



The Stockholm University Linnaeus Center  
for Integration Studies (SULCIS)

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(TIP) for Newly-Arrived Immigrants based on Random  
Program Assignment – Mid Program Results*

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Working Paper 2009:4

ISSN 1654-1189

# TIPping the Scales towards Greater Employment Chances? Evaluation of a Trial Introduction Program (TIP) for Newly-Arrived Immigrants based on Random Program Assignment\*

-- Mid-Program Results --

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## Abstract

A Trial Introduction Program (TIP) for newly-arrived immigrants to Sweden was set up in October 2006 in order to meet the main criticisms directed at existing introduction programs. Two primary innovations were introduced, flexible language instruction parallel with other labor market activities at the Public Employment Service (PES) and intensive counselling and coaching by PES caseworkers with considerably reduced caseloads. Within participating municipalities, newly-arrived immigrants were randomly assigned into TIP or the control group, i.e., regular introduction programs. Results indicate small but significant treatment effects on the probability of attaining regular employment and subsidized employment. In addition, TIP participants were considerably more likely to enter intermediate PES training programs. Hazard rates into PES training programs were also significantly higher for participants in TIP in comparison to participants in regular introduction programs.

**Keywords:** Labor Market Policy Evaluation, Integration, Introduction Programs, Experiment

**JEL Codes:** J15, J64, J68, J61, C41

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\* The authors are grateful for comments from Peter Skogman Thoursie, Lena Schröder, Eskil Wadensjö, Gülay Özcan and seminar participants at the Department of Economics, Stockholm University, the Institute for Labour Market Policy Evaluation (IFAU), the Ministry of Employment and .....

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## **Introduction**

Facilitating the transition from immigration (into the country) to integration (into the labor market) is an important policy issue for many European countries. Sweden, like the other Nordic countries have set up introduction programs to assist newly-arrived immigrants in this process. These programs, which in Sweden target immigrants granted permanent residency due to political asylum (refugee status) or on humanitarian grounds (as well as tied movers arriving within two years of the main applicant) have a dismal track record in terms of employment rates. In order to combat the numerous problems associated with introduction programs, a trial introduction program was implemented in October 2006 in three Swedish municipalities with random program assignment. The purpose of the trial program was to considerably shorten the time from granted permanent residency to regular employment in the Swedish labor market. The main elements of the trial introduction program included earlier registration of newly-arrived immigrants in the Public Employment Services (PES) (within three months of granted residency permits), flexible language instruction parallel with other active labor programs at the PES and intensive counseling and coaching by PES caseworkers with considerably reduced workloads. The purpose of this study is to evaluate if participation in the trial introduction program improved the employment prospects of newly-arrived immigrants in comparison to participants of traditional introduction programs (the control group). To our knowledge, no immigrant integration policy measure has previously been evaluated using experimental methods.

Introduction programs have been offered to newly-arrived immigrants in Sweden since the late 1960s. These programs aim to not only assist immigrants into the labor market via language instruction and active labor market programs such as vocational training, job-search courses, subsidized employment and validation of pre-immigration education and work experience, but have also increasingly come to include social orientation courses such as civics and history courses and information about the norms, values and cultural traditions of the host country. Introduction programs are primarily administered by municipal governments but often in conjunction with other actors. In Sweden, for example, the Swedish PES, the Swedish Migration Board, the Swedish Association of Local Authorities and Regions and the Swedish National Association for Education signed a central agreement concerning joint responsibility for introduction programs in 2001. In addition, there are decentralized

agreements between the main actors in most municipalities. The decentralized responsibility for introduction programs implies a great deal of heterogeneity in the exact content of introduction programs across municipalities as well as the actors involved in these programs. Participation in introduction programs is associated with some form of remuneration, an *introduction subsidy* which can be withdrawn due to non-compliance or non-participation. All introduction programs are time-limited implying that immigrants are phased over to general labor market programs as well as general social services upon completion of introduction programs.

Despite being seen as an important component of the integration process for newly-arrived immigrants, introduction programs have recently come under heavy critique (Board of Integration, 2002, 2004, 2005, 2007b; Swedish National Audit Office, 2006; Statens Offentliga Utredningar (SOU), 2003; Swedish Association of Local Authorities and Regions (SKL), 2006, 2007a, 2007b; Svantesson, 2006; Svantesson et al 2006; Åslund et al., 2007). Concern about the efficacy of immigrant introduction programs stems from low employment levels of immigrants with short duration of residence. Only 60 percent of male immigrants and 40 percent of female immigrants with one to four years duration of residence were employed in 2006. Employment rates are even more dismal for immigrants that participated in introduction programs, only 30 percent of male immigrants and 20 percent of female immigrants were employed three years after completion of introduction programs (Board of Integration, 2007).

