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Do Introduction Programs Affect the Probability of Immigrants getting Work?

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Abstract

Many immigrants who come to Sweden are offered an introduction program. This is supposed to allow the individual to develop the skills he or she needs to be able to enter the Swedish labor market. With a unique Swedish dataset, containing information on introduction activities, we investigate the impact of different introduction activities on the immigrants' employment probability, in a short-run perspective. Our basic findings are that some activities, such as labor market practice, have a positive effect, while other activities do not seem to have any impact or even negative effect on the individuals' probabilities of getting a job.

Keywords: Immigrants, labor market, introduction programs

***JEL classification*: F22, J15**

1. Introduction

Migration into OECD countries has increased greatly during the last two decades. An important question that is raised in the economic literature is the immigrants' integration process into the host labor market. Immigrants at all times and places have to adapt to their host countries and vice versa. Many OECD countries expect the immigrants to play an important role in alleviating the adverse consequences of ageing populations. For this to be an option in the future, however, it is clearly necessary that the current stock of immigrants and future arrivals are more integrated into the societies. However, the results from the integration of the large numbers of immigrants that have entered the OECD countries during the nineties have been disappointing. Also, the social segregation of immigrants has become one of the most pressing social problems that the host countries face today.[1]

As in other countries, there is a strong labor market non-integration of immigrants in Sweden. Integration seems to be a failure during the last decades.[2] Many studies confirm the gap in employment and earnings; meanwhile, others have focused on economic progress among immigrants (Aguilar & Gustafsson 1991, Edin et al. 2004, Ekberg 1994, Ekberg & Hammarstedt 2002, Vilhelmsson 2002, Hammarstedt 2003)

The Swedish labor market can be characterized by high participation rates for both men and women, low variances in the wage distributions and a strong emphasis on active labor markets policies. Still, many of the refugees and other immigrants[3] that have come to Sweden during the last two decades have not become integrated into the Swedish labor market. This non-integration of immigrants has become a subject of many political discussions, aiming to diminish the segregation between native residents and immigrants.

[1] For example, the recent riots in November 2005, in immigrant-dominated suburbs in Paris and other French cities indicate that non-integration of immigrants is a wide social problem.
[2] In 2004, immigrants accounted for about 12 percent of the population in Sweden.
[3] A refugee is defined as a foreign citizen who has been granted a residence permit because he/she has sought and been given sanctuary. An immigrant is defined as a foreign citizen who has been granted permission to settle for whatever reason. All refugees are immigrants but not all immigrants are refugees, for that reason we will primarily use the term "immigrants" in this study even if most of the immigrants can be defined as refugees.

As in many other OECD countries the immigration policy in Sweden is decided at the national level but handled at the municipal level. Although there is a national policy that guarantees a special introduction program to refugees and their relatives (who come within two years), the unemployment rate in nearly all the different groups of immigrants is higher than among natives.

The introduction program is supposed to give immigrants (who get a permanent residence permit) Swedish language and cultural skills as well as relevant contact with the Swedish labor market. The municipalities have been given the responsibility to provide these programs. Although the national Integration Board monitors these introduction activities, there have been very few follow-up studies of these programs. Also, there is very little knowledge of to what extent they are effective tools for helping immigrants to enter the labor market. Svantesson (2006) surprisingly found that immigrants who had not been part of the introduction programs managed better in the labor market integration process. A higher share of those not eligible for the programs was found to be employed, compared to their counterparts who took part in the program.

Here we investigate this issue in more detail. We focus on activities conducted by the local institutions to integrate immigrants into the Swedish labor market. We use a unique dataset from a follow-up survey that the national Integration Board performed in June 2004, including the 52 largest recipient municipalities. The dataset was assembled by means of extensive questionnaires, where local government caseworkers answered questions about the introduction of the immigrants who were registered in the population during the first four months of 2002. We will utilize data extracted from this questionnaire to investigate what parts of the program that seems to have been effective.

The main purpose of this study is to analyze the impact of heterogeneous introduction activities on immigrants' employment probability, with respect to a short-run perspective. By studying different parts of the programs, we will evaluate what activities that affect the probability of getting a job. To our knowledge this is the first empirical assessment analyzing the effectiveness of the activities in Swedish introduction programs.

The rest of this paper is organized as follows. Section 2 presents some earlier studies. In Section 3 an overview of the Swedish introduction programs is provided. The data and estimation method is reported in Section 4. In Section 5 the estimation results are given, and the last section contains the conclusions.

2. Some earlier studies

Immigration often leads to an initial loss of human capital. Some of the skills that immigrants have are not directly transferable between national markets. This was found to be one of the reasons why the unemployment rate is higher among immigrants than among natives in the short-run. However, US studies indicate that the employment differentials between natives and immigrants disappear after ten years of residence (Chiswick et al., 1997). In Sweden, the situation is somewhat different. Studies of the Swedish labor market find that the duration of residence has a significant positive effect on the employment probabilities up to the first 20-25 years of residence (Nekby, 2003). There is still a gap between natives and immigrants regarding both employment and earnings, even after 20 years of residence.

