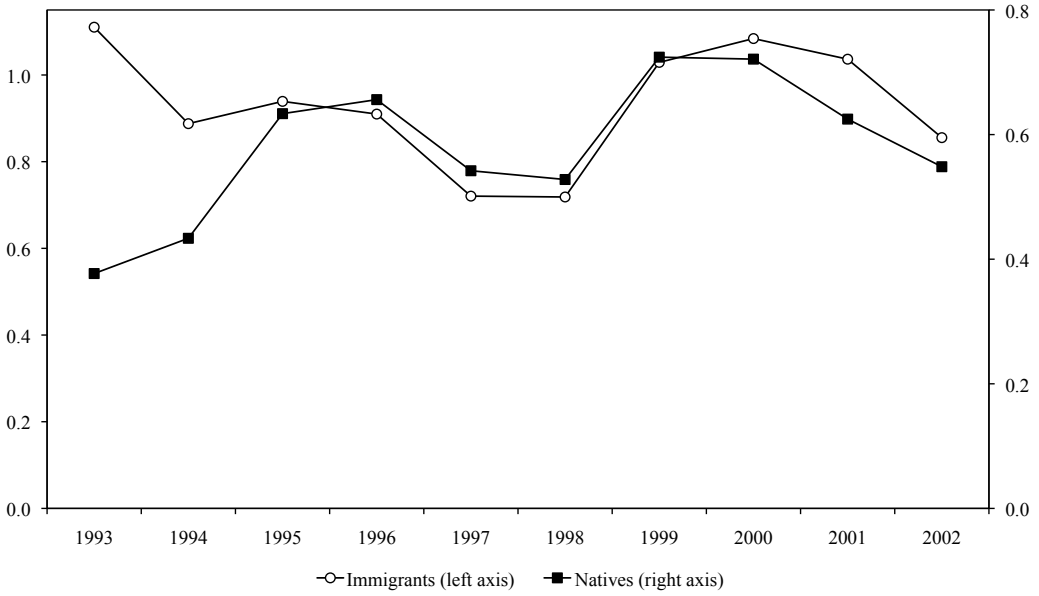
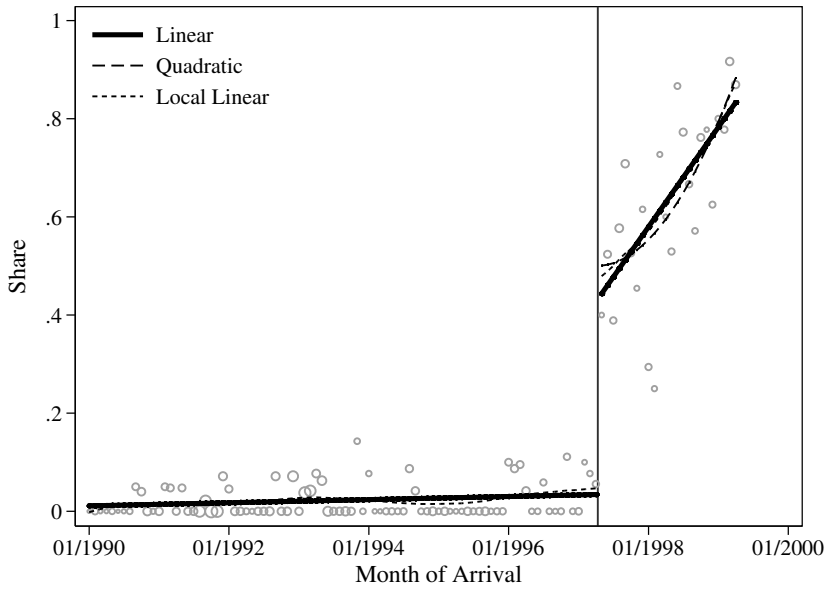
Figure 1: Use of Sanctions due to Refusal to Participate in Training, 1993–2002



Note: Percentage of all decisions by the Labor Administration leading to sanctions due to refusal or failure to participate in training or subsidized job placement. Immigrants are defined as persons who do not speak Finnish or Swedish as their mother tongue.

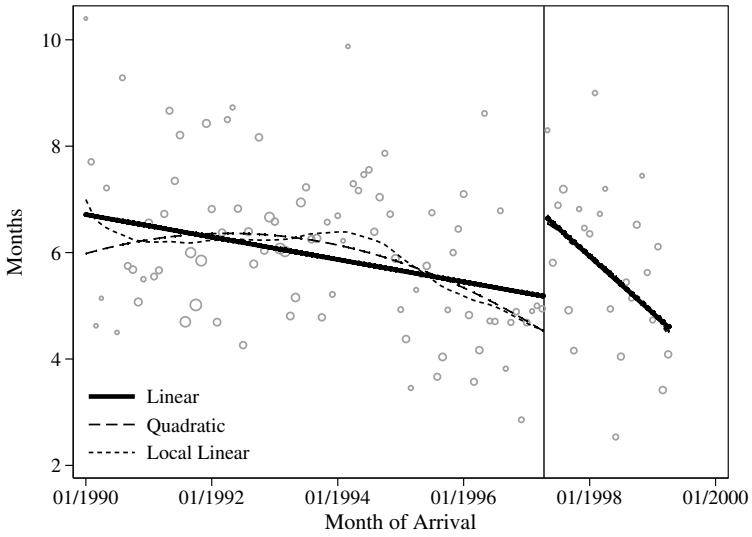
Figure 2: The Proportion of Immigrants Entering the Integration Program According to the Month of Arrival



