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Job search networks and labour market outcomes of immigrants in Italy

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1. Social networks and immigrant incorporation in the labour market

The growing migratory pressure that many European countries have been experiencing is stressing the emergence of questions in terms of socio-economic inequalities that these demographic processes are able to generate.

This work concentrates on immigrants' behaviour in the labour market, as one of the spheres of their integration in the host country, and focuses on Italy, a country that for a few decades has been experiencing a transition from that of an emigration to an immigration area.

It is relevant, when labour market outcomes of immigrants are considered, to adopt a dynamic perspective, rather than a static one. Indeed, immigrants follow pathways, usually interrelated, that move forward in time: from migration decisions to the actual entrance into the destination country; from arrival to employment and then to further careers and occupational trajectories.

One of the main approaches to this problem has explored the impact of immigrants' human capital on their wages, that in a dynamic perspective has allowed the emergence of a theory of assimilation (Chiswick 1978).

By contrast, some research studies consider immigrants not only as a function of their individual characteristics, but rather as belonging to a relational structure able to determine their economic outcomes and the characteristics of their incorporation in the host society, leading them not exclusively to assimilative pathways (Portes 1995, Waldinger 2005, Heath and Cheung 2007).

This structure of relationships, in which immigrants are embedded, has been explored to study many aspects of migration: it has been observed that ethnic networks affect the decision, the perpetuation, and also the selection of migration processes (see for instance Massey *at al.* 1993; Mckenzie and Rapoport 2007).

Nevertheless, the structure can be directly related to the labour market: on the one hand it is possible that immigrants rely on very dense networks based on reciprocity principles that facilitate the flow of work-relevant information (Portes and Sensenbrenner 1993); on the other hand the same migratory networks, as being related to redundant information, can accelerate processes of employment concentration within specific occupational niches (Waldinger 1994).

Following this research approach some studies have explored the issue of job search and finding methods of immigrants, emphasising how they are connected to resources that are not equally distributed in the labour market.

Indeed, it has been generally observed that informal methods of job finding, those that are based on the use of personal contacts not necessarily established for the purpose of obtaining work-relevant information (Granovetter 1995), are pervasively diffused in many contexts. The prominence of networks in the labour markets has been referred to their capacity of reducing the uncertainty that characterises the demand and supply matching and providing informational benefits, as well as cost reduction in the job search (Marsden and Gorman 2001). However, the connections on which immigrants mainly rely are mostly established within their own ethnic group, generally characterised by higher unemployment rates and lower occupational qualification than the native population. This could imply less chances to obtain relevant and effective information.

The research studies that have investigated the issue of job search and finding methods of immigrants, found that migration groups tend to obtain or search for a job more extensively via informal methods than the native population, in Germany, the UK and the United States

(Demireva 2009; Battu *et al.* 2011; Giuliotti *et al.* 2013; Drever and Hoffmaister 2008; Elliott 2001), especially when they live in neighbourhoods characterised by a higher residential proximity (Patacchini and Zenou 2012). These studies consider informal methods as an aggregated category that includes the use of contacts with relatives, friends or acquaintances. Some of them have explored the issue of occupational consequences of using networks of relationships rather than formal search methods. If the hypothesis that immigrants have less probability than natives to exit unemployment when relying on informal methods has received no or scarce support in the British labour market (Frijters *et al.* 2005), greater evidence concerned the relationship between job quality penalisation and the use of informal methods to obtain a job (Battu *et al.* 2011). Moreover, in the American context it has been observed that immigrants using contacts to obtain their occupation are more likely concentrated in ethnically homogeneous jobs, especially when they rely on insider referrals, i.e. contact persons within the same hiring firm (Stainbeck 2008; Elliott 2001).

Few studies investigated the possibility of different types of connections. Aguilera and Massey (2003) studied the possible role of a migrant network's extension. They found, for undocumented Mexican migrants to the U.S., that connections with people having past or current migratory experience positively affect their wages.

Differently, other studies considered the possibility that creating relationships with the native population represents a form of bridging social capital, that generates for immigrants positive economic returns. The idea that immigrants over time develop relationships that criss-cross their ethnic group can be already found in Gordon's concept of *structural assimilation* (1964). Particularly, Lancee (2012, 2015) observed in the German context that those establishing relationships with the native population, apart from the job finding method used, experience higher wages and a better occupational status.

However, these studies cannot distinguish between those contacts that are activated to obtain work relevant information and those that are not. Rather they use established relationships, even though of many informal kinds, as a proxy for activated job finding methods in the labour market.

Our study includes the possibility to investigate multiple informal job finding methods actually used by immigrants, that distinguish the contact person as a relative, a co-ethnic friend or acquaintance, an Italian friend or acquaintance, as well as many formal methods.

In general terms Italy is considered to be a relatively recent immigration country. It has been importantly noticed that immigrants are entrapped in lower quality segments of the labour market and strongly penalised with respect to the native population, whereas face a stronger

risk of both entering and exiting unemployment (Fullin and Reyneri 2011a; Fullin 2011b). Thus, they are particularly mobile in the labour market, in both employment and unemployment flows.

Italy is also characterised by the predominance of job finding via personal contacts, in which the relationship between informal recruitment and overeducation has been observed also for the native population (Meliciani and Radicchia 2014).

Our work investigates the relationship between job search networks and labour market outcomes of immigrants and addresses three main hypotheses.

- 1 Ethnic networks have a relevant impact on the transition to employment of new immigrants in Italy. Informal job finding methods based on contacts with relatives and other immigrants reduce the search duration and access to the first job. By contrast, those immigrants that rely mainly on formal methods or contacts with the native population experience a longer transition to employment.
- 2 Ethnic networks also affect the quality of the occupation obtained. Especially, informal finding methods based on contacts with immigrant acquaintances are associated with a higher risk of access to lower qualified and also irregular first jobs, with respect to contacts with the native population and formal methods in general.
- 3 The relationship between job search networks and occupational qualification changes with the working experience, since contacts over time become more diversified.

Our emphasis on first jobs in Italy allows to observe the relevance of ethnic networks in the labour market at the beginning of the migration experience, when the linkage with migratory networks is stronger and particularly important. Furthermore, accounting for subsequent jobs implies the possibility to compare two points in time and to propose some dynamic considerations.

2. Data and methods

In order to analyse these aspects, data from the Italian survey *Condizione e Integrazione Sociale degli Stranieri in Italia* (CISSI 2011-2012) has been studied. It represents a recent survey conducted by Istat in 2011-2012, exclusively on the resident population without citizenship or born abroad. The individual data-set collects relevant retrospective information on working histories and migratory pathways of respondents. First, it records information on two points in time of their working experience: the first job and the current labour market condition. Second, it collects dates of these points and of the immigrant's arrival. Moreover the data contain extensive information on formal and informal job search and finding methods of individuals. Especially, as already mentioned, the information allows to account for more than one informal method.

The analysis is referred only to employed immigrants¹ (for whom we have the information on the job finding), arrived in Italy since 1989, between 15 and 60 years old at the date of entrance². The sample excludes entrepreneurs and those who obtained a job starting a self-employment activity.

