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# Job Search, Ethnic Networks, and Migratory Status. Three Studies on Immigrant Incorporation in the Italian Labour Market


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# Introduction

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, along with queries on the responsibility of receiving institutional contexts. 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.

Traditional human capital explanations of the immigrant labour market disadvantage, based on individual characteristics, can only partially explain the persistent divergence in the performance of ethnic minorities. Therefore, further developments are needed for the comprehension of processes and mechanisms affecting the incorporation of immigrant groups in the host country.

This work contributes to this comprehension, by investigating two different perspectives. The first one considers the importance of *interpersonal relationships* in explaining the ethnic occupational disadvantage. One way of throwing light on relational aspects is to consider the manner through which minority members procure relevant information about jobs. In our view, the job search behaviour of individuals reflects their relational structure. Particularly, for immigrants it reflects the strength of ethnic community support. This social structure differs from the one of natives in terms of available resources, constituting a potential determinant of occupational outcomes. This is especially the case in the Italian context, where personal contacts largely regulate the matching of labour demand and supply. Therefore, we pose the following research question:

*1. Are occupational differentials between Italians and immigrants affected by the different structure of relationships in which they are embedded?*

Furthermore, a usually evoked way to study economic consequences of the immigrant social structure emphasises qualitative differences of ties. One possibility is to distinguish closed ties bounded to the ethnic group and bridge connections that are likely to spread new and diversified information. Thus, we pose the research question:

*2. To what extent co-ethnic and non-ethnic ties, that are activated in the labour market, impact immigrant occupational achievement?*

The second explored perspective considers the role of the *institutional context* in affecting labour market outcomes of immigrants. Minority groups face several institutional and macro-level barriers within receiving contexts that impact their economic life. Particularly, non-communitarian immigrants face some constraints in accessing the host country, transiting employment and renewing their formal residence. One possibility of exploring these aspects is to consider immigrant entry status as a condition that affects labour market outcomes. Therefore, we pose the research question:

*3. Which is the role of the migratory status on entrance in shaping immigrant labour market pathways?*

This study makes several contributions to the existing literature. Firstly, using a combined 2009-2014 *Italian Labour Force Survey* (ILFS) data-set, it offers a systematic comparison of the job finding methods used by Italians and immigrants. Such a comparative approach on the job search behaviour of natives and immigrants has already been offered by other studies. However, this issue has never been studied for the Italian case, although the ILFS collects relevant information on job search and finding methods, characteristics of the current occupation, and respondents' country of birth.

Secondly, focusing on the recent Istat multipurpose survey *Social Condition and Integration of Foreign Citizens* (SCIF), the study offers an analysis of immigrant labour market outcomes associated to several informal methods of job finding. The possibility of distinguishing the kind of contact person activated by immigrants to obtain information in the labour market, to our knowledge, represents an unprecedented case at the European level.

Thirdly, the study adopts 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. On the one hand, using the retrospective information collected by the SCIF survey, the study considers different circumstances of the individual working history, allowing for the analysis of occupational trajectories, that is not possible with other data investigating the immigrant population in Italy. On the other hand, the SCIF survey contains information on the timing of migration and dates of the collected employment episodes, along with the reason for migration of respondents. This provides a rare opportunity to analyse the transition into the labour market of different entry categories of migrants,

overcoming the limitations of cross-sectional data, still most used in migration studies. Particularly, these aspects, that emphasise the role of time and duration since arrival in the host country, are studied through Event History Analysis, which have been increasingly used in sociological research over the past decade, but has received limited application in the migration literature.

The thesis presents a first introductory chapter that revises theories and empirical evidences on the two above mentioned perspectives. Furthermore, it offers three empirical studies. The first two relate to the *interpersonal relationships* perspective, investigating the kind of immigrant job finding behaviour (the former in an immigrant-native comparative perspective; the latter focusing only on the immigrant component). The last chapter considers the migratory status upon entrance, as part of the *institutional context* research strand.

# Chapter 1

# Two perspectives on immigrant labour market integration. Theories and evidence

## 1.1 Theoretical frameworks and explanations of ethnic disadvantages in the labour market

Over time a variety of perspectives and explanations has been offered for the disadvantages that immigrant workers face in the host labour market. Traditionally these explanations have been conceptualised within the human capital framework (Becker 1964, Mincer 1974), whose models emphasise individual characteristics as work-relevant skills affecting the labour market performance, measured through average income. Education and work experience are treated as investments that, in a perfect competition market, correspond to individual productivity. There are several reasons why immigrants, compared to the charter population, experience a lower return to education, that reduces the gain capacity function and implies a wage penalisation: lower host country specific skills provided by their origin educational systems; the difficulty of a formal recognition of the educational attainment; the lack of language fluency, necessary to perform most of the jobs, especially those located at the top of an occupational structure. Moreover, newcomers have completely no experience in the host labour market, that further reduces availability and characteristics of their human capital.

Within this perspective, supposing that immigrants change over time and emphasising their labour market pathways, the economic theory of *assimilation* has been developed. According to this approach, whereas at the first of step of arrival immigrants face a penalization related to their individual human capital characteristics, in the second step of settlement they are progressively affected

by higher wage conditions that eliminate their disadvantage, and subsequently turn into an advantage, with respect to the native population (Chiswick 1978). This model is consistent with the human capital theory, since in the first period immigrants may decide to invest in country specific educational programs that improve their skills, and thus their productivity, facing opportunity costs that contribute to reduce earnings in the first time-frame, but recovering them in the second one, according to the investment return rate.

It must be noticed that the human capital framework also accounts for the microeconomic explanation of the choice of migrating. The decision is entirely guided by a cost-benefit calculation, in which the employment condition of the destination country interacts with the human capital return at the individual level and produces an (expected) outcome. If the difference between this outcome and the one obtained in the origin country exceeds the costs associated with migration, the individual decides to migrate (see Massey *et al.* 1993).

At a later stage the theory has incorporated further integrations, that highlighted methodological limitations of migration studies, generally based on cross-sectional data. Firstly, the model has taken into account the cohort dimension allowing for the consideration that subsequent immigration waves have different characteristics that, far from being homogeneous, change over time (Borjas 1985, 1994). Those deciding to migrate from the sending country are not randomly selected from the population, but need a certain amount of resources. Thus, the migratory cohorts account for this aspect, along with other contextual factors that are likely to vary amongst different migration waves. Secondly, the issue of selection arises when the return migration process is considered (Dustman and Görlach 2015). Migration outflows are less likely caught by official surveys and the temporariness of migration also has behavioural consequences: immigrants willing to stay for a limited period, more likely will accept any job position, even with lower levels of qualification and wage conditions, and less likely will invest in long term educational programs. For these reasons, the length of residence is considered a crucial aspect to be investigated.

Therefore, the notion of assimilation emphasises the progressive adaptation of permanent migrants. Furthermore, it has been conceptualised as a natural process within the American context, which from psychological and social considerations has also inspired policy programs of 'Americanization' (Sciortino, 2015). In its dynamic considerations a relevant assumption of the human capital theory is that the labour market achievement of first and second generations of immigrants differs. Those that have risen their human capital in the host society are expected to reach parity with the charter population. This is the

case for second generations, who have been educated in the host country, share the same cultural expectations of natives, have developed language fluency and created broader relationships.

However, it has been noticed that disadvantages across generations may persist (Heath and Cheung 2007). Furthermore, the fact that many patterns of incorporation can coexist besides the pure assimilative ones, allowed the emergence of the concept of *segmented assimilation* (Portes and Zou 1993). More generally, the inter and within-generation penalisation that immigrants experience usually occurs in employment dimensions different from earnings, such as the difficulty to access high qualified jobs or the entrapment risk within certain sectors. Therefore, the term *ethnic penalty* has been introduced in reference to any penalisation that persists once individual human capital characteristics have been taken into account (Heath and Yu, 2005). In order to clarify these differences, other explanations, outside the human capital framework, have been proposed.

In the first place, the ethnic penalisation and its perpetuation has been considered as an outcome of the labour market segmentation that operates at the firm level. Piore (1979) conceptualised the labour market integration of immigrants as pertinent to the structural labour demand of modern industrial societies. The need of labour at the lowest segments is an intrinsic characteristic of industrial societies. It interacts with the structural inflation inherent to the occupational hierarchy: since wages are not determined by a perfect equilibrium mechanism but reflect social qualities and status, employers do not have the possibility of incrementing wages at the bottom of the hierarchy, in order to attract suppliers, without affecting the others wage levels, though facing relevant costs. In this framework such a demand is satisfied by a *secondary* labour segment, characterised by lower wages, labour fluctuation, unskilled and unstable jobs, as opposed by the *primary* labour segment. These conditions make it difficult to attract native workers, while they operate as a *pull* factor for immigrants, that for many reasons face more urgent income necessities and are less subject to status or prestige working conditions.

Secondly, other factors affecting ethnic disadvantages, have been considered. Typically, some studies refer to mechanisms operating in the labour market that are more difficult to observe, like discrimination practices and processes of social reproduction generated by neighbourhood effects and spatial segregation (Heath and Cheung 2007).

Our thesis contributes to this comprehension, by providing specific empirical evidence referring to two possible dimensions of the ethnic labour market dis-

advantage: on the one hand, the importance of interpersonal networks; on the other hand, the role of the institutional framework that immigrants face once the receiving country is accessed. These perspectives, that will be considered in the next sections, interact with both individual characteristics, emphasised in the human capital framework, and external factors, that in segmented labour markets contribute to the occupational segregation of the immigrant workforce.

## 1.2 Ethnic networks in the labour market

The structure of relationships in which immigrants are embedded has been explored to study many aspects of the migratory process. It has been observed that ethnic networks affect the decision and selection of migrating, along with the perpetuation of international movements (see for instance Massey *et al.* 1993, Mckenzie and Rapoport 2007). Veteran immigrants, once their place in the host society is consolidated, are in the condition of providing information and support through their connections, thus they extend the pool of those eligible for help. These relationships, in turn, lower costs and risks associated to migration of a growing proportion of the home community (Waldinger 1998). Furthermore, ethnic networks can be directly related to the labour market, providing new immigrants with job-related information that are generally not available, given their lower contextual awareness.

However, the studies that explored the role of ethnic relationships in the labour market, led to a substantial ambivalence. Firstly, networks of relationships on which immigrants rely have been considered as social structures, that under certain conditions facilitate economic action. They encourage a rapid transmission of information, affecting the job search mechanism. They also provide better information within the workplace, creating a protective environment. Moreover, co-ethnic relationships are likely to connect entrepreneurs, promoting business development (Waldinger 2005).

In the framework of entrepreneurial studies, Wilson and Portes (1980) firstly introduced the term *ethnic enclave* to describe communities and groups able to develop a successful business, by virtue of their internal solidarity. They developed the hypothesis that, in particular circumstances, ethnic ties of solidarity generate economic outcomes, also in terms of patterns of labour mobility, describing the ethnic economy as a stepping stone for upward mobility pathways. These particularly cohesive social structures originate from different forms of social capital, defined as "those expectations for action within a collectivity that affect the economic goals and goal-seeking behaviour of its members, even

if these expectations are not oriented toward the economic sphere" (Portes and Sensenbrenner, 1993:1323). Thus, in contrast with the functionalist framework, in this view immigrants are considered as participants in broader social structures that, along with individual characteristics, determine their mode of incorporation (Portes 1995). Especially, *bounded solidarity* and *enforceable trust*, generating codes of conducts and sanctioning those who violate norms, are the underlined mechanisms that affect economic action at the group level (Portes and Sensenbrenner 1993).

The other side of the ambivalence, stems from the consideration of the potential social closure of immigrant networks. Indeed, ethnic relationships can encourage and reproduce employment concentration processes, generating *ethnic niches* in the labour market. Waldinger (1994) firstly introduced this term studying ethnic concentrations in New York City public employment. He observed that the making of an immigrant niche is encouraged and established by ethnic networks that influence the recruitment process.

As will be shown later, also empirical studies focusing on immigrant job search behaviour, pointed out that migrants relying on interpersonal connections result in larger occupational disadvantages, with respect to natives. Therefore, in this framework job search and hiring networks are likely to affect the employment concentration process of immigrant workers. Particularly, immigrant connections, since they lack the access to broader and more diversified relationships, may support a redundant knowledge, which constitutes a potential factor of ethnic penalisation and labour market trap.

For a better comprehension of labour market disadvantages that might emerge from the relational structure of individuals and groups, in the subsequent considerations we will review the literature on job search and finding behaviour of individuals, in general terms. Later, we will discuss specific empirical evidence on job search and finding methods in migration studies.

### 1.2.1 Information and job search methods

From a general viewpoint, job search *methods*, the actions activated when looking for a job, represent one of the dimensions of unemployment, along with the search *duration*, its *intensity*, that indicates the frequency of each search action throughout the unemployment spell, and *extension*, namely the number of different search actions activated by unemployed individuals (Reyneri 2011).

An established and usually adopted distinction is between *formal* and *informal* methods. The former refer to any use of non-personal channels spreading information, like newspapers and public or private intermediary institutions.

Conversely, the latter are based on the use of interpersonal contacts as informants. It must be noticed that interpersonal relationships are virtually involved in all the considered methods (Marsden and Gorman 2001). For example, the use of internet as a job search channel usually involves some form of social interaction. Searching via intermediary institutions or sending spontaneous applications, at the end will also imply personal interviews, with the agency and the employer. However, informal methods are based on contacts, with whom the job seeker "originally became acquainted in some context unrelated to a search for job information" (Granovetter 1974:11). This definition, that considers the peculiarity of methods based on relatives, friends, and acquaintances, was adopted in most empirical analyses and was also preferred in our study.

It must be considered that job search methods operate on both sides of the demand and supply of labour. On the one hand, jobseekers find a way to obtain information on vacancies. On the other hand, employers decide how to fill a position, sending the information they have, through different sources and channels. Furthermore, between the two actors some important differences occur. Whereas labour suppliers are subject to a *sequential* evaluation of labour market opportunities; those operating on the demand side can parcel the search process into two distinguished phases, reaching a *synoptic* evaluation (Follis 1998). Indeed, employers can simultaneously adopt recruitment practices, that extend the pool of candidates, and selection procedures, that pare down the number of applicants, on the basis of the acquired information (Orlitzky 2007).

In any case, both considering hiring and job search processes, the prominence of interpersonal networks has been observed, in many contexts. This has been explained with the fact that personal relationships have some peculiarities that, especially in markets characterised by uncertainty, are of noticeable importance (Rees 1966).

Firstly, both demand and supply of labour are bilaterally in a position of asymmetric information, when searching for jobs or candidates. Although some informative aspects are explicit during the search process, many others are not. Particularly, employers are not only interested in educational credentials, years of experience, and other observable characteristics of candidates. They also want to know the level of motivation, commitment, effort, and ability, that are likely to affect the prospective employees' productivity. Although many human resource practices to check for these characteristics have been developed, they remain generally not observable. Therefore, in some circumstances, trustworthy referrals might represent optimal search strategies. Similarly, job seekers are usually not only interested in wages and benefits, but they also want to know

the firm's health, working conditions, and other aspects of the workplace, that are likely to affect their satisfaction and are not known *a priori*. In this case, a trustworthy contact person enriches the informative content and the quality of the offer to be evaluated.

Secondly, it is generally recognised that trustworthy contact persons are also in the condition to give advice and recommendations, by "putting in a good word" with the employer (Granovetter 1974). Therefore, the *contact-employer* relationship, can be seen in a continuum line from a referral that exercises pure informative function, transmitting general information, to a contact that exercises influence (Follis 1998).

Thirdly, it has been noticed that information spread by word of mouth, that usually emerges as a by-product of social interaction, is costless. This particularly holds considering the point of view of employers that generally must sustain high searching costs, when relying on formal methods, especially in the case of temporary agencies. Rather, using insider referrals can significantly reduce recruitment costs, offering a pool of eligible candidates, and allow for increasing investments in selection practices.

Finally, social ties have the peculiarity of spread information broadly and quickly (Marsden and Gorman 2001). In the case of employers, it again implies the possibility of reducing search costs. Similarly, as observed by Granovetter (1974) and Burt (1992) job seekers inserted in large and diversified social networks are more likely to obtain information, reducing unemployment duration and, consequently, limiting search costs.

The literature that has investigated how people and jobs connect, on the one hand, has considered conditions and labour market consequences of using informal methods *as a whole*, with respect to other channels; on the other hand, with substantial improvement in understanding the process, has explored the *morphology* of networks, in terms of form and composition.

In the first case, some studies considered which characteristics are more likely associated with the use of interpersonal connections, focusing on variations in the *job search* strategy of different types of jobseekers. A general finding is that lower educated people and those from lower socio-economic standings are more likely to use informal job search methods. Furthermore, other studies investigated labour market consequences of using a certain search strategy. A typical outcome pertains to the *arrival rate* of job offers, generated by different job search methods. Some studies found that informal methods significantly reduce unemployment duration. For example, Holzer (1988), using a sample of young unemployed Americans, observed that relying on relatives and friends in

the job search has positive and significant effects on the probability of receiving a job offer.

