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Economic Assimilation of Immigrants:

Adverse Effects of an Integration Program

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Abstract

Integration programs play a key role in increasing the economic assimilation of immigrants. However, these programs might affect also labor market outcomes of people who are not directly involved in the program. The aim of this paper is to provide an econometric model that studies whether integration programs have adverse effects on labor market outcomes within skill groups. The model relies on the post-treatment discontinuity in the labor force participation of individuals around the threshold to identify the spillover effects on labor market outcomes of individuals further from the threshold. The causal identification is possible for two reasons: people have the same characteristics, and, the treatment assignment is as good as random at the threshold. To test the model, I take advantage of a natural experiment in France where immigrants are more likely to attend a language training course if they score below a given threshold in a French language test. Results show that an increase in labor force participation of eligible migrants has a negative spillover effects on the probability of participating in the labor force and also of being employed for the whole skill group.

JEL Classification: J24, J61, J68

Keywords: job competition, spillover effects, migrants, integration programs, France

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1 Introduction

A faster economic assimilation of immigrants is one of the main challenges faced by the governments of developed countries. Over the last decade, immigrants have been experiencing a downturn in the labor market outcomes at arrival. Dustmann and Frattini (2012) show that economic integration of immigrants, measured as the native-foreigner wage gap, is far from being reached in Europe. In the U.S., Albert et al. (2020) and Borjas (2015) show that economic integration of new arrivals has lowered throughout the years. To tackle this decline, most developed countries have enacted integration programs to foster a faster economic assimilation. Several papers show that integration policies improve the labor market outcomes of treated immigrants leading to a faster economic assimilation. However, there is no much evidence on possible adverse effects of the integration programs that do not achieve the expected goals. This paper provides a tool to assess whether integration policies have detrimental effects on labor market outcomes in the overall labor market.

Integration programs are divided into two types: "job first" and "skill first". The "job first" programs aim at increasing the employment opportunities for immigrants. The "skill first" program aims to improve the quality of the skills to be supplied in the labor market. Card et al. (2017) and Holtz et al. (2006) summarize the effects of some active labor market policy in Europe and in the U.S. between 1980 and 2010. They find an increase in the labor market outcomes 2-3 years after the program. Further, they find a stronger positive effect of the "skill first" programs in the long-run. However, both papers study active labor programs for natives, while it is possible that immigrants might not experience the same effects.

Recent literature shows that integration policies have a positive effect on the labor market outcomes of immigrants. Sarvimäki and Hämäläinen (2016) show the positive effect of a new integration program on earnings and employment of unemployed immigrants in Finland between 2000 and 2009. The program was a mix between "job first" and "skill first" programs since immigrants were assigned to a tailored set of active labor market programs. Arendt et al. (2020) and Arendt (2022) show a positive effect

of an integration program on the labor outcome of refugees in Denmark between 2000 and 2010. Arendt et al. (2020) show that refugees experience a lowering in the welfare benefits and an improvement in the language training. The program leads to a long-lasting effect on both employment and earnings. Arendt (2019) studies the effect of a "job first" policy enacted in Denmark in 2016. The policy was aimed at improving the labor force participation of refugees early after their arrival. Arendt shows a positive effect of the policy in the very short run. Battisti et al. (2019) show that refugees hosted in Germany in 2015 experience better labor outcomes in the following twelve months if they receive job search assistance at arrival. Finally, Lang (2022) finds a positive effect on the employment probability of a language training program for immigrants held in Germany in 2014.

All the above-mentioned papers study integration programs in Scandinavian countries and Germany where the demand for low-skilled workers is high. An excess demand of low-skilled workers might lead to high returns of integration programs for immigrants. To the best of my knowledge, Lochmann et al. (2019) is the only paper evaluating the impact of an integration program for immigrants in France where the demand for low-skilled workers is not as high as in the Scandinavian countries. They study the effect of a language training on the labor market outcomes of immigrants. Lochman et al. (2019) show that language training has affected the labor force participation only three years after the beginning of the program. Increasing the labor force participation of immigrants might have a positive effect on their economic assimilation. However, the new foreign labor force might probably compete with the old one leading to adverse effects on labor market outcomes. For instance, higher labor market competition might lower employment probability or wages. As a result, an increase in labor supply might offset the gains of the integration program lowering the economic assimilation of immigrants in the whole labor market.

To assess whether a policy inducing only an increase in the labor force participation of treated migrants may lead to detrimental effects on the labor market outcomes in the whole labor market, I set

up a spillover effects model that exploits the random variation in the assignment to an integration program to identify the main equation. Spillover effects model use the mean of the outcome variable as the main explanatory variable to see whether it affects individual outcomes. The two main problems of spillover effects estimation are: the *reflection problem* and the bias of correlated unobservables. *Reflection problem* arises when the mean of the dependent variable is equal to the independent variable. And, the correlated effects bias is due to a correlation between omitted unobservable group variables and the independent variable. To address the estimation problems, I use the model developed by Dahl et al. (2014) that use the quasi-random variation stemming from the assignment into the treatment within a regression discontinuity setting. Splitting the individuals in several skill groups, I exploit the share of individuals eligible for the treatment as an instrument to identify the spillover effect model.