A recent overview of the numerous reports and studies assessing introduction programs lists a number of the problems that reviewers agree upon with regards to introduction programs (National Thematic Network on Asylum and Integration, 2008). The report highlights weak ties to the labor market, a lack of cooperation and coordination between the different actors responsible for newly-arrived immigrants, isolated rather than coordinated and comprehensive activities, poor language instruction and language instruction provided in isolation from other more labor-oriented programs at the PES. For instance, ninety percent of participants in introduction programs receive language instruction during their first year in Sweden but only 27 percent successfully complete these courses within the first year of instruction (Board of Integration, 2007c). In addition successful completion of language courses is normally required before activation in labor market programs at the PES. Finally, introduction programs have been criticized for their lock-in effects. Immigrants are placed in one form of program after

another, many times in education programs with weak ties to the labor market and where the need for these courses can certainly be questioned.<sup>1</sup>

In order to meet the problems associated with introduction programs, a trial introduction program was commissioned by the government and implemented in October 2006 in three Swedish counties (Kronoberg, Stockholm and Skåne). The purpose of the trial introduction program (TIP) was to considerably shorten the time from entry into Sweden to entry into the labor market. In order to do so, the trial introduction program focused on improving the coordination between the two most central actors in the introduction of newly-arrived immigrants, namely Swedish municipalities and the PES.<sup>2</sup> The trial program also encouraged early registration of newly-arrived immigrants in the Employment Service (within three months of granted permanent residency), flexible provision of language instruction simultaneously with other active labor market programs at the PES and intensive coaching and counseling by PES caseworkers. These caseworkers, recruited specifically for the trial introduction program, were given extra training on meeting the special needs of newly-arrived immigrants and were granted considerably lighter caseloads than normally required of PES caseworkers.

In order to facilitate a causal evaluation of participation in the trial introduction program on a number of outcomes, an experimental set-up was employed. Municipal PES offices in the participating counties, after determining eligibility to TIP, randomly assigned newly-arrived immigrants into the trial program (TIP) or the control group (regular introduction programs).<sup>3</sup> This experimental setup bypasses many of the problems normally associated with evaluating labor market programs such as selective participation into the program, differences across municipalities in the specific components of introduction programs, differences across PES offices in for example average caseworker experience with newly-arrived immigrants, differences in the coordination and cooperation between the PES and the municipality and differences in local labor market conditions.

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<sup>1</sup> For example, as many as 20-25 percent of immigrants participating in basic adult education courses in 1997 were university graduates and 50 percent of these participated for more than five terms of basic education (Board of Integration, 2006). See also Schröder (2007) for an overview and critique of integration policies in Sweden.

<sup>2</sup> The Swedish Public Employment Service is an agency commissioned by the government to match job seekers with employers and to assist the unemployed in finding employment. The Employment Service is divided into 68 labour market regions and has over 700 offices across Sweden.

<sup>3</sup> Random assignment into TIP or the control group was normally the responsibility of PES office managers.

Previous studies in Sweden on active labor market programs (ALMPs) targeted towards immigrants include Svantesson and Aranki (2006) who use survey data on PES caseworkers to analyze the impact of different types of labor market programs available within introduction programs on short-term employment levels. The authors find that ALMPs closely tied to regular employment such as trainee programs and internships are associated with higher employment probabilities. The study does not however control for selection into introduction programs or into different types of ALMPs within introduction programs. They can therefore not determine to what degree those enrolled in ALMPs with strong ties to the labor market are positively selected and more likely to be employed even in the absence of program participation.

Åslund and Johansson (2006) study a trial employment program for immigrants (SIN) aimed at using employment support methods developed for disabled workers. Using a difference-in-difference approach to estimate program effects, the study finds that the establishment of supported employment methods in certain municipalities increased transitions from open unemployment to employment by a significant 12 percent. In addition there was a significant and positive increase in transitions from work experience programs to employment in SIN communities by 15 percent. Supported employment methods may therefore have promoted better matches between participant needs and intermediate labor market programs fostering post-program employability.

Clausen *et al.* (2008) analyzes the effect of integration policies targeted towards newly-arrived immigrants in Denmark using timing-of-events duration models. Results indicate significant and negative lock-in effects of participation in language courses and active labor market programs on hazard rates into employment. The lock-in effects of language courses however decrease over time for participants with improved language skills during the course of the program. The program effect of language courses on the hazard rate to regular employment is large and positive for participants with improved language skills. Of the active labor market programs offered, only wage subsidized employment programs in the private sector were found to increase transitions into employment.

The experiment evaluated in this study, based on random assignment into the trial introduction program (TIP), indicates that participants of TIP had slightly higher probabilities of entering regular employment as well as subsidized employment in comparison to participants of regular

introduction programs. The effects are small, participation in TIP leads to approximately two percentage point higher probabilities of regular as well as subsidized employment in comparison to participation in regular introduction programs. A larger and positive effect of participation in TIP is noted for PES training programs. Participants of TIP have a ten percentage point higher probability of being assigned to education programs than participants in regular introduction programs. An analysis of the sub-group that enrolled in the experiment during the initial months who were able to participate for the maximum allotted 12 months shows a much larger positive effect of participation in TIP on regular employment (approximately ten percentage point higher probabilities). Finally, results are driven by differences in treatment effects among men. Participation in TIP did not significantly improve the employment prospects for female participants.

The remainder of the paper is as follows: The next section describes in detail the trial introduction program and the experimental setup. Section 3 describes the data and empirical method. Results are presented in Section 4 and concluding remarks in Section 5.

### **The Trial Introduction Program for Newly-arrived Immigrants (TIP): An Experimental Setup with Random Program Assignment**

The trial introduction program for newly-arrived immigrants (TIP) was introduced on October 1, 2006 within three Swedish counties (Kronoberg, Skåne and Stockholm). The purpose of the program was to “take advantage of the skills, experience and education of newly-arrived immigrants in order to considerably decrease the elapsed time from granted residency permits to entry into the Swedish labor market in comparison to the situation today” (Swedish Public Employment Service, 2007a). The trial program introduced two main innovations from regular introduction programs; intensified counselling and coaching by PES caseworkers with considerably reduced caseloads and flexible provision of language instruction.