Analyses are distinguished between males and females, for two main reasons. First, immigrant men and women in the Italian context reach different sectors and professional qualifications. The former are mainly employed in agriculture, construction and manufacturing industries; the latter are over-represented in personal services, especially as care and domestic workers. Second, this diverging labour market composition reflects a different use of personal contacts. In particular for immigrant women most of the relationships with Italians are established through families, acting as employers in the care sector.

Three aspects of the labour market will be explored and modelled as dependent variables. The *Search Duration* corresponds to the time that individuals spent to enter employment since starting to look for the first job, after the entrance into Italy. The variable is built on a direct question that pertains only to the first job. It is grouped in three categories: 0-3 months (that also includes those that obtained the job before their arrival); 4-6 months; more than 6 months. It is modelled through multinomial logistic regression, since the dependent variable is treated as categorical.

¹ Armed forces excluded.

² Those individuals who were born or grew up in Italy are excluded from the sample. This is also due to the fact that second generations are still too few, even though increasing, in Italy to be considered analytically.

The search duration for the first job represents a crucial aspect in immigrants' life course that deals with transition to employment. In particular, the analysis will focus on how a work relevant information obtained through different informal channels can affect this process.

The first job's *Regularity* is modelled through a logistic regression, since it is treated as a dummy equal to 1 when the occupation is not regulated by a contract.

The *Occupational Qualification* is based on the Istat classification CP2011, that orders professional levels according to skill requirements and tasks. The way we organised the variable accounts for the distribution of immigrants' jobs. Both males and females are concentrated in less qualified occupations, thus the variable aggregates several categories of the classification at the top of the occupational hierarchy. However, we differently assembled it for males and females, since they are employed in totally different segments of the labour market, as already mentioned.

In the case of men, three categories are included: the first refers to managers, professionals, technicians and clerks. They represent the first four levels of CP2011 classification (at 1 digit) and can be considered as higher qualified non manual professions. The second category includes only elementary occupations. It is the last level of the classification, that involves mainly unskilled and lower qualified occupations in manufacturing, construction and agriculture, but also personal and domestic services. The last category refers to all the other professions, that mainly result as more specialised manual jobs in manufacturing and construction, as well as manual and non manual professions in the wholesale and retail trade industries.

In the case of women, the first category is the same as for men. However a second category includes only care and domestic workers³, an extremely feminised segment in which employers are exclusively families, that involves more than 50% of current employed immigrant females. A third category refers to all the other lower qualified professions, that are mainly in other personal services. Referring to this categorical dependent variable, multinomial logistic models have been developed.

Moreover, exploiting the information at two points in time, different models are designed for the first job that immigrants had in Italy, and the current job of those that already had a previous occupation in Italy, that can be considered as a subsequent job. Comparing these two points allows to account for changes in the impact of job finding methods, at two different stages of occupational pathways. If search duration and regularity of the job are referred only to the first job, our data allow to differentiate the level of occupational

³ It is obtained recombining the CP2011 classification at 5 digits.

qualification at the two points in one's career. Of course first jobs are mainly referred to immigrants that have stayed in Italy for a short period, whilst current jobs pertain to more heterogeneous migrants in terms of settlement. However, including years since migration as a control variable is an attempt to account for this aspect in the models referring to subsequent jobs.

The models include as independent variables: *job finding method*, that aggregates all the formal methods whilst considering all the three informal channels plus direct contact with the employer; *origin*, that distinguishes emigration areas based on the country of birth of respondents, following criteria that combine geographical proximity and size of the immigrant group in Italy; *cohort* of entrance in Italy; *age*; *education*, in three categories; *language proficiency*; *region* of the job; *industry* (only when the dependent variable is *Regularity*). The analyses account for *years since migration*, for models referring to the current-second job, obtained counting and aggregating months from arrival to entering the current job, and *search duration*, when the first job is analysed.

3. How immigrants obtain jobs

At a first stage, it is important to observe the composition of job finding methods and its changes across first and subsequent jobs, gender, and educational levels, in order to assess the relationships with these relevant aspects. In this descriptive part, formal methods are distinguished in three categories: use of intermediary institutions, that can be public or private (in the case of temporary agencies); direct contact with the employer and spontaneous applications; other formal methods, that include newspaper advertisements, internet and previous internships in the firm.

Observing Table 1, the importance of using contacts with the ethnic group of membership emerges for the first job in Italy. For both males and females the comparative incidence of using relatives and co-ethnic friends and acquaintances is around 60%. However, with growing educational level this group loses importance. Especially immigrants with a tertiary education less frequently rely on relatives and more often on formal methods, both related to traditional formal means and (less importantly) public and private intermediary institutions.

An important gender difference concerns the use of contacts with Italians. For immigrant men it approaches 8% of first jobs, whereas for women it is closer to 15%. Moreover, observing subsequent jobs, this difference is maintained, in a context of substantive expansion of contacts with natives.

Therefore, with growing experience in the labour market the centrality of ethnic groups for obtaining information is reduced (especially when referred to relatives), whilst formal channels and relationships with Italians grow. However, whereas for males contacts with co-ethnic friends or acquaintances remain the most important channel, for females connections with Italians become the most used method to obtain a job. This deals with the fact that immigrant men and women in Italy are employed in completely different segments of the labour market, that also affects how work-relevant information circulates

Table 1. Job finding methods per gender, education and first or subsequent (current) job. Weighted data.

	FIRST JOB				CURRENT JOB (SUBSEQUENT TO FIRST ONE)			
	NO SCHOOL AND LOWER SECONDARY	UPPER SECONDARY	TERTIARY	TOTAL	NO SCHOOL AND LOWER SECONDARY	UPPER SECONDARY	TERTIARY	TOTAL
Males								
Relatives	20.7	20.8	12.2	20.2	12.2	9.4	12.4	10.9
Co-ethnic or immigrant friends and acquaintances	46.0	41.7	33.8	43.3	37.0	32.2	19.0	33.4
Italian friends and acquaintances	7.2	9.5	11.1	8.5	15.1	21.0	14.9	17.7
Direct contact with the employer	17.7	15.8	17.6	16.9	19.7	20.8	20.8	20.3
Intermediary institution	3.9	4.5	6.7	4.3	7.7	7.9	13.9	8.3
Other formal methods	4.5	7.7	18.8	6.9	8.4	8.8	18.9	9.4
Total	100	100	100	100	100	100	100	100
Frequency	2'513	2'218	346	5'077	722	814	138	1'674
Females								
Relatives	22.3	18.3	15.6	19.2	17.4	10.4	6.0	11.8
Co-ethnic or immigrant friends and acquaintances	41.2	41.7	32.8	40.3	28.9	25.5	25.1	26.4
Italian friends and acquaintances	13.9	15.1	15.8	14.8	26.6	31.3	18.9	28.2
Direct contact with the employer	12.6	13.1	15.4	13.3	15.6	16.8	14.5	16.1
Intermediary institution	4.9	4.7	9.1	5.4	4.8	6.5	7.8	6.2
Other formal methods	5.3	7.2	11.3	7.1	6.7	9.5	27.7	11.4
Total	100	100	100	100	100	100	100	100
Frequency	1'794	2'901	742	5'407	427	1'002	279	1'708

4. Job finding methods and occupational outcomes

In this section we investigate the relationship between job finding methods and three labour market outcomes: search duration, occupational qualification and regularity of the job.