To test the model, I exploit a 2006 reform on the integration policy of immigrants in France. Since 2006, immigrants have to sign the *Contract d'accueil et d'integration* (CAI) when they get a residence visa. Signatories of *CAI* might attend a language course to achieve a basic knowledge of the French language if they show low host language skills. The Government provides an oral and written French exam to test the language skills of immigrants. Immigrants are more likely to attend the language course if they have a result below 50/100. Assuming that immigrants share the same characteristics around this threshold, labor force participation should differ at the cut-off if the language training is effective. Using a 2010-2013 longitudinal survey of the signatories, Lochmann, et al. (2019) find that people just below the threshold show a higher labor force participation than those just above. I take advantage of this finding to study the effects of the language training on labor market outcomes within skill groups.

Results show an adverse effect of the labor force participation on the individual labor market outcomes. A 1% increase in the labor force participation of eligible migrants lowers the overall probability to participate in the labor market by around .3% and the employment probability by around .5%. These results are in line with previous findings (D'Amuri et al, 2010; Dustmann et al., 2017) on the substi-

tutability among immigrants within a skill-specific labor market. However, the empirical analysis may be affected by the few observations around the threshold within each skill group. Therefore, the empirical investigation illustrates the steps of the estimator.

As a first contribution, this paper shows a statistical tool to evaluate spillover effects of integration programs. To the best of my knowledge, Dahl et al. (2014) estimator has never been used to estimate side effects of integration policies for immigrants. So far, economic literature has focused on the partial equilibrium effects of integration policies by paying less attention to spillover effects (Angrist, 2014; Manski, 1993; Moffitt, 2001). Therefore, Dahl et al. (2014) estimator might provide suggestions to policy makers to implement integration programs that does not have negative impact on the overall labor market outcomes.

The second contribution relies on testing the spillover effect model on a "language first" integration program implemented in France. A "language skill" integration program fosters the integration of immigrants in both social and economic terms (Chiswick (1991), Chiswick and Miller (1995), Dustmann and van Soest (2001), Dustmann and Fabbri (2003) among others). However, a "language skill first" approach might have an adverse effect on the labor market outcomes of other immigrants when a new labor supply increases the competition in the labor market. In particular, the new foreign labor force might supply the same skills of the old labor force. An adverse effect on the labor market outcome of immigrants could slow down their economic assimilation at least in the short run.

Finally, I expand the analysis on labor substitutability in the labor market between immigrants. In the literature on labor economics competition among migrants has received scant attention. Borjas (2003) started a body of research on the effect of immigration on the labor market outcomes of natives using a skill-cell approach. And, he showed that natives have experienced a negative effect of immigration on wages in U.S. between 1960 and 2001. Later, D'Amuri et al. (2011), Manacorda et al. (2012), Ottaviano and Peri (2012) find that immigrants are imperfect substitute with natives,and that gains from inflows

of immigrants are larger than the losses of the labor market outcomes arisen from the increase in labor competition. Furthermore, they show that immigrants are more likely to compete with each other than with natives within the same education-specific labor market. Indeed, this paper shows a strong negative correlation between the increase in the labor force participation of the treated immigrants and the labor market outcomes of all the migrants in the sample. Even if the identification of the effect is weak given the low number of observations around the threshold, the estimates of degree of substitutability between immigrants are consistent with other papers.

2 Identification Strategy

2.1 Natural Experiment within Skill Groups

The aim of this paper is to study whether an integration program has indirect effects on labor market outcomes. If labor market outcomes of individuals depend on the labor market outcomes of people within the same skill group, the integration program might affect labor market outcomes of both program takers and non-takers. Exploiting quasi-random variation in the labor market outcomes of treated individuals within a group, I investigate whether labor market competitors of treated individuals also experience a change in their labor market outcomes.

To clarify the system of simultaneous equations that I am going to solve, I built a model similar to Dahl et al. (2014). Suppose that there are only two individuals within each skill group. The outcome of each individual depends on individual characteristics, fixed and time-variant group characteristics, and, labor market outcomes of people within the same skill group. Moreover, suppose that only the individual 1 has the opportunity to attend the integration program. In this setting, the system of simultaneous equations within a skill group g is:

$$y_{1g} = \alpha_1 + \beta_1 y_{2g} + \gamma_1 x_{1g} + \tau_1 x_{2g} + \theta_1 w_g + \lambda p_{1g} + e_{1g} \tag{1}$$

$$y_{2g} = \alpha_2 + \beta y_{1g} + \gamma_2 x_{2g} + \tau_2 x_{1g} + \theta_2 w_g + e_{2g} \tag{2}$$

where y_{ig} is the outcome of individual i in a group g, x_{ig} are observable characteristics of individual i in group g, w_g is a set of group characteristics, and e_{ig} is an error term. Further, p_{1g} represents the group-specific "price" of individual 1 to attend the language training. This model shows that the integration program might have an indirect effect on individuals 2's outcome.