Within the trial program, PES caseworkers were recruited and trained to work exclusively with newly-arrived immigrants. In order to facilitate more intensive contacts with participants, these caseworkers were granted considerably reduced caseloads. The normal caseload for PES caseworkers in the participating municipalities during this time period was between 200-250 cases per month. Within TIP, caseworkers handled approximately 35-40 cases on average per

month.<sup>4</sup> Over and beyond intensive contact and coaching with PES caseworkers, participants in TIP were offered the same types of active labor market programs (ALMPs) available to all newly-arrived immigrants. These include job search activities, validation of foreign credentials, courses on interview techniques and writing job applications, PES training programs (usually occupational educations) and wage subsidized employment. The novelty within the trial introduction program was therefore not in terms of the *types* of labor market activities offered but rather in *how* these activities were offered (flexible language instruction simultaneously with PES ALMPs). Intensive contacts with PES caseworkers also aimed to facilitate a better understanding of the individual needs of participants thereby promoting better matches to appropriate intermediate ALMPs.

Language instruction for newly-arrived immigrants is administered and provided by municipal governments. Commonly, successful completion of language instruction is a prerequisite for activation in PES labor market programs implying that many months, sometimes years, may pass before participants in introduction programs are enrolled in active labor market programs. A goal with the trial introduction program was therefore to break the sequential setup typical of introduction programs and offer flexible language instruction parallel with more labor-oriented activation measures at the PES. Municipalities were also encouraged to establish alternative forms of language instruction better suited to the demands of the labor market such as occupational-specific language instruction.

The trial introduction program also encouraged municipalities to considerably shorten waiting periods between granted residency permits and enrolment in introduction programs. Originally, a three month limit was established implying that no more than three months should pass between granted residency permits and enrolment into introduction programs. Finally, the trial program encouraged greater coordination and cooperation between the main providers of integration programs, in particular between the municipality and the PES. Participation in TIP was on a full-time basis for a maximum of one year. Participants still registered in the trial program after 12 months were phased over to regular introduction programs within the municipality and the PES.

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<sup>4</sup> Information based on interviews with PES office managers in participating counties.

In order to evaluate the effect of participation in the trial introduction program, an experimental setup with random program assignment was implemented in nine of the municipalities within participating counties (see Table 1).<sup>5</sup> PES office managers first identified which newly-arrived immigrants were eligible for participation in the trial introduction program and thereafter randomly assigned eligible participants to TIP (treatment group) or regular introduction programs (control group). Due to volume stipulations, 70 percent of eligible newly-arrived immigrants were assigned to TIP and 30 percent to regular introduction programs. Eligibility was initially strict stipulating that participants should be between 20-64 years of age, permanent residents to Sweden and registered to the trial introduction program no later than three months after granted residency permits. Participants were also expected to have work experience or educations within specific occupations and, after participation in the program, to immediately be able to enter the labor market.

-- Table 1 here --

In practice many of these stipulations were relaxed during the course of the trial program. In particular many municipalities dropped the requirement concerning maximum three months duration of residence in Sweden (after granted residency permits) as well as previous experience and education requirements. Possible variation across PES offices in eligibility requirements is not however problematic to our evaluation of the trial program as random program assignment was at the PES office level and differences between offices over time are controlled for in estimation.

This study focuses on evaluating to what degree trial program participation affects transitions to regular (unsubsidized) employment, to wage subsidized employment and to regular education. In addition, we study the intermediate outcome of participation in PES training programs. Outcomes in this study are defined according to the last registered notation in the PES database.

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<sup>5</sup> Several other municipalities in participating counties also introduced the trial introduction program but without random program assignment. See Andersson Joona & Nekby (2007) for an evaluation of TIP comparing participating municipalities with non-participating municipalities within each county. This evaluation cannot account for varying selection into different municipalities, varying types of ALMPs or language instruction within introduction programs between municipalities or differences in caseworker experience with newly-arrived immigrants across municipalities rendering a causal evaluation of program participation impossible. For this reason we focus our evaluation on the nine municipalities that implemented random program assignment within the municipal PES.

## Data and Empirical Setup

The data used in estimation stems from the PES database which records information on all persons registered as unemployed at the PES.<sup>6</sup> In this study, information is compiled on all individuals registered as participating in TIP or as members of the control group from the start of the experiment on October 1, 2006 to January 9, 2008. Note that this is a preliminary evaluation of the trial introduction program as the experiment is scheduled to continue until June 30, 2008.<sup>7</sup> In total 1,518 newly-arrived immigrants were enrolled into the experiment of which 1,164 (77 percent) were enrolled into the trial introduction program and 354 into the control group (regular introduction programs).

The AIS database provides information on the job-search status of participants, the types and duration of PES ALMPs and reason for deregistration from PES registers. The database also contains information on personal characteristics such as gender, county of residence, age, education and country of birth. This information allows us to follow the activities of participants in both the treatment (TIP) and control group from initial registration until registration into one of the four stipulated outcomes (regular or subsidized employment, regular education or PES training). Information on language instruction is not available in the database as language instruction is under the jurisdiction of the municipal governments and, at present, there is no linked data between municipal registers and PES registers. This implies that no information is available on language instruction including type, duration, intensity or results of language instruction. Nor is there any information concerning to what degree language instruction was provided flexibly together with active labor market programs at the PES and how the provision of language instruction differed between the trial program and regular introduction programs. For this reason, it is not possible to identify to what degree treatment effects are driven by changes in the provision of language instruction or by other innovations such as intensive counselling and coaching by PES caseworkers.