Language skills are often seen as the most important form of human capital. Chiswick & Miller (1995) define language fluency as a function of three conceptual variables: economic incentives, exposure and efficiency. They conclude that language skills have an important effect on success in the labor market and that earnings and language fluency are determined jointly. Delander et al. (2005) evaluated immigrants' participation in a Swedish language pilot scheme. Comparing with a reference group it was found that participation in the project gave a faster transfer from open unemployment to employment, training, and education.

Another important question is the significance of good labor market institutions in the beginning of the integration process. To our knowledge, few studies have focused on this issue. Rooth & Åslund (2006) have investigated the significance of local labor market conditions. They find that conditions such as initial local

unemployment rates affect earnings and employment among immigrants for at least ten years. Since many of the immigrants are placed in different areas, this is important information for policymakers. Yet another important question may be whether the local introduction programs, work effectively.

3. Introduction programs

Until 1985, the Swedish Labor Market Board had the responsibility for handling all immigration issues. In 1985 this changed, and the level of responsibility moved from the national to the local level. From that time, Swedish municipalities were required to give some of the immigrants a relevant and individually designed introduction program. Before 1985 there was a strong concentration of immigrants in a few geographic areas. However, in 1985 the government implemented another settlement policy (which involved 277 of, at that time, 284 municipalities), where immigrants were located all over Sweden. Recent evaluations of this policy, which partly ended in 1991, found that the settlement policy was a failure, as immigrants were placed in municipalities with plenty of empty rental apartments but with few employment opportunities (Ekberg 2004, Edin et al 2004).

Today, 166 municipalities host new immigrants. All municipalities are obligated to offer immigrants who are subject to what is termed the Allowance Ordinance[4] an introduction program. Only immigrants included in the Ordinance definition and their relatives that come within two years are eligible for the program. Nevertheless, some of the municipalities still offer introduction programs to other immigrants as well.[5] Participation in an introduction program is not compulsory. However, in many municipalities, once participation has been agreed to, the individual must follow the program in order to be entitled to continued welfare payments.

[4] The Allowance Ordinance (SFS 1990:927) defines the immigrants for whom the municipalities get economic support (from the national government) for the integration measures. The economic grant is supposed to cover (among other things) the economic support for the immigrants, the cost of education, and the costs related to the introduction program. The grant is given for a period of about three years.

[5] Many immigrants coming to Sweden are not eligible for the program. However, municipalities can decide to also include those immigrants (for whom government grants are not provided). Yet most of the municipalities do not offer those immigrants a program. On the other hand, all immigrants have the right to attend Swedish language courses.

3.1 Purpose of the programs

The introduction programs are supposed to be individually designed to encourage each individual to develop the specific skill needed to enter the Swedish labor market or education system. The purpose of the program is to give the participants knowledge about Swedish society and the labor market. For this reason the programs should also contain contacts with the labor market such as, for example, work experience training, at-work language training and study visits at local workplaces. Caseworkers are also supposed to collaborate with other partners to carryout the program. Important partners are employment offices, study- and vocational supervisors, employees etc.

An essential part is the Swedish language instruction, (Swedish for Immigrants, SFI). Swedish language instruction is offered to all immigrants in Sweden, even for those who are not taking part in a program. Basically, all other activities that the individualized program contains differ between the municipalities. In some municipalities, language instruction is combined with work experience; in others no contact at all with the labor market is provided.

In this study we do not focus on Swedish language instruction (classroom study) as a separate activity. However, language activities combined with practice and other introduction activities will be studied.

3.2 Differences in programs

As just mentioned, the design of introduction programs varies greatly between municipalities. The Swedish Integration Board together with Svantesson (2005) made a follow-up study to monitor the 52 largest recipient municipalities. The study concludes that there are huge differences between the municipalities surveyed. In some, the individual introduction program was initiated rapidly and people began Swedish language education within a relatively short period after the date of registration in the population records. In others, immigrants had to wait several months before starting Swedish for Immigrants (SFI) courses. The number of hours per week that individuals were offered as introduction arrangements also varied

considerably. Furthermore, the length of the introduction period varied, based on both individuals and municipalities. The duration of the introduction ranges between 18 and 36 months. The follow-up study also showed that although all participants were supposed to come into contact with the local labor market, one third did not. [6]

What kind of introduction activities an immigrant is offered seems to depend to a high degree on the municipality's organization of the issue. Since the assignment of immigrants to different communities is not mainly driven by the immigrants' own preferences, it seems that the selection of immigrants to different activities in a program to a large extent can be seen as a random process. This study is based on the assumption that this is the case, i.e. we will not tackle the problem of the immigrants' self selection of different treatments due to immigrants own choice.