The effect of the price on individual 1's outcome, λ, is identified in equation (1) since p_{1g} is random. Identification holds as long as the effect of the integration program on individual 2's outcome occurs after the effect on individual 1. Since the price variation is uncorrelated with all other individual and group characteristics, the sequential effect is a reasonable assumption.

The exogenous variation of p_{1g} solves the reflection problem of simultaneity and the omitted variable bias in the equation (1). Indeed, the exclusion of a variable from equation (2) breaks the simultaneity (reflection problem) of the two equations. Moreover, the bias arising from unobservable group variables does not affect the estimates since p_{1g} is exogenous to both observable and unobservable characteristics.

3 Background and Data

3.1 Background

3.1.1 *Contract d'Accueil et d'Intégration* (CAI)

From 2007 to 2016, new legal immigrants to France who were older than 16 and were coming from an non-EU country had to sign a contract[1]. This contract imposes: a civic training, a language training if needed, an information session about France, a social support if needed, and an evaluation of personal job skills. The language training was mandatory for immigrants who showed low proficiency in the French language.

In order to test the host language proficiency, a pool of instructors, holding the "FLE" (French as Foreign Language) certification to teach, carries out the French test during an interview at the OFII (*Office Français de l'Immigration et de l'Intégration* or French Immigration and Integration Office). The pass score is set to a sufficient French level, which is equal to an A1.1 level. People who do not pass the French entrance test are assigned a number of hours up to 400. The aim of the language course was to bring all immigrants to the same level in the French language. At the end of the course, they got a diploma which is key to extend the residence permit in the following years.

The assignment to the language training and the number of hours depended on both the entry language test and on socio-demographic characteristics. Immigrants who are from certain specific countries of origin (e.g. Sri Lanka) or hold a non-labor residence permit are more likely to attend the language training. However, Table 1 shows that only 4% of immigrants who passed the test are assigned a language training, against 85% among those who failed. Therefore, the test result is a key variable in predicting the language course assignment.

[1] Also immigrants with a long residence permit who arrived in France between 16 and 18 years old are eligible to sign the contract. However, they are only the 6% of immigrants who signed the CAI

3.1.2 The French Language Test

Immigrants were more likely to attend the French language training if they failed to pass the French entrance test. The test is divided into an oral and a written examination. In the first part, immigrants have a talk to an instructor. The possible grades of the oral examination are: 0, 35, 70. In the second part, instructors set up four written tests in ascending order to evaluate the reading and writing skills in the French language. The written tests use two values only: a positive score, if the answer is right, and 0, otherwise. The first and the last written tests have a positive score of 5, while the remaining two have a positive score of 10. Hence, the maximum score is 100 since the highest score in the oral examination is 70 and the highest score in the written examination is 30. The first pass grade is 50 being the sum of the oral and the written exams.

Table 2 shows the distribution of the grades in the written exam by the oral grades and the number of right answers in a row. Panel A shows that the majority of immigrants is proficient in the French language. Furthermore, 71% of the top scorers in the oral exam get the maximum score in the written test. Unlike them however, 89% of the bottom scorers in the oral exam have a result of 0 points in the written tests. Table 2 shows also that the last two questions were the hardest, which explains the low mass of immigrants who get a result of 10 or 20 at the written examination. The increase in the level of difficulty is the main explanation for the low mass at the first fail grade, 45. Panel B shows immigrants are more likely to pass the successive written test when they have already passed all the previous written tests.

3.2 Data and Sample

3.2.1 Enquête Longitudinale sur l'Intégration des Primo-Arrivants (ELIPA)

I use *Enquête Longitudinale sur l'Intégration des Primo-Arrivants* (ELIPA) dataset, which is a longitudinal survey carried out by the *Département des statistiques, des études et de la documentation* (DSED) of

the French Ministry of the Interior. The longitudinal survey took place in 2010, 2011 and 2013. The aim of the survey was to collect information on socio-demographic characteristics, bureaucratic itinerary, employment, language skills, living conditions and social integration of immigrants. In 2010, 6,107 immigrants were surveyed from a population of 97,736 immigrants who signed the CAI in 2009. The immigrants surveyed were at least 18 years old and wanted to settle permanently in France. Immigrants who responded to the second and third wave were 4,756, and 3,573, respectively.

The longitudinal survey is representative of 97,736 immigrants arrived in Metropolitan France in 2009. DSED used a stratification sampling to show a representative sample for different groups of interest. Since the goal of the survey is to study the integration process, the stratification is based on the following three variables: country of origin, residence in France, and years since migration. The sample is representative of each class among these variables[2]. In particular, the survey focuses on immigrants who have entered in France with a family reunification permit or with an asylum seeker permit.

3.2.2 Skill groups

I use the following three characteristics to create skill groups: country of origin, region of residence, and years since migration. The cross product of these three characteristics creates different cells which define the skill groups. Individuals are considered job competitors if they belong to the same cell. The total number of skill groups is 21. The number is very small since many skill groups do not have people within the bandwidth around the cut-off. The group average size is 60 (SD=63).