Tables 2 and 3 refer to the relationship between search duration and job finding methods, showing relative risk ratios of this variables (see Appendix A for complete models). It emerges that co-ethnic connections, especially when the information circulates through familial ties, cut down on the search duration with respect to formal channels and Italian contacts. Moreover for women we observe a stronger difference between informal and formal methods. Therefore contacts with co-ethnics and especially relatives are associated with a particularly fast transition to employment and a shorter unemployment duration.

Table 2. Males, first job. Multinomial logistic regression on the probability of experiencing a search duration of 0-3, 4-6 and 6 or more months. Relative risk ratios for the variable *job finding method*.

Base outcome: 0-3 months	(1)4-6 months		(2)6 months or more	
co-ethnic friends and acquaintances	ref.		ref.	
relatives	0.762	(0.145)	0.679*	(0.104)
Italian friends & acquaintances	1.095	(0.274)	1.476*	(0.268)
direct contact with the employer	1.576*	(0.279)	1.161	(0.168)
formal methods	1.447	(0.316)	1.245	(0.215)
Observations	5077			
Pseudo R-squared	0.038			

Exponentiated coefficients; Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 3. Females, first job. Multinomial logistic regression on the probability of experiencing a search duration of 0-3, 4-6 and 6 or more months. Relative risk ratios for the variable *job finding method*.

Base outcome: 0-3 months	(1)4-6 months		(2)6 months or more	
co-ethnic friends and acquaintances	ref.		ref.	
relatives	0.952	(0.180)	0.711*	(0.106)
Italian friends & acquaintances	1.189	(0.239)	1.582**	(0.234)
direct contact with the employer	1.794**	(0.361)	1.427*	(0.228)
formal methods	1.521	(0.327)	2.674***	(0.411)
Observations	5407			
Pseudo R-squared	0.072			

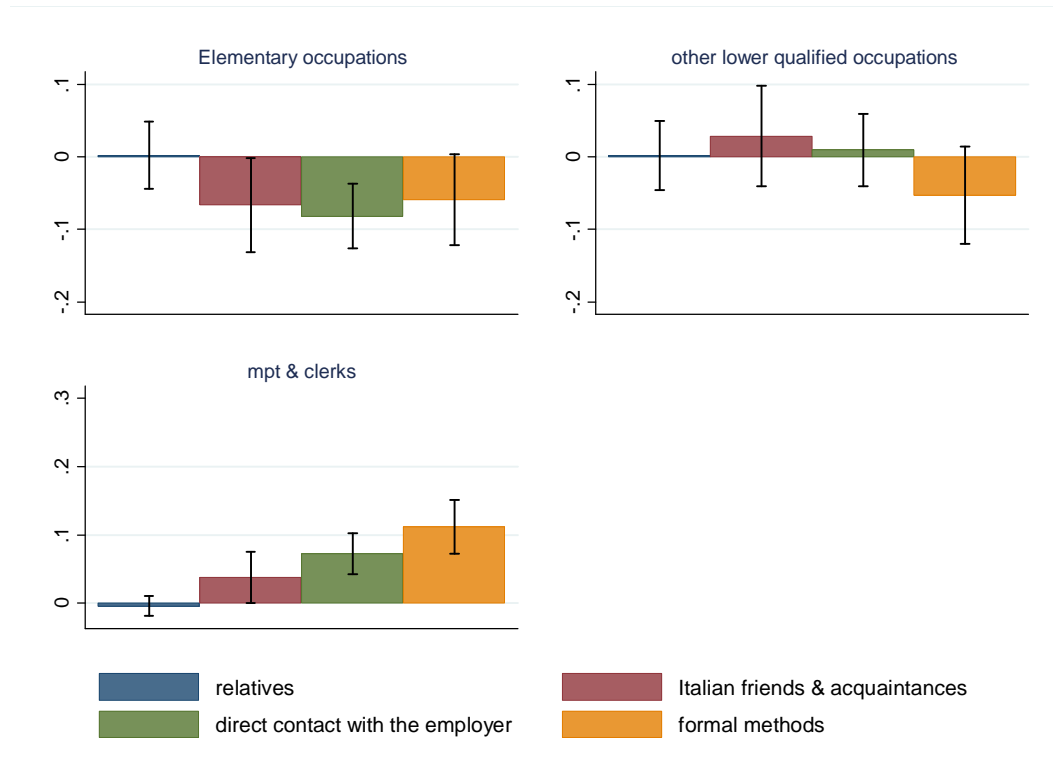
Exponentiated coefficients; Robust standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Graphs 1-4 refer to job's quality in terms of occupational level and report the difference in the probability to obtain the three identified groups of occupations for immigrants that found their job through various methods, compared to those using co-ethnic friends and acquaintances.

Looking at Figure 1, on immigrant men’s first jobs, we see that a reduction in the probability to have an elementary occupation is observed only for those relying on relationships with Italians or having a direct contact with the employer. However, it refers to an absolute probability that approximates 1/3 of first jobs for males, thus observed changes are quite small, even though statistically significant.

Fig. 1. Males, first job. Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic or immigrant friends and acquaintances*) on the probability of having a specified occupation, with 95% CIs.

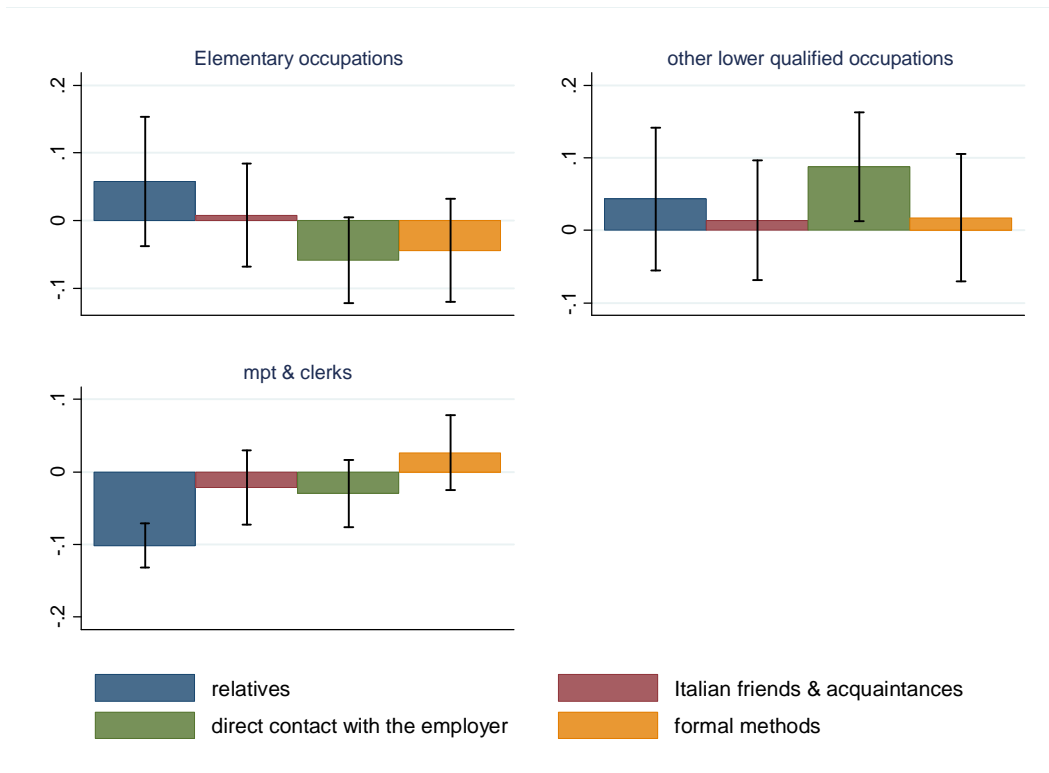


For other lower qualified first occupations we do not observe differences amongst job finding methods.