To summarize, the content of the introduction programs varies, both regarding duration and activities, between municipalities. However, no comprehensive evaluation has been made of whether they are effective tools in the integration process.

4. Data and method

The question examined in this study is what kind of introduction activities affect the likelihood of entering the labor market during the first two and a half years after getting a permanent residence permit in Sweden. To answer this, logistic regressions have been used with *Employed* as the dependent variable.[7]

Dichotomous logistic regressions have been used to find significant determinants in the introduction program that affect the probability of an early labor market entrance. The model used is:

[6] The municipalities are also supposed to cooperate with the state employment agencies. In reality, this is done for some of the immigrants, but not for all. The agencies will generally not consider an applicant for services if the immigrant lacks language ability.

[7] How this variable is measured is shown in section 4.1. Since the purpose of this study is to examine if the introduction activities affect the probability of getting any job at all, part time or full time, we do not consider the number of hours employed.

$$\Pr(Y=1)=\frac{\exp(\beta_0+\beta_1 X_1+...+\beta_k X_k)}{1+\exp(\beta_0+\beta_1 X_1+...+\beta_k X_k)}$$

where *Y* is the binary dependent variable *Employed*, $X_1, X_2, ..., X_k$ are explanatory variables, and $\beta_0, \beta_1, ..., \beta_k$ are unknown coefficients. In the estimation tables we will present the marginal effects calculated at the mean values of the variables. The marginal effect is the effect of a small increase in the explanatory variable on the probability of being employed. The marginal effects show how many perpercentage points the probability increases or decreases, when the explanatory variables change.

The statistical analysis is based on data from The Swedish Integration Board. The Integration Board monitored the introduction activity by sending a questionnaire to caseworkers in the 52 largest recipient municipalities. The caseworkers answered questions about what kind of introduction activity each immigrant has taken part in during the introduction. We utilize the information from all immigrants that had finished their introduction by June 2004. The sample and survey design is presented in Appendix A.

4.1 Variables

The dependent variables of interest in this study are called *Employed(1) and Employed(2)*. These variables are constructed from the response to two questions in the survey. The first question asked was "What was the survey participants occupation when the introduction program was completed", (*Employed(1)*. The second question asked was "What was the person's occupation in June 2004?" (*Employed(2)*). From these questions two variables have been constructed and used as dependent variables in the models. However, quite a few participants were dropped from the data set when using *Employed(2)*, because these participants' occupation was unknown. This second measure of employment is used anyway, as a sensitivity control.

There are two types of explanatory variables in the models. Some variables capture different introduction activities, while some are socioeconomic covariates. The questionnaire contained various questions about what kind of activities the immigrants were provided within their introduction program. In Table 1 we present a brief description of the explanatory variables that will be used in this paper.

There are three integration policy covariates. These account for whether the immigrant had had any contact with the employment agency, any study- and vocational supervisor contact, and labor market contacts, respectively.

In order to construct the variable measuring if the immigrant had had any contact with the employment agency we used the question "How many times was there a collaboration situation with the employment agency?" from the questionnaire. In this question the caseworker could answer in four categories, however, we have recoded them into a variable with two categories; none or once or more times.

The second integration policy variable that is analyzed in this study was calculated from the response to the question "How many times was there a collaboration situation with a study- and vocational supervisor?" This question also contained many different answering alternatives, but we recoded the variable into a zero, if no collaboration had been made, or one, if there had been any collaboration.

The third integration policy variable, measuring if the immigrant had had any contact with the labor market, was calculated in a similar way. Some of the case workers did not know if the immigrants had been in contact with the labor market during the introduction program or not. We therefore created three different dummies to capture all information; *Yes; No;* and *Unknown.*[8]

As a second step, we used three different categories of labor market contact, in order to control for different types of labor market contacts. The labor market

[8] We coded *Yes* = 1 if the caseworker reported that the immigrant had been in contact with the labor market during the program and 0 if there had been none contact with the labor market or if the information was unknown to the case worker. *No* =1 if the caseworker reported that the immigrant had not been in contact with the labor market during the program and 0 if the immigrant have had labor market contacts or if the information was unknown to the case worker. *Unknown* = 1 if the information is unknown to the caseworker and 0 otherwise.

contact variable was recoded into the following categories: *Labor market practice; Language practice;* and *Other labor market contacts*.

- Labor market practice gives opportunities for learning about the Swedish labor market and a specific workplace. It may also give opportunities for matching the immigrants' earlier work experience with a workplace in Sweden.
- Language practice is supposed to give the immigrants opportunities for learning Swedish, which is the primary purpose of that activity. This practice is also at-work training but does not need to be adapted to the immigrants' earlier work experience.
- Other labor market contact includes all other types of contact with the labor market such as study visits at workplaces.