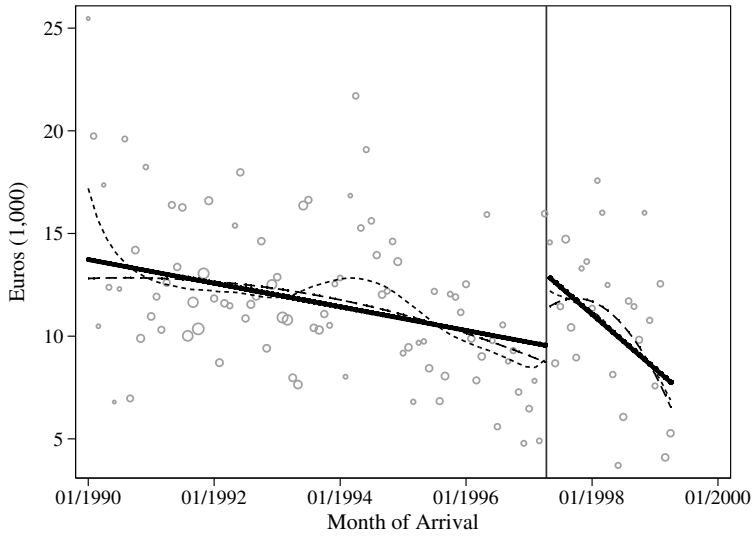
Note: Monthly means and OLS fitted values. Outcome: Receives an integration plan before the end of 2003. Local linear estimates use a 18 month bandwidth.

Figure 3: Employment, Income and Benefits in 2003 According to Month of Arrival

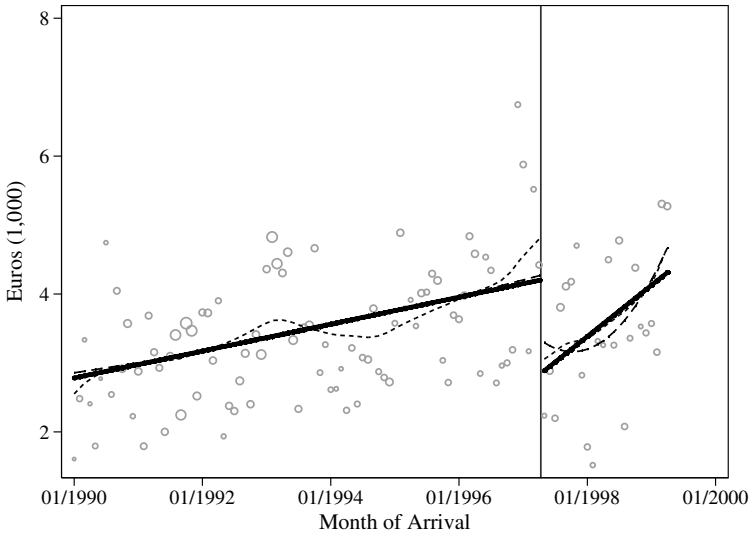
(a) Months Employed (excl. subsidized work)



(b) Annual Earnings (incl. zeros)



(c) Annual Social Benefits (OECD equivalence scale, incl. zeros)



(d) Disposable Income (OECD equivalence scale, incl. zeros)