As the experiment is on-going, evaluations in this analysis are based on the last noted registration in the PES database regardless of date of registration into the experiment. This implies that not all individuals in the analysis have been able to participate in the trial

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<sup>6</sup> Registration at the PES as unemployed is mandatory for all persons receiving unemployment insurance as well as for all newly-arrived immigrants participating in introduction programs who receive an introduction subsidy.

<sup>7</sup> An updated analysis of the trial introduction program is scheduled based on data compiled three months after the experiment ended.

introduction program for the stipulated maximum 12 months. A separate analysis is carried out for the sub-sample of participants who were registered during the initial months of the experiment and who therefore had the opportunity of participating in introduction programs for a full 12 months

There is some uncertainty concerning treatment status for 209 persons due to a change in registered treatment status in the data or de-registration from the experiment. A change in treatment status may occur because of typographical errors or a change in PES office registration within participating municipalities implying reassignment to introduction programs. Deregistration from the experiment for reasons other than achievement of stipulated outcomes can be due to frequent absenteeism from ALMPs, disruptive behaviour or a move to a non-participating municipality. As such it is unclear to what degree these 209 newly-arrived immigrants, randomly assigned to the trial introduction program, actually were treated, i.e., participated in TIP.

The four outcome variables of interest, regular employment, subsidized employment, regular education and labor market training, are defined according to formal PES definitions. Information from two variables in the PES database are used to define each outcome variable, registered job search status and reason for PES deregistration. See Table 2 for exact definitions of each outcome variable.

-- Table 2 here--

If assignment into treatment and control groups is truly random, a causal interpretation of participation can be found by a simple regression of each outcome variable on a binary variable measuring participation in TIP. As assignment was conditional on gender, PES office and time (date of random assignment), regressions must account for this by including a dummy variable for gender, a complete set of PES office dummy variables and date of registration dummies. Variations of the following model are therefore estimated:

$$Y_i = \beta_0 + \beta_1 TIP + \beta_2 FEMALE_i + \beta_3 PESoffice_i + \beta_4 DATE_i + X_i \beta_5 + \varepsilon_i$$

Where  $Y_i$  is the outcome variable of individual  $i$ , (regular employment, subsidized employment, regular education or PES training),  $TIP$  is a zero/one variable equal to one for individuals randomly assigned into the trial program and zero for individual assigned to regular introduction programs (treatment effect),  $FEMALE$  is a zero/one variable equal to one for women,  $PESoffice$  is a complete set of dummy variables indicating the PES office the individual is registered with,  $DATE$  is a dummy variable indicating date of registration into the experiment at the PES office,  $X$  is a vector of control variables described below and  $\varepsilon$  is the random error component. If assignment into the trial program and the control group is random, conditional on gender, PES office and date, there should be no correlation between participation in  $TIP$  and the random error component facilitating a causal interpretation of participation in  $TIP$  on outcomes. Standard errors are clustered at the PES office level in all estimations.

As a check of randomization, an expanded model is estimated adding controls for age, education (six dummy variables measuring completion of primary, secondary, upper-secondary, short post-secondary, university or PhD educations) and municipality. If assignment is truly random, inclusion of these observable characteristics should not significantly alter the estimated treatment effect. In addition, linear probability models on the probability of being assigned to treatment ( $TIP$ ) are also estimated in order to directly check for the possibility of non-random assignment into the treatment group on observable characteristics. Finally instrument variable methods, using initial assignment into treatment (intention to treat) as an instrument for treatment ( $TIP$  participation) are estimated to control for the possible effect of non-random attrition from program participation on the treatment effect.

-- Table 3 here --

Descriptive statistics are provided in Table 3. Approximately 9 percent of participants in the trial program were registered as having entered unsubsidized employment at the end of the observation period. In comparison, about 6 percent of participants in regular introduction programs were registered in regular employment. Note that due to the 70/30 random assignment into treatment and control groups, the sample means presented in Table 3 can be affected by varying group size between PES offices. Due to conditional randomization, estimation controlling for PES office, gender and date of registration are necessary to adjust for this. Unadjusted sample means also indicate that participants in  $TIP$  were more likely to have

subsidized employment and to be enrolled in PES training programs. No differences were found between the treatment and control group in the proportion enrolled in regular education programs. In total 25 percent of the treatment group and 12 percent of the control group had achieved one of the four defined outcome variables by the end of the observation period.<sup>8</sup>

## **Results**

### **Differences in Achieved Outcomes**

Table 4 presents estimation results of linear probability models on respective outcome (estimated separately) focusing on treatment effects, i.e., differences in outcomes due to participation in the trial introduction program in comparison to the control group, regular introduction programs. Model 1 controls for gender, PES office and date of registration (complete set of dummy variables) which is necessary as assignment into treatment and control was conditional on these characteristics. Model 2, in addition, controls for education, age and municipality. Any differences between PES offices that may influence results are therefore accounted for as well as differences over time within PES offices in eligibility requirements. Reported coefficients show the difference, in percentage points, in the probability of reaching respective outcome for participants in TIP in comparison to participants in the control group.