The socioeconomic covariates consist of: *age; age squared; gender (dummy variable); civil status (dummy variable); work experience (dummy variable)*; *Swedish language knowledge (dummy variable); region of origin (dummy variable); variables capturing the local labor market conditions; alternatively we will control for fix municipality category effect.*

The caseworkers did not know whether the immigrant had any earlier work experience for approximately three percent of the immigrants. We therefore constructed three dummies of the *work experience* variable; *Yes No* and *Unknown*.[9]

As seen in Table 1 only two percent of the immigrants spoke Swedish before coming to Sweden. This information is captured in the covariate *Swedish language knowledge* and is coded as one if the caseworker reported that the immigrant already knew Swedish when he or she came to Sweden, zero otherwise.

[9] We coded *Yes* = 1 if the caseworker reported that the immigrant had earlier work experience and 0 if the immigrant did not have any earlier experience or if the information was unknown to the case worker. *No* = 1 if the caseworker reported that the immigrant did not have any earlier work experience and 0 if the immigrant had earlier work experience or if the information was unknown to the case worker. *Unknown* = 1 if the information is unknown to the caseworker and 0 otherwise.

To control for the structure of the labor market two explanatory variables are included. The first is the share of the local labor force that worked in private service industries in the municipality 2003. The second variable is the average unemployment rate in the municipality 2004. These variables come from Statistics Sweden. Alternatively, we will control for fix municipality category effects. For this purpose, the municipalities were classified in nine categories according to a grouping scheme used by The Swedish Association of Local Authorities.[10][11]

The mean age of the sample immigrants is 34 years. More than 50 percent of these immigrants are males. The proportion that are married amounts to over 70 percent. Additionally, the sample mainly contains persons from the Middle East. A reason for this is probably the Iraq situation in the beginning of the new century.

Roughly 20 percent of the survey participants had a job after finishing the introduction program. Svantesson (2006) found that immigrants that are not subject to the introduction program manage better in the labor market integration process. A higher share of those immigrants who had not taken part in the introduction programs seems to have found employment, compared to those who had not taken part in the programs.

[10] The municipalities are categorized as metropolitan municipalities, suburban municipalities large cities, commuter municipalities, sparsely populated municipalities, manufacturing municipalities, other municipalities more than 25,000 inhabitants, other municipalities with 12,500 - 25,000 inhabitants and other municipalities with less than 12,500 inhabitants.

[11] Municipality category dummy variables are used instead of plain municipality dummy variables because of the low number of observations for several municipalities. When using fix municipality effects we lose approximately 20 observations.

Table 1 – Descriptive statistics: means, standard deviations (in parentheses)

	Employed(1)	*Employed(2)*
Co-operation with employment agency	***0.616***	***0.682***
Co-operation with supervisor	***0.496***	***0.562***
Labor market contacts:		
Yes	***0.538***	***0.620***
No	***0.339***	***0.269***
Unknown	***0.121***	***0.109***
Age	***34.4 (10.1)***	***34.6 (9.9)***
Age squared / 100	***12.9 (7.7)***	***12.9 (7.5)***
Male	***0.547***	***0.564***
Married	***0.707***	***0.731***
Work experience:		
Yes	***0.634***	***0.631***
No	***0.332***	***0.338***
Unknown	***0.034***	***0.031***
Swedish language knowledge	***0.020***	***0.020***
Region of origin:		
Middle east	***0.589***	***0.584***
Africa	***0.062***	***0.038***
Europe	***0.250***	***0.282***
Asia	***0.082***	***0.080***
America	***0.014***	***0.013***
Number of individuals employed (percent)	***135 (0.192)***	***100 (0.222)***
Number of individuals	***704***	***450***

Note: Statistics are from a questionnaire that The Integration Board has performed. All observations come from immigrants who have completed their introduction. *Employed(1) = 1* if the participant was employed after the completed introduction program; *Employed(2) = 1* if the participant was employed in June 2004.

Given that the introduction activities may differ depending on socioeconomic characteristics, we present a table showing some descriptive statistics of the socioeconomic variables by activity. If the mix of introduction activities is to a large extent correlated to immigrants' individual labor abilities, and this ability is correlated with the covariates, we would expect such differences. However, as seen in Table 2, the differences of the socioeconomic characteristics by introduction activity are small. One exception is for the labor market contact activity where the share of participants with previous labor market experience is somewhat larger (76%) than the average (63%).

Table 2 – Descriptive statistics by activity: means and standard deviations (in parentheses)

		Co-operation with employment agency	*Co-operation with supervisor*	*Labor market contact*
Age		***34.4 (8.8)***	***33.8 (9.2)***	***34.8 (9.2)***
Male		***0.616***	***0.559***	***0.653***
Married		***0.728***	***0.706***	***0.735***
Work experience				
	Yes	***0.711***	***0.676***	***0.758***
	No	***0.254***	***0.286***	***0.229***
	Unknown	***0.035***	***0.037***	***0.013***
Swedish knowledge		***0.018***	***0.016***	***0.018***
Region:	***Middle east***	***0.587***	***0.583***	***0.619***
	Africa	***0.055***	***0.051***	***0.031***
	Europe	***0.267***	***0.281***	***0.278***
	Asia	***0.077***	***0.067***	***0.057***
	America	***0.011***	***0.019***	***0.013***
Number of individuals		***453***	***374***	***389***

Notes: The statistics are calculated given the introduction activity (reported in each column of the table above).