The evidence that jobseekers relying on interpersonal networks are more likely to obtain a job, does not imply that they are more likely to obtain a *better* job. Indeed, another explored outcome regards the *quality* of occupations obtained via networks, rather than other methods. In this case, researchers usually refer to *job finding* methods of currently employed respondents, retrospectively recorded, given the methodological difficulty of following the individual search process over time. Many outcomes have been considered, with usually controversial results, in terms of wages, prestige, turnover, satisfaction[1]. However, a generally univocal finding pertains to the association between informal methods and lower occupational qualification of the obtained job (Concoran *et al.* 1980, Holzer 1987a, Harsløf 2006, Pellizzari 2010). Some studies also pointed out the importance of contact persons for obtaining jobs located at the top of the occupational hierarchy, like managerial professions (Boxman *et al.* 1991), thus suggesting a U-shape relationship between informal methods and occupational status. Firstly, this evidence has been explained with the higher dependence on social contacts of individuals of lower social classes, that have not much to offer in terms of formal credentials. Secondly, it has been considered from the hiring firm's perspective. Indeed, organisations that aim at hiring workers in lower quality positions, more frequently less bureaucratised, might not be interested in formal recruitment investments. Conversely, firms searching for candidates in technical high-mid positions, more focused on observable educational credentials, might be more likely to invest in formal recruitment strategies (Marsden and Gorman 2001).

However, research studies are not very informative on the job finding process, at the micro-level, and its linkage to inequality outcomes in a macro-level perspective, if they do not consider different types of connections and contact persons activated in the labour market (Oesch and Ow 2017).

The seminal study of Granovetter (1974) introduced, for the first time, a distinction in terms of *morphology* of networks in the job search and finding processes. Firstly, he criticised most assumptions of the economic model of job search[2], focused on the concept of *reservation wage* as the most explicative

[1] see Marsden and Gorman 2001, for a review.

[2] The theory of job search represents one of the most established approaches that firstly offered a microeconomic foundation to the problem of information. This approach emerged with the aim to add some elements to the simple and static neoclassical labour market model in which unemployment appears as an equilibrium phenomenon, in the framework of a 'new economics of imperfect information'. By treating uncertainty explicitly, job search theory is consistent with unemployment, as far as it can have investment aspects, precisely as invest-

mechanism: "much of the information about jobs that one receives through contact networks is a by-product of other activities, and thus not appropriately costed out in a rational calculation of the costs and benefits of getting information. [...] such matches appear from existing evidence to result from people being embedded in ongoing networks of social interaction oriented to economic and noneconomic goals alike" (Granovetter 1995:146). Secondly, studying job search behaviour of white collars in the area of Boston, he offered a distinction between 'family-social contacts' and 'work contacts'. Particularly, he argued that while weak ties are likely to extend and diversify the individual network of relationships, with relevant consequences on the *arrival rate* of job offers, strong ties bring about redundant information (Granovetter 1973). Therefore, he opened the research strand focused on qualitative properties of ties[3].

An approach that applied this intention to a wider perspective on the composition of occupied positions in the labour market, emerged from research studies on status attainment (Lin *et al.* 1981; Lin *et al.* 1981; Lin 1999). In this framework, the emphasis is on social resources, those accessible through direct or indirect ties, that individuals can mobilise for return in socioeconomic standings. Particularly, having relationships with individuals that occupy higher positions can activate resources able to improve the individual social status. Applied to job searching, the higher the occupational segment of the contact person, the better the individual achieved status. Therefore, in this perspective the contact person's status and resources, more than the quality of linkages, are crucial and capable of affecting job mobility processes.

Furthermore, Lin and associates considered the strength of connections, observing that weak ties, more likely than strong ones, are capable of reaching contacts located in higher segments of the social hierarchy. Therefore, they are more effective for those located in the lowest social levels, whereas their inci-

ment in information. A model of job search, that can be generalized, considers individuals looking for a job. Each period unemployed individuals, as under a sequential constraint, obtain a job offer. Thus, the unemployed 1. knows the wage distribution, but doesn't know which firm is associated with it; 2. has a reservation wage determined before looking for job, *a priori*; 3. accepts the first offer that exceeds that reservation wage, otherwise continues to search, obtaining a greater expected utility by the unemployment condition. Therefore, a result that can be inferred by the model is that the *acceptance rate*, namely the probability that a job offer will be accepted by the unemployed, strictly depends on the level of the reservation wage. For higher reservation wages, in a given labour market, the probability to obtain a job and to emerge from unemployment (that is always a voluntary circumstance) is lower. This emphasis considers the *acceptance rate* as a crucial mechanism of this set of models, that reflects the selective behaviour of workers (see Devine and Kiefer 1991, for a review).

[3]Notice that this approach has been commonly adopted by more recent developments of job search models, that try to incorporate various configurations of job information networks and to formalise the job search mechanism in terms of structure of connections among individuals (see Montgomery 1991, Calvó-Armengol and Jackson 2004, Ioannides and Loury 2004).

dence decreases for increasing levels. This statement was partly criticized by Wegener (1991), who observed that weak ties are largely effective for individuals that occupy the highest occupational segments. Indeed, these connections have the capacity of reaching diverse spheres of networks, that are generally separated, also influencing the individual horizontal mobility. However, both these perspectives consider that, since lower classes are usually tied amongst themselves, for the process of homophily, informal methods of job search can replicate inequality in the labour market, especially when used by already weak individuals or groups.

More recent studies emphasised the importance of distinguishing between professional contacts, those that emerged as work connections in the career, and communal contacts, like friends and relatives. Particularly, the latter represent a last resort for jobseekers without other chances to obtain job-relevant information, and are likely to generate sub-optimal matching between people and jobs. Therefore, communal contacts were observed to produce worse outcomes with respect to work-related connections (Loury 2006, Meliciani and Radicchia 2011). Furthermore, whereas the effective use of professional contacts increases with working experience, especially for men (McDonald and Mair 2010, McDonald 2011), communal ties are more likely used by already weak individuals: immigrants, long-term unemployed, very young (or extremely old) jobseekers (Larsen 2008, Oesch and Ow 2017).

These considerations shed further light on the way social networks and relationships are likely to affect and reproduce inequality in the labour market. In the last part of the section, we will consider the literature that specifically focused on job search and finding behaviours of immigrants. In particular, we will distinguish empirical studies that observed 1) whether ethnicity affects how a job is found, 2) labour market consequences of using different methods for immigrants, 3) aspects of the morphology of immigrant job-related relationships.

### 1.2.2 Job search methods and immigration, empirical evidence

Some studies considered *ethnicity* as a relevant factor affecting the use of interpersonal contacts in the job search process. Particularly, they provided evidence on differences between natives and several ethnic groups.

Research studies of the UK have been carried out using the British *Quarterly Labour Force Survey* (QLFS), that allows for considering both job search and finding methods. Indeed, the currently unemployed are asked to indicate the primary method of job searching, whilst the currently employed are retro-

spectively questioned about how they obtained the job[4].

Observing the main search method used by unemployed, Giulietti *et al.* (2013) combined years 1992-2010 of the QLFS. They found that, although formal job search methods are always largely predominant, immigrants use social networks more extensively than white natives: 12.3% versus 9.3% of unemployed. Especially Pakistanis, Bangladeshis and Eastern Europeans (but not Polish) showing the highest percentages. Conversely, they make less use of newspaper advertisements: 31.7% versus 39.3%. Battu *et al.* (2011), combining years 1998-2001, generally confirmed this evidence, observing that foreign born have more probability of job searching through networks (and are less likely to rely on formal advertisements) than second generation immigrants. This chance also decreases with years since migration. Yet, Demireva (2009), for years 1994-2004, found that during unemployment strong differences in the use of job search methods between ethnic groups exist, that cannot be explained by socio-demographic individual characteristics, but reflect the social structure of groups. Immigrants generally have more probabilities of referring to social ties than natives, while no differences are observed between second generation immigrants and white British born.

Observing job finding methods, Giulietti *et al.* (2013) also found no differences between non-white immigrants and British born whites. Informal channels represent about 29%, for both the groups. However, inter-ethnic differences were noticed by Battu *et al.* (2011), who found higher percentages for Pakistanis and Bangladeshis and lower for Blacks. Moreover, the two studies showed that education decreases the probability of job finding through informal channels, for both natives and several immigrant groups.

Behtoui (2008) utilized the Swedish *Labour Force Survey* (AKU), for years 1992-1999. He observed job finding techniques used by respondents who have been in their current job for one year or less. It emerged that in the Swedish case immigrants less likely than natives obtain their current job through contacts: 42% of Swedish born, 37.4% of immigrants from North-West Europe and USA, 36.3% of other immigrants. In a different way, job finding through formal methods accounts respectively for 26.4%, 32.3%, 38.6%. The multivariate analysis confirmed this pattern, adding some other elements. Females have less probability of using informal job-finding methods, as well as those highly educated (university or more).

Drever and Hoffmaister (2008), using the German *Socio-Economic Panel*

[4]However, a limitation of the British QLFS is that the information on job finding is collected only for those, currently employed, who have obtained their job as of three months or less.

(SOEP) from 1999 to 2003, observed job finding methods of people who have changed employment in the past 12 months. Given the panel structure of the data, they potentially accounted for more than one job change per individual, over the five years included. They found that job changes of immigrants occur through contact networks more extensively than natives' changes. Amongst immigrants, nearly 50% of job transition is the product of information passed through social networks, though among persons of German origin, approximately 30%. Especially, Turkish and Southern European immigrants have the highest percentages. Germans conversely use newspapers and other formal methods more than immigrants.

Specific evidence on job search methods of immigrant groups in the United States were carried out by Elliott (2001), using the *Multi-City Survey of Urban Inequality* (MCSUI), conducted between 1992 and 1994 in some large cities of north America. The author studied the finding method of people who entered new civilian jobs, within 5 years of the survey date. Importantly he distinguished formal channels from two different kinds of informal job finding methods: insiders referrals, when the contact person works in the same firm of the obtained job, and other informal channels. He found that native-born Whites less extensively are hired through insider referral than all other immigrant groups, both first and second generations (53.2% of recent Latino immigrants versus 26.5% of native-born Whites). The multivariate analysis confirmed that all groups of Latinos with migration background have a greater probability to obtain a job through informal referral, with respect to formal channels. Furthermore, recent Latino immigrants show the highest chances, confirming that this probability decreases with the length of residence. Moreover, the analysis showed that this probability is stronger for those having a low English fluency and being hired in a small size establishment.

These studies highlighted that ethnicity, which reflects the different structure of relationships at the group level, affects the use of interpersonal networks in ensuring employment. Further evidence has shown that the use of informal methods increases, when immigrants live in neighbourhoods characterised by high residential proximity, in terms of percentage of employed workers from the same ethnic group living nearby (Patacchini and Zenou 2012).

Other studies compared immigrant and native job search behaviour, in order to observe different occupational outcomes. A first outcome pertains to the transition from unemployment to employment. Studying the British case, Frijters *et al.* (2005) found, from simulation results of an unemployment duration model, the presence of differences between White UK born unemployed

and immigrants, except for white migrants, who show a probability largely similar to natives. The immigrant job search appears to be less effective than that of equivalent UK born job seekers, implying a longer unemployment duration. However, these differences are not explained by differences in the choice of main job search method, nor by observed characteristics of the groups, that are scarcely responsible for the duration gap. The authors concluded with the potential explanation that immigrants and White UK born are searching in different parts of the labour market.

Similarly, Battu *et al.* (2011), studying the probability of finding work in the UK, observed that non-whites are less likely to enter employment (and thus exiting unemployment) than whites. They also found scarce support that this difference relates to differences in the job search behaviour of all immigrants. However, they found that Indian and Pakistani/Bangladeshi immigrants are even more penalised in this difference, when they rely on personal contacts as a main job search method, thus experiencing a lower return from using networks, with respect to natives.

A second relevant aspect of comparison regards job quality effects of various search methods. Battu *et al.* (2011) also studied the level of the obtained occupation, in terms of skills required for the job, achieving more robust results. They found that whilst direct approaches and newspaper adverts result in higher level jobs, all the ethnic groups (except Blacks) who utilise this approach make no such a gain. Moreover, whereas those (Whites and non-Whites) who obtained their current job through informal networks always run into lower level jobs, immigrants from India, Pakistan, and Bangladesh are even more penalised.

Behtoui (2008) for the Swedish case concentrated on differences in hourly wages. He observed that, generally, natives who obtained their jobs through informal methods have higher wages. However, this is not the case for immigrants who obtain a better pay-off from formal methods. Furthermore, he estimated a wage gap, between Swedish born and immigrants who used informal methods, of about 18% in favour of natives, much larger than the formal methods gap.

Besides the comparative approach, some research has investigated similar aspects only referring to immigrants. Drever and Hoffmeister (2008) studied foreign workers in Germany, with respect to several dimensions of working conditions. They found that jobs found via personal networks are more likely to be less desirable. Furthermore, a less studied aspect pertains to the incidence of search methods on job mobility. Drever and Hoffmeister also analysed working condition improvements for job changes of immigrant workers. However, they found similar probability of transition to better conditions, for different search

methods.

The relationship between job finding methods and ethnic employment concentration, to our knowledge, has only been studied in the American context. Stainback (2008), using data from the MCSUI, observed the likelihood, of obtaining ethnically homogeneous jobs, i.e. jobs in which most co-workers are of the same racial and ethnic background of the respondent. He found that blacks and Hispanics who use network ties to find employment are more likely to work with racially similar others, than those using formal job finding methods. Elliott (2001), with the same data-set, related this probability to insider referral hiring practices, i.e. the hiring of new workers via contacts that are employed within the firm. He found that native Blacks, when relying on insider referrals, are more likely to obtain ethnically homogeneous jobs.

Most of these studies pointed out that interpersonal networks activated by immigrants in the job finding process are likely to have disadvantageous returns, especially in terms of quality of the obtained occupation. However, few research studies have investigated how characteristics of familial and friendship ties interact with the job search mechanism and its outcomes, thus considering the morphology of immigrant connections. Aguilera and Massey (2003) explored the possible role of a migrant network's extension. Using data from the *Mexican Migration Project* (MMP), they carried out three measures that accounted for connections, in terms of number of contacts with individuals having current and past U.S. migration experience: near family, far family, and friendship ties. Then, they considered these connections as crucial in providing labour market information, that can be translated into higher economic rewards, drawing important conclusions by a comparison between documented and undocumented immigrants. First, they found that these measures affect how undocumented migrants obtain a job, since friendship ties positively influence the probability of getting a U.S. job through informal methods. Second, they observed that, besides the use of informal job search techniques, these measures of connections, especially far family and friendship ties, increase wages earned in the U.S. by undocumented migrants. The authors conclude that, since labour market conditions of undocumented migrants are extremely competitive and they cannot freely look for jobs, facing constraints and limits, information circulating through networks becomes even more crucial.

A further development of the *morphology* perspective, not directly focused on job finding methods, although closely related to the problem of information in the labour market, considers that contacts and available resources in a migrant's social network are not all of the same kind. A leading distinction, relevant

for the immigrant population, pertains to the concepts of bonding and bridging social capital: the former indicating within-group relationships, the latter between-group connections. Bridging ties, in particular, both strong or weak, allow to span a 'structural hole' (Burt 2001) giving access to unique resources and opportunities that affect the economic life of interconnected individuals. These contacts are relevant for migrants, especially as 'identity bridging ties' that span culturally defined differences, like relationships with the native population (Lancee 2012b). Firstly, they imply a network diversification, making available new information. Secondly, they give access to valuable host-country-specific resources, that for instance result in help with sending applications or translating advertisements. Finally, they potentially provide alternative channels for the search of better jobs, since natives are more likely informed on more qualified positions given the structure of their connections.

Therefore, for migrants, it has been observed that having contacts with natives produces positive occupational returns, in terms of employment and occupational qualification (Kanas *et al.* 2011, Lancee 2010, 2012a, Lancee and Hartung 2012). All these studies considered relationships with the native population as a potential access to relevant informative resources in the labour market, even though their actual use in the job search process has not been completely observed. Lancee (2016), using data from the German SOEP, solved the problem by estimating the effect of bridging social capital (measured as an indicator of having ties with natives) on immigrants' earnings, controlling for their job finding method, whether formal or informal (as a whole). He found that immigrants who change jobs and have contacts with native Germans obtain higher earnings, whereas those without German friends do not have any increase. The success of changing jobs, he noticed, entirely depends on the nature of relationships, regardless of the job search method used.

## 1.3 Immigration policies, migratory status, and employment outcomes

Amongst factors affecting immigrant integration in the host country, the receiving institutional context plays an important, and usually neglected, role. In general terms, research has emphasized how labour market incorporation of immigrants into EU countries is affected by several structural and macro-level determinants, including: the welfare regime, labour market regulations, the occupational composition, and, most notably, migration policies – see for example Kogan (2007). However, amongst them the role of immigration policies,

intended as the set of rules and regulations governing the admission of migrants and their access to the labour market, in shaping immigrant labour market pathways is not well documented, for many reasons.

Firstly, there is a general lack of information concerning the legal status of migrants into EU countries and its linkage to labour markets. The main sources for studying the immigrant workforce, like national labour force surveys, are indeed not able to catch undocumented migrants. Furthermore, they do not generally collect information on different admission categories, neither report characteristics of residency permits. This information gap has been reduced by the collection of *ad hoc* modules of the European Labour Force Survey in 2008 and 2014, that importantly covered the reason for migration of foreign-born respondents, allowing for a proximate distinction of the immigrant population by admission category. Secondly, immigration policies intervene along the whole length of residence in the receiving country, imposing immigrants with changing legal statuses and varying conditions over time since migration. These aspects can barely be investigated, given the general lack of longitudinal information, following the migratory and institutional history of respondents.

Having said that, in general terms, there are two ways through which migration policies are likely to affect the immigrant workforce. On the one hand they contribute, amongst other structural factors of both receiving and sending countries, to influence the volume and the internal composition of the immigrant population, and consequently of immigrant workers (Czaika and de Haas 2013). Immigration controls can directly address the regulation of migration inflows, given the labour demand in the host country. For example, the introduction of more restrictive admission criteria may explicitly aim at maintaining the size of the immigrant population stable. Similarly, highly restrictive border controls aim at reducing the attraction of undocumented immigrants, affecting illegal flows.