The decision of the reference group stems from the higher probability that individuals are more likely to be substitute within the same region if they supply the same labor skills and migrate for the same reason. I use the time spent in France as a proxy of the experience, and the region of residence as proxy for the local labor market. Furthermore, immigrants could experience different labor market outcomes even if they lived in the same place and supplied the same labor skills. Indeed, Adser and

[2]The survey ensures a minimum representativeness of all strata

Chiswick (2007) show that, in 15 European countries, labor market outcomes of immigrants vary by country of origin. Therefore, I also add the characteristics of the country of origin to define skill groups [3].

3.2.3 Sample

The final sample includes 1,257 observations out of 3,573 sampled in the third wave. I exclude groups with one person since studying spillover effects is impossible when there are no people in the group. Furthermore, I consider only groups showing heterogeneity in the results of the test score among eligible migrants.[4] Finally, I consider only observations without missing values in the variables of interest (outcome, endogenous variable, instrument and controls).

As already discussed in Section 2.1, I use the observations falling in an interval around the cut-off, 50, to compute the peer variables. I follow the procedure implemented by Calonico et al. (2014) to choose the bandwidth around the cut-off. The bandwidth includes all the individuals who have a result of 35 at the oral examination in the sample, and, I use the observations of those individuals to compute the group variables.

Table 3 shows the descriptive statistics for immigrants around the threshold and for the whole sample. Labor force participation is very similar for both groups in 2013. However, the entire sample shows a higher labor force participation in 2010. The most important entry channel is the family reunification, around 80% of immigrants in both samples. Instead, refugees represent the second largest group. Women form the majority of immigrants in both groups, 64% and 58% respectively. And, the majority of immigrants in the whole sample had moved earlier to France. Indeed, they perform better at the French language in 2010. Finally, the distribution of immigrants by country of origin is heterogeneous even if

[3] Literature on skill-cell approach uses also education to set the skill groups. Yet, including education variable might lead to bias estimates of the average variable since education is not a stratification variable. Moreover, education is not so heterogeneous within skill groups. Therefore, adding education in the skill-group setting process might be much more detrimental than beneficial for estimation.

[4] An invariant test score does not provide any information to understand the relationship between labor force participation and share of less proficient migrants within a skill group.

Maghreb immigrants are the most representative in both groups.

4 Identification

4.1 Empirical Strategy

I use an IV approach to estimate the spillover effects of the labor force participation. To create the instrument, I exploit the discontinuity stemming from the decision rule to assign immigrants to the language training: individuals who have a result below 50 are eligible to be assigned to the language training (Lee et al. 2010). Since the eligible rule leads to a quasi-random variation at the threshold, I can exploit the group-specific share of eligible migrants as an instrument.

In a many-to-one model, the following two equations show the first stage and the second stage, respectively:

$$E_{-i}[LF_{-ig}|g] = E_{-i}[\alpha_{-i}|g] + \lambda E_{-i}[D_{-ig}|g] + E_{-i}[f(TS_{-ig})|g] + E_{-i}[\varepsilon_{-ig}|g] \tag{3}$$

$$LF_{ig} = \alpha_i + \beta E_{-i}[LF_{-ig}|g] + \delta D_{ig} + f(TS_{ig}) + E_{-i}[f(TS_{-ig})|g] + \varepsilon_{ig} \tag{4}$$

where LF_{ig} is a dummy equal to one if the individual i is employed or looking for a job within the group g, $E_{-i}[LF_{-ig}|g]$ is the labor force participation of individual i' job competitors within the group g, D_{ig} is a dummy equal to one if the test score of individual i was below the threshold, $E_{-i}[D_{-ig}|g]$ is individual i' share of eligible migrants, $f(TS_{ig})$ is a function of the test score, $E_{-i}[f(TS_{-ig})|g]$ is the average test score of individual i' job competitors, and, $E_{-i}[\varepsilon_{-ig}|g]$ and ε_{ig} are the error terms of the job competitors and of the individual, respectively. β measures the indirect effects of the language training program. The group-specific share of eligible migrants is a good instrument as long as the individuals

within each group cannot manipulate their test score near the threshold, otherwise the shares are not more randomly distributed.

The identifications strategy follows Dahl et al. (2014) where they use the discontinuity on the timing of a new paternity leave policy to study whether peers who get the benefit affect the probability of other individuals of the group to take up leave. Unlike the latter who narrow the analysis to groups with only one peer in the reform window, I extend the analysis to skill groups which have at least one person having a test score close to the cut-off. The choice of "many-to-one" spillover effects raises some doubts on the true functional form of the first stage. I decide to use the mean function to compute the group variables since it is not affected by the number of people and allows me to exploit the heterogeneity of the shares across groups.