5. Estimation results

In this section we present the estimates from several logistic regressions to investigate what components in the introduction programs affect the immigrants' probabilities to be employed. In Table 3 we report the marginal effects from the estimated integration policy and the socioeconomic covariates.

The estimated results indicate that labor market contact is an important determinant of the probability of being employed. Immigrants in the introduction programs who have had some kind of labor market contact seem to have a higher probability of getting employed. This is seen by the significant and positive sign in both models of the coefficients that pick up the effect of labor market contact on labor force participation. This result holds both with and without fix municipality category effects. Although labor market contact is assumed to be an important determinant of the immigrants' labor market integration, only just over fifty percent of the immigrants in the sample have taken part in this activity.

Collaboration with an employment agency does not seem to be an important determinant of early labor force participation in the main model. However, in the model measuring the effect of employment agency contact on the probability of being employed in June 2004 the coefficient is significant at 10, respectively 5, percent levels. A possible explanation for this ambiguous result is that the employment agencies do not have a clear and consistent role in the introduction programs. Also, the nature of cooperation between municipalities and agencies differs a lot between the regions.

Men have eight or nine percentage point higher probability of being employed than women. Birth region also affect the likelihood of being employed. Coming from Africa or Middle East seems to be a disadvantage compared with coming from Europe. Previous Swedish language proficiency does not seem to affect the likelihood to get work. However, only a few immigrants (two percent) in this sample had such a proficiency when starting a program.

Table 3 – Binominal logistic model estimates of employment probability.

	Employed(1)		*Employed(2)*	
	(I)	*(II)*	*(I)*	*(II)*
Co-operation with employment agency	***-.021***	***-.015***	***.086****	***.095****
	(.050)	***(.029)***	***(.048)***	***(.046)***
Co-operation with supervisor	***-.075****	***-.069*****	***-.086****	***-.075****
	(.033)	***(.026)***	***(.035)***	***(.034)***
Labor market contacts:				
Yes	***.174*****	***.168*****	***.250*****	***.227*****
	(.035)	***(.032)***	***(.049)***	***(.052)***
No	***REF***	***REF***	***REF***	***REF***
Unknown	***.019***	***-.001***	***.113***	***.079***
	(.052)	***(.055)***	***(.068)***	***(.081)***
Age	***.015****	***.016***	***.020****	***.020***
	(.007)	***(.010)***	***(.012)***	***(.014)***
Age square / 100	***-.025****	***-.027****	***-.032****	***-.031***
	(.011)	***(.014)***	***(.017)***	***(.019)***
Male	***.089*****	***.088*****	***.079*****	***.070****
	(.024)	***(.026)***	***(.029)***	***(.035)***
Married	***-.030***	***-.026***	***-.029***	***-.020***
	(.034)	***(.030)***	***(.051)***	***(.040)***
Work experience:				
Yes	***.050***	***.047***	***.037***	***.039***
	(.037)	***(.032)***	***(.049)***	***(.043)***
No	***REF***	***REF***	***REF***	***REF***
Unknown	***.121***	***.113***	***.144***	***.122***
	(.076)	***(.077)***	***(.104)***	***(.098)***
Swedish language knowledge	***.102***	***.116***	***.207***	***.196****
	(.066)	***(.070)***	***(.138)***	***(.099)***
Region of origin:				
Middle east	***-.111*****	***-.105*****	***-.072****	***-.063****
	(.029)	***(.028)***	***(.037)***	***(.036)***
Africa	***-.214*****	***-.217*****	***-.117***	***-.119***
	(.068)	***(.084)***	***(.097)***	***(.102)***
Europe	***REF***	***REF***	***REF***	***REF***
Asia	***-.090****	***-.096****	***-.114***	***-.115***
	(.041)	***(.051)***	***(.078)***	***(.075)***
America	***.042***	***.012***	***-.043***	***-.100***
	(.093)	***(.091)***	***(.169)***	***(.146)***
Local unemployment rate	***-.026****		***-.038****	
	(.013)		***(.021)***	
Structure of local labor market	***-.004****		***-.006****	
	(.001)		***(.003)***	
Municipality category effects		***Yes****		***Yes****
Number of observations	***704***		***450***	
Log Likelihood	***-279.86***	***-279.85***	***-185.61***	***-185.78***
Prob > chi2	***0.0000***	***0.0000***	***0.0000***	***0.0000***
Pseudo R2	***0.1867***	***0.1867***	***0.2213***	***0.2206***

***, **, * indicate significance at 1, 5 and 10% levels, respectively. Standard errors within parentheses, in column (I) robust standard errors corrected for clustering on municipality.