-- Table 4 here --

Results indicate a significant treatment effect on employment probabilities. Participation in TIP leads to a 3.1 percentage point higher probability of being regularly employed at the end of the observation period than participation in regular introduction programs. This difference is unchanged by the inclusion of controls for age, education and municipality. No treatment effect is found for subsidized employment or regular education indicating no differences for participants in TIP in achieving these outcomes in comparison to the control group.

The probability of being enrolled in PES training programs is however large and significant indicating that participants in TIP are much more likely (9 percentage points more likely) to

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<sup>8</sup> This is far short of the stipulated goals of the trial introduction program stating that at least 70 percent of participants in TIP should reach one of the defined outcome variables after 12 months of possible program participation.

gain access to intermediate training programs than participants in regular introduction programs.<sup>9</sup>

### **Assessing the Causality of Program Participation on Achieved Outcomes**

A causal interpretation of estimated effects hinges on random assignment into the trial program as well as no selective attrition from the experiment. The first issue concerns whether or not assignment into treatment and control groups at each PES office truly was random. The second issue concerns whether or not results are influenced by persons who despite assignment into the trial program, did not participate, i.e., were not treated. This may be due to a move to another PES office within participating counties or deregistration from PES introduction programs for reasons other than achievement of one of the four stipulated outcomes. Greater demands were placed on TIP participants in terms of more frequent contacts with PES caseworkers and more intensive coaching implying that exits from the program may be non-random.

A simple test of random program assignment is to compare estimation results, reported in Table 4) with and without controls for observable characteristics (model 1 and 2). Random program assignment implies that, on average, the characteristics (both observable and non-observable) of individuals in the treatment and control group should be the same. This implies that the inclusion of observable characteristics in estimation should not significantly alter coefficient estimates of the treatment effect. Differences in the point estimates for model 1 and model 2 in the above estimations are indeed not significant suggesting that program assignment was random. Direct estimation of the probability of treatment on observable characteristics (not shown) yields no significant results confirming that assignment to treatment appears to be random.

As mentioned earlier, 209 newly-arrived immigrants assigned to TIP may not have fully participated, i.e., been treated, for reasons stated earlier. As such, it is necessary to assess to what degree non-random attrition may influence reported results by estimating instrumental variable (IV) models. The IV estimations use initial assignment into TIP (intention to treat) as an instrument for actual treatment, based on the now credible assumption that initial

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<sup>9</sup> Multinomial logit estimation on the four given outcomes yield results in line with those reported in Table 4, positive treatment effects were found for regular employment and PES training in comparison to continued registration in introduction programs. Results available from authors by request.

assignment into TIP was random. Results, reported in Table A1 in the Appendix, indicate that the estimated treatment effects of trial program participation are unaltered when accounting for potential non-random attrition.<sup>10</sup> Together these results suggest that program assignment was truly random and that non-random attrition is not a problem implying that results reported in Table 4 can be interpreted as causal effects of trial program participation.<sup>11</sup>

### **Differences in Duration of Program Participation for Achieved Outcomes**

Another aim of the trial introduction program was to shorten the duration in introduction programs before entry into the regular labor market. Introduction programs are administered at the municipal level implying large variation between municipalities in how these programs are set up, including the formal length of introduction programs. Municipals are however only reimbursed by federal authorities for costs incurred by introduction programs for a maximum of 24 months (based on a fixed compensation scheme per program participant). Although introduction programs may continue beyond this 24 month limit, the costs for longer programs are transferred to municipal coffers.

On average, participants in TIP exit for regular employment later than participants in regular introduction programs (257 days compared to 200 days respectively). Duration in introduction programs is measured from initial registration at the PES office until registration as having achieved one of the stipulated outcomes. Average differences do not take into consideration the distribution of duration in introduction programs. It is possible for example that those with strong merits exit both types of introduction programs equally fast while participants in the trial program with weaker merits exit for employment after longer program participation in comparison to participants in regular programs with weaker merits who do not exit for employment at all.

In order to assess possible differences in duration of program participation before exits to employment (and the other outcome variables), hazard and survival models are estimated.<sup>12</sup>

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<sup>10</sup> First stage regressions indicate that the association between initial assignment and treatment is large and highly significant; t-values are greater than 37 far exceeding the rule of thumb for instrument relevance (F-statistic > 10).

<sup>11</sup> Multinomial logit estimation allowing for multiple outcomes confirms that participants in FNI are significantly more likely at the end of the registration period to have exited for regular employment, subsidized employment or PES training programs than participants in regular introduction programs.

<sup>12</sup> Four models are estimated; log-logistic survival models, log normal survival models, single risk Cox proportional hazards models and multiple risk Cox proportional hazard models. These models control only for gender and PES office.

Results presented in Table 5 indicate no significant differences in hazards to employment or survival probabilities in introduction programs between participants in TIP and participants in the control group, regardless of model estimated. This is also true for exits to subsidized employment and to regular education.

-- Table 5 here --

In terms of exits to intermediate PES training programs, participants in TIP are found to exit faster for training programs than participants in the control group (or alternatively have significantly lower survival rates in introduction programs). It therefore appears that PES caseworkers within the trial program are more successful in pushing program participants into training programs than caseworkers in regular introduction programs, perhaps as a consequence of lower caseloads or due to better information concerning the training needs of participants. The question to answer in future studies is to what degree greater and faster access to PES training programs, as well as potentially better matches between individual needs and PES training programs, translates to higher subsequent sustainable employment in the regular labor market.