The choice of a functional form for the assignment variable, the test score, is the most challenging part of the identification strategy since the functional form might vary by groups and by sides of the cut-off. To overcome this issue, I use only observations within a smaller symmetrical interval around the cut-off where a linear functional form is more likely to fit the data (Gelman and Imbens, 2019). As a result, I compute all the group variables by using observations falling in this interval. However, I have to assume that the spillover effects are the same whatever subset in a group of people is chosen. In my case, this assumption is reasonable since skill groups define different labor markets in which individuals are more likely to be stronger substitutes. Finally, I add a set of controls to control for the labor supply of people further from threshold.

4.2 Threats To Identification

One possible threat to identification is the self-selection in the language training. Immigrant might cheat at the written tests and get a low grade on purpose to attend the language training. Therefore, cheating might affect the quasi-random variation of the eligibility criterion. However, immigrants do not have any

incentive to fail the test on purpose since the consequence is to spend up to 400 hours in a language training. In particular, they must spend at least 20 hours per week to complete the assigned hours. This constraint might affect the probability to work since the language training might bind the number of working hours to supply. Furthermore, immigrants get a certificate of French language if they pass the initial test. The certificate released by the OFII is key to get the *visa long séjour valant titre de séjour* (VLS-TS) which allows immigrants to stay in France for a longer period and travel within the Schengen Area. If they fail the exam during the OFII meeting, immigrants should attend the training and pass the *Diplôme Initial de Langue Française* (DILF) to get the VLS-TS. Hence, they should opt to get the French certification as soon as they can.

I test the manipulation around the threshold by plotting the distribution of immigrants around the cut-off and testing the difference on pre-determined characteristics on both sides of the threshold. Figure 1 shows the distribution of the results in the 2010 French test around the cut-off. The distribution does not show any jump at the cut-off validating the assumption of no-manipulation at the threshold. Furthermore, Table 4 shows the balancing tests on the characteristics of immigrants in 2010. Estimates confirm that characteristics do not show any statistical difference for immigrants just below and just above the threshold. As a further check, I replicate the analysis of Lochmann et al. (2019) in Table 5 since I use a different sample. The analysis is consistent with the findings of the previous paper.

Another threat to the identification strategy is the difference in the labor force participation at the threshold. As long as the quasi-random variation of the language test identifies the spillover effects, immigrants must experience the same spillover effects on the labor force participation just above and just below the threshold. Indeed, the stable unit treatment value assumption (SUTVA) is violated if the spillover effects are heterogeneous at the threshold. Using the leave-one-out labor force participation in 2013, I perform a balancing test to check whether migrants experience different competition level at the threshold within each skill group. Table 6 shows that group-specific labor force participation decreases

but the estimates are not meaningful different from zero.

5 Results

5.1 Spillover effects estimates

Table 7 shows the 2SLS estimates of the spillover effects on labor force participation for different specifications. The first two columns show the unweighted and weighted estimates of an unconditional regression and the last two columns show the unweighted and weighted estimates of a conditional regression. Panel A shows the first stage of the model. The instrument is positive and significant in each specification. Also, the magnitude of the first-stage coefficients do not change across specifications. Panel B shows that the second-stage estimates are negative but they are significant only in the conditional regressions. However, the magnitude is pretty similar in all specifications. In the second-stage, I find that a one percent increase in the share of labor force participation of eligible migrants lowers the probability of participating in the labor market by around 0.3%.

Panel C shows the estimates of spillover effects on the employment. The estimates are still negative but significant only in the conditional regressions. Nor do they change across specifications. The impact is larger than the labor force participation one. There are several explanations on why the impact is wider but the most credible one is that the effect of the labor force participation of eligible migrants on the employment is a reduced-form effect. Hence, the true labor force participation parameter is multiplied by some positive 'social multiplier'. Estimates show that one percentage point increase in the labor force participation decreases the employment rate by around 5%. This finding is pretty much similar to D'Amuri et al. (2010) who find of an increase in foreign labor supply on native employment rate.

The empirical results might show that previous employed workers prefer to exit from the labor market when there is an increase in the labor force participation. Assuming that an increase in the labor force

participation leads to lower wages, some of the incumbent workers having a higher reservation wage than the new wage may decide to exit from the labor force. At the same time, if the labor demand is fixed, both a decrease in the labor force participation and the null effect on the probability of being employed for new labor force participants lead to a larger. The negative effect on the probability of being employed is larger than the negative effect on labor force participation because a share of the incumbent workers do not participate more in the labor market and new participants do not experience a larger probability of being employed than not-treated immigrants. Unfortunately, the dataset does not include the information on individual wages. Therefore, I can only infer that the negative effects stem from a decrease in wages.

A brief discussion on the standard errors and, as consequence, on the F-stat is due since they vary a lot across specifications. The standard errors in the unconditional regressions are quite large since the variation of the instrument does not explain a large part of the variation of both the endogenous regressor and the labor market outcomes. As a result, estimates experience higher standard errors and the F-stat goes down. To overcome this issue, I add a set of controls to reduce the variance of the residuals. Indeed, Panel B and Panel C show more efficient estimates in the last columns without affecting the estimates of the spillover effects.