All formal methods are more likely associated with higher qualified professions, as well as contacts with Italians. Here the absolute probability is extremely reduced (about 6% of immigrant men are in this wide professional group), thus even small changes are important in substantive terms. No differences are observed between those using connections with co-ethnic friends and, on the other hand, relatives.

Looking at subsequent jobs (Figure 2) it emerges that job finding via relatives is the only method penalising the access to higher qualified professions. Conversely, we observe fewer and non-statistically significant differences amongst other methods.

Fig. 2. Males, current job (when subsequent to the first job). Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic or immigrant friends and acquaintances*) on the probability of having a specified occupation, with 95% CIs.



Therefore, we generally notice that at the very beginning of their settlement in Italy, immigrant males that rely on co-ethnic networks experience a faster transition to employment. However, they access the highest occupational segments obtaining information via formal methods, more frequently than through any other informal method of job finding. Moreover, for subsequent jobs, whereas familial ties connected with work-relevant information are still penalising, other important relationships improve their capacity of connection with these segments reducing the gap with formal means.

For immigrant women we notice the relevance of each method based on relationships in accessing the first job as care and domestic worker (Figure 3). They are all statistically different from formal channels, whilst differences amongst them are less substantive, given the large proportion of women employed in this sector.

Those obtaining their job via co-ethnic and also Italian friends are strongly associated to this occupational segment, but less likely accede to other lower qualified occupations.

Yet, the probability to have a higher qualified occupation for females shows a pattern similar to males.

Fig. 3. Females, first job. Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic or immigrant friends and acquaintances*) on the probability of having a specified occupation, with 95% CIs.

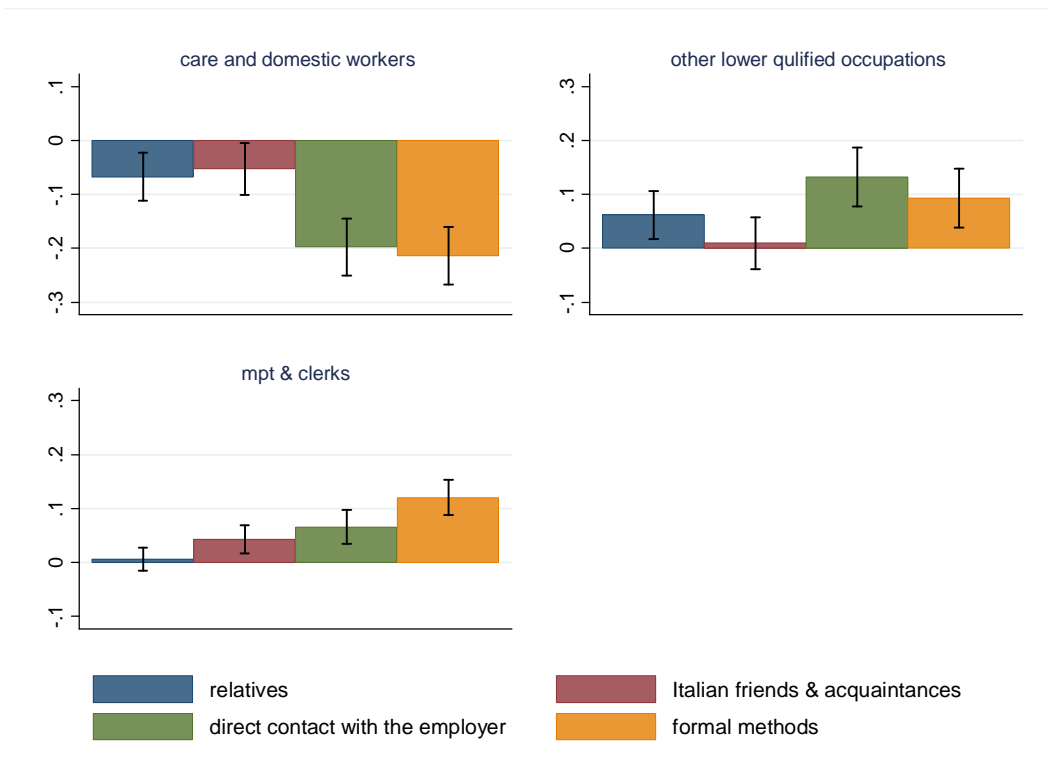


Fig. 4. Females, current job (when subsequent to the first job). Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic or immigrant friends and acquaintances*) on the probability of having a specified occupation, with 95% CIs.

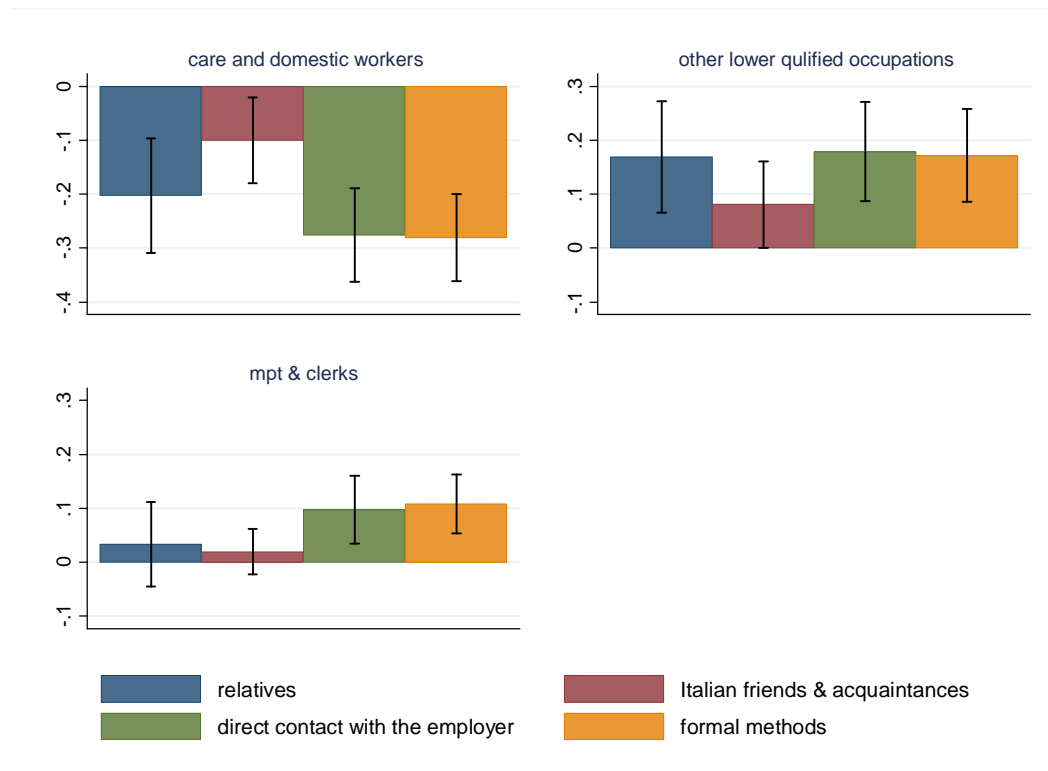


Figure 4 refers to subsequent jobs for women. Observing the probability of being employed in the care and domestic segment, we notice that, for immigrant women relying on Italian and (mostly) co-ethnic friends or acquaintances, differences with formal methods increase. Conversely those obtaining information through relatives are not significantly different from formal means in this probability.