### **Treatment Effects for Full-Term Participants**

Stipulations concerning the trial introduction program state that participants randomized into TIP should have the opportunity of participating in the program for a full 12 months. Those who have not exited for employment or education (deregistered from the PES) during this time are phased over to ordinary introduction programs. As mentioned earlier, the estimations above are based on all participants regardless of duration in the program (although date of registration is controlled for) as only a limited number of participants have had the opportunity of participating for the full 12 months, i.e., only those registered during the first few months of the experiment.

In this section we focus exclusively on full-term participants, that is to say the sub-sample of 415 newly-arrived immigrants that registered into the experiment between 2006-10-01 and 2007-01-09.<sup>13</sup> Of these, 304 persons were randomly assigned to participate in the trial

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<sup>13</sup> The last date of data collection for this mid-program evaluation of the experiment was 2008-01-09.

introduction program and 111 persons assigned to the control group (ordinary introduction programs).

Results for linear probability models on each outcome are presented in Table 6. The probability of being regularly employed is significantly larger for full-term participants in TIP, by approximately 6 percentage points, in comparison to full-term participants in the control group. This is a significantly larger treatment effect than that reported earlier for the entire sample (see Table 4) and may be due to the selection of newly-arrived immigrants that were registered at during the early phase of the experiment or to treatment effects accruing to long program participation. Sweden introduced an amnesty for undocumented immigrants in 2005 granting permanent residency permits for undocumented families with children. As such the initial selection into the program may have been a group with relatively long, but undocumented contact with Sweden. This group, with potentially long duration of residence – far greater than the stipulated three months from granted residency permits - may have especially benefited from intensive coaching and flexible language instruction. It remains to be seen if these large effects remain once the bulk of newly-arrived immigrants have had the opportunity of participating in the trial program for the full 12 months allotted.

-- Table 6 here --

No differences were found in the probability of attaining subsidized work or enrolling in regular education between full-term participants in the treatment and control group. As earlier, participants in TIP who had been enrolled in introduction programs for a full 12 months were considerably more likely to be enrolled in intermediate PES training programs than full-term participants in the control group, although the significance of this treatment effect falls outside of standard significance levels.<sup>14</sup>

Hazard on exits to respective outcome and survival models in introduction programs indicate that there are no significant differences in hazard and survival rates between full-term participants in TIP and full-term participants in the control group (see Table A2).

### **Gender Differences in Treatment Effects**

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<sup>14</sup> Coefficient estimates of the treatment effect on enrolling in PES training are significant at the 14 percent level in model 1 and the 12 percent level in model 2.

Of the 1,518 newly-arrived immigrants that registered in the experiment, either as participants in TIP or in the control group, approximately 27 percent were female (416 persons). As treatment effects may differ by gender, linear probability models on respective outcome are re-estimated separately for male and female participants.

Results shown in Table 7 indicate that earlier reported results for the entire sample are largely driven by treatment effects for men. A treatment effect is only found with respect to subsidized employment for female participants. Female participants in TIP have a 2.8 percentage point higher probability of attaining subsidized employment at the end of the observation period than female participants in the control group. No other treatment effects for women are found. Even if the selection of women who enter introduction programs have weaker merits on average than newly-arrived male immigrants (which is not supported by data on education levels) and are perhaps less job-ready, the innovations introduced within the trial introduction program do not appear to cater to the needs of newly-arrived female immigrants or assist them in entering the labor market. Note that the significance of estimated coefficients is likely to be affected by small sample sizes.<sup>15</sup>

-- Table 7 here --

Male participants in TIP are 5-6 percentage points more likely to be regularly employed at the end of the observation period than male participants in the control group. No treatment effects are found for male participants with respect to subsidized employment or regular education. The treatment effect on enrolment in PES training programs is however large and significant, participants in TIP have approximately 12 percentage point higher probabilities of being enrolled in PES training programs than participants in the control group.

Survival and hazard models on exits to each outcome indicate that male participants in TIP have significantly lower survival rates in introduction programs in terms of PES training programs and significantly higher hazards into these programs (see Table A3 in the Appendix). No differences in survival and hazard rates were found for female participants in TIP in comparison to the control group and no differences were found in survival and hazard rates for any of the other outcomes.

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<sup>15</sup> In particular, the number of female respondents with positive outcomes with respect to subsidized employment, regular education and labor market training programs is limited.

## **Conclusions**

This study evaluates a trial introduction program (TIP) for newly-arrived immigrants to Sweden, implemented in October 2006 within three Swedish municipalities, with random program assignment. The purpose of the trial program was to considerably shorten the time from granted permanent residency to regular employment in the Swedish labor market via a number of innovations structured to meet the main criticisms of traditional introduction programs. Results in this study are mid-program results based on individuals enrolled into the experiment between October 1, 2006 and January 1, 2009.

Results presented indicate significant and positive treatment effects on the probability of being regular employment or enrolled in PES training programs. Participants in TIP had approximately 3 percentage point higher probabilities of being regularly employed at the end of the observation period and 9 percentage point higher probabilities of being enrolled in PES training programs than participants in regular introduction programs (the control group). These results are largely driven by treatment effects for men and are found to be stronger for full-term participants who had the opportunity to participate for the maximum allotted 12 months. In addition, hazard rates for enrollment into PES training programs are higher for participants in TIP indicating that access to PES intermediate training programs is both higher and faster for participants in the trial program.