Notes: This table presents estimates of four separate binominal logit models. Coefficients are marginal effects. In column (I) we use the variables capturing the labor market conditions and in column (II) we include the fixed municipality effect in the model.

Finally, the results show that co-operation with study- and vocational supervisors seem to have a significantly negative impact on the immigrants' employment probability. This indicates that an immigrant who participates in an introduction program and has some kind of regular contact with a supervisor will have a lower probability of being employed after the completion of the introduction program. One explanation for this unexpected finding may be that the immigrants are guided into other directions than to the labor market.

In Appendix B, we present the regression results of a multinomial regression showing that supervisors have a significant positive effect on the likelihood of the immigrants starting to study.[12] Immigrants who have contact with supervisors are also more likely to be enrolled in studies than to participate in the labor market.[13] A test has also been made indicating that cooperation with supervisors does not affect those who are active (either working or studying) significantly differently from their passive (neither working nor studying) counterparts.

Given that the immigrants are offered different types of labor market contacts in the introduction programs, we will search for the potentially different effects of these contacts on employment. In Table 4 we present selected estimates similar to Table 3, however, in this model we have divided the labor market contact variable into four categories. We control for the effect of labor market practice, language practice, other contact, and no contact, on the participants employment outcome.

The estimation results indicate that only the *labor market practice* and *other labor market contact* variables have significant positive effects on immigrants' employment probabilities, in comparison with no contact at all. *Language practice*, which is assumed to be an important determinant of the labor market integration, because of its focus on language training, does not seem to significantly affect the immigrants' probability of being employed, in a short-run perspective.

[12] To capture the impact of heterogeneous introduction activities on immigrants' employment status, we estimate two separate three-way multinominal logit models. The probability of being selected into different states is investigated. The results from these estimates are presented in Appendix B.
[13] This can be shown by calculating log(study)/log (ref)–log (employed)/log (ref) from Table B. [log(study)/log (ref) is the estimated coefficients from column two, and log (employed)/log (ref) is the estimated coefficients from the first column in Table B].

Table 4 – Binominal logistic model estimates of employment probability.

	Employed(1)		*Employed(2)*	
	(I)	*(II)*	*(I)*	*(II)*
Co-operation with employment agency	***-.031***	***-.023***	***.073***	***.084****
	(.047)	***(.030)***	***(.050)***	***(.047)***
Co-operation with supervisor	***-.073****	***-.069****	***-.074****	***-.062****
	(.032)	***(.027)***	***(.037)***	***(.035)***
Labor market contacts:				
Labor market practice	***.076****	***.068****	***.157*****	***.146*****
	(.032)	***(.027)***	***(.036)***	***(.035)***
Language practice	***.024***	***.039***	***-.023***	***.001***
	(.029)	***(.028)***	***(.037)***	***(.036)***
Other labor market contacts	***.117*****	***.108*****	***.137*****	***.116*****
	(.024)	***(.027)***	***(.029)***	***(.035)***
Unknown	***-.019***	***-.041***	***.053***	***.018***
	(.043)	***(.053)***	***(.059)***	***(.072)***
No labor market contact	***REF***	***REF***	***REF***	***REF***
Age	***.016****	***.018****	***.022***	***.021***
	(.008)	***(.011)***	***(.013)***	***(.015)***
Age square / 100	***-.028****	***-.030****	***-.035****	***-.035****
	(.012)	***(.015)***	***(.019)***	***(.021)***
Male	***.085*****	***.085*****	***.065****	***.054***
	(.026)	***(.028)***	***(.027)***	***(.036)***
Married	***-.021***	***-.018***	***-.017***	***-.006***
	(.036)	***(.031)***	***(.055)***	***(.042)***
Work experience:				
Yes	***.068****	***.063****	***.053***	***.050***
	(.035)	***(.034)***	***(.042)***	***(.044)***
No	***REF***	***REF***	***REF***	***REF***
Unknown	***.106***	***.091***	***.124***	***.096***
	(.080)	***(.080)***	***(.105)***	***(.100)***
Swedish language knowledge	***.108****	***.130****	***.199****	***.200****
	(.063)	***(.073)***	***(.120)***	***(.099)***
Region of origin:				
Middle east	***-.106*****	***-.101*****	***-.060***	***-.056***
	(.030)	***(.028)***	***(.038)***	***(.037)***
Africa	***-.210*****	***-.208****	***-.085***	***-.088***
	(.075)	***(.086)***	***(.094)***	***(.104)***
Europe	***REF***	***REF***	***REF***	***REF***
Asia	***-.085****	***-.095****	***-.114***	***-.120***
	(.039)	***(.053)***	***(.083)***	***(.077)***
America	***.050***	***.016***	***-.026***	***-.101***
	(.082)	***(.092)***	***(.167)***	***(.145)***
Local unemployment rate	***-.033****		***-.049****	
	(.014)		***(.022)***	
Structure of local labor market	***-.004****		***-.007****	
	(.001)		***(.003)***	
Municipality category effects		***Yes****		***Yes****
Number of observations	***704***		***450***	
Log Likelihood	***-279.85***		***-179.94***	***-181.14***
Prob > chi2	***0.0000***		***0.0000***	***0.0000***
Pseudo R2	***0.1867***		***0.2451***	***0.2401***

***, **, * indicate significance at 1, 5 and 10% levels, respectively. Coefficients are marginal effects. Standard errors within parentheses, in column (I) robust standard errors corrected for clustering on municipality.
Notes: This table presents estimates similar to Table 3. The main difference between this table and Table 3 is that we divide the labor market contact into different categories. Here we investigate for the effect of labor market practice, language practice, other labor market contact, and no contact, on the immigrants' employment outcome. No contact is the omitted category. In column (I) we use the variables capturing the labor market conditions and in column (II) we include the municipality category effect in the model.

Additional specification tests have been made to control for heterogeneous effects among different groups of immigrants on the reported estimates. We have searched for heterogeneous effects between males and females. The results from these tests suggest that the sex of the participant has no significant impact on the estimated coefficients presented above. Furthermore, several regressions have been estimated to control if the results differ for participants from different types of origin. These regressions indicate no significant differences either, and the results presented above seem to be robust even when controlling for different groups of participants.

6. Conclusions

The main purpose of this study was to evaluate the impact of the municipalities' introduction programs on the immigrants' likelihood of being employed two and a half years after receiving a permanent residence permit. The basic findings are that labor market contacts seem to be an important determinant of employment, while supervisors have a negative effect on immigrants' labor market integration in the short perspective.

Although the effect of labor market contacts on employment was expected, this is the first study on Swedish data presenting an empirical assessment of this argument. However, not all kind of activities promoting labor market contacts seem to be successful. Only labor market practice and other labor market contacts, such as organized visits in workplaces, have a significant positive effect on immigrants' employment probabilities. Language practice, which also was assumed to be an important determinant of the immigrants' labor market integration, does not significantly affect the probability of getting employed.

The finding that cooperation with supervisors seems to a have negative effect on the immigrant's employment chances at first sight looks remarkable. But as mentioned,

the reason may be that the supervisors, who is also a type of caseworker in the municipalities, does not encourage the individuals to search for jobs, but instead directs them into the education system. We do not know if this may increase the probability to get employed in the long-run, in a short perspective it seems to be negative for labor market integration.

As this study is based on the assumption that the selection of immigrants to take part in different activities in a program is a random process, we have not tackled the problem of self-selection based on the immigrants own choice or preferences of treatment. Neither have we taken into account that caseworkers may influence what activities the individual will get based on the immigrant's labor abilities. For this reason, the results in this paper should be carefully interpreted as they may be driven by a possible (self) selection problem.

However, in the light of the findings in this study, the policy of the introduction programs may consider focusing more on labor market contacts that provide knowledge about the Swedish labor market, if early market entrance is a goal in the introduction. There are reasons for further investigating the question of the local-level activities and their effectiveness in the integration process.

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APPENDIX A

A1 Sample and survey design

Table A1 presents the size of the population, sample and replies for which data is collected in this study. The total population of immigrants and refugees who got a permanent residence permit in any of the 52 largest recipient municipalities, between January and April 2002, were 4 561. The immigrants are divided into two different subgroups; those that are subject to the Allowance Ordinance (SFS 1990:927) and thereby eligible to an introduction program, and those that are not. Refugees are included in the Allowance Ordinance, and also their relatives, who come within two years. The group that is not subject to the Allowance Ordinance consists of tight movers to Swedes or to relatives to refugees who have come after the two-year limit. In the population, 1 908 were subject to the Allowance Ordinance and 2 653 were not subject to the Ordinance.

Stratified sampling with eight strata was used with two stratification variables. The first of these variables categorized two subgroups of immigrants, those subject to the Allowance Ordinance, Subgroup A, vs those not subject to the Allowance Ordinance, Subgroup B. The second variable groups municipalities. The three largest municipalities are separated (one stratum each) while a fourth group consists of the 49 remaining municipalities.

Within the three largest municipalities a sample of 100[14] individuals was selected from each subgroup of immigrants. The 49 other municipalities were together treated as a fourth stratum and 1 027 individuals from the Allowance Ordinance were randomly drawn. 1 157 who were not submitted to the Ordinance were drawn the same way. Totally, 2 783 immigrants were included in the sample that the caseworkers had to answer questions about. 29 percent of the questionnaires were never answered by the caseworkers, which gives a response rate of 81 percent (2 244 questionnaires).

[14] In the Stockholm stratum, Group B, only 99 individuals were drawn.

Table A1 – Population, sample and responses

Population	**4 561**
Subgroup A	1908
Subgroup B	2653
Survey sample	**2 783**
Subgroup A	1 327
Stratum: Stockholm 100	
Göteborg 100	
Malmö 100	
Other cities 1027	
Subgroup B	1 456
Stratum: Stockholm 99	
Göteborg 100	
Malmö 100	
Other cities 1157	
Responses	**2 244**
Immigrants started a program	1 076
Immigrants finished a program In June 2004	749

Totally 1,076 immigrants had started an introduction program and 749 had finished by June 2004. Of those who had finished the introduction program, 17% had not completed the whole program. Due to missing responses in some of the caseworkers answers 704 immigrants are included in the regression.

APPENDIX B

Multinominal logit model results

To capture the impact of heterogeneous introduction activities on immigrants' employment status, the probability of being selected into different states is investigated. A three-way multinominal logit model including the following states: neither working nor studying (j=0), employed (j=1), and enrolled in studies (j=2) is estimated (see Maddala, 1983). We assume a multinominal logit model for the probability of being in state *j* as follows:

$$P_j = \frac{\exp(Z\alpha_j)}{1+\sum_{j=1}^{2}\exp(Z\alpha_j)}$$

where *Z* is a vector of explanatory variables affecting the different states. This vector includes the investigated integration policy covariates, which are the same as in earlier regressions; And α_j is the vector of unknown parameters of state j.

The coefficients of interest are presented in Table B. The integration policy coefficients indicate the impact of the different introduction activities on the probability of being selected into employment state *j* in relation to the omitted category, which is the group of individuals neither working nor studying.

Table B - Multinominal logit estimates of employment and study probability

	Employed(1)	*Study*	*Employed(2)*	*Study*
Co-operation with	***-.035***	***.008***	***.077***	***-.009***
employment agency	***(.052)***	***(.026)***	***(.057)***	***(.046)***
Co-operation with	***-.074*****	***.044*****	***-.077****	***.103******
supervisor	***(.034)***	***(.018)***	***(.042)***	***(.034)***
Labor market cont				
Labor market	***.096******	***.039*****	***.196******	***.061*****
practice	***(.033)***	***(.016)***	***(.040)***	***(.031)***
Language practice	***.040***	***.041*****	***-.010***	***.069*****
	(.030)	***(.016)***	***(.041)***	***(.035)***
Other labor market	***.126******	***-.001***	***.150******	***-.035***
contact	***(.027)***	***(.019)***	***(.032)***	***(.040)***
Unknown	***-.014***	***.028***	***.066***	***.043***
information	***(.047)***	***(.024)***	***(.068)***	***(.051)***
No practice	***REF***	***REF***	***REF***	***REF***
Age	***.015****	***-.009***	***.021***	***-.019*****
	(.008)	***(.006)***	***(.015)***	***(.008)***
Age square / 100	***-.027*****	***.011***	***-.036****	***.022*****
	(.012)	***(.007)***	***(.022)***	***(.010)***
Male	***.085******	***-.021***	***.061****	***-.048***
	(.031)	***(.019)***	***(.034)***	***(.039)***
Married	***-.033***	***-.022***	***-.036***	***-.037***
	(.040)	***(.018)***	***(.065)***	***(.033)***
Work experience:				
Yes	***.081*****	***.0003***	***.071***	***.014***
	(.039)	***(.015)***	***(.052)***	***(.028)***
No	***REF***	***REF***	***REF***	***REF***
Unknown	***.119***	***-.034***	***.147***	***-.043***
	(.090)	***(.058)***	***(.123)***	***(.105)***
Swedish language	***.431******	***-2.20******	***.844******	***-3.67******
knowledge	***(.092)***	***(.337)***	***(.176)***	***(.419)***
Region of origin:				
Middle east	***-.111******	***.008***	***-.057***	***.034***
	(.032)	***(.016)***	***(.041)***	***(.029))***
Africa	***-.217******	***.030***	***-.067***	***.083***
	(.080)	***(.030)***	***(.101)***	***(.072)***
Europe	***REF***	***REF***	***REF***	***REF***
Asia	***-.081*****	***.039****	***-.113***	***.061***
	(.039)	***(.022)***	***(.091)***	***(.051)***
America	***.057***	***-.003***	***-.025***	***-.030***
	(.091)	***(.056)***	***(.192)***	***(.090)***
Local unemployment	***-.035*****	***.018****	***-.054****	***.027***
rate	***(.016)***	***(.009)***	***(.024)***	***(.017)***
Industry structure	***-.005******	***-.002****	***-.009******	***.001***
	(.002)	***(.001)***	***(.003)***	***(.002)***
observations	***704***		***450***	
Log Likelihood	***-507.18***		***-363.46***	
Prob > chi2	***0.0000***		***0.0000***	
Pseudo R2	***0.1539***		***0.1796***	

***, **, * indicate significance at 1, 5 and 10% levels, respectively. Coefficients are marginal effects; robust standard errors corrected for clustering on municipality are reported in parentheses. Neither working nor studying is the omitted category.