Concerning higher qualified occupations, we see a dissimilar pattern with respect to males: job finding via connections with co-ethnic friends or acquaintances and relationships with natives still reveal a negative difference with formal methods and contacts with relatives are not particularly penalising.

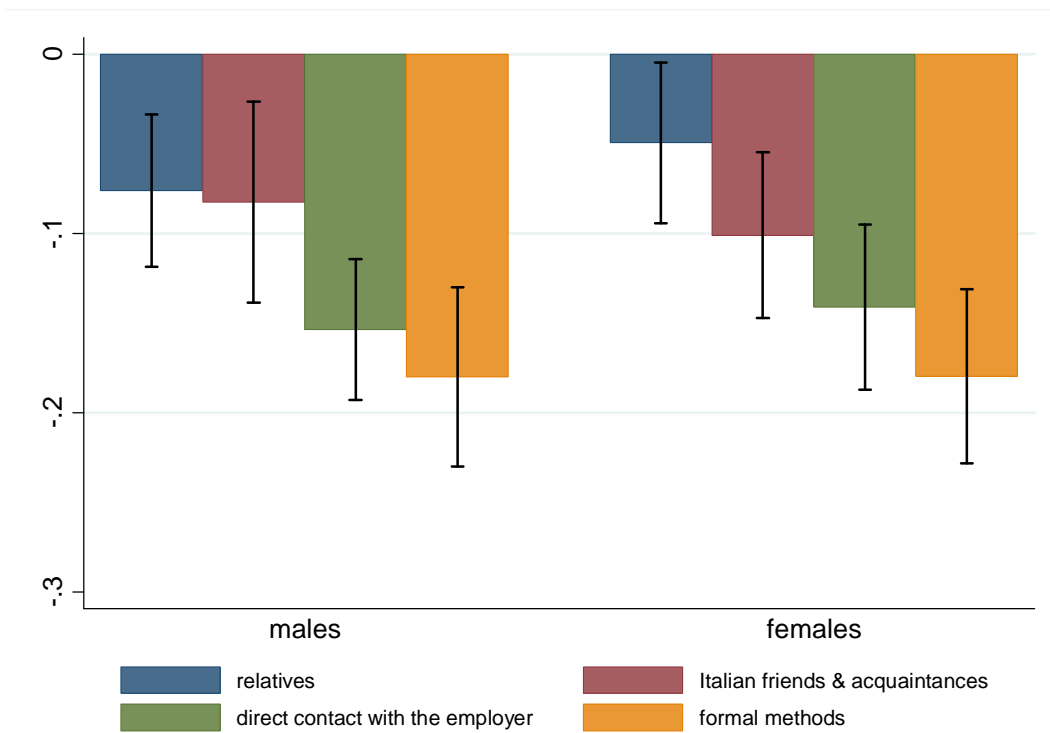
Therefore it emerges that the domestic and care sector, a segment of the Italian labour market that attracts the large majority of immigrant women, since the beginning of the migratory experience appears characterised by well established informative connections based on any kind of informal means, as far as employers are families and not firms.

This segment is determined by very fast flows of information, as it can be observed also in the reduced search duration of immigrants from ex Yugoslavia and other Eastern Europe, that are overrepresented in this sector (see Table 6 in Appendix A). It is particularly the case when information circulates through parental and co-ethnic networks.

However, with the growing experience in the labour market, the informative network consolidates around some connections at the expense of others: contacts of women with co-ethnics and also Italians improve their distance with formal methods, whereas familial ties appear less relevant than they were at the beginning in accessing these jobs.

Another aspect of the job quality concerns the probability to access a first irregular job. Figure 5 expresses differences in this probability with respect to connections with co-ethnic friends and acquaintances, for both males and females. We notice how all other methods are less connected with irregular jobs than co-ethnic relationships that are not based on parental ties. Again we highlight how informal methods are differentiated in terms of job quality consequences. Furthermore the models referred to in Figure 5 (see Tables 3-4 in Appendix A) include as an independent variable the economic sector of the job. This is particularly relevant for women, since care and domestic services are strongly associated with irregular occupations, such as with job finding via co-ethnic and also Italian contacts. However, those obtaining the job through connections with Italians are significantly less likely involved in irregular works.

Fig. 5. First Job. Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic or immigrant friends and acquaintances*) on the probability of having an irregular occupation, with 95% CIs.



5. Conclusions

Our study stated three hypotheses on the relationship between job finding methods and some occupational outcomes. In particular, they are based on the expected result, emerged from previous studies, that connections with the native population can be associated with important and effective resources, that are not available within the boundaries of closed and ethnically homogeneous groups. The study had the opportunity to observe various relationships and connections that are activated in the labour market in order to obtain relevant information.

It emerges that not all relationships are equal. In the case of male immigrants, co-ethnic friends and relatives represent the most used source of information in the job finding process, also for subsequent stages of their career.

At the entrance into the labour market, contacts established within the ethnic group are generally associated with occupational disadvantages, even though relatives tend to reduce access to a first irregular job.

However, it seems for subsequent jobs that a larger penalisation is ascribable to those individuals without the capacity (or not in the condition) to break off parental relationships in order to obtain work-relevant information, whereas some other connections with co-ethnics gravitate also towards the highest segments of the labour market. It must be noticed in any case that access to more qualified occupations is a condition that involves only a few cases amongst the immigrant population.

With respect to women, the important segment of care-domestic services is clearly characterised by dense networks of both co-ethnic and Italian connections, especially for subsequent jobs when the latter become the most used method of job finding in the labour market. These relationships seem to have their own development with regard to parental relationships, more associated with other less qualified professions. The two groups of informal connections reveal in any case a diverging link with irregular positions, that strictly characterise this sector.

Furthermore it clearly appears that ethnic networks, at the very beginning of the migration experience, cut the unemployment duration down and are able to rapidly connect people to the labour market, in a context in which transition to employment is especially urgent. Therefore, a trade-off between quality of the job and speed of the transition to employment that characterised job search networks emerges: ethnic connections, especially those based on strong familial ties, although less frequently associated with high quality jobs, establish an effective flow of information, that in many cases can be of crucial importance for new immigrants.

Therefore, the assumption of occupational disadvantages related to bonding relationships internal to the immigrant group and economic advantages of connections with the native population has been only partially confirmed. The picture that emerges from the analysis is somehow more complex: given the specificity of the Italian context, not all internal co-ethnic relationships are equally bonding; additionally, also information circulating through networks characterised by the presence of Italian contacts can encourage the phenomenon of employment concentration. This has to do with the characteristics and logics of labour demand in affecting the matching process. Nevertheless, also the most ethnically homogeneous network can determine a fast and effective transmission of information and therefore, several job finding methods differently impact on various outcomes of the labour market.

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APPENDIX A

1) MODEL 1. First job. Pr(Occupational qualification), Males

Base outcome: elementary occupation	(1)other	(2)mpt & clerks
<i>Job finding method</i>		
co-ethnic friends and acquaintances	ref.	ref.
relatives	0.994 (0.116)	0.811 (0.317)
Italian friends & acquaintances	1.355 (0.251)	4.069** (1.966)
direct contact with the employer	1.414** (0.183)	7.674*** (2.516)
formal methods	1.161 (0.208)	10.934*** (3.650)
<i>Search duration</i>		
0-4 months	ref.	ref.
4-6 months	1.235 (0.186)	1.532 (0.488)
more than 6 months	1.101 (0.131)	0.498* (0.152)
<i>Cohort of entrance in Italy</i>		
1989-1998	ref.	ref.
1999-2008	0.977 (0.100)	1.079 (0.313)
2009-2012	0.544* (0.129)	0.313 (0.240)
<i>Age</i>		
20-24	ref.	ref.
15-19	1.052 (0.153)	1.030 (0.388)
25-29	1.103 (0.144)	0.624 (0.230)
30-34	0.980 (0.138)	0.754 (0.252)
35-39	1.202 (0.196)	0.526 (0.204)
40-44	0.935 (0.212)	1.403 (0.625)
45 or more	0.962 (0.240)	0.937 (0.568)
<i>Education</i>		
No school and lower secondary	ref.	ref.
Upper secondary	1.100 (0.107)	3.005*** (0.854)
Tertiary	0.983 (0.217)	15.739*** (5.320)
<i>Language proficiency</i>		
no Italian	ref.	ref.
low-moderate	1.106 (0.121)	1.450 (0.374)
high	1.016 (0.344)	2.143 (1.208)
<i>Area</i>		
North-west	ref.	ref.
North-east	1.098 (0.157)	0.590 (0.196)
Center	0.950 (0.132)	0.893 (0.277)
South and islands	0.511*** (0.061)	0.320*** (0.098)
<i>Origin</i>		
EU15 & Oecd	ref.	ref.
Other Eastern EU New Member States	0.374 (0.253)	0.021*** (0.014)
Albania	0.356 (0.244)	0.018*** (0.013)
Ex Yugoslavia & other eastern Europe	0.550 (0.378)	0.041*** (0.028)
Center-South Asia	0.188* (0.128)	0.019*** (0.013)
Eastern Asia	0.250* (0.175)	0.041*** (0.030)
Morocco	0.204* (0.140)	0.007*** (0.006)
Other North-Africa	0.230* (0.160)	0.021*** (0.017)
Central Africa	0.163** (0.112)	0.020*** (0.014)
Latin America	0.244* (0.171)	0.033*** (0.023)
Observations	5077	
Pseudo R-squared	0.151	

Exponentiated coefficients; Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

2) MODEL 2. First job Pr(Occupational qualification), Females

Base outcome: care & doemstic	(1)other	(2)mpt & clerks
<i>Job finding method</i>		
co-ethnic friends and acquaintances	ref.	ref.
relatives	1.052 (0.119)	1.248 (0.406)
Italian friends & acquaintances	0.970 (0.119)	2.623*** (0.756)
direct contact with the employer	1.329* (0.187)	4.557*** (1.333)
formal methods	1.308 (0.202)	8.594*** (2.284)
<i>Search duration</i>		
0-4 months	ref.	ref.
4-6 months	1.048 (0.161)	1.279 (0.332)
more than 6 months	1.028 (0.118)	1.781** (0.390)
<i>Cohort of entrance in Italy</i>		
1989-1998	ref.	ref.
1999-2008	1.281* (0.138)	1.372 (0.321)
2009-2012	1.039 (0.229)	0.503 (0.215)
<i>Age</i>		
20-24	ref.	ref.
15-19	1.624** (0.256)	2.324* (0.798)
25-29	0.925 (0.116)	1.059 (0.268)
30-34	1.149 (0.166)	0.921 (0.267)
35-39	1.009 (0.150)	0.498* (0.171)
40-44	1.086 (0.168)	0.625 (0.220)
45 or more	1.788*** (0.304)	0.816 (0.319)
<i>Education</i>		
No school and lower secondary	ref.	ref.
Upper secondary	1.201 (0.115)	3.944*** (1.303)
Tertiary	1.019 (0.148)	22.280*** (7.636)
<i>Language proficiency</i>		
no Italian	ref.	ref.
low-moderate	1.210 (0.120)	1.820** (0.365)
high	2.341** (0.644)	8.739*** (3.069)
<i>Area</i>		
North-west	ref.	ref.
North-east	1.165 (0.154)	1.330 (0.321)
Center	1.104 (0.136)	1.151 (0.287)
South and islands	1.003 (0.117)	0.538* (0.134)
<i>Origin</i>		
EU15 & Oecd	ref.	ref.
Other Eastern EU New Member States	0.688 (0.294)	0.082*** (0.037)
Albania	0.287** (0.127)	0.022*** (0.012)
Ex Yugoslavia & other eastern Europe	0.774 (0.335)	0.062*** (0.030)
Center-South Asia	0.355* (0.165)	0.033*** (0.021)
Eastern Asia	0.443 (0.200)	0.053*** (0.031)
Morocco	0.343* (0.158)	0.022*** (0.018)
Other North-Africa	0.357 (0.210)	0.033** (0.042)
Central Africa	0.400* (0.183)	0.057*** (0.031)
Latin America	0.612 (0.269)	0.101*** (0.049)
Observations	5407	
Pseudo R-squared	0.153	

Exponentiated coefficients; Standard errors in parentheses
 * p<0.05, ** p<0.01, *** p<0.001

3) MODEL 5. First job. Pr(Irregular occupation), Males

	odds ratios	standard er.
<i>Job finding method</i>		
co-ethnic friends and acquaintances	ref.	
relatives	0.647***	(0.083)
Italian friends & acquaintances	0.621**	(0.110)
direct contact with the employer	0.368***	(0.055)
formal methods	0.287***	(0.067)
<i>Search duration</i>		
0-4 months	ref.	
4-6 months	0.839	(0.142)
more than 6 months	0.747*	(0.100)
<i>Cohort of entrance in Italy</i>		
1989-1998	ref.	
1999-2008	0.621***	(0.069)
2009-2012	0.335***	(0.099)
<i>Age</i>		
20-24	ref.	
15-19	0.727*	(0.113)
25-29	0.920	(0.128)
30-34	0.791	(0.120)
35-39	0.883	(0.160)
40-44	0.677	(0.165)
45 or more	0.684	(0.172)
<i>Education</i>		
No school and lower secondary	ref.	
Upper secondary	1.056	(0.114)
Tertiary	0.989	(0.223)
<i>Language proficiency</i>		
no Italian	ref.	
low-moderate	0.794	(0.094)
high	0.678	(0.220)
<i>Area</i>		
North-west	ref.	
North-east	0.595**	(0.101)
Center	1.265	(0.185)
South and islands	1.838***	(0.247)
<i>Origin</i>		
EU15 & Oecd	ref.	
Other Eastern EU (New Member States)	8.840***	(5.718)
Albania	8.744***	(5.651)
Ex Yugoslavia & other eastern Europe	6.225**	(4.112)
Center-South Asia	5.188*	(3.428)
Eastern Asia	8.604**	(5.818)
Morocco	7.116**	(4.694)
Other North-Africa	7.697**	(5.107)
Central Africa	8.314**	(5.470)
Latin America	12.28***	(8.191)
<i>Industry</i>		
business services	ref.	
agriculture	2.157**	(0.508)
manufacturing	0.963	(0.226)
construction	1.770**	(0.391)
wholesale & retail trade	1.863*	(0.459)
accommodation & food services	1.849*	(0.507)
personal services	1.465	(0.432)
care & domestic services	1.413	(0.434)
Observations	5077	
Pseudo R-squared	0.107	

Exponentiated coefficients; Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

4) MODEL 6. First Job. Pr(Irregular occupation), Females

	odds ratios	standard er.
<i>Job finding method</i>		
co-ethnic friends and acquaintances	ref.	
relatives	0.778*	(0.092)
Italian friends & acquaintances	0.581***	(0.078)
direct contact with the employer	0.448***	(0.066)
formal methods	0.335***	(0.060)
<i>Search duration</i>		
0-4 months	ref.	
4-6 months	0.778	(0.125)
more than 6 months	0.751*	(0.095)
<i>Cohort of entrance in Italy</i>		
1989-1998	ref.	
1999-2008	0.927	(0.108)
2009-2012	0.520*	(0.143)
<i>Age</i>		
20-24	ref.	
15-19	0.965	(0.152)
25-29	0.774	(0.104)
30-34	0.650**	(0.100)
35-39	0.869	(0.134)
40-44	0.572***	(0.095)
45 or more	0.473***	(0.080)
<i>Education</i>		
No school and lower secondary	ref.	
Upper secondary	0.927	(0.097)
Tertiary	0.734*	(0.110)
<i>Language proficiency</i>		
no Italian	ref.	
low-moderate	0.794*	(0.086)
high	0.847	(0.205)
<i>Area</i>		
North-west	ref.	
North-east	0.737*	(0.107)
Center	1.230	(0.158)
South and islands	1.591***	(0.191)
<i>Origin</i>		
EU15 & Oecd	ref.	
Other Eastern EU (New Member States)	1.374	(0.425)
Albania	1.106	(0.372)
Ex Yugoslavia & other eastern Europe	1.617	(0.512)
Center-South Asia	0.405*	(0.158)
Eastern Asia	0.744	(0.269)
Morocco	0.653	(0.257)
Other North-Africa	0.694	(0.400)
Central Africa	0.902	(0.341)
Latin America	1.280	(0.421)
<i>Industry</i>		
business services	ref.	
agriculture	1.215	(0.342)
manufacturing	1.461	(0.387)
construction	1.535	(1.098)
wholesale & retail trade	1.322	(0.364)
accommodation & food services	1.861**	(0.432)
personal services	1.640*	(0.363)
care & domestic services	2.718***	(0.574)
Observations	5407	
Pseudo R-squared	0.089	

Exponentiated coefficients; Standard errors in parentheses
 * p<0.05, ** p<0.01, *** p<0.001

5) MODEL 7. First job. Pr(search duration), Males

Base outcome: 0-3 months	(1)4-6 months	(2)6 months or more
<i>Job finding method</i>		
co-ethnic friends and acquaintances	ref.	ref.
relatives	0.762 (0.145)	0.679* (0.104)
Italian friends & acquaintances	1.095 (0.274)	1.476* (0.268)
direct contact with the employer	1.576* (0.279)	1.161 (0.168)
formal methods	1.447 (0.316)	1.245 (0.215)
<i>cohort of entrance in Italy</i>		
1989-1998	ref.	ref.
1999-2008	0.823 (0.123)	0.914 (0.109)
2009-2012	0.617 (0.275)	0.531* (0.167)
<i>Age</i>		
20-24	ref.	ref.
15-19	1.325 (0.268)	1.770*** (0.288)
25-29	0.837 (0.156)	0.901 (0.139)
30-34	1.057 (0.217)	0.909 (0.152)
35-39	0.955 (0.236)	1.209 (0.229)
40-44	0.666 (0.194)	0.820 (0.221)
45 or more	0.852 (0.308)	1.318 (0.358)
<i>Education</i>		
No school and lower secondary	ref.	ref.
Upper secondary	0.947 (0.134)	0.758* (0.089)
Tertiary	0.742 (0.207)	0.617* (0.140)
<i>Language proficiency</i>		
no Italian	ref.	ref.
low-moderate	0.850 (0.133)	0.981 (0.125)
high	0.346* (0.150)	0.678 (0.234)
<i>Region</i>		
North-west	ref.	ref.
North-east	0.680 (0.138)	1.177 (0.180)
Center	1.098 (0.198)	0.923 (0.142)
South and islands	0.765 (0.135)	0.738* (0.104)
<i>Origin</i>		
EU15 & Oecd	ref.	ref.
Other Eastern EU New Member States	1.322 (0.894)	1.168 (0.493)
Albania	2.513 (1.718)	1.648 (0.702)
Ex Yugoslavia & other eastern Europe	2.317 (1.582)	1.428 (0.631)
Center-South Asia	2.359 (1.605)	2.243 (0.982)
Eastern Asia	2.476 (1.758)	1.533 (0.732)
Morocco	2.265 (1.589)	1.622 (0.707)
Other North-Africa	1.848 (1.336)	2.086 (0.941)
Central Africa	3.395 (2.342)	3.269** (1.438)
Latin America	3.025 (2.112)	1.791 (0.816)
Observations	5077	
Pseudo R-squared	0.038	

Exponentiated coefficients; Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

6) MODEL 8. First job. Pr(search duration), Females

Base outcome: 0-3 months	(1)4-6 months	(2)6 months or more
<i>Job finding method</i>		
co-ethnic friends and acquaintances	ref.	ref.
relatives	0.952 (0.180)	0.711* (0.106)
Italian friends & acquaintances	1.189 (0.239)	1.582** (0.234)
direct contact with the employer	1.794** (0.361)	1.427* (0.228)
formal methods	1.521 (0.327)	2.674*** (0.411)
<i>Cohort of entrance in Italy</i>		
1989-1998	ref.	ref.
1999-2008	1.709** (0.309)	1.223 (0.158)
2009-2012	0.885 (0.345)	0.572 (0.163)
<i>Age</i>		
20-24	ref.	ref.
15-19	0.708 (0.162)	0.994 (0.170)
25-29	0.964 (0.177)	0.727* (0.107)
30-34	0.709 (0.157)	0.697* (0.113)
35-39	0.394** (0.112)	0.492*** (0.094)
40-44	0.484** (0.125)	0.585** (0.116)
45 or more	0.323*** (0.089)	0.381*** (0.086)
<i>Education</i>		
No school and lower secondary	ref.	ref.
Upper secondary	0.796 (0.126)	0.670*** (0.078)
Tertiary	1.035 (0.234)	0.669* (0.114)
<i>Language proficiency</i>		
no Italian	ref.	ref.
low-moderate	1.044 (0.157)	1.048 (0.123)
high	0.768 (0.275)	0.698 (0.193)
<i>Region</i>		
North-west	ref.	ref.
North-east	0.834 (0.177)	1.091 (0.165)
Center	1.424* (0.256)	1.140 (0.163)
South and islands	0.890 (0.163)	0.716* (0.099)
<i>Origin</i>		
EU15 & Oecd	ref.	ref.
Other Eastern EU New Member States	1.016 (0.394)	0.741 (0.210)
Albania	1.347 (0.590)	2.169* (0.660)
Ex Yugoslavia & other eastern Europe	0.734 (0.297)	0.472* (0.145)
Center-South Asia	0.956 (0.503)	1.231 (0.446)
Eastern Asia	0.839 (0.404)	0.910 (0.304)
Morocco	1.046 (0.500)	1.108 (0.387)
Other North-Africa	0.899 (0.714)	4.652** (2.424)
Central Africa	1.183 (0.537)	1.760 (0.587)
Latin America	1.292 (0.550)	0.823 (0.252)
Observations	5407	
Pseudo R-squared	0.072	

Exponentiated coefficients; Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

7) MODEL 3. Second job. Pr(Occupational qualification), Males

Base outcome: elementary occupation	(1)other	(2)mpt & clerks
<i>Job search method</i>		
co-ethnic friends & acquaintances relatives	ref. 0.810 (0.223)	ref. 0.006*** (0.006)
Italian friends & acquaintances direct contact with the employer	0.980 (0.236)	0.720 (0.322)
formal methods	1.574 (0.373)	0.929 (0.384)
	1.308 (0.366)	1.693 (0.629)
<i>Years since migration</i>		
3-6 years	0.821 (0.196)	1.502 (0.643)
6-9 years	0.874 (0.248)	2.193 (1.054)
9 years or more	0.829 (0.224)	1.141 (0.559)
<i>Cohort of entrance in Italy</i>		
1989-1998	ref.	ref.
1999-2008	0.872 (0.175)	0.669 (0.226)
2009-2012	0.391 (0.238)	0.000*** (0.000)
<i>Age</i>		
20-24	ref.	ref.
15-19	1.442 (0.372)	1.320 (0.647)
25-29	1.464 (0.340)	2.434* (0.936)
30-34	1.471 (0.388)	1.219 (0.548)
35-39	1.295 (0.440)	0.673 (0.461)
40-44	0.770 (0.332)	1.049 (1.036)
45 or more	0.643 (0.351)	0.659 (0.673)
<i>Education</i>		
No school and lower secondary	ref.	ref.
Upper secondary	1.068 (0.200)	1.584 (0.565)
Tertiary	1.752 (0.758)	11.641*** (6.312)
language proficiency at present	1.250 (0.143)	2.043*** (0.427)
<i>Area</i>		
North-west	ref.	ref.
North-east	1.379 (0.303)	1.362 (0.482)
Center	0.809 (0.180)	1.141 (0.424)
South and islands	0.449*** (0.090)	0.402* (0.149)
<i>Origin</i>		
EU15 & Oecd	ref.	ref.
Other Eastern EU New Member States	0.250 (0.274)	0.008*** (0.009)
Albania	0.212 (0.237)	0.011*** (0.012)
Ex Yugoslavia & other eastern Europe	0.224 (0.252)	0.019*** (0.023)
Center-South Asia	0.124 (0.137)	0.015*** (0.018)
Eastern Asia	0.187 (0.218)	0.030** (0.040)
Morocco	0.090* (0.099)	0.007*** (0.008)
Other North-Africa	0.107* (0.121)	0.016*** (0.019)
Central Africa	0.131 (0.147)	0.013*** (0.016)
Latin America	0.055** (0.061)	0.008*** (0.009)
Observations	1642	
Pseudo R-squared	0.130	

Exponentiated coefficients; Standard errors in parentheses
 * p<0.05, ** p<0.01, *** p<0.001

8) MODEL 4. Second job. Pr(Occupational qualification), Females

Base outcome: care & domestic	(1)other	(2)mpt & clerks
<i>Job finding method</i>		
co-ethnic friends & acquaintances	ref.	ref.
relatives	1.150 (0.292)	1.929 (1.166)
Italian friends & acquaintances	0.902 (0.169)	1.329 (0.512)
direct contact with the employer	1.649* (0.389)	4.905*** (2.057)
formal methods	2.195*** (0.519)	6.740*** (2.583)
<i>Years since migration</i>		
3-6 years	1.105 (0.224)	1.223 (0.446)
6-9 years	0.861 (0.188)	1.468 (0.599)
9 years or more	0.859 (0.204)	1.474 (0.681)
<i>Cohort of entrance in Italy</i>		
1989-1998	ref.	ref.
1999-2008	1.046 (0.208)	0.908 (0.385)
2009-2012	1.516 (1.143)	1.757 (2.722)
<i>Age</i>		
20-24	ref.	ref.
15-19	1.470 (0.392)	1.589 (0.624)
25-29	0.755 (0.171)	0.762 (0.253)
30-34	0.710 (0.174)	0.662 (0.321)
35-39	0.756 (0.189)	0.339* (0.166)
40-44	0.726 (0.197)	0.081*** (0.058)
45 or more	1.381 (0.419)	0.327* (0.178)
<i>Education</i>		
No school and lower secondary	ref.	ref.
Upper secondary	1.080 (0.188)	2.117 (0.998)
Tertiary	1.144 (0.305)	18.426*** (9.626)
language proficiency at present	1.022 (0.112)	1.414 (0.411)
<i>Area</i>		
North-west	ref.	ref.
North-east	0.831 (0.166)	0.467* (0.149)
Center	1.245 (0.259)	0.679 (0.236)
South and islands	0.870 (0.168)	0.573 (0.192)
<i>Origin</i>		
EU15 & Oecd	ref.	ref.
Other Eastern EU New Member States	0.148 (0.161)	0.016*** (0.018)
Albania	0.078* (0.087)	0.007*** (0.009)
Ex Yugoslavia & other eastern Europe	0.158 (0.173)	0.012*** (0.014)
Center-South Asia	0.045* (0.055)	0.007*** (0.008)
Eastern Asia	0.110 (0.124)	0.004*** (0.006)
Morocco	0.088* (0.102)	0.007*** (0.010)
Other North-Africa	0.028* (0.039)	0.000*** (0.000)
Central Africa	0.107* (0.122)	0.007*** (0.010)
Latin America	0.112* (0.124)	0.011*** (0.013)
Observations	1672	
Pseudo R-squared	0.154	

Exponentiated coefficients; Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.00