Treatment effects on regular employment are arguably small. It is important to remember however that the base is also very small. The Board of Integration, based on data from 2006, calculated that only five percent of female participants in introduction programs and ten percent of male participants were regularly employed one year after granted residency permits (Board of Integration, 2007). An increase of 5 percentage points found for male participants in TIP therefore implies a 50 percent improvement in employment rates in comparison to traditional introduction programs. For the sample as a whole, an increase of 3 percentage points in the probability of being regularly employed also implies an improvement of 50 percent relative to the average employment rate within the experiment of participants in regular introduction programs (6 percent). Note that these effects may be an underestimate of treatment effects for two reasons. One, many of those enrolled in the experiment have not yet completed the full 12 months allotted for program participation. Two, the innovations introduced in the trial program may have spilled over to the work practices of PES caseworkers

within the same office working within the framework of regular introduction programs, implying that participants in regular introduction programs may to a degree also have been treated.

Large and significant treatment effects on enrollment in PES training programs need to be followed up in order to ascertain to what degree higher and faster access to PES training programs leads to subsequent employment in the regular labor market.

**Tables and Figures:**

**Table 1: Participating Counties in Each Municipality**

<b>County</b>	<b>Participating Municipality</b>
Stockholm	Botkyrka Södertälje Huddinge
Kronoberg	Växjö Ljungby Lessebo
Skåne	Landskrona Kristianstad Helsingborg

**Table 2: Definition of Outcome Variables**

<b>Outcome</b>	<b>Definition</b>
Regular Employment	Deregistered for a permanent job position, temporary job position or return to previous job position; or registered job search status as part-time employed or in a temporary position.
Subsidized Employment	Deregistered for subsidized employment (Samhall)*; or registered job search status as participant in PES wage subsidized employment program (either job practice or wage subsidized employment).
Regular Education	Deregistered for educations not provided by the PES.
Labor Market Program	Registered job search status as participant in a PES provided education or training program (including apprenticeship training)

\* Samhall is a public Swedish organization assigned to provide meaningful work to the disabled.

**Table 3: Sample Means**

<b>Outcome (%):</b>	<b>Trial Introduction Program (TIP)</b>	<b>Regular Introduction Program (control)</b>
Regular Employment	9.1**	5.9
Subsidized Employment	4.5**	2.5
Regular Education	1.3	1.1
PES Training	10.2***	2.3
Total	24.8***	11.9
No. of observations	1164	354

Note: \*\*\* indicates significant differences between treatment (TIP) and control group at the 1 percent level, \*\* at the 5 percent level and \* at the 10 percent level.

**Table 4: Treatment Effect of Participation in TIP**

Outcome	Linear Probability Models	
	Model 1	Model 2
Regular Employment	0.031** (0.012)	0.028** (0.011)
Subsidized Employment	0.015 (0.017)	0.016 (0.017)
Regular Education	0.011 (0.010)	0.011 (0.010)
PES Training	0.091*** (0.020)	0.093*** (0.021)
No. of observations	1518	1518

Note: Model 1 includes controls for gender, PES office registration and date of registration. Model 2, in addition, controls for age, education and municipality. Standard errors (in parenthesis) are clustered at the PES office level. \*\*\* indicates significant differences between treatment (TIP) and control group at the 1 percent level, \*\* at the 5 percent level and \* at the 10 percent level.

**Table 5: Treatment Effect of Program Participation on Duration to Achieved Outcomes.**

Outcome	Log-logistic	Log normal	Single risk	Multiple risk
	Survival	survival	Cox proportional hazard	Cox proportional hazard
	(1)	(2)	(3)	(4)
Regular Employment	-0.148 (0.103)	-0.120 (0.126)	1.386 (0.336)	1.355 (0.329)
Subsidized Employment	-0.082 (0.060)	-0.154* (0.086)	1.626 (0.602)	1.626 (0.602)
Regular Education	0.063 (0.188)	0.065 (0.206)	0.784 (0.463)	0.784 (0.463)
PES Training	-0.405*** (0.104)	-0.541*** (0.127)	4.225*** (1.552)	4.225*** (1.552)
No. of observations	1417	1417	1417	1417

Note: Estimated models control for gender and PES office registration Coefficients in *Survival* models (column 1 and 2) measure differences in duration probabilities of remaining in PES introduction programs. *Hazard models* (column 3 and 4) measure differences in the the risk of exiting PES introduction programs between participants in TIP and participants in the control group. \*\*\* indicates significant differences between treatment (TIP) and control group at the 1 percent level, \*\* at the 5 percent level and \* at the 10 percent level.

**Table 6: Treatment Effect of Participation in TIP, Full-Term Participants**

Outcome	Linear Probability Models	
	Model 1	Model 2
Regular Employment	0.064** (0.025)	0.059** (0.022)
Subsidized Employment	0.018 (0.039)	0.015 (0.038)
Regular Education	0.025 (0.030)	0.025 (0.030)
PES Training	0.081 (0.050)	0.081 (0.047)

No. of observations	415	415
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Note: Model 1 includes controls for gender, PES office registration and date of registration. Model 2, in addition, controls for age, education and municipality. Standard errors (in parenthesis) are clustered at the PES office level. \*\*\* indicates significant differences between treatment (TIP) and control group at the 1 percent level, \*\* at the 5 percent level and \* at the 10 percent level.