Another important result comes up comparing the weighted and unweighted estimates in both Panel B and Panel C. Unweighted estimates are always larger in absolute value than the weighted one. This is due mainly to the negative selection of the immigrants into the sample. Some reference groups which were more likely to be sampled in the survey were more likely to experience worse labor market outcomes. As a result, the unweighted estimates show a larger negative effect of the labor force participation of eligible migrants on both labor force participation and employment. Hence, the weighted estimates show more reliable estimates and more efficient standard errors.

5.2 Spillover effects on Non-Eligible Immigrants

In this subsection, I show the effect of an increase in the labor force participation on the labor outcomes of ineligibles for the language training. In the previous subsection, I show the effect of an increase in the labor force participation on the whole sample. I exploit the information on the test score and number of assigned hours to divide immigrants in two groups: eligible and ineligible. Immigrants are in the group of the eligibles if they do not pass the French test or/and are assigned to the language training. Therefore, ineligible immigrants are those who do pass the French test and are not assigned to the language training.

Table 8 shows the estimates of spillover effects on labor force participation and employment rate of not eligible. Estimates are still negative and significant even if little bit smaller than the ones for the overall sample. This evidence shows that even immigrants holding higher host-language skills might experience adverse effects triggered by language training program.

6 Conclusion

Economic integration of immigrants is in the agenda of developed countries given the surge of economic migrants over the last 10 years. Characteristics of migrants are quite heterogeneous across destination areas. In particular, the share of low skilled migrants is more likely in Central and Southern Europa. An excess of supply of low skilled foreign workers might affect the both economic integration and economic assimilation of workers when the demand of such workers is fixed, at least in the short run. Therefore, integration programs become fundamental to lower the job competition within skill groups. However, integration programs might push people in the labor market even if they do no provide any job-specific course. In this case, the effect might be negative since migrants could compete in already saturated labor markets.

So far, the discussion about spillover effects of integration programs is very poor. The main reason is that spillover effects invalidate the first order effects since many evaluation policy analyses assume SUTVA. This paper provides a statistical tool to evaluate integration programs without affecting the validity of the SUTVA. The characteristics of the model allow to isolate the exogenous variation needed to study the spillover effects without invalidating the direct effects of an integration program.

In order to provide an empirical justification of such mechanism, this paper investigates the spillover effects of an integration program based on a language training course. Using the random nature of the language training assignment and higher probability to participate in the labor market after the course, I show the spillover effects within the skill groups. I find that immigrants experience adverse effects on their labor market outcomes when the labor market competition increases. In particular, a 1% increase in the labor force participation of eligible migrants lowers the probability of participating in the labor market and of being employed by .3% and .5%, respectively. The magnitude of the effect is stable regardless I add controls.

These results have strong policy implications on the evaluation of integration programs . Even if the bias stemming from small sample size might affect somehow the estimates, the results show that the "skill first" approach might have positive effects on the labor market outcomes of the program takers but they might also have adverse effects on the labor market outcomes of non-takers. The explanation of such mechanism for some "skill first" integration programs could stem from the fact that course attendees learn faster than non-attendees. In the language training example, the training course might have a positive effect on the learning curve of program attendees by leading both groups to have the same level of language proficiency. However, language training courses do not provide any job specialization leading migrants to probably compete within already saturated labor markets.

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Table 1: Share of immigrants assigned to a language training by test result

	Test Result	
	Passed	**Failed**
	%	%
Language Training		
Not Assigned	96	15
Assigned	4	85

Table 2: Test Score Distribution (%)

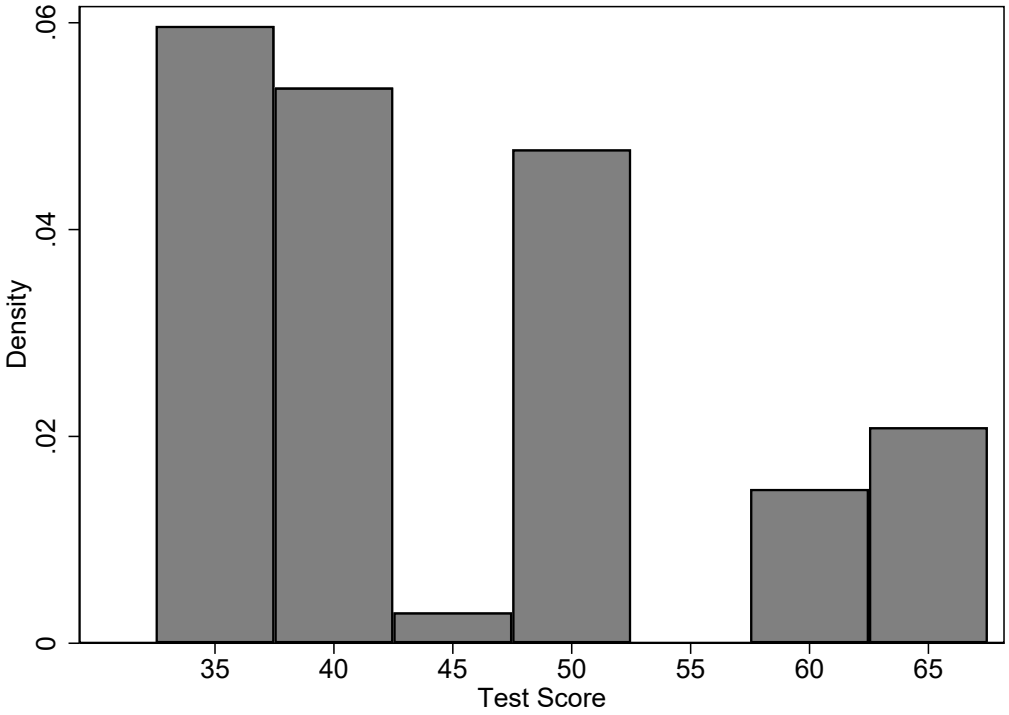
	Oral Grade			
	0 points	**35 points**	**70 points**	**Total**
Panel A: Written Grade				
0	91	30	3	10
5	6	27	7	8
10	0	1	1	1
15	3	24	8	8
20	0	0	2	2
25	0	8	9	8
30	0	10	70	63
Panel B: Right Answers				
0	94	36	6	13
1	5	24	8	8
2	1	24	7	8
3	0	6	9	8
4	0	10	70	63