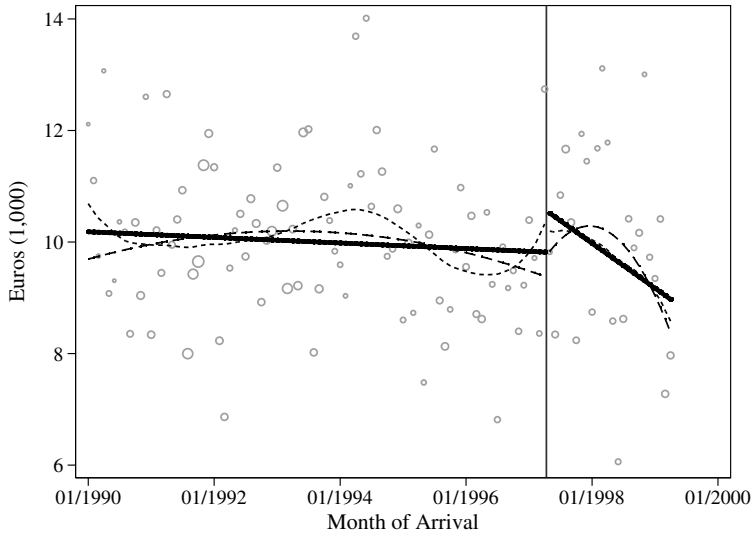


Table 1: Characteristics at Arrival

	Arrival Cohort				
	1/90-4/91	5/91-4/93	5/93-4/95	5/95-4/97	5/97-4/99
	(1)	(2)	(3)	(4)	(5)
Age	33.4	33.2	34.5	35.5	35.5
Single	0.36	0.30	0.25	0.24	0.23
Has a native spouse	0.37	0.28	0.28	0.29	0.30
Has an immigrant spouse	0.27	0.42	0.47	0.47	0.47
Number of children	0.60	0.86	1.00	0.79	0.81
Local unemployment rate	7.1	15.4	20.6	17.0	13.7
Lives in Uusimaa	0.42	0.43	0.45	0.47	0.43
Region of birth					
EU15/EFTA	0.12	0.05	0.09	0.12	0.13
New EU-members	0.04	0.10	0.13	0.09	0.05
form. Soviet Union	0.27	0.28	0.24	0.28	0.35
form. Yugoslavia	0.00	0.10	0.10	0.10	0.04
Turkey	0.03	0.06	0.04	0.06	0.06
Africa	0.21	0.20	0.16	0.09	0.13
Asia	0.26	0.15	0.18	0.21	0.20
Other/Unknown	0.08	0.05	0.06	0.05	0.04
Legal Status					
Ingrian Finn	0.05	0.11	0.24	0.16	0.17
Family Member	0.09	0.12	0.23	0.26	0.30
Refugee	0.07	0.15	0.21	0.20	0.15
Other/Unknown	0.79	0.61	0.32	0.38	0.39
Individuals	234	633	411	370	371

Note: Sample means.

Table 2: The Impact of the Integration Plan

	Months Employed		Annual Earnings		Social Benefits		Disp. Income	
	ITT	LATE	ITT	LATE	ITT	LATE	ITT	LATE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A: Treatment Effects								
2000	0.38	0.90	660	1,569	-604	-1,436	429	1,020
	(0.41)	(1.00)	(961)	(2,304)	(305)	(780)	(578)	(1,381)
2001	0.75	1.89	756	1,921	-1,050	-2,667	343	871
	(0.45)	(1.23)	(1,188)	(3,049)	(281)	(845)	(645)	(1,637)
2002	1.70	4.35	2,087	5,329	-1,381	-3,526	799	2,040
	(0.50)	(1.44)	(1,279)	(3,374)	(338)	(1,030)	(703)	(1,777)
2003	1.78	4.54	2,984	7,603	-1,265	-3,223	549	1,400
	(0.53)	(1.52)	(1,529)	(4,028)	(371)	(1,137)	(796)	(2,002)
B: Expectations among Compliers in the Absence of the Integration Plans								
2000	1.65		2,338		7,619		8,148	
	(0.87)		(2,062)		(905)		(1,140)	
2001	1.64		3,645		7,930		8,457	
	(1.10)		(2,576)		(964)		(1,368)	
2002	1.74		3,228		7,751		8,396	
	(1.10)		(2,407)		(1,029)		(1,407)	
2003	2.13		4,315		6,516		9,125	
	(1.16)		(2,759)		(1,035)		(1,382)	

Note: Panel A: Intention to treat (ITT) and local average treatment effects (LATE) estimates using linear parametrization. Standard errors (in parentheses) are clustered according to the month of arrival. Rows correspond to the year of measuring the outcome. Controlling for age, age squared, region of origin, legal status, local unemployment rate at arrival, quarter of arrival, type of municipality (city, semi-rural, rural) at arrival, lives in the Helsinki region (Uusimaa) at arrival, marital status at arrival, indicators for having children younger than 3 years old, 7 years old and 18 years old in the household at arrival. Panel B: Estimates of equation (3) for the average outcomes among compliers in the absence of integration plans. Social benefits and disposable income are measured at the household level using the OECD equivalence scale, see footnote 11.

Table 3: Training within the Labor Administration

		By Type of Training				
		Lang-	Preparatory		Vocati-	Place-
	Total	uage	Imm.	Gen.	onal	ments
	(1)	(2)	(3)	(4)	(5)	(6)
A: Expectations among Compliers with an Integration Plan						
Linear	336.0	100.2	36.5	70.3	24.5	104.5
specification	(21.2)	(14.2)	(9.1)	(10.1)	(12.3)	(13.6)
Quadratic	321.0	109.6	12.4	58.5	30.0	110.5
specification	(30.4)	(18.6)	(12.6)	(15.2)	(14.4)	(16.5)
B: Expectations among Compliers without an Integration Plan						
Linear	338.1	6.3	-4.4	211.0	34.9	90.3
specification	(49.1)	(14.7)	(7.7)	(30.5)	(10.8)	(21.0)
Quadratic	265.4	55.2	3.6	104.8	50.8	51.1
specification	(52.4)	(22.9)	(10.4)	(22.6)	(15.1)	(31.4)
C*: The Impact of the Integration Plan*						
Linear	-2.2	93.9	40.8	-140.8	-10.4	14.2
specification	(53.5)	(18.5)	(10.8)	(31.8)	(16.9)	(23.1)
Quadratic	55.6	54.4	8.8	-46.3	-20.8	59.4
specification	(67.8)	(26.2)	(13.4)	(29.3)	(20.6)	(32.0)

Note: Dependent variables are days in training during the first six years to Finland.