**Table 7 Treatment Effect of Participation in TIP, by Gender**

Outcome	Linear Probability Models			
	Female		Male	
	Model 1	Model 2	Model 1	Model 2
Regular Employment	-0.021 (0.048)	-0.023 (0.052)	0.059*** (0.017)	0.053*** (0.017)
Subsidized Employment	0.028** (0.012)	0.028* (0.012)	0.013 (0.022)	0.013 (0.022)
Regular Education	-0.019 (0.022)	-0.018 (0.022)	0.009 (0.008)	0.009 (0.008)
PES Training	0.023 (0.018)	0.021 (0.019)	0.117*** (0.023)	0.118*** (0.024)
No. of observations	416	416	1102	1102

Note: Model 1 includes controls for gender, PES office registration and date of registration. Model 2, in addition, controls for age, education and municipality. Standard errors (in parenthesis) are clustered at the PES office level. \*\*\* indicates significant differences between treatment (TIP) and control group at the 1 percent level, \*\* at the 5 percent level and \* at the 10 percent level.

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## Appendix

**Tabel A1: Treatment Effect of Participation in TIP**

Outcome	IV-estimation	
	Model 1	Model 2
<b>Regular Employment</b>	0.036** (0.014)	0.033** (0.013)
<b>Subsidized Employment</b>	0.018 (0.020)	0.018 (0.020)
<b>Regular Education</b>	0.013 (0.012)	0.013 (0.012)
<b>PES Training</b>	0.106*** (0.022)	0.108*** (0.022)
<b>No. of observations</b>	1518	1518

Note: Intention to treat (based on initial assignment) is used as an instrument for treatment. Model 1 includes controls for gender, PES office registration and date of registration. Model 2, in addition, controls for age, education and municipality. Standard errors (in parenthesis) are clustered at the PES office level. \*\*\* indicates significant differences between treatment (TIP) and control group at the 1 percent level, \*\* at the 5 percent level and \* at the 10 percent level.

**Table A2: Effect of Program Participation on Duration to Achieved Outcomes (*full-term participants registered between 2006-10-01 – 2007-01-09*)**

Outcome	Log-logistic Survival	Log normal survival	Single risk Cox proportional hazard	Multiple risk Cox proportional hazard
	(1)	(2)	(3)	(4)
<b>Regular Employment</b>	-0.336* (0.184)	-0.424* (0.248)	1.296 (0.489)	1.233 (0.468)
<b>Subsidized Employment</b>	0.009 (0.029)	0.009 (0.028)	0.875 (0.379)	0.875 (0.379)
<b>Regular Education</b>	0.130 (0.272)	0.211 (0.304)	0.723 (0.529)	0.723 (0.528)
<b>PES Training</b>	-0.516** (0.025)	-0.056** (0.025)	2.111* (0.964)	2.111* (0.964)
<b>No. of observations</b>	415	415	415	415

Note: Estimated models control for gender and PES office registration. Coefficients in *Survival* models (column 1 and 2) measure differences in duration probabilities of remaining in PES introduction programs. *Hazard models* (column 3 and 4) measure differences in the the risk of exiting PES introduction programs between participants in TIP and participants in the control group. \*\*\* indicates significant differences between treatment (TIP) and control group at the 1 percent level. \*\* at the 5 percent level and \* at the 10 percent level.

**Table A3: Effect of Program Participation on Duration to Achieved Outcomes. by Gender**

Outcome	Log-logistic Survival	Log normal survival	Single risk Cox proportional hazard	Multiple risk Cox proportional hazard
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	(1)	(2)	(3)	(4)
		<b>Female:</b>		
<b>Regular Employment</b>	0.214 (0.206)	0.253 (0.026)	0.566 (0.300)	0.480 (0.262)
<b>Subsidized Employment</b>	-0.043 (0.081)	-0.018 (0.075)	1.692 (2.020)	1.692 (2.020)
<b>Regular Education</b>	0.177 (0.199)	0.226 (0.228)	0.544 (0.338)	0.544 (0.339)
<b>PES Training</b>	--	--	--	--
<b>No. of observations</b>	408	408	408	408
		<b>Male:</b>		
<b>Regular Employment</b>	-0.220** (0.115)	-0.201 (0.143)	1.551 (0.428)	1.551 (0.427)
<b>Subsidized Employment</b>	-0.076 (0.068)	-0.157 (0.100)	1.485 (0.584)	1.485 (0.584)
<b>Regular Education</b>	--	--	--	--
<b>PES Training</b>	-0.392*** (0.110)	-0.528*** (0.132)	3.782*** (1.392)	3.782*** (1.393)
<b>No. of observations</b>	1063	1063	1063	1063

Note: Estimated models control for gender and PES office registration. Coefficients in *Survival* models (column 1 and 2) measure differences in duration probabilities of remaining in PES introduction programs. *Hazard models* (column 3 and 4) measure differences in the the risk of exiting PES introduction programs between participants in TIP and participants in the control group. \*\*\* indicates significant differences between treatment (TIP) and control group at the 1 percent level. \*\* at the 5 percent level and \* at the 10 percent level.



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SULCIS is a multi-disciplinary research center focusing on migration and integration funded by a Linnaeus Grant from the Swedish Research Council (VR). SULCIS consists of affiliated researchers at the Department of Criminology, the Department of Economics, the Department of Human Geography, the Department of Sociology and the Swedish Institute for Social Research (SOFI). For more information, see our website: [www.su.se/sulcis](http://www.su.se/sulcis)

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