Table 3: Summary statics

	Oral Test Score			
	35		Any	
	mean	sd	mean	sd
Employment Level 2013	0.61	0.49	0.59	0.49
Employment Level 2010	0.30	0.46	0.43	0.50
Labor Force Participation in 2013	0.80	0.40	0.78	0.41
Labor Force Participation in 2010	0.58	0.50	0.68	0.47
Total Test Score	42.04	8.05	75.98	35.85
Age	32.19	9.62	32.50	8.42
Age Squared	1127.57	748.00	1127.27	621.53
Education Level in 2010	9.21	5.93	10.06	5.54
Household Members	0.08	0.35	0.53	1.34
Married	0.92	0.27	0.82	0.39
Number of Children	0.54	0.96	0.79	1.03
Male	0.36	0.48	0.42	0.49
Resident in Ile-de-France	0.26	0.44	0.54	0.50
Years since Migration	1.99	3.26	3.14	4.22
Labor Migrants	0.03	0.17	0.06	0.24
Refugees	0.13	0.34	0.10	0.30
Other Channel	0.03	0.18	0.04	0.19
Family Reunification	0.81	0.40	0.80	0.40
Birth reg.: America and Oceania	0.00	0.00	0.03	0.18
Birth reg.: Asia	0.23	0.42	0.24	0.43
Birth reg.: Europe	0.22	0.42	0.12	0.32
Birth reg.: Maghreb	0.47	0.50	0.31	0.46
Birth reg.: Other Africa	0.05	0.22	0.12	0.33
Birth reg.: Sub-Saharan Africa	0.03	0.18	0.17	0.38
N	67		1,257	

Notes: All the statics are weighted by the sample weights.

Figure 1: Distribution of the Test Score



Notes: Distribution of the French language test over the sample around the cut-off (50). The x-axis shows the grades of the test score. The y-axis shows the density of each test score class.

Table 4: Balancing tests of 2010 characteristics

	Schooling	Age	Years since Migration	Resident in Ile-de-France	Married	Male
Eligible immigrants	-5.248	-15.21*	-5.775	-0.591	0.113	0.303
	(4.130)	(8.443)	(3.793)	(0.461)	(0.146)	(0.250)
	Number of Children	N. of HH inhabitants	Employment Level 2010	Family Reunification	Labor Migrants	Refugees
Eligible immigrants	-0.570	-0.467	-0.0878	0.267	-0.119*	0.0659
	(0.674)	(0.714)	(0.390)	(0.342)	(0.0654)	(0.276)
Observations	67	67	67	67	67	67

Notes: *Eligible immigrants* is a dummy equal to one if the French test score was below 50. The regression includes the normalized test score and its interaction with *Eligible immigrants* variable. The test score width is between 35 and 65. The reported standard errors are clustered by country of origin times entry French test score. * p<0.10, ** p<0.05, *** p<0.01

Table 5: Labor force participation and language training

Panel A: First Stage		
	LT Hours	LT Hours
Eligible Immigrants	2.992***	2.912***
	(0.499)	(0.358)
Panel B: Second Stage		
	LFP	LFP
Hours of language training	0.192***	0.185***
	(0.0726)	(0.0441)
N	67	67
Controls	X	√
M.O. F-stats	64.74	67.11

Notes: The outcome variable is the labor force participation of eligible migrants within a group *g* in 2010. The independent variable is the assigned hours of language training. The instrument is a dummy equal to one if the entry score was below 50. The test score width is between 35 and 65. Columns (2) includes the following controls: education level, age, age squared, gender, flat mates, years since migration, country of origin, channel of entrance, region of residence at arrival, standardized French entry test score, entry French test score dummy interacted with the standardized French entry test score. The reported standard errors are clustered by country of origin times entry French test score. * p<0.10, ** p<0.05, *** p<0.01