Furthermore, by defining legal admission categories, also outside labour migration channels (e.g. family dependants, students, refugees), immigration policies affect the composition of the immigrant workforce, since all these categories are usually entitled to work. For example, a policy that recognises family reunifications may affect the flows of family migrants and their incidence on the labour market. Similarly, introducing restricting criteria for the recognition of refugees potentially has an impact on the relative incidence of asylum seekers. Selection and composition effects of policies on the immigrant workforce are also explicit in point-based admission system, that work as a filter for high skilled immigrants (Anderson 2010). However, more implicit effects on the composi-

tion are usually in place when the admission is differentiated on the basis of nationality, like the advantageous status of EU nationals or people from high developed countries, migrating into the EU.

It must be considered that some unintended consequences of policies governing the admission of migrants are also possible, which make the evaluation of composition effects even more difficult. Indeed, immigration policies aimed at hindering the access of some categories, can produce shifts of migration flows from one category to another, determining categorical substitution effects (de Haas 2011).

The second way through which immigration policies influence the immigrant workforce is by attaching rights and entitlements to different admittance categories of migrants, which are likely to have relevant implications on their economic life. On the one hand, immigration controls identify the legal migratory status *on entrance* through a variety of types of permits or entry visas, that change according to duration and possibility of renewal, access to the labour market and benefits (as well as specific integration programs), possibility of admitting family members, and also ability of leaving the destination country and being re-admitted. A typical categorisation, at the European level, distinguishes between communitarian and non-communitarian migrants, the latter receiving some restrictions in entering the destination country, access to the labour market, and their ability to renew their residence allowance. However, also amongst non-EU migrants, different entry categories can be identified (e.g. the so called 'economic migrants', admitted via labour migration routes, and other 'non-economic migrants', that are supposed to ask for different permits). It must be noticed that immigration controls also identify, through the lack of established legal conditions, the undocumented entry status, that necessarily implies immediate labour market consequences.

On the other hand, establishing temporary conditions that must be renewed over time, immigration policies are likely to affect labour market pathways of migrants, along their entire life-course. In this regard, the migratory status is not a stable condition. Rather, immigrants are likely to follow complex and interconnected pathways characterised by shifting conditions: between documented and undocumented status, temporary and open-end permits, up to the eventual access to citizenship.

To our knowledge there are no research studies linking the changing migratory status to career pathways of immigrants throughout their residence, for the overmentioned methodological difficulties. However, a few studies have investigated employment outcomes of different entry categories of immigrants.

Generally, these studies disaggregated non-communitarian immigrants according to two different measures of migratory status on entrance: the *reason for migration* and, less diffusely, the kind of *residency permit*.

It is generally recognised that the migratory status on entrance is not exclusively established by a regulatory framework. Rather, other intrinsic characteristics contribute to determine entry statuses and are likely to affect occupational outcomes of immigrants. Firstly, admittance channels reflect different motivations undergoing the migratory decision, that affect the migrants' behaviour in the labour market. Those migrating for economic reasons, that more probably apply for an employment permit, are likely to have a strong orientation in actively participating in the labour market. They generally decide which country to migrate to, given the multiple reasons undergoing this choice. Conversely, refugee migrants are forced to leave their country of origin, and their decision is in principle less based on economic considerations (Dustman *et al.* 2016). Migratory pathways of family reunification or study, that are recognised through other non-labour related permits, also imply different decisions and motivations.

Secondly, admitted categories reflect needs and social conditions directly related to the labour market. Immigrants entered via labour related channels face urgent needs. Even though relying on a consolidated network of co-ethnics, some of them migrate alone and usually send remittances to their families. Conversely, family migrants, when they participate in the labour market, face a different condition. Their unemployment status is less detrimental, because they can generally count on familial support. Similarly, they are not forced to rapidly enter employment after arrival. Finally, it is recognised that humanitarian migrants, in most of the European countries, are affected by specific policies. They are usually subject to peculiar integration programmes and are generally not allowed to work while their asylum application is pending. However, as some studies have emphasised, they are also inserted in different social networks that are partly responsible for their employment difficulties (Perino and Eve 2017).

Considering immigrant categories as differently selected groups, affected by a specific regulatory framework, some research studies aimed at observing the composition of the immigrant population and comparing labour market outcomes of immigrants by status *on entrance*. Some recent empirical studies focused on the information available in the *EU Labour Force Survey* ad hoc modules collected in 2008 and 2014 (EU-LFS AHM), in order to investigate labour market outcomes at the European level. These surveys represent cross sectional data-sets, but allow to compare the current employment status of immigrant groups with different years since migration. It implied, for some

studies, dynamic considerations, although selection problems are in place when different migration cohorts are separately considered. Furthermore, these EU-LFS ad hoc modules collected relevant information on the *reason for migration*, that allows for disaggregating the immigrant population by migratory status on entrance.

Cangiano (2012), using the 2008 EU-LFS AHM, observed the share of people currently employed, unemployed and inactive, within various categories of immigrants, also distinguishing by gender. He found that male recent non-communitarian migrants, who entered the EU as family dependents and asylum seekers, are more frequently unemployed (and less likely employed) than both natives and those admitted through labour migration routes. The current employment gap decreases for all categories of long established migrants, especially students (whose activity rates are particularly low soon after entrance) and refugees, but the share of unemployed continues to be higher for humanitarian immigrants. Among females, he found lower employment rates also for long established family migrants, that are less likely to participate in the labour market. The multivariate analysis (Cangiano 2014) confirmed that, in general terms, those admitted into the EU as family migrants and asylum seekers are less likely active and more probably unemployed, also accounting for the different internal composition by observed characteristics of immigrant categories. Conversely, economic migrants are more active than natives and not penalised regarding unemployment risk. However, although the employment gap declines as duration of stay increases, family migrants and refugees (both men and women) retain higher unemployment risks also after 10 years of residence.

Other studies, with the same data, focused on the refugee-native employment rate differentials. Dustman *et al.* (2016) observed that the employment probabilities of refugees increase with years in the country. During the first 3 years refugees are 50 percentage points less likely to be employed than natives. Although decreasing by year since migration, the refugee-native employment gap approaches zero only after 25 years after arrival.

Other preliminary studies based on the 2014 EU-LFS AHM also found that non-communitarian migrants into Europe, admitted via family and international protection channels, are less likely to be currently employed (Peschner 2017). Moreover, the employment gap has been observed to decline for long established immigrants. However, differences with respect to immigrants who entered for employment reasons were observed to disappear only after 20 years of residence (Dumond *et al.* 2016).

A few other studies focused on employment outcomes of immigrants by category of entrance observing country-specific longitudinal data, thus offering some further insights on the dynamics of integration pathways by entry status. Their findings also reflect country specific outcomes, that even emerged by comparative studies at the European level, given that European destination countries represent different migratory regimes, with a different composition of the immigrant population by admitted category (Cangiano 2012). Furthermore, these studies observed register data, that allow to identify the *residency permit* of respondents.

Bratsberg *et al.* (2017), relying on Norwegian longitudinal administrative data covering immigrant-native employment over 25 years (since 1990), observed labour market pathways of various admission classes of immigrants. Their study highlighted the development of non-assimilative careers for some categories of non-communitarian immigrants into Norway. The analysis of immigrant-native employment differentials, by year since migration, showed that the refugee gap (for both men and women) is very high at the entrance into the country, it rapidly reduces during the subsequent 5 years, thereafter declines again (men) or stabilises (women), staying in any case negative and greater than the employment gap observed for other immigrant categories. Moreover, male family migrants were observed to enter the country with relatively high employment rates, that after 5 years start to decline, going below the level of natives. Conversely, female family immigrants, similarly to refugees, have very low employment rates to start with, that rapidly increase over the first 5 years in the country, thereafter stabilise at a relatively low level. Therefore, the study revealed an integration process that tends to decline after five to ten years of residence, together with an increasing reliance on social insurance transfers, particularly for male immigrants.

Schultz-Nielsen (2017), studying register longitudinal data on Denmark, observed labour market pathways of non-economic migrants (who obtained a residency permit) in the period 1997-2014. She also found for refugees and family migrants low employment rates at the entrance, that grow at increasing years since migration. However, the employment differentials between refugees and natives, although narrowing over time, was observed to retain significant differences also at 15 years since migration. Nonetheless, refugees were found to have a significant employment gap even with respect to family migrants.

Further evidence is provided by Bakker *et al.* (2017), who studied register data collecting labour market histories of immigrants in the Netherlands, starting from the year when residency status was first granted. They also ob-

served, for family migrants and (particularly) refugees, lower employment rates that, although increasing over time, never reach the levels of migrants having employment permits.

These longitudinal studies allowed to consider the presence of non-linear employment pathways, that are likely to vary by admitted migratory category on entrance. Furthermore, they pointed out that, within specific categories, the possibility to catch up with employment differentials, at increasing years since arrival, varies significantly by country of origin and enrollment in host-specific educational programs.

# Chapter 2

# Job finding methods in the Italian labour market: A comparison between immigrants and natives

## 2.1 Introduction and hypotheses

The following chapter compares two populations within the Italian labour market: natives and immigrants. It is particularly relevant to adopt such a comparative approach in this phase of the study, for two main reasons. On the one hand, to have an idea of the contextual labour market, to which immigrants, by definition, accessed from the outside. On the other hand, to consider the level of immigrant integration in relative terms, looking at differences in job finding behaviour and observing possible occupational disadvantages.

The chapter addresses three main groups of hypotheses, supported by the literature review presented in the previous chapter. The first group (Hp 1-3) looks at the level of diffusion of informal methods to find a job, rather than other formal methods, in the Italian labour market. Furthermore, it investigates which factors affect the use of interpersonal networks. It was already observed in Italy that informal job search and finding methods are commonly widespread, especially amongst low educated people (Reyneri 2011). Therefore, once a job finding methods typology is defined (see the next section), we state that:

**Hp 1** *personal relationships represent the most diffused method through which Italians obtain a job.*

**Hp 2** *informal job finding methods are more commonly used by low educated Italians.*

Another important aspect that potentially affects the diffusion of informal methods, with respect to formal ones, concerns job characteristics. Although there is a lack of empirical evidence, we can expect that some organisational features influence the job finding process. Furthermore, the results of European studies, that do not take qualitative properties of ties into account, have shown the association between informal methods (considered as a whole) and low segments of the labour market, in terms of occupational status. These findings can also be explained by the under-diffusion of formal methods in certain low quality segments of the labour market. They indeed imply for firm search costs and investments in recruitment and selection procedures to check for observable characteristics of prospect employees, that might not be required to fill lower positions. Therefore, we expect that:

**Hp 3** *individual characteristics being equal, in Italy the use of informal job finding methods changes depending on job characteristics (in terms of the firm's size, economic sector and occupational qualification). In particular, the use of networks is associated with the lowest occupational levels.*

The second group of hypotheses (Hp 4-7) addresses explicitly the presence of differences in the use of job finding methods between immigrants and natives. Whereas some previous research studies conducted in Germany, the U.K., and the United States suggested that immigrants tend to obtain a job more extensively through informal methods than the native population (Demireva 2009; Battu *et al.* 2011; Giulietti *et al.* 2013; Drever and Hoffmaister 2008; Elliott 2001) and the opposite was found in Sweden (Bethoui 2008); this problem has been almost completely ignored in Italy. We hypothesise that the tendency of migrants to rely diffusely on relationships is even more emphasised in the Italian context, where networks of interpersonal ties largely appear to regulate the access to employment (Barbieri 1998). Since Italians and immigrants have on average different individual characteristics and the latter are segregated in the lowest ranks of the occupational ladder (Fullin and Reyneri 2011a), we state that:

**Hp 4** *socio-demographic characteristics and demand-side aspects being equal, immigrants in Italy rely on personal relationships to find a job more extensively than the native population.*

This hypothesis is further specified by investigating which aspects of migratory background are responsible for differences within the immigrant population. First, we consider the country of origin of respondents, stating that some ethnic groups more than others use relationships to find a job:

**Hp 5** *accounting for individual characteristics, ethnicity affects the ways immigrants obtain a job.*

Secondly, the length of residence is generally considered a crucial aspect affecting the immigrant level of integration in the host country. We can hypothesise that at the beginning of the migratory experience, whereas individuals are less aware of the institutional context, they can potentially rely on consolidated migratory networks that support the access to the labour market, providing work-relevant information. Therefore, we state that:

**Hp 6** *accounting for individual characteristics, years since migration affect the ways immigrants obtain a job. The shorter their settlement in Italy, the higher the probability of job finding via networks.*

Finally, another aspect considered resides in a migrant network's extension. As already noticed, the number of connections that migrants establish with other migrants affects the individual propensity of using informal job finding methods (Aguilera and Massey 2003). Assuming that almost all job search relationships are built-in the ethnic group, we hypothesise a positive association between size of the migratory group in Italy and the network's extension, therefore:

**Hp 7** *accounting for individual characteristics, the size of the immigrant group affects the ways immigrants obtain a job. The larger the co-ethnic group, the higher the probability of job finding via networks.*

With the last group of hypotheses (Hp 8-10) we further investigate the association between occupational outcomes and job finding methods in two directions. On the one hand, we consider the issue of *overeducation*, for both Italians and immigrants; on the other hand, we focus on the *ethnic penalty*, thus dealing with the relationship between finding methods and occupational outcomes in comparative terms.

We already hypothesised that informal methods, with respect to formal ones, are more likely connected with the lowest segments of the Italian labour market. However, most research studies on Italian data also suggest a wage disadvantage when using relationships to find a job, that persists even when accounting for job characteristics (Pistaferri 1999, Pellizzari 2010). Moreover, finding the job informally was proved to affect the process of overeducation (Meliciani and Radicchia 2016). These research studies provided the empirical evidence that personal contacts, especially those based on familial ties rather than professional ones, produce a mismatch between job and worker characteristics. Indeed they allow prospect employees to accept lower wages and under-qualified jobs, by

lowering search costs. Therefore, also with our data we expect to observe, both for Italians and immigrants, that:

**Hp 8** *accounting for individual characteristics, in Italy people relying on informal job finding methods are more likely overeducated.*

Secondly, our study aims to investigate the association between job finding methods and quality of the obtained occupation, directly comparing Italians and immigrants. An important suggestion from the literature consists in the consideration that relationships, in the labour market, are connected to informative resources that are not equally distributed in the population. Other studies highlighted that the association between the use of informal job finding methods and individual occupational status varies amongst different social classes. The idea, firstly introduced by Lin and associates, is that individuals are embedded in a certain structure of relationships and the social position of the contacts they have affects their status attainment process. In Italy it was observed that: first, the position of the contact person used to find a job affects the individual occupational qualification (Barbieri 1997a); second, the negative association between occupational outcomes and informal job finding is stronger for those coming from low social classes, characterised by low quality connections (Ballarino and Bratti 2010).

The study presented in the following chapter extends this approach to the immigrant component, even though it does not account for different contact persons, nor distinguishes qualitative properties of ties. Assuming that immigrants tend to circumscribe work relevant information within ethnic networks and taking into consideration that they concentrate on specific occupations, we hypothesise the risk of limited and redundant information circulating through their relationships. Therefore, we expect that the association between job finding via networks (as a whole) and lower occupational qualification is even stronger for migrants, than the native population:

**Hp 9** *accounting for individual characteristics, the immigrant penalisation with respect to natives that results in accessing low qualified occupations is stronger for those relying on informal job finding methods.*

We also expect a higher risk of overeducation for migrants:

**Hp 10** *accounting for individual characteristics, the immigrant penalisation with respect to natives that results in the risk of overeducation is stronger for those relying on informal job finding methods.*

The analyses presented in the chapter are separate for men and women, a distinction that other studies exploring the issue of job finding methods of immigrants do not take into account. Indeed in Italy immigrant males and females enter different labour markets (Fullin and Reyneri 2011a): the former are mainly employees of private companies in manufacturing, construction, and agriculture sectors; the latter are predominantly employed in households as care and domestic workers.

The chapter is structured as follows. The next section describes the data, the selected sample, and the variables used for our analysis. Section 2.3 presents descriptive results and investigates the determinants of job finding methods in the Italian context. Sections 2.4 explicitly accounts for differences between Italians and immigrants in the use of informal job finding methods. Section 2.5 explores the relationship between job finding methods and quality of the obtained occupation. Section 2.6 concludes our findings.

## 2.2 Data and variables

All the analyses presented in this chapter were conducted using data from the Italian *Labour Force Survey*, provided by Istat. It represents a cross-sectional survey conducted on a quarterly basis, with interviews that follows a Capi technique. The data collects multiple information concerning the current labour market's condition of respondents, that constitute a random sample of individuals living in Italy (with formal residence). It is important to note that, from 2005, Istat provides information on the country of birth of respondents and their citizenship.

The data-set used for our analysis, aggregated all the quarters of years 2009-2014[1]. The sample was therefore selected as follows: only employed individuals[2]; between 25 and 54 years old (prime-age respondents); who had found their current job within five years before the interview's date. Yet, the analysis excluded immigrants who had arrived in Italy before 1990. The reason for this restricted selection was to reduce the heterogeneity of the two populations (immigrants and natives), that of course are differently self-selected. Moreover, keeping out respondents who found their current job much further back in time could reduce memory bias problems, in addition to homogenising the two groups. Finally, the analysis was restricted to employees, cooperative members, and independent

[1] Only the first wave was included, in order to avoid repetition of individuals in different quarters.

[2] Armed Forces excluded.

contractors (that in Italy represent a form of *lavoro parasubordinato*, largely comparable to employees). Self-employed labourers were thus excluded from the sample, since they use relationships differently to start their activity (and looking at job search strategies as recorded in the data is not recommendable), therefore should be treated separately.

In our analysis many variables were considered. Here we present them and illustrate how they are constructed. *Job finding method* is a variable defining a typology of channels through which individuals obtained their current job (i.e. the occupation they hold at the time of the interview). This information has been available in the Italian *Labour Force Survey* since 2009. However, over the years, Istat has slightly modified the related section of the questionnaire. For years 2009-2011 the question was "How did you know about the job and how did you find it? Which of the following methods was more useful?". The list of methods (to which respondents must indicate only one choice) included: 'newspaper advertisements'; 'internet'; 'direct request to the employer'; 'relatives and/or friends'; 'temporary agency or other intermediary institution (public or private)'; 'public employment service (CIP)'; 'previous experiences in the same firm (like internship)'; 'signalling by the school, the university or another training institute'; 'start of a self-employment activity'; 'other way'. For years 2012-2013 the question was "Which of the following methods was more useful?" and included all the previous methods with the addition of 'open competitive exam', that was missing in the previous years and 'don't know' that substituted 'other way'. In 2014 the question was only "How did you find the job?" and the list again modified: 'newspaper and internet adv.' were aggregated; 'temporary agency' and 'other public intermediary institution' were considered as separate items; 'searched by the employer' was introduced; and both 'other help' and 'don't know' appeared.

Therefore, constructing the variable required some attempt at harmonizing all the items in order to aggregate them into few categories. Thus, the variable was divided into five categories. *Relatives, friends, and acquaintances* refers to informal methods related to the presence of a contact person. *Direct contact with the employer/firm* includes the answers: 'direct request to the employer', 'searched by the employer' (only for 2014), and 'previous experiences'. It considers all the direct contacts with the firm, that range from a more informal contact to pure formal ones. *Private temporary employment agency* refers to 'temporary agency or other intermediary institution (public or private)' for years 2009-2013, and 'temporary agency' for the year 2014. Since the proportion of these two items was unchanged in the two periods, we suppose that the so called 'other

intermediary institutions' are almost all referred to private temporary employment agencies. *Public intermediary institution* considers the answers 'public employment service (CIP)' and, a less frequent circumstance, 'signalling by the school, the university or another training institute'. Furthermore, for year 2014 'other public intermediary institution' and 'other help' was also included. *Other formal methods* represents more traditional formal methods, that include any kind of advertisement and the enrolment in an 'open competitive exam' (from 2012). Moreover, also 'other way' (only for years 2009-2011) and 'don't know' (since 2012) were aggregated in this category.

For multivariate analyses, the variable is reduced to four categories, aggregating *Private temporary employment agency* and *Public intermediary institution*, as *Intermediary institution*. When it is considered as a dependent variable in the models, *Job finding method* appears as a dummy equal to one when the job was found through relatives friends and acquaintances.

The variable *Job search methods* that pertains to currently unemployed respondents, has conversely remained unchanged over the years of the survey. Since its original definition, it has been constituting the way through which Istat defines unemployed individuals, that must undertake at least one search action. Therefore, interviewees are asked which methods they are using to look for work when currently out of employment and it is possible to choose more than one. Included actions are: *turned to relatives, friends, acquaintances*; *spontaneous applications*; *contact with temporary employment agencies*; *contact with public employment services*; *inspection or application for newspaper advertisements*; *internet searching*; *participation in job interviews*.

The variable *Origin* identifies individuals with an immigrant background. It is based on the country of birth of respondents. The criteria followed to construct the grouped categories combine geographical proximity and size of the immigrant community in Italy. The first category, *Italians born in Italy, EU15 and Oecd*, is the only one that considers the information on citizenship and includes all the people born in Italy, in addition to those with Italian citizenship born in EU15, Canada, United States, Australia, New Zealand, and Japan, who in the labour market behave very similarly to natives. *EU15 and Oecd* includes respondents born in EU15, Canada, United States, Australia, New Zealand and Japan, without Italian citizenship. *Other eastern EU (New Member States)* includes the Eastern European countries that are new members of the Union: Bulgaria, Czech Republic, Cyprus, Estonia, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, Hungary, Croatia. *Ex Yugoslavia and other eastern Europe* completes the other countries of eastern Europe, except for *Albania*

that is uniquely considered. *Centre-south Asia* includes all the countries of the Middle East area, in addition to countries of South Asia like India, Pakistan, and Sri Lanka. *Eastern Asia* comprises all the rest of Asia, including China. *Other North-Africa* subsumes all northern Africa, except for *Morocco* that is uniquely considered. *Central Africa* completes all the rest of Africa. Finally, *Latin America* includes all centre and south American countries. In some cases the variable *Origin* is considered only as a dichotomy, that distinguishes *Italians born in Italy, EU15 and Oecd*, and *immigrants*.

A variant of the origin variable is represented by *Origin(ysm)*, which distinguishes immigrants on the base of years since migration. This information was obtained considering duration (in months) from access of immigrant respondents in Italy to the interview's date. These durations were then aggregated every three years. Therefore, the first category equals that of the previous variable (*Italians born in Italy, EU15 and Oecd*), whilst the others are *immigrant since 0-3 years*; *since 3-6 years*; *since 6-9 years*, and *since 9 years or more*.

The variable that considers the *Occupational level* follows the classification CP2001 at 1 digit, adopted by Istat to organize professional groups until 2009, to which the years of the survey 2010-2014 have been adjusted by the author. It includes categories 1-8 (armed forces are excluded): mangers and legislators (*mangers*); intellectual, scientific and highly specialised occupations (*professionals*); *technicians*; *clerks*; qualified professions in sales and services (*services and sales*); craft, specialised manufacturing workers and farmers (*craft and skilled manual*); *machine operators*; *elementary occupations*. A crucial aspect is that the last category, *elementary occupations*, contains also caregiver and housekeeper domestic workers. In the case of models that consider only immigrants, the variable aggregates the first four categories (*mpt and clerks*) and therefore results in five categories as a whole.

When treated as a dependent variable in the models, the occupational level is reduced to a dummy that equals one when individuals have an *Elementary occupation*. Moreover, here elementary occupations are defined by the restricted meaning of the Istat classification CP2011, that excludes in-home caregivers. Therefore, in this consideration elementary occupations include the very lower end of the labour market, characterised by trans-sector unskilled professions. This extremely synthetic version of the variable of course loses in terms of accuracy, but is used to compare the two populations in a more reasonable way. Therefore, the variable must be considered as an indicator of having a very low level job in terms of required skills, from services to basic work in manufacturing and construction industries.

The variable *Overeducation* was constructed crossing the variables *Occupational level* and *Education*. It resulted in a dummy that equals one in two circumstances: when respondents having a tertiary degree are employed in *services and sales*, or inferior occupational levels; when respondents with an upper secondary education are employed as *machine operators* or inferior professions. Therefore, the variable is an indicator of having a low occupational qualification, with respect to their own educational credentials.

Another constructed variable refers to the *size* of the immigrant group. It integrates our data with information from a different data-set provided by Istat, *Movimento e calcolo della popolazione straniera residente e struttura per cittadinanza*, carried out firstly in 1993. Through this collection of data, every year Istat calculates the movement of resident people based on registry data starting from the census information, and yearly estimates the number of resident individuals, for each citizenship at the municipality level. Data are available on-line[3], disaggregated per citizenship and year. We considered years 2004-2013, that corresponded to the time-window in which individuals of our sample obtained their job. Then we calculated, for each citizenship, the mean value of the total number of resident people in Italy over the years considered and divided the number by 1000. Finally, we associated the obtained values (one for each citizenship) to each country of birth of immigrant respondents in our *Labour Force Survey* sample, generating a new variable. Therefore, *size* is a continuous variable, for which a unitary change indicates a variation of one thousand units in the average size of the immigrant community (at the country level) during years 2004-2013.

Other variables considered are *Industry*, based on the classification Ateco07; *Education*, in three categories; *Age* of respondents, in three groups of ten years each; macro *Region* where the job takes place, in four categories; *Year of job finding*.

## 2.3 Determinants of job finding through relationships

In the following section we concentrate on the behaviour of native Italians while searching for and finding a job, in order to answer the first three hypotheses. However, separating the two populations of interest, we will also have the chance to observe the immigrant component and propose a preliminary com-

[3]See the web page dati.istat.it

Table 2.1: Males, currently unemployed people. Job search methods per education, Italians and immigrants.

| | Italians | | | | immigrants | | | |
|---|---|---|---|---|---|---|---|---|
| | No school and lower secondary | Upper secondary | Tertiary | **Total** | No school and lower secondary | Upper secondary | Tertiary | **Total** |
| turned to relatives, friends, acquaint. | 90.7 | 83.4 | 74.0 | 86.3 | 95.5 | 92.7 | 94.2 | 94.2 |
| spontaneous applications | 62.6 | 75.8 | 84.1 | 69.6 | 58.5 | 67.3 | 70.2 | 62.9 |
| contact with temp. empl. agencies | 16.3 | 20.6 | 22.2 | 18.4 | 35.2 | 35.9 | 47.3 | 36.4 |
| contact with public empl. services | 29.8 | 28.7 | 17.8 | 28.1 | 34.6 | 32.7 | 36.6 | 34.0 |
| inspection/app. for newspaper adv. | 55.1 | 62.6 | 65.6 | 58.9 | 61.2 | 67.9 | 74.7 | 64.9 |
| internet searching | 30.2 | 62.7 | 83.9 | 47.4 | 25.2 | 43.1 | 64.3 | 35.3 |
| part. in open competitive exam | 2.7 | 7.4 | 26.9 | 7.0 | 1.5 | 0.9 | 0.9 | 1.2 |
| participation in job interviews | 28.9 | 35.2 | 45.6 | 32.9 | 30.3 | 30.1 | 32.6 | 30.4 |
| **Frequencies** | 4,813 | 2,967 | 971 | 8,751 | 871 | 628 | 114 | 1,613 |

Weighted data. Source: Italian *Labour Force Survey* 2009-2013

parison.

First, the level of diffusion of different job search and finding methods will be described. On the one hand, in order to observe the search behaviour of currently unemployed people; on the other hand, to study the effective channel used by currently employed people. This descriptive analysis will also allow to compare the different distribution of methods amongst natives and immigrants. Secondly, in order to investigate which aspects affect the use of a job finding method, a multivariate analysis on the probability of job finding via informal methods, with respect to all the other formal channels, will be presented. These factors may also differently influence Italians and immigrants, thus some early comparative evaluations will be introduced.

Observing tables 2.1 and 2.2, referring to currently unemployed people, some

Table 2.2: Females, currently unemployed people. Job search methods per education, Italians and immigrants.

| | Italians | | | | immigrants | | | |
|---|---|---|---|---|---|---|---|---|
| | No school and lower secondary | Upper secondary | Tertiary | **Total** | No school and lower secondary | Upper secondary | Tertiary | **Total** |
| turned to relatives, friends, acquaint. | 87.6 | 82.1 | 72.6 | 82.5 | 92.1 | 91.7 | 86.6 | 91.1 |
| spontaneous applications | 55.1 | 72.3 | 81.7 | 67.3 | 51.2 | 63.7 | 63.3 | 58.9 |
| contact with temp. empl. agencies | 15.1 | 22.0 | 18.4 | 18.5 | 27.4 | 27.3 | 24.4 | 26.9 |
| contact with public empl. services | 24.6 | 27.4 | 19.6 | 24.8 | 29.3 | 32.1 | 31.2 | 30.9 |
| inspection/app. for newspaper adv. | 54.6 | 63.0 | 62.7 | 59.6 | 57.9 | 65.8 | 61.5 | 62.2 |
| internet searching | 30.1 | 58.8 | 77.9 | 51.1 | 25.4 | 40.3 | 55.1 | 37.0 |
| part. in open competitive exam | 2.4 | 7.6 | 23.0 | 8.5 | 1.3 | 2.1 | 2.3 | 1.9 |
| participation in job interviews | 23.3 | 28.4 | 34.4 | 27.5 | 23.3 | 25.6 | 21.4 | 24.1 |
| **Frequencies** | 3,720 | 3,667 | 1,708 | 9,095 | 815 | 930 | 300 | 2,045 |

Weighted data. Source: Italian *Labour Force Survey* 2009-2013

Table 2.3: Males, currently employed people. Job finding methods per education, Italians and immigrants.

| | Italians | | | | immigrants | | | |
|---|---|---|---|---|---|---|---|---|
| | No school and lower secondary | Upper secondary | Tertiary | **Total** | No school and lower secondary | Upper secondary | Tertiary | **Total** |
| relatives, friends, acq. | 51.1 | 41.4 | 22.1 | 41.3 | 68.0 | 65.4 | 49.7 | 65.4 |
| contact with employer/firm | 36.6 | 37.2 | 40.5 | 37.6 | 23.9 | 24.7 | 23.8 | 24.2 |
| private temp. empl. agency | 3.8 | 6.0 | 4.2 | 4.8 | 4.9 | 5.6 | 10.3 | 5.6 |
| public interm. institution | 3.3 | 2.8 | 8.1 | 4.0 | 1.3 | 1.3 | 4.0 | 1.5 |
| other formal methods | 5.2 | 12.6 | 25.0 | 12.2 | 1.9 | 3.0 | 12.2 | 3.2 |
| **Total** | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| **Frequencies** | 10,077 | 10,336 | 4,551 | 24,964 | 2,951 | 2,577 | 440 | 5,968 |

Weighted data. Source: Italian *Labour Force Survey* 2009-2013

considerations can be drawn. Firstly, we notice that almost all unemployed immigrants (both males and females) make use of informal job search strategies, asking their relatives, friends, or acquaintances. Compared to the native population, the importance of informal methods is higher and fewer differences are observed amongst educational levels. Secondly, immigrants more extensively rely on intermediary institutions (both private and public). Moreover, the relative incidence of Italians that turn to public employment services decreases with growing education, whereas for immigrants it increases (males) or is stable (females). The third consideration is that immigrants are less likely to use internet to get information, but they similarly examine newspaper advertisements. Therefore for Italians, data confirms evidence from the literature. They use informal methods to a large extent; they (both males and females), at growing educational levels, are more likely to rely on formal methods, except for public employment services, and participate in open competitive exams. Among immigrants, differences between educational levels are generally less important. They exist for males relying on formal methods, whereas for females they are not so evident.

Table 2.4: Females, currently employed people. Job finding methods per education, Italians and immigrants.

| | Italians | | | | immigrants | | | |
|---|---|---|---|---|---|---|---|---|
| | No school and lower secondary | Upper secondary | Tertiary | **Total** | No school and lower secondary | Upper secondary | Tertiary | **Total** |
| relatives, friends, acq. | 51.9 | 42.3 | 21.1 | 38.3 | 78.3 | 69.7 | 54.7 | 70.2 |
| contact with employer/firm | 32.9 | 34.7 | 36.8 | 34.9 | 15.6 | 19.5 | 26.2 | 19.2 |
| private temp. empl. agency | 4.3 | 4.9 | 4.0 | 4.4 | 3.2 | 5.7 | 5.9 | 4.9 |
| public interm. institution | 4.5 | 3.7 | 7.0 | 4.9 | 1.3 | 1.6 | 2.9 | 1.7 |
| other formal methods | 6.3 | 145 | 31.1 | 17.5 | 1.6 | 3.7 | 10.4 | 4.0 |
| **Total** | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| **Frequencies** | 6,908 | 10,863 | 7,132 | 24,903 | 2,267 | 3,246 | 977 | 6,490 |

Weighted data. Source: Italian *Labour Force Survey* 2009-2013

Observing tables 2.3 and 2.4, that refer to currently employed people, our data confirms previous empirical evidence: Italians generally obtain their job using interpersonal networks or directly asking the employer; the use of strictly informal methods decreases with increasing educational level. However, relevant differences between natives and immigrants emerge, especially in the importance of personal connections used to obtain the job. In particular, the relative incidence of informal methods differs between Italians and immigrants by +24% for men and +32% for women. Above all, low educated immigrant females found their job almost exclusively through networks. Conversely, on the one hand immigrants are less likely to find a job via direct contacts with employers, especially women. On the other hand, Italians are more likely to use formal methods and public institutions (that also involve universities and training institutes).

Therefore, in contrast to job search behaviour, our descriptive results show that amongst immigrants, education plays a more important role in the job finding process. Whereas few differences were observed in the job search strategy of differently educated immigrants (especially women), the channel though which they obtain a job substantially varies with education. In particular, if tertiary educated migrants look for a job through traditional formal methods and temporary employment agencies, they also more effectively obtain a job through that channel than immigrants with lower educational credentials. However, informal channels involve more than 2/3 of the whole immigrant employed population, with high percentages also amongst the most educated.

Having said this, the subsequent analysis extends the investigation to aspects associated to the use of informal job finding methods. For this purpose, we present results of a logistic regression model on the method's choice. The dependent dichotomous variable equals one when the individual obtained the current job through networks; it equals zero for all the other (formal) methods. The models, distinguished between men and women, on the one hand analyse the relevance of individual human capital characteristics. On the other hand, accounting for individual characteristics, explore which demand-side aspects are associated with informal job finding. Therefore, in general terms, the analysis aims at defining which subjects in the Italian labour market are more likely to obtain a job through networks of interpersonal relationships.

Observing tables 2.5 and 2.6, the multivariate analysis confirms that informal job finding methods are significantly associated with lower levels of education. For Italian men, having a tertiary education rather than a lower secondary one (or inferior) reduces the likelihood of obtaining a job through relationships,

with respect to other methods, by about 35%. For Italian women the importance of tertiary education in breaking away from relationships in favour of more formal channels is even more important, reducing the odds by about 43%. Conversely, in the case of immigrants, education shows not significant odds ratios. Thus, the multivariate analysis does not confirm the evidence suggested from descriptive results, of a decreasing probability with education for the immigrant population. On the one hand, the declining probability is more evident especially for Italians with a tertiary degree, that turn to formal methods to a greater extent than immigrants. On the other hand, our estimates for the immigrant population are less consistent, due to the reduced sample size, particularly with respect to the population of tertiary educated migrants.

Moreover, for women, age makes no difference; whilst young adult men, that thus are at the beginning of their career, more frequently obtain a job through their relationships, evidence of this characteristic has already been found in the Italian context (Reyneri 2011). Given their reduced working experience, these relationships are less likely on-the-job acquaintances and more reasonably (even if not exclusively) connections with relatives and friends that facilitate entrance into the labour market.

Some important aspects emerge from the observation of demand-side characteristics. Both for Italian and immigrant men and women, the firm's size in which they are employed has a strong and linear connection with the use of contacts and relationships to find an occupation. The smaller the firm, the higher the likelihood of job finding through informal methods: an aspect related with recruitment strategies of organisations, that have been barely investigated by other studies. Micro firms of a maximum of ten workers show a very strong and always significant difference with other kind of establishments, evidence that particularly emerges for women. In the case of immigrants, we observe less or no differences amongst very small firms of various sizes. This means that they are all associated with a high probability of job finding via interpersonal ties. Conversely, the odds decrease starting from establishments with 20-49 employees. Looking at the economic sectors that are more likely associated with informal job finding (and recruitment), we observe for Italian men the relevance of construction industries and accommodation services, where searching by word of mouth is commonly widespread. Furthermore, for immigrant men, the use of networks is more likely associated also with transportation, communication, and other services. In the case of Italian women, informal methods, rather than formal ones, are particularly associated with accommodation and food services; whereas for immigrant women, with agriculture and, above all,

Table 2.5: Males. Logistic regression on the probability of job finding through *Relatives, friends and acquaintances*. Models, distinguished between Italians and immigrants, also control for *Region* and *Year of job finding*. Odds ratios.

| | (1) Italians | | (2) Immigrants | |
|---|---|---|---|---|
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 0.852*** | (0.028) | 0.892* | (0.050) |
| Tertiary | 0.645*** | (0.038) | 0.881 | (0.104) |
| *Age* | | | | |
| 25-34 | ref. | | ref. | |
| 35-44 | 0.866*** | (0.027) | 0.932 | (0.055) |
| 45-54 | 0.822*** | (0.030) | 0.844* | (0.065) |
| *Firm's size* | | | | |
| 1-10 | ref. | | ref. | |
| 11-15 | 0.709*** | (0.026) | 0.871 | (0.066) |
| 16-19 | 0.704*** | (0.042) | 0.833 | (0.108) |
| 20-49 | 0.565*** | (0.023) | 0.721*** | (0.062) |
| 50-249 | 0.458*** | (0.019) | 0.611*** | (0.056) |
| 250 or more | 0.341*** | (0.020) | 0.461*** | (0.066) |
| *Occupational level* | | | | |
| elementary occupations | ref. | | ref. | |
| managers | 0.701** | (0.084) | 0.123* | (0.103) |
| professionals | 0.511*** | (0.043) | 0.149*** | (0.054) |
| technicians | 0.764*** | (0.043) | 0.346*** | (0.073) |
| clerks | 0.819** | (0.051) | 0.602* | (0.125) |
| services and sales | 0.878* | (0.053) | 0.711** | (0.089) |
| craft and skilled manual | 0.993 | (0.049) | 0.913 | (0.069) |
| machine operators | 0.904 | (0.048) | 0.641*** | (0.060) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agriculture | 1.178* | (0.089) | 1.302* | (0.144) |
| construction | 1.477*** | (0.067) | 1.518*** | (0.125) |
| wholesale and retail | 1.163** | (0.054) | 1.280* | (0.152) |
| accomodation and food service | 1.318*** | (0.094) | 1.421* | (0.199) |
| transportation and comunication | 0.963 | (0.048) | 1.658*** | (0.180) |
| finance and real estate | 0.890* | (0.045) | 1.404** | (0.174) |
| public services | 0.284*** | (0.019) | 0.726 | (0.167) |
| other services | 1.058 | (0.077) | 2.170*** | (0.286) |
| Observations | 26,722 | | 6,581 | |
| Pseudo $R^2$ | 0.093 | | 0.061 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table 2.6: Females. Logistic regression on the probability of job finding through *Relatives, friends and acquaintances*. Models, distinguished between Italians and immigrants, also control for *Region* and *Year of job finding*. Odds ratios.

| | (1) Italians | | (2) Immigrants | |
|---|---|---|---|---|
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 0.863*** | (0.033) | 0.902 | (0.058) |
| Tertiary | 0.575*** | (0.031) | 0.842 | (0.079) |
| *Age* | | | | |
| 25-34 | ref. | | ref. | |
| 35-44 | 1.026 | (0.035) | 0.806*** | (0.053) |
| 45-54 | 0.962 | (0.038) | 0.960 | (0.076) |
| *Firm's size* | | | | |
| 1-10 | ref. | | ref. | |
| 11-15 | 0.593*** | (0.025) | 0.759* | (0.083) |
| 16-19 | 0.532*** | (0.036) | 0.612** | (0.105) |
| 20-49 | 0.460*** | (0.021) | 0.609*** | (0.068) |
| 50-249 | 0.344*** | (0.016) | 0.418*** | (0.047) |
| 250 or more | 0.263*** | (0.018) | 0.306*** | (0.047) |
| *Occupational level* | | | | |
| elementary occupations | ref. | | ref. | |
| managers | 0.665* | (0.126) | 0.298 | (0.265) |
| professionals | 0.329*** | (0.025) | 0.183*** | (0.048) |
| technicians | 0.622*** | (0.036) | 0.441*** | (0.067) |
| clerks | 0.730*** | (0.039) | 0.514*** | (0.093) |
| services and sales | 0.634*** | (0.034) | 0.556*** | (0.057) |
| craft and skilled manual | 0.642*** | (0.050) | 0.864 | (0.122) |
| machine operators | 0.574*** | (0.053) | 0.612** | (0.103) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agriculture | 1.023 | (0.103) | 2.034*** | (0.412) |
| construction | 1.782*** | (0.203) | 3.416* | (1.997) |
| wholesale and retail | 0.860* | (0.051) | 1.110 | (0.185) |
| accomodation and food service | 1.265*** | (0.087) | 1.341 | (0.210) |
| transportation and comunication | 0.677*** | (0.060) | 1.171 | (0.339) |
| finance and real estate | 0.804*** | (0.044) | 1.171 | (0.164) |
| public services | 0.343*** | (0.019) | 0.741* | (0.111) |
| other services | 1.212** | (0.081) | 2.713*** | (0.386) |
| Observations | 26,107 | | 7,186 | |
| Pseudo $R^2$ | 0.148 | | 0.162 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

other services, that include domestic and care sectors.

It is not possible, with our data, to recognise whether a firm activated a recruitment strategy, both formal and informal (through insider referrals); or the prospective employees independently activated their networks to contact a firm; or both cases simultaneously. However, it clearly emerges that the economic sector, as well as the firm's size, other aspects being equal, are associated with the job finding process. In particular, for immigrants, we notice that obtaining the job via networks of interpersonal relationships, with respect to formal methods, is particularly effective in those industries where they are more concentrated, and in which information is actively spread. Therefore, we do not infer about a causal mechanism, whether it is determined by the firm's strategy or the actor's behaviour, or both. We only notice a strong association.

Our results also show the association between job finding methods and occupational qualification. For Italians, both men and women, we observe that the relative propensity of an informal finding, with respect to the use of formal channels, is particularly decreasing amongst professionals and technicians, where formal methods are common, compared to elementary occupations, more inclined toward informal ones. It also emerges that differences between the odds of managerial professions and elementary occupations are not relevant, since their ratio is not statistically significant. Thus, relationships to find a job are widespread also amongst managers. The same findings are observed for immigrants, where differences with respect to elementary occupations appear stronger.

In conclusion, the picture that emerges of individuals who more likely found their occupation through relationships describes the weakest subjects in the labour market: people with a low or very low educational level, young men or women, more frequently immigrants, employed in small firms with more instable and unskilled jobs. However, it does not imply that job finding relationships are useless for other individuals. Conversely, given the relative significance of the information provided by these models, it must be noticed that people turning to other segments of the labour market or having different characteristics (for their age, experience, and educational level) are more likely to rely on formal methods of job finding. Unfortunately, in this analysis we cannot conclude anything about the quality of relationships, thus investigating determinants of multiple informal methods.

## 2.4 Migratory background and informal job finding

The following section explicitly investigates differences between immigrants and natives in the probability of using networks to find a job. In particular, other logistic regression models on the use of informal methods will be presented, referring to a pooled sample of immigrants and Italians, thus accounting for respondent's origin (in various forms) as an independent variable. Subsequently, the analysis will focus on the immigrant component of the sample, in order to simultaneously deal with multiple migratory background variables. Even though results will only be shown for the main variables of interest, the models include other covariates concerning individual and demand-side characteristics (see Appendix A for full models).

Table 2.7: Italians and immigrants. Logistic regression on the probability of job finding through *Relatives, friends, and acquaintances*. Results reported only for the variable *Origin*. Models, distinguished between males and females, also control for *Education*, *Age*, *Region*, *Year of job finding*, *Firm's size*, *Occupational level*, and *Industry*.

| | (1) Males | | (2) Females | |
|---|---|---|---|---|
| Italians | ref. | | ref. | |
| EU15 and Oecd | 0.884 | (0.207) | 1.350 | (0.256) |
| Other Eastern EU | 1.773*** | (0.094) | 1.602*** | (0.082) |
| Albania | 1.617*** | (0.127) | 1.484*** | (0.149) |
| Ex Yugoslavia and others | 1.697*** | (0.137) | 2.074*** | (0.147) |
| Center-South Asia | 2.015*** | (0.168) | 1.792** | (0.326) |
| Eastern Asia | 4.579*** | (0.710) | 3.959*** | (0.581) |
| Morocco | 1.135 | (0.102) | 1.409* | (0.206) |
| Other North-Africa | 1.628*** | (0.206) | 1.219 | (0.428) |
| Central Africa | 1.227 | (0.130) | 1.492** | (0.219) |
| Latin America | 2.115*** | (0.206) | 2.130*** | (0.179) |
| Observations | 33,303 | | 33,293 | |
| Pseudo $R^2$ | 0.106 | | 0.189 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

We first introduce a model in which *Origin* represents the independent variable of interest. Observing table 2.7 we can conclude that, other things been equal, almost every immigration group, distinguished by country of origin, more often than Italians find jobs through interpersonal relationships. It also emerges that immigrants from the *EU15 and Oecd* countries are not significantly different from natives. In particular for males, those from Centre-South Asia, Latin

Table 2.8: Italians and immigrants. Logistic regression on the probability of job finding through *Relatives, friends, and acquaintances*. Results reported only for the variable *Origin(ysm)*. Models, distinguished between males and females, also control for *Education*, *Age*, *Region*, *Year of job finding*, *Firm's size*, *Occupational level*, and *Industry*.

| | (1) Males | | (2) Females | |
|---|---|---|---|---|
| Italians | ref. | | ref. | |
| immigrant since 0-3 years | 2.432*** | (0.226) | 2.528*** | (0.272) |
| immigrant since 3-6 years | 2.136*** | (0.125) | 1.835*** | (0.115) |
| immigrant since 6-9 years | 1.652*** | (0.096) | 1.944*** | (0.120) |
| immigrant since 9 or more years | 1.436*** | (0.065) | 1.552*** | (0.078) |
| Observations | 33,303 | | 33,293 | |
| Pseudo $R^2$ | 0.105 | | 0.188 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

America and, above all, Eastern Asia, largely rely on informal methods. In the case of females, the main differences with Italians are observed amongst migrants from Eastern-Asia, Latin America, and some East-European countries. Therefore, we can say that the individual's origin is an important factor that determines the use of contacts and relationships in successfully searching for a job.

We further add some elements to the comprehension of immigrants' behaviour, considering the role of years since migration. Table 2.8 relates to a logistic regression model that, compared to the previous one, substitutes the variable *Origin* with *Origin(ysm)*. It shows that, both for men and women, relatively recent immigrants, with respect to Italians, have a very large propensity of finding an occupation through informal channels, rather than formal ones. Conversely, for less recent immigrants the odds ratios are smaller, even though significantly different from one. Immigrant men who arrived within three years of the interview exhibit a likelyhood to have an occupation found through relationships, rather than through all other methods, that is 143% higher than natives; while immigrant men since 9 or more years have a propensity that is 43% higher. Immigrant women show percentages that are respectively 153% and 55%. Moreover, in both cases we see a linear tendency along the classes of years since migration.

In order to account simultaneously for years since migration and the country of origin of respondents, we developed two models (one for men and one for women) that refer exclusively to the immigrant population and include both the independent variables *Origin* and *Origin(ysm)*. Furthermore, we carried out

Table 2.9: Males, only immigrants. Logistic regression on the probability of job finding through *Relatives, friends, and acquaintances*. Resuls reported only for the varaibles *Years since migration*, *Origin* and (when included in the model) *size*. Models also control for *Education*, *Age*, *Region*, *Year of job finding*, *Firm's size*, *Occupational level*, and *Industry*.

| | Model 1 | | Model 2 | |
|---|---|---|---|---|
| *Years since migration* | | | | |
| immigrant since 0-3 years | ref. | | ref. | |
| immigrant since 3-6 years | 0.866 | (0.092) | 0.863 | (0.092) |
| immigrant since 6-9 years | 0.644*** | (0.069) | 0.643*** | (0.069) |
| immigrant since 9 or more years | 0.530*** | (0.055) | 0.531*** | (0.055) |
| | | | | |
| *Origin* | | | | |
| EU15 and Oecd | ref. | | ref. | |
| Other Eastern EU | 2.248** | (0.572) | 2.418** | (0.692) |
| Albania | 2.315** | (0.606) | 1.593 | (0.547) |
| Ex Yugoslavia and others | 2.151** | (0.560) | 1.901* | (0.509) |
| Center-South Asia | 2.511*** | (0.658) | 2.246** | (0.602) |
| Eastern Asia | 5.258*** | (1.525) | 4.149*** | (1.304) |
| Morocco | 1.480 | (0.391) | 0.997 | (0.347) |
| Other North-Africa | 2.200** | (0.610) | 1.957* | (0.555) |
| Central Africa | 1.444 | (0.391) | 1.412 | (0.383) |
| Latin America | 2.362** | (0.621) | 2.236** | (0.591) |
| | | | | |
| size | | | 1.003* | (0.002) |
| size$^2$ | | | 1.000* | (0.000) |
| Observations | 6,581 | | 6,581 | |
| Pseudo $R^2$ | 0.078 | | 0.078 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

two other models, likewise referring only to immigrants, that also account for the size of the immigrant group. For this purpose, we included the variables *size* and *size*$^2$, to consider a non linear influence of the character. In the case of men (table 2.9), results show that both years since migration and respondents' origin are relevant aspects. In particular, those that have stayed for longer (9 years or more) split in half their relative propensity of job finding through relationships, with respect to the most recent immigrants. Conversely, the migratory group's size, although showing statistically significant coefficients, has a very small effect in substantive terms. It indicates that if a group grows by 1 thousand units, its relative propensity of job finding via networks, rather than through formal means, increases by +0.3%, while marginally decreasing. Importantly, once the variable *size* is included in the model, some coefficients referred to respondents'

Table 2.10: Females, only immigrants. Logistic regression on the probability of job finding through *Relatives, friends, and acquaintances*. Results reported only for the varaibles *Years since migration*, *Origin* and (when included in the model) *size*. Models also control for *Education*, *Age*, *Region*, *Year of job finding*, *Firm's size*, *Occupational level*, and *Industry*.

| | Model 1 | | Model 2 | |
|---|---|---|---|---|
| *Years since migration* | | | | |
| immigrant since 0-3 years | ref. | | ref. | |
| immigrant since 3-6 years | 0.729** | (0.086) | 0.731** | (0.087) |
| immigrant since 6-9 years | 0.792* | (0.094) | 0.792* | (0.093) |
| immigrant since 9 or more years | 0.613*** | (0.071) | 0.610*** | (0.071) |
| *Origin* | | | | |
| EU15 and Oecd | ref. | | ref. | |
| Other Eastern EU | 1.104 | (0.211) | 1.153 | (0.242) |
| Albania | 1.120 | (0.235) | 1.051 | (0.306) |
| Ex Yugoslavia and others | 1.390 | (0.276) | 1.338 | (0.288) |
| Center-South Asia | 1.239 | (0.323) | 1.219 | (0.319) |
| Eastern Asia | 2.995*** | (0.713) | 2.862*** | (0.738) |
| Morocco | 1.046 | (0.248) | 0.973 | (0.305) |
| Other North-Africa | 0.973 | (0.377) | 0.945 | (0.371) |
| Central Africa | 1.084 | (0.256) | 1.080 | (0.255) |
| Latin America | 1.463 | (0.297) | 1.444 | (0.295) |
| size | | | 1.001 | (0.001) |
| size$^2$ | | | 1.000 | (0.000) |
| Observations | 7,186 | | 7,186 | |
| Pseudo $R^2$ | 0.169 | | 0.170 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

origin, especially when pertaining to large country-based communities, decrease. However, the importance of *origin* does not disappear, showing statistically significant coefficients, that highlight the presence of differences between some groups and immigrants from *EU-15 and Oecd* countries.

In the case of women (table 2.10), we conclude that controlling for the country of origin, the group's size, and other factors, the magnitude of years since migration is still significant, particularly for those with a long residence history. However, once controlling for years since migration, we have no evidence on differences between migration groups, except for immigrants from Eastern-Asia, also because those women migrating from EU15 (reference category) make a large use of informal methods. Similarly, the migratory group's size shows no effect at all.

Therefore, the analysis suggests that job search contacts and relationships are particularly effective for new immigrants, whose networks supposedly connect to other individuals with a migratory background, who in turn are in a better position to provide help and support to new arrivals and probably also influenced the migration decision. Conversely, those with a longer permanence (that must be very long in the case of women) are able to break with these ties, so relevant at the beginning of their migratory experience, and rely also on other channels to obtain important job-related information. It must be noticed that this aspect related to the migratory background holds true also for relevant contextual, demand-side and individual[4] characteristics that influence how a job is obtained. Differences based on the area of origin are rather observed only amongst immigrant men, also controlling for the group's size. Female ethnic groups are conversely more homogeneous in guaranteeing the access to job related networks. Finally, it emerges that the size of immigrant groups has no or an extremely small impact on finding a job informally. Both tiny and large migration communities thus make a comparable use of networks to find a job.

## 2.5 Search methods, occupational outcomes and ethnic penalty

In the following section we further explore the connection between various job finding methods and occupational outcomes. Two results will be considered: the probability of having an *Elementary occupation* and the risk of *Overeducation*. Since the latter relates occupational qualification to one's educational attainment, the analysis in that case exclusively refers to a sample of individuals with at least an upper secondary educational level. Consequently, a 50% reduction in the sample size of immigrants is implied.

First, we have to point out that the connection between methods and outcomes can not be actually considered a causal relationship. As previously highlighted, many demand-side characteristics, that contribute to our definition of 'outcome' (like occupational qualification), affect how individuals find an occupation. Therefore, it is hard to argue that different individual job search strategies per se determine different occupational results. However, with current analyses we can not separate the two reverse causation processes. There-

[4]It is noticeable, in this sense, that in models referring to the immigrant population better specified with the inclusion of variables *Origin* and *Years since migration*, *Education* has a clearer effect in reducing the propensity of finding a job via informal rather than formal methods (see models referred only to immigrants in Appendix A).

fore, we must refer to an association of two characters, in which effects are a combination of directions coming from the two sides.

Initially, considering a sample of individuals with upper secondary or tertiary education, we developed a logistic regression model on the probability of being overeducated. Analyses are distinguished per gender and separate Italians from the immigrant population. As independent variables, apart from the *Job finding method*, we included characters that potentially affect overeducation: individual aspects (*Education* and *Age*), job characteristics (*Industry*) and contextual factors (*Region* and *Year of job finding*). Results are presented only for the independent variable of interest (*Job finding method*), however models are fully reported in Appendix A.

Table 2.11: Males. Logistic regression on the probability of *Overeducation*. Sample of individuals with at least an upper secondary educational level. Results reported only for the variable *Job finding method*. Models, distinguished between Italians and immigrants, also control for *Education*, *Age*, *Region*, *Year of job finding*, and *Industry*.

| | (1) Italians | | (2) Immigrants | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| relatives, friends, acquaintances | ref. | | ref. | |
| direct contact with employer | 0.773*** | (0.039) | 0.766** | (0.071) |
| intermediary institution | 1.203* | (0.090) | 1.289 | (0.191) |
| other formal methods | 0.684*** | (0.054) | 0.348*** | (0.090) |
| Observations | 16,574 | | 3,366 | |
| Pseudo $R^2$ | 0.106 | | 0.164 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table 2.11 refers to males. For Italians we observe that a direct contact with the employer/firm and pure formal methods, with respect to informal ones, reduce the propensity of overeducation. Conversely, job finding via intermediary institutions increases the relative likelihood, resulting in the method being mostly associated with the risk of overeducation for Italian men. For immigrants we similarly notice a decreasing relative propensity amongst those relying on a direct contact or, especially, formal methods. Also the odds ratio that relates the use of intermediary institutions with that of interpersonal contacts is larger than one, even if the difference between the two channels is not statistically significant. Concerning the other independent variables (see Table A.11, Appendix A), it emerges that the problem of overeducation mostly involves highly educated immigrants, whereas for Italian men it is more diffused amongst those with a secondary degree. Italians working in southern regions of

Italy are more likely overeducated. Yet, the propensity increases in the farming sector, even though for immigrant men also in transportation, communication, and other private services. These are sectors with the highest propensity of informal job finding for immigrants. Looking at the *Year of job finding*, we notice that the economic crisis has been increasing the problem of overeducation for Italians, with an upwards trend over the years of recession, whereas for immigrants the risk appears more homogeneous in the pre and post-crisis periods.

Table 2.12: Females. Logistic regression on the probability of *Overeducation*. Sample of individuals with at least an upper secondary educational level. Results reported only for the variable *Job finding method*. Models, distinguished between Italians and immigrants, also control for *Education*, *Age*, *Region*, *Year of job finding*, and *Industry*.

| | (1) Italians | | (2) Immigrants | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| relatives, friends, acquaintances | ref. | | ref. | |
| direct contact with employer | 0.753*** | (0.042) | 0.622*** | (0.062) |
| intermediary institution | 1.023 | (0.085) | 0.692* | (0.104) |
| other formal methods | 0.469*** | (0.040) | 0.332*** | (0.062) |
| Observations | 20,008 | | 4,737 | |
| Pseudo $R^2$ | 0.083 | | 0.339 | |

Exponentiated coefficients; Robust standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Observing table 2.12, referring to females, we notice that Italian women are less likely overeducated when relying on a direct contact with the employer or formal methods, with respect to contacts with relatives/friends/acquaintances. Differently from Italian men, no differences are observed between the use of institution and informal methods. Conversely, for immigrants, even those using intermediary institutions reduce the propensity of overeducation, with respect to informal methods. Therefore, finding a job through interpersonal contacts leads to the worst outcome for immigrant women. Furthermore, other aspects being equal, it emerges that Italian women more likely overeducated are (see Table A.12, Appendix A): older people with lower educational levels, living in southern regions. Immigrant women are rather older people with the highest educational credentials. Agriculture and other services (especially for immigrants, since they include care and domestic professions) are the sectors more likely associated to the risk overeducation. Finally, as observed for men, also for Italian women we notice an increasing trend during the economic crisis.

Therefore, our analysis highlighted how in Italy the risk of a mismatch be-

tween worker and job characteristics, amongst people with higher educational credentials, concerns not only interpersonal networks, but also intermediary institutions, that generally connect to lower segments of the Italian labour market. This is not the case for immigrant women, whose relationships are always much more penalising than any other job finding method. Secondly, a diverging role emerged played by education in affecting the risk of overeducation, between immigrants and natives. The former are more likely overeducated when they have a tertiary degree, the latter in the case of a secondary education.

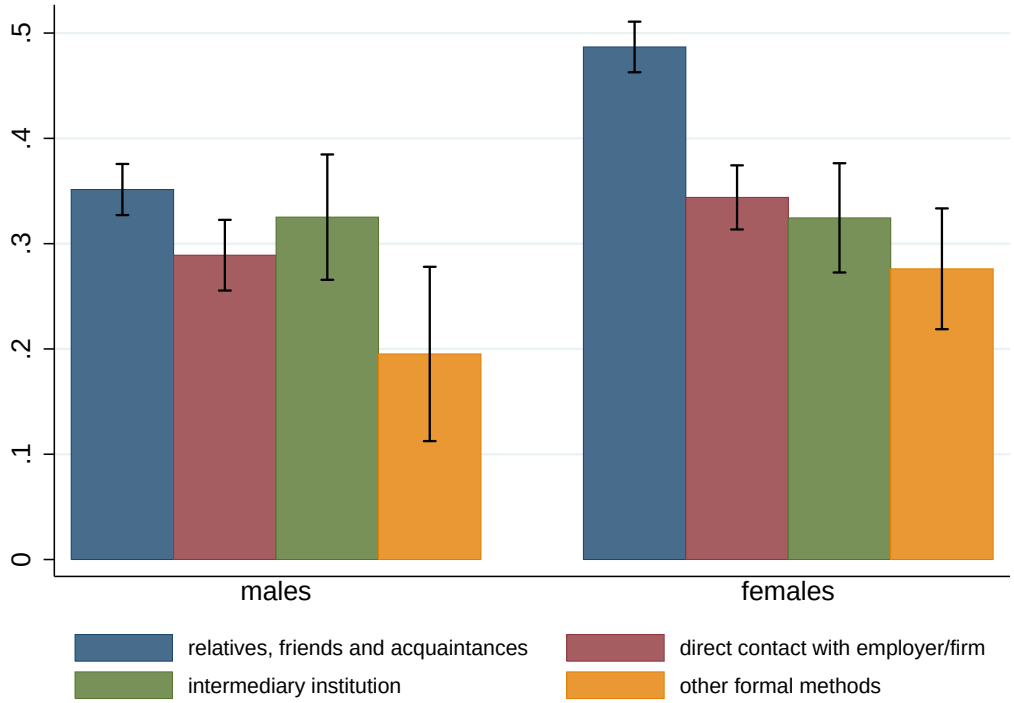
Having said that, in order to directly compare the two populations, a subsequent analysis explicitly accounts for differences in the outcomes between natives and immigrants, and thus refers to a pooled Italian-immigrant sample. Our aim is to observe whether the immigrant-native difference in the considered probability changes across various methods used to obtain work-relevant information. We are especially interested in observing if a migrant's disadvantage increases when he/she relies on relationships and contacts, due to the particular network in which they are embedded. A general configuration of the model, that simply represents an *ethnic penalty* equation, can be drawn as:

$$\log(\frac{p_i}{1-p_i}) = \alpha + \beta_1 origin_i + \beta_2 method_i + \beta_3 educ_i + \beta_4 origin_i * method_i + \beta_5 origin_i * educ_i + \beta_6 method_i * educ_i + \boldsymbol{\gamma' X'_i} + \epsilon_i$$

Where $p_i$, depending on the outcome of interest, represents for each individual the probability of being *Overeducated* or the probability of having an *Elementary occupation*; $\alpha$ is a constant term; *origin* a dichotomous variable that equals 1 if the respondent is an immigrant; *method* and *educ* refer to the dummies derived by the categorical variables *Job finding method*, and *Education*. Moreover, the model includes three sets of interactions generated by the terms *Origin*, *Job finding method* and *Education*. Finally, $\boldsymbol{X'}$ represents a vector of other independent variables, already considered in the previous models: *Age*, *Industry*, *Region*, and *Year of job finding*. Thus, the aim of the model presented is to observe differences in the outcome between immigrants and Italians (that can be referred to as an *ethnic penalty*), within different job finding methods and educational levels, aspects that are usually interrelated. For this purpose, the next graphs will show average marginal effects of the variable *Origin*, within different *Job finding methods*.

On the one hand, the probability of having an *Elementary occupation* indicates the risk of being confined to low quality professions for the whole employed population, that for immigrants can be interpreted as an employment concen-

Figure 2.1: Average Marginal Effects of the variable *Origin* (equal to 1 when the individual is an immigrant) on the probability of being *Overeducated*, at different *job finding methods*, with 95% Confidence Intervals. Models, distinguished between males and females, also control for *Education*, *Region*, *Year of job finding*, *Industry* and include the interaction terms *Origin X Job finding method*, *Origin X Education*, and *Job finding method X Education*.




tration within specific under-qualified niches of the labour market. Since we consider various channels through which job-related information circulates as potential determinants of the ethnic occupational concentration, that in Italy is also sector specific, we decided to not include the independent variable *Industry* in the models that treat *Elementary occupation* as a response variable. The probability of being *Overeducated*, on the other hand, refers to the deviation between occupational qualifications and educational levels for the population of secondary and tertiary education. Therefore, it not only concerns the risk to access elementary professions, but even low-mid occupations, although exclusively for those with higher educational credentials.

Consider first the probability of *Overeducation*. The most general picture emerges from figure 2.1, based on models fully presented in Appendix A. It shows that, other characteristics being equal, the *ethnic penalty* is always large, positive and significantly different from zero, for each method used to find a job. Therefore, immigrant men and women, regardless of the channel used to obtain information, are always strongly penalised with respect to natives in the risk

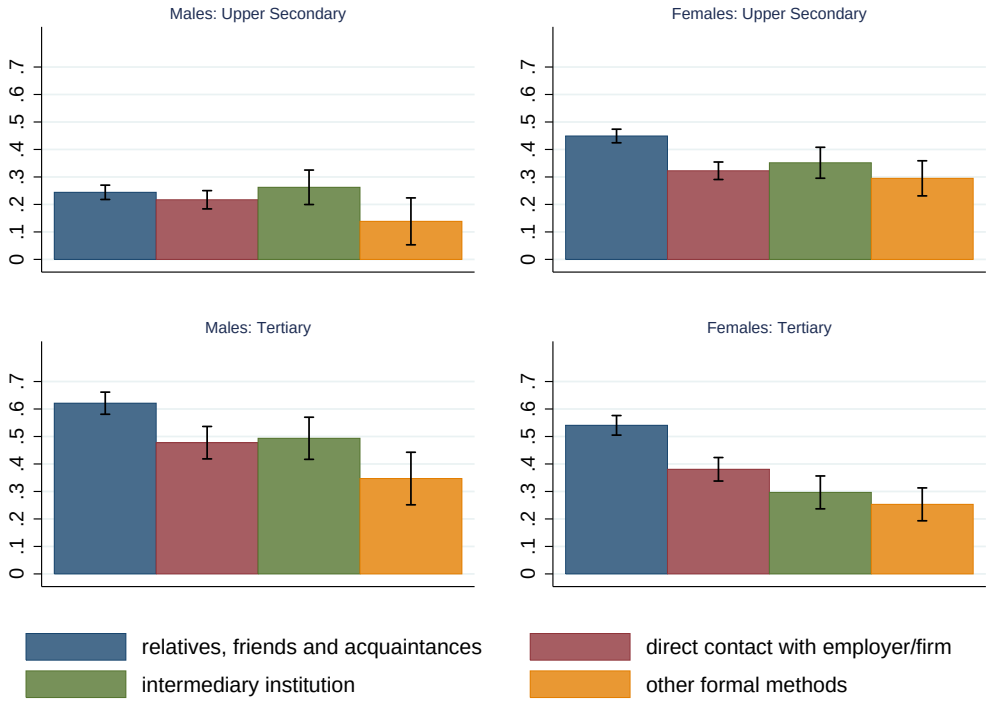
Table 2.13: Results of the Wald test, for models on the probability of *Overeducation*, at different groups of interaction terms. $H_0$: the coefficients of the interaction term are not jointly different from 0. $H_1$: the coefficients are jointly different from 0.

| Model | Interaction | $\chi^2$ | $p$-value |
|---|---|---|---|
| males | originXmethod | 3.55 | 0.314 |
| | originXeduc | 231.83 | 0.000 |
| | methodXeduc | 97.57 | 0.000 |
| females | originXmethod | 38.89 | 0.000 |
| | originXeduc | 10.71 | 0.001 |
| | methodXeduc | 112.68 | 0.000 |

of overeducation. However, we notice relevant gender dissimilarities. Among women that obtained a job through informal methods, the ethnic penalisation is significantly larger than all the other methods, leading to almost +0.5 points in the probability. Conversely, for men we only observe a statistically significant difference between those using relatives/friends/acquaintances and those relying on *other formal methods*. No or few differences are observed between informal methods, use of institutions and direct contact with the employer, meaning that these methods, in a stronger way than occurs in Italians, are equally connected with under-qualified positions, relatively to educational credentials. In order to better understand the variation of the immigrant disadvantage according to different job finding methods, we proposed a test for each group of interaction terms in the regression models (results in table 2.13). We tested the null hypothesis that states that the considered interactions are not jointly different from 0, with $\alpha = 0.95$. In the case of men, for interactions derived from *Origin X Job finding method*, we do not reject the null hypothesis. These results reinforce the idea that, for immigrant men with higher credentials, various job finding methods are similarly penalising in the risk of *Overeducation*.

We notice other elements when observing variations at different educational levels (figure 2.2), since interactions derived from *Origin X Education* and *Education X Job finding method* are always jointly different from 0. Considering males first, for secondary educated no statistically significant differences between various job finding methods are observed. Conversely, important differences emerge for tertiary educated. Not only the penalty substantially increases at all the channels used to find a job, but it particularly grows for those using interpersonal networks. Therefore, a greater relative risk of overe-

Figure 2.2: Average Marginal Effects of the variable *Origin* (equal to 1 when the individual is an immigrant) on the probability of being *Overeducated*, at different *job finding methods* and *educational levels*, with 95% Confidence Intervals. Models, distinguished between men and women, also controls for *Education*, *Region*, *Year of job finding*, *Industry* and includes the interaction terms *Origin X Job finding method*, *Origin X Education*, and *Job finding method X Education*.

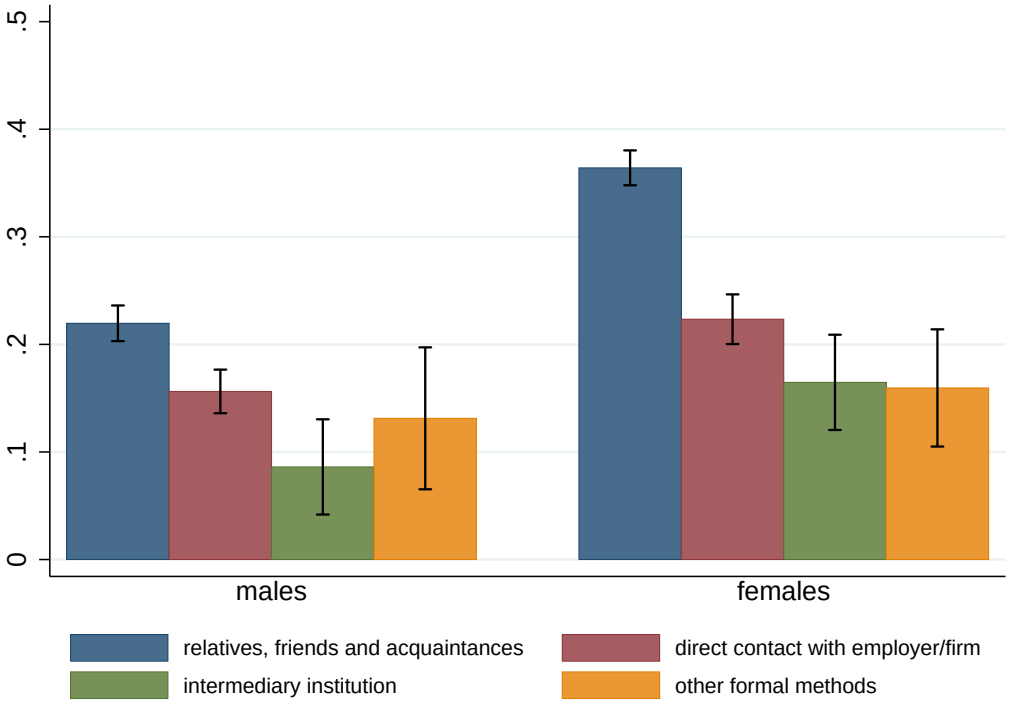



ducation concerns the use of interpersonal connections by tertiary educated immigrant men. Differently, the penalisation of immigrant women relying on relatives/friends/acquaintances is always significantly higher than other finding methods, at each educational level.

We now focus on the probability of having an *Elementary occupation*. Similarly to the previous case, figure 2.3 shows that, with individual characteristics being equal, the ethnic penalty is always positive for each method used to find a job. However, for both men and women, those that obtained a job through informal methods are significantly more penalised. Moreover, we notice that in a much larger proportion than Italians, especially immigrant women that exploited their informal contacts are confined to elementary jobs, even when we exclude domestic care workers from this category, that also use informal methods to a great extent. This can be considered evidence that immigrant female networks, in a way that is totally different from natives, are restricted to certain low quality segments of the labour market[5].

[5]Notice also that in the case of females, the models explain a consistent proportion of

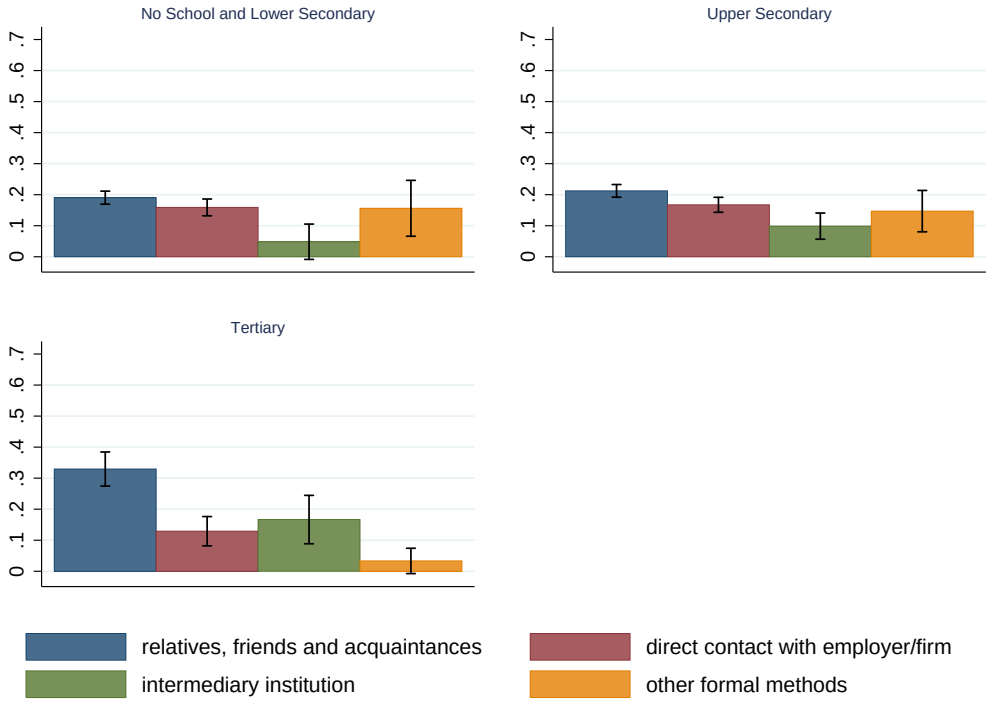
Figure 2.3: Average Marginal Effects of the variable *Origin* (equal to 1 when the individual is an immigrant) on the probability of having an *Elementary occupation*, at different *job finding methods*, with 95% Confidence Intervals. Models, distinguished between males and females, also control for *Education*, *Region*, *Year of job finding* and include the interaction terms *Origin X Job finding method*, *Origin X Education*, and *Job finding method X Education*.




Other aspects emerge if variations at different educational levels are taken into account. Importantly, in this case, results are reported even for low educated people, since they are now included in the sample. In the case of men (figure 2.4) we see discontinuous patterns. Firstly, we notice that immigrants are strongly penalised with respect to natives when they use informal methods and hold a tertiary degree. Conversely, we do not observe any significant penalisation when graduated immigrants find a job through other formal methods. Secondly, we observe that the ethic penalty almost disappears among low educated men who found a job through an intermediary institution. This, again, is related to the fact that these institutions in Italy, especially private temporary agencies, are generally connected with the lowest segments of the labour market. This holds for both Italians and immigrants, with low educational credentials. Things change for Italians with higher education, for whom intermediary institutions are also universities and training institutes. In the case of

variation in the dependent variable, since pseudo R-squared is respectively 0.26 and 0.35 for the model on *Elementary occupation* and *Overeducation* (see Appendix A).

Figure 2.4: Males. Average Marginal Effects of the variable *Origin* (equal to 1 when the individual is an immigrant) on the probability of having an *Elementary occupation*, at different *job finding methods* and *educational levels*, with 95% Confidence Intervals. The model also controls for *Education*, *Region*, *Year of job finding* and includes the interaction terms *Origin X Job finding method*, *Origin X Education*, and *Job finding method X Education*.

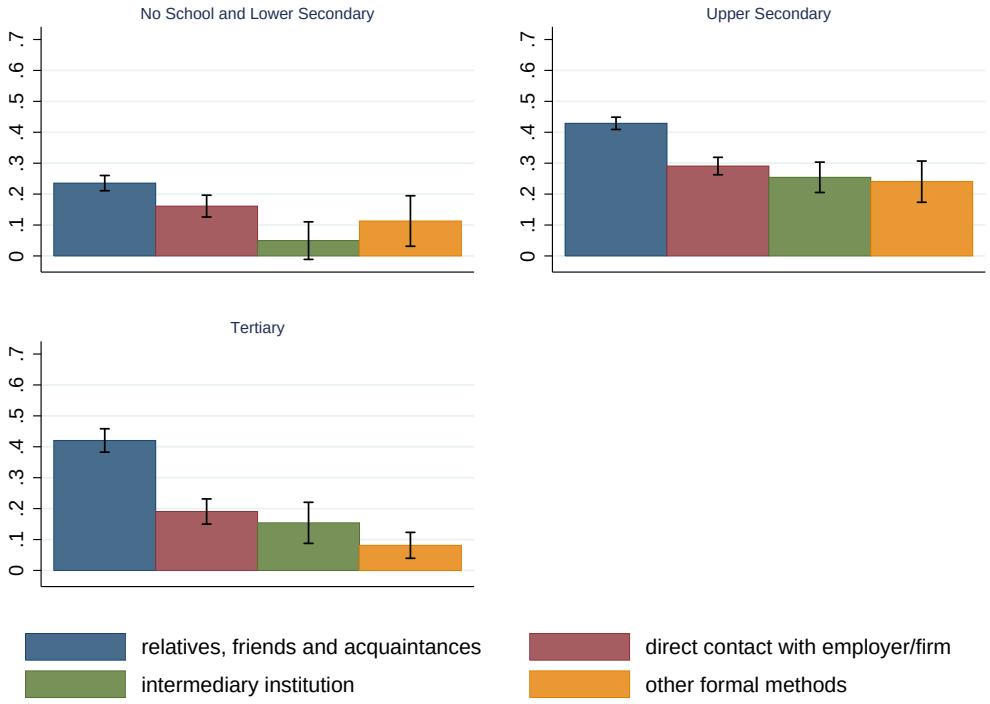



women (figure 2.5), on the other hand, we observe more homogeneous trends at different educational levels. Having found a job via relatives, friends, and acquaintances is always significantly penalising, even though the difference with Italians is reduced for lower educated. An overall stronger penalisation occurs especially amongst those with an upper secondary education.

In conclusion, the ethnic penalisation associated with job finding networks pertains, on the one hand, to tertiary educated men, who more likely accede elementary occupations or under-qualified professions relatively to their educational credentials. In this case Italians have better connections, but this is not usually the case for immigrants, whose penalty decreases when they rely on formal methods. On the other hand, a substantial *ethnic penalty* of informal methods is always observed for women. Therefore, to underuse the immigrant component with higher educational credentials, a clear peculiarity of the Italian labour market, is to some extent amplified by interpersonal networks that bring about redundant information.

Finally, in order to investigate the possible role of years since migration on

Figure 2.5: Females. Average Marginal Effects of the variable *Origin* (equal to 1 when the individual is an immigrant) on the probability of having an *Elementary occupation*, at different *job finding methods* and *educational levels*, with 95% Confidence Intervals. The model also controls for *Education*, *Region*, *Year of job finding* and includes the interaction terms *Origin X Job finding method*, *Origin X Education*, and *Job finding method X Education*.

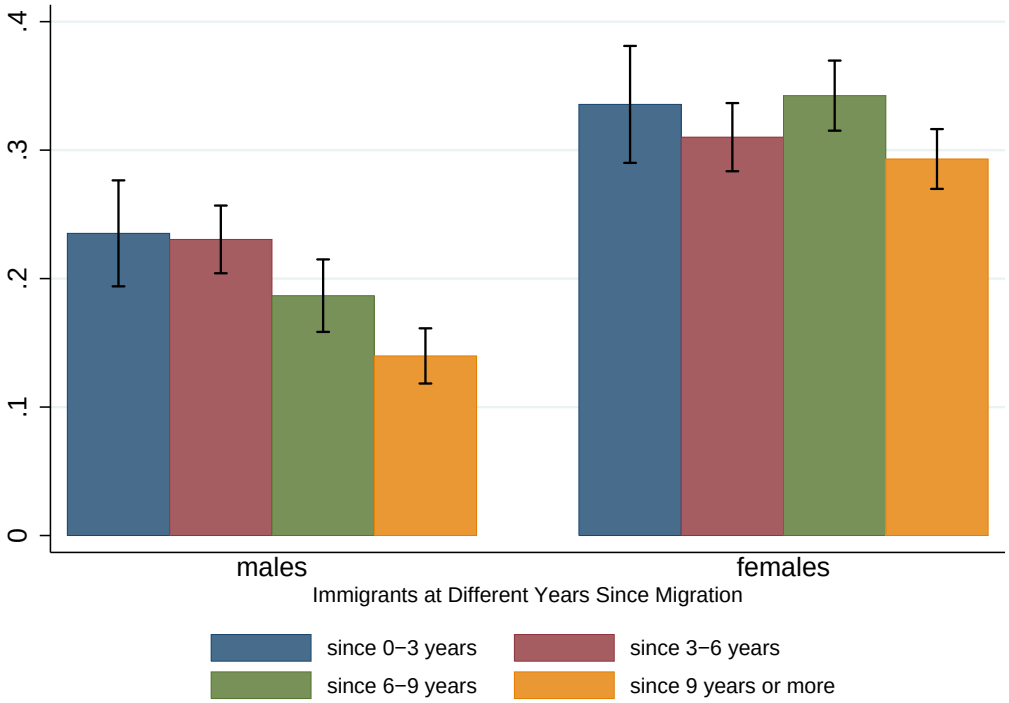



the probability of having an *Elementary occupation*, thus observing the risk of employment concentration in dynamic terms, we developed two more models. These models substitute the variable *Origin* with *Origin(ysm)* and include the interaction term *Origin X job finding method*. Figure 2.6 exclusively shows an output for people that used informal job finding methods (results are fully reported in Appendix A). It emerges that the penalisation is reduced over time since migration only for male immigrants that have stayed for 9 years or longer, therefore a very long residence duration. Amongst all other cases we do not observe significant differences. Differently, we find that immigrant women who obtained an occupation via relationships are always over time equally strongly penalised with respect to native women in accessing low quality jobs.

## 2.6 Conclusions

The chapter faced two main issues. On the one hand, it provided the framework of job finding behaviours in the Italian labour market, looking at the

Figure 2.6: Average Marginal Effects of the variable *Origin (ysm)* on the probability of having an *Elementary occupation*, at *Job finding method* equal to *Relatives, friends and aquaintances*, with 95% Confidence Intervals. Models, distinguished between males and females, also control for *Education*, *Region*, *Year of job finding* and include the interaction term *Origin(ysm) X Job finding method*.




native population. On the other hand, it aimed at directly comparing Italians and immigrants.

Concerning the general context first, we found some confirmations of other empirical results in the case of Italians. Networks represent the main channel through which Italians find and search for a job (Hp 1) and are mainly used by low educated Italians (Hp 2). Moreover, we found that some important job characteristics are associated with the use of informal methods. In particular, personal networks are connected to small firms and lower qualified professions (Hp 3). Our interpretation is that there are some characteristics of professional labour markets that affect the methods through which individuals obtain a job. In this regard, the fact that the propensity of searching for a job via networks decreases with education in favour of formal methods, can also be interpreted as a demand-side influence. Indeed, it is well known that job seekers with various individual characteristics and ambitions, instead of searching in any labour market segment, generally turn to a selected group of sectors, segments, and firms (Zenezini 1997). Establishments in turn use specific recruitment strategies that

may affect prospective employee behaviour. However, the connection between demand-side characteristics, recruitment procedures, and finding methods, for which a more detailed information at the firm level is required, can not be investigated in depth with our data and we only ascertain that job characteristics and finding methods are strictly associated.

Concerning the relationship between informal methods and risk of overeducation (Hp 8) for Italian people, our results partially confirmed the literature, even though we used a measure of overeducation that is not inferred by a self-perception of respondents. Indeed, distinguishing the analysis per gender and considering various formal channels, we found that for men, intermediary institutions to a larger extent connect with under-qualified positions, rather for women we observed no difference between the use of institutions and informal methods: both are largely penalising with respect to other methods. Therefore, even though not distinguishing the use of 'family and friends' from 'professional ties', we observed that also through employment agencies a mismatch between workers and job characteristics occurs. It could be that firms rely on (generally private) employment agencies in order to face cyclical production needs. In this case recruitment via institutions allows to fill temporary positions that more likely lead to underuse the human capital of prospect employees. However, also people that turn to informal methods accede to occupations that do not fully reflect their competences, whereas better matches are saved for those in condition to spend time and resources in formal recruitment channels. One possibility is, as suggested by Bentolila et al. (2004), that the availability of social contacts and the opportunity to find a job more easily, reducing search costs, may convince a worker to undertake a career in professions, sectors, or locations where his abilities are not fully exploited.

The second result of our study concerns the immigrant population and the direct comparison we performed with respect to natives, dealing for the first time with the Italian case. Initially, we clearly found, both through descriptive and multivariate analyses, that immigrants rely on personal relationships to find a job more extensively than the native population (Hp 4). This finding is in line with other research studies that investigated different countries, however our descriptive results show that this tendency in Italy seems even larger, especially for women. Furthermore, through the multivariate analysis, we had the chance to account for various migratory background characteristics, in order to simultaneously assess their influence. As a general conclusion, job finding behaviour changes with years since migration. Indeed we found that people at the beginning of their migratory experience are more likely to use personal connec-

tions to find a job (Hp 6). Aspects related with the country of origin only hold for some groups and more noticeably for men (Hp 5). Finally, the immigrant group's size does not seem to have any influence (Hp7): both large and small migration groups are equally associated with the use of informal methods.

Furthermore, we extended the study of job finding methods and occupational outcomes to the immigrant component. On the one hand, as pointed out for Italians, we noticed, other aspects being equal, that informal channels are more diffused within low qualified professions. However, the relative risk (the difference with natives) of accessing elementary professions is higher for immigrants exploiting interpersonal ties (Hp 9). On the other hand, migrant networks are also largely connected with the underuse of tertiary educated individuals, improving ethnic inequalities of immigrants with higher credentials (Hp 10). Therefore, considering that the ethnic concentration in the lowest ranks of the occupational ladder is a peculiarity of the Italian labour market (Fullin and Reyneri 2011a), the distinctive trait of interpersonal channels, that spread job-related information, contributes to the explanation of the immigrant disadvantage. Indeed, individuals are part of a relational structure characterised by different informative resources. Immigrants, that more likely receive information gravitating toward bad jobs that do not match their characteristics, when exploiting personal networks, more seriously risk being confined to those occupations.

A last consideration stems from our analytical distinction between men and women. It emerges that immigrant female conditions are even more critical, for at least four main reasons. First, immigrant women rely on informal methods to a larger extent than any other. Second, using informal channels they are much more penalised with respect to Italians in accessing lower segments of the labour market and under-qualified professions, than is observed for men. Third, the disadvantage of female connections persists at any educational level. Fourth, immigrant women experience a serious entrapment risk in low qualified occupation, that is not reducing over time. This is evidence that different labour markets do not offer equal opportunities of integration for the immigrant population.

# Chapter 3

# Ethnic networks, job finding, and immigrant occupational outcomes

## 3.1 Introduction and hypotheses

Based on data exclusively targeted at the immigrant population, the following chapter extends our research on how migrants and jobs connect in the Italian labour market. It focuses on the distinction of contacts to whom one can gain access in the job finding process, that are associated to relevant information transfers. Indeed, different contact persons are potentially connected to informative resources, to which access, as it will be shown, leads to diverging occupational consequences for immigrants. Purposely, our data (see the next section for a detailed specification of the variable *Job finding method*) allows to disaggregate informal methods, considering whether the contact used to find a job is a relative, a migrant from the respondent's country of origin, a migrant from a different country or, finally, an Italian.

In the first place, the chapter will describe in detail how immigrants obtain a job and which are the determinants associated with different finding methods. Secondly, the study will concentrate on the relationship between job finding methods and some labour market outcomes, at the entrance into Italy. Finally, the chapter will consider certain dynamics of finding methods throughout a migrant's career, dealing with entrapment risks associated with specific job finding behaviours, in particular when work-related information exclusively circulates through ethnic networks.

The information on disaggregated informal channels used by immigrants is generally not available in large surveys. Therefore, empirical evidence on a more in-depth description of immigrants' informal job search behaviour is missing. However, in stating our first group of hypotheses (Hp 1-4), there are

some considerations we can account for. Firstly, we already know by other European studies and, for the Italian case, by the analysis previously presented (see Chapter 2) that migrants extensively use personal channels in order to gather information in the labour market. We also assumed in the previous chapter that most contacts with relatives/friends/acquaintances were built-in the ethnic group. This aspect, we stated, contributes to the explanation of an immigrant disadvantage in the labour market. Now, with different data available, we have the chance to test the hypothesis of an ethnic connotation of job finding relationships:

**Hp 1** *for immigrants in the Italian labour market, relying on co-ethnic interpersonal networks represents the most diffused job finding method. Conversely, connections with other immigrants, with Italians, and formal methods in general are less diffused.*

Subsequently, we considered various factors that potentially influence the level of diffusion of a certain job finding method for immigrants, including the use of different informal channels. We know, in the first place, that in Italy education reduces for immigrants the propensity of finding a job via informal rather than formal methods, even though to a lesser extent than in the native population (see Chapter 2). We are now able to observe whether individual human capital characteristics hinder the use of co-ethnic interpersonal connections in the job finding process, in favour of contacts that overcome the migratory group and, more generally, formal methods. Indeed it can be the case that some individual characteristics, that immigrants hold at the beginning of their migratory experience, determine the emergence of interpersonal relationships and influence whether or not individuals depend on them in the job finding process. For instance we can suppose that immigrants with less human capital are more forced to rely on co-ethnics, whilst those with a higher host-country-specific knowledge are more able to find job-related information elsewhere. Therefore we hypothesise that:

**Hp 2** *in the Italian labour market, immigrants with lower education and reduced host-country-specific language proficiency are more likely to obtain a job via co-ethnic contacts; immigrants with higher education and better Italian fluency more probably find a job through formal methods or contacts with the native population.*

Secondly, some research studies highlighted the presence of differences amongst immigrant groups in the use of informal methods. It was found in different con-

texts that some ethnic groups more frequently than others exploit their interpersonal relationships (as a whole) to search for a job (Demireva 2009, Giulietti *et al.* 2013) and find it (Battu *et al.* 2011, Drever and Hoffmaister 2008)[1]. Moreover, in the United States inter-ethnic differences were observed with respect to the chance of being hired via insider referrals, i.e. contact persons working in the same firm where the job is found (Elliott 2001). Therefore, although the lack of specific evidence, we can currently hypothesise differences in the use of co-ethnic connections:

**Hp 3** *accounting for individual and contextual characteristics, in Italy some immigrant groups more extensively than others find a job through co-ethnic interpersonal relationships.*

Finally, we already observed that immigrants at the beginning of their settlement are more likely to use informal job finding methods (see Chapter 2). In our previous analyses we considered those connections as possibly tied to migratory networks, since recent immigrants are less aware of the new context and more likely forced to rely on their own relationships, with also relevant occupational consequences. Thus, exploiting the partial retrospective structure of our data (see the next section), we are currently able to account for some changes in the use of finding channels, over time. Therefore we hypothesise that:

**Hp 4** *the way through which immigrants find a job changes between the first occupation held in Italy and a subsequent labour market experience. For first jobs, relying on co-ethnic interpersonal connections is the most diffused finding method. For subsequent jobs, the use of co-ethnics decreases, whereas contacts with Italians and formal methods increase.*

The second group of our hypotheses (Hp 5-8) deals with the relationship between job finding methods and labour market outcomes. In particular, we are interested in comparing job finding channels based on co-ethnic contacts, relationships with natives, and formal means respectively. Therefore, we aim at evaluating, to some extent, informative resources that circulate through ethnic networks, with respect to those obtained by channels that overcome co-ethnic relationships. In this regard, the literature that explored the role of ethnic networks in the labour market led to a substantial ambivalence[2].

In the first place, these ties have been theoretically considered as particularly cohesive social structures originating from different forms of social capi-

[1] See also the previous chapter for the Italian case.
[2] See also our literature review in Chapter 1.

tal (Portes and Sensenbrenner 1993), that facilitate economic action in many aspects and affect a migrant's mode of incorporation, beyond individual characteristics (Portes 1995). Ethnic connections are directly related to the labour market: friends and relatives provide migrants with a great circulation of information and may be in a good position to hear about job openings and employment opportunities, also rapidly intercepting the highest quality information. In this view, some empirical U.S. based studies observed that the size of communities at the destination or the individual number of connections with friends and relatives with migratory experience have for migrants positive occupational returns, in terms of both earnings and employment status, i.e. the probability of being employed rather than unemployed (Aguilera and Massey 2003, Munshi 2003). This last outcome is particularly accountable for the cohesive strength of ethnic interpersonal connections, that favours information flows in the labour market.

The other side of the ambivalence of ethnic networks emerges from those empirical studies that explicitly focused on the job search and finding behaviour of immigrants, even though none of them generally distinguished different contact persons. From this viewpoint most research has emphasised the redundancy of information circulating through informal methods, as compared with that achievable via channels that overcome immigrants' relationships, like formal methods. In this framework, immigrants generally obtain job-related information from other immigrants, thus differently from the native population they rely on poorer connections, enclosing specific occupational segments. Two different labour market outcomes have been investigated.

On the one hand, few research studies explored the effect of different job search methods on the transition from unemployment to employment, finding no or scarce empirical support of differences by search methods (Frijters *et al.* 2005, Battu *et al.* 2011). Nevertheless, they were conducted in the UK, a country where immigrants are largely disadvantaged in terms of unemployment risks. Conversely, in Italy immigrants experience higher transitions into unemployment but even shorter unemployment spells than natives, resulting particularly mobile in the labour market and hardly disadvantaged as regards unemployment in static terms (Fullin 2011b, Fullin and Reyneri 2011a).

On the other hand, many research studies highlighted how informal methods are for migrants penalising, as compared with other methods, in terms of occupational qualification and risk of transition throughout jobs of low occupational prestige (Sanders *et al.* 2002, Drever and Hoffmaister 2008, Battu *et al.*

2011, Giulietti *et al.* 2013)[3]. Yet, other studies found for immigrants a strong association between informal job finding channels, especially based on insider referrals, and ethnic employment concentration (Elliott 2001, Steinbeck 2008). This evidence suggests that ethnic networks, which mostly gravitate around specific occupations, sustain redundant information affecting the process of employment concentration in certain niches of the labour market.

A further development of this perspective, distinguishes relationships and available resources in a migrant's social network between co-ethnic contacts (bonding ties) and contacts with natives (bridging ties). It has been observed (see our literature review in Chapter 1, Section 1.2.2) that for migrants having contacts with natives produces positive occupational returns, in terms of employment and occupational qualification (Kanas *et al.* 2011, Lancee 2010, 2012a, Lancee and Hartung 2012). However, referring to immigrant relationships in general terms, none of the studies that differentiated the kind of connections observed its actual use in the job finding process.

Through current analysis, we were able to consider the mobilisation of bonding and bridging social capital in the labour market, distinguishing co-ethnic and native contacts activated in the job finding process and observing the related occupational outcomes, also with respect to other formal methods. In particular, we hypothesise a trade-off between rapid diffusion and quality of information. On the one hand, given the specificity of immigrant integration in the Italian labour market, we state that co-ethnic relationships are dense social structures that rapidly connect new migrants to employment.

**Hp 5** *accounting for individual aspects and characteristics of the obtained job, for immigrants, finding information via co-ethnic networks, is associated with a shorter search duration for the first job after the entrance into Italy. Conversely, relying on contacts with Italians or formal methods is associated with a longer search duration.*

On the other hand, we expect that job-related information circulating through co-ethnic networks constitutes a potentially redundant knowledge, available to both job seekers and employers, enclosing those labour market segments that immigrants, more easily than the native population, access: lower occupational ranks and non-registered jobs. By contrast, we expect the information obtained via relationships with natives to be more diversified, enabling immigrants to enter more qualified and registered occupations. Therefore, we hypothesise that

[3]See also Chapter 2 for the Italian case.

**Hp 6** *accounting for individual socio-demographic aspects, in Italy immigrants finding a first job through co-ethnic contacts are more likely to enter low-qualified professions and non-registered occupations; immigrants relying on contacts with natives and formal methods are more likely to access high-qualified and registered first jobs.*

Furthermore, we are able to identify for some individuals two different working episodes, observing how job finding methods and occupational outcomes change throughout a migrant's working trajectory. In particular, we expect those immigrants that along their career obtain job-information exclusively via ethnic networks to be more likely entrapped within lower qualified occupations. Indeed they are bounded by closed networks that repeatedly provide them with redundant information. Conversely, immigrants that are over time able to break with these job finding co-ethnic ties, are more likely to experience upward mobility patterns, due to the informational diversification of other job finding channels. Therefore, we hypothesise that:

**Hp 7** *accounting for individual socio-demographic aspects, immigrants enclosed within ethnic networks, finding a job repeatedly through co-ethnic contacts, are more likely to be entrapped within lower qualified occupations. Immigrants exiting ethnic job finding networks in favour of either Italian contacts or formal methods are more likely to access higher qualified occupations along the career.*

## 3.2 Data, sample selection, and variables

In order to analyse these aspects, data from the Italian survey *Social Condition and Integration of Foreign Citizens* (SCIF 2011-2012) has been considered. The survey was conducted in Italy by Istat for years 2011-2012 following a Capi technique (Computer Assisted Personal Interviewing). The target population is identified through the principle of citizenship. It is determined by foreign citizens or naturalised components of formally resident families, with at least one individual without Italian citizenship[4]. Therefore, the data-set constitutes a representative sample of the resident immigrant population in Italy. The study collected extensive information and specific questionnaire items (concerning family, migratory pathway, working history, etc.). In particular, the working history section has a partial retrospective structure that allows to account for two episodes, and related dates, throughout a migrant's career in the receiving

[4]For more information, see the webpage https://www.istat.it/en/archive/191097.

country: the first job found after the entrance into Italy; the job held at the interview's date, that for some cases is a different occupation and thus subsequent to the first one.

Our analysis refers only to immigrants who arrived in Italy since 1989 and between 15 and 60 years old at the date of entrance. Interviewees born in Italy were excluded from the sample, also because second generations are still too few, even though increasing, to be analytically considered. These restrictions aim at reducing sample selection problems. Indeed, respondents that have been living in Italy for a very long period are affected by a selection process that leaves out from the sample immigrants with a temporary mind-set, characterised by return migration pathways. Although weakened, this selection problem persists, an aspect that must be taken into account along the analysis. Both men and women are considered, even though separately analysed. Indeed they enter different labour markets[5], an aspect that also affects, as it will be shown, the kind of contacts they use in the job finding process.

Two main different samples are thus constituted. The first is established by immigrants that experienced (or are still experiencing) a first job in Italy, whose characteristics are investigated. It is a sample of individuals (5,203 males and 5,407 females) and related first jobs, that took place over a long time span. Respondents that entered employment as entrepreneurs or found the first job starting a self-employment activity are not included. Therefore, each analysis exclusively pertains to employees[6]. The second sample considers currently employed immigrants, that already had a previous working episode in Italy. Thus, the observed and investigated occupation is considered at a subsequent stage of their working history[7] and the sample is restricted to immigrants who changed jobs. Again, armed forces, entrepreneurs and those who obtained their subsequent job starting a self-employment activity are excluded from this sample, that accounts for 1,674 males and 1,708 females[8].

Several variables collected in the survey are here considered. Relevant for our purpose is the variable *Job finding method* (for first and subsequent jobs), that allows to differentiate the contact person to whom respondents have access. It originates from the question (Section E: working history)"How did you know about the job and how did you find it? Which of these methods was the most useful?". At the most disaggregated level, our adopted categori-

[5]As already argued in previous analysis, Chapter 2.

[6]Armed force excluded.

[7]For this reason, it is mentioned as *subsequent job*, even though it is also the current one.

[8]Sample sizes are slightly reduced in the multivariate analysis, due to the exclusion of missing cases for some variables.

sation included: *Relatives*, *Co-ethnic friends and acquaintances*, *Other immigrant friends and acquaintances*, *Italian friends and acquaintances* and *Illegal recruiters of day laborers* that identify different contact persons; *Direct contact with the employer*, that indicates spontaneous applications; *Public employment service*[9]; *Temporary employment agency*; *Other intermediary institution*, that aggregates answers 'signalling by the university or other training institutes', 'immigrant organisation' and 'Italian voluntary organisation'; *Other formal methods*, that includes 'newspaper advertisements', 'internet', 'previous experiences in the same firm (internship)' and 'other way'. Subsequently, at a more aggregated level, *Job finding method* was grouped into five categories: *Relatives*, *Co-ethnic friends/acquaintances*, *Italian friends and acquaintances*, *Direct contact with the employer* and all the other *Formal methods*. In this case, *Co-ethnic friends/acquaintances* joins previous categories *Co-ethnic friends and acquaintances*, *Other immigrant friends and acquaintances* and also *Illegal recruiters of day laborers*, the last two accounting for very few respondents[10]. Importantly, this evidence suggests a substantial consideration (as is argued later): the job finding relationships that immigrants establish with other immigrants are almost all inside their own ethnic group. Finally, when treated as the dependent variable of regression models, *Job finding method* accounts for three categories: *Co-ethnics*, that includes both relatives and friends/acquaintances; *Italians*; *Formal methods*, comprising both spontaneous applications and all other formal channels.

The variable *Search duration* (for the first job) refers to the time spent since starting to actively look for a job, after entrance into Italy. It represents a crucial aspect in a migrant's life course that deals with his transition to employment. The variable, derived by a direct question and organised as a categorical character in the survey, equals 1 for search durations of *0-3 months* and equals 0 for longer durations. Respondents that obtained a job before their entrance into Italy were accounted as having a search duration of *0-3 months*.

The variable *Origin*, based on the respondent's country of birth, was categorised as followed. *EU15+HD* includes the first 15 member countries in the European Union, in addition to other highly developed countries (Iceland, Liechtenstein, Norway, Switzerland, Japan, Republic of South Africa, Canada, USA, Australia, New Zealand). *Eastern EU* indicates the other member states of the European Union in the survey's years 2011-2012: Bulgaria, Poland, Romania, Hungary, Estonia, Latvia, Lithuania, Slovakia, Czech Republic, Cyprus

[9]Organisations that in Italy are called Centri Pubblici per l'Impiego (CIP).
[10]See the next section.

and Malta. *Other Eastern Europe* completes the remaining Eastern European countries, including Russia. *MENA* represents Middle East and North Africa and includes Algeria, Egypt, Libya, Mali, Morocco, Mauritania, Niger, Somalia, Sudan, Tunisia, Afghanistan, Saudi Arabia, Bahrain, Emirates, Palestine, Jordan, Iran, Iraq, Israel, Kuwait, Lebanon, Oman, Pakistan, Qatar, Syria, Turkey, Yemen, Armenia, Azerbaijan and Georgia. *Other Africa* and *Asia* embrace the remaining countries of the respective continent. Finally, *Latin* includes Central and South American countries.

Other important indicators refer to the migratory background of respondents. The variable *Years since migration* (exclusively used for the analysis of subsequent jobs) was created by counting months from the entrance into Italy to the beginning of the current occupation. A random month that preserves the internal coherence was assigned to missing answers of respondents who knew the years of these dates. Then, durations were aggregated into four categories representing groups of years: *0-3*; *3-6*; *6-9*; *more than 9*. Using the information on the year of access, the variable *Cohort of entrance in Italy* (in three categories: *1989-1998*; *1999-2008*; *2009-2012*) was derived. These cohorts represent different phases of migratory inflows and contextual economic changes. However, most importantly, they also characterise three immigrant groups that are differently selected in the sample. Therefore, including this aspect in the multivariate analysis partially accounts for the sample selection process that affects individuals belonging to each group.

Some values of individual-level characteristics change between the two considered working episodes, leading to a twofold specification of the variable. *Age*, clustered in five-year groups, was distinguished between age at the beginning of the first job and age at the beginning of the subsequent job. *Language proficiency* also differs between the two points. On the one hand, it pertains to the question: "When you arrived into Italy, did you already know the Italian language?". In this case, the variable was considered as a dichotomous character that equals 0 for *No Italian* and 1 for *Moderate* (indicating the other possible answers: 'a little' or 'good'). For the subsequent working episode, on the other hand, we used the extended information on four aspects of the current language proficiency: reading, writing, speaking, and listening. Each answer to the related question was ordered on a rating scale from 1 to 4. Then possible combinations were clustered in a more general scale that we used as a continuous character. *Education* is conversely unchanged over time, pertaining to