Table 6: Competition Effects at Threshold

Dependent variable: Group-specific Leave-out Labor force Participation		
	(1) [35,65]	(2) [35,65]
Eligible Immigrants	-0.293**	-0.211*
	(0.130)	(0.112)
Observations	67	67
Controls	X	√

Notes: The outcome variable is the leave-out labor force participation within a group *g* in 2013. The independent variable is a dummy equal to one if the entry score was below 50. Columns (2) includes the following controls: education level, age, age squared, gender, flat mates, years since migration, country of origin, channel of entrance, region of residence at arrival, standardized French entry test score, entry French test score dummy interacted with the standardized French entry test score. The reported standard errors are clustered by country of origin times entry French test score. * p<0.10, ** p<0.05, *** p<0.01

Table 7: Spillover Effects on Labor Market Outcomes

	2SLS (1)	2SLS-W (2)	2SLS (3)	2SLS-W (4)
Panel A: First Stage (endogenous regressor: LFP of eligible migrants)				
Share of eligible immigrants	0.947**	1.058***	0.784***	0.843***
	(0.414)	(0.406)	(0.137)	(0.134)
	[0.13,1.76]	[0.26,1.85]	[0.52,1.05]	[0.58,1.11]
Panel B: Second Stage (dependent variable: Labor force Participation)				
LFP of eligible migrants	-0.381	-0.305	-0.371***	-0.283**
	(0.313)	(0.238)	(0.133)	(0.131)
Panel C: Second Stage (dependent variable: Employment probability)				
LFP of eligible migrants	-0.499	-0.341	-0.597***	-0.532***
	(0.421)	(0.316)	(0.183)	(0.163)
N	1,257	1,257	1,257	1,257
M.O. F-stats	5.406	6.547	33.85	34.21
Controls	X	X	√	√

Notes: Columns (1)-(2) and (3)-(4) show without and with controls, respectively. The odd (even) columns show unweighted (weighted) estimates. The independent variable is the labor force participation of eligible migrants within the 35-65 window. The instrument is the share of immigrants who have a result lower than 50 in the entry French test within each skill group. All specifications include the following controls: a dummy equal to one if the test score was below 50 and the normalized test score both at individual and at group level. Specifications (3)-(4) include: education level, age, age squared, male dummy, number of inhabitants in HH, number of children, married dummy, employment in 2010, group-average employment in 2010, share of people with a labor visa in each group,group average age. Further specification (3) and (4) include also a set of further-from-threshold migrants' characteristics: share of eligible migrants, normalized test score, interaction of share of eligible immigrants with normalized test score, age, age squared, share of males, share of labor migrants. Standard errors are clustered at skill-group level. Regressions are weighted by sample weights. Confidence intervals of the first stage estimates in the square brackets. * p<0.10, ** p<0.05, *** p<0.01

Table 8: Spillover Effects on Labor Market Outcomes of Non-Eligible Immigrants

	2SLS (1)	2SLS-W (2)	2SLS (3)	2SLS-W (4)
Panel A: First Stage (endogenous regressor: LFP of eligible migrants)				
Share of eligible immigrants	0.995**	1.054***	0.777***	0.787***
	(0.395)	(0.377)	(0.128)	(0.109)
	[0.22,1.77]	[0.31,1.79]	[0.53,1.03]	[0.57,1.00]
Panel B: Second Stage (dependent variable: Labor force Participation)				
LFP of eligible immigrants	-0.355	-0.255	-0.369***	-0.254***
	(0.272)	(0.225)	(0.113)	(0.0982)
Panel C: Second Stage (dependent variable: Employment)				
LFP of eligible immigrants	-0.483	-0.350	-0.588***	-0.480***
	(0.377)	(0.309)	(0.172)	(0.143)
N	1,091	1,091	1,091	1,091
M.O. F-stats	6.572	7.486	38.29	42.05
Controls	X	X	√	√

Notes: Columns (1)-(2) and (3)-(4) show without and with controls, respectively. The odd (even) columns show unweighted (weighted) estimates. The independent variable is the labor force participation of eligible migrants within the 35-65 window. The instrument is the share of immigrants who have a result lower than 50 in the entry French test within each skill group. All specifications include the following controls: a dummy equal to one if the test score was below 50 and the normalized test score both at individual and at group level. Specifications (3)-(4) include: education level, age, age squared, male dummy, number of inhabitants in HH, number of children, married dummy, employment in 2010, group-average employment in 2010, share of people with a labor visa in each group,group average age. Further specification (3) and (4) include also a set of further-from-threshold migrants' characteristics: share of eligible migrants, normalized test score, interaction of share of eligible immigrants with normalized test score, age, age squared, share of males, share of labor migrants. Standard errors are clustered at skill-group level. Regressions are weighted by sample weights. Confidence intervals of the first stage estimates in the square brackets. * p<0.10, ** p<0.05, *** p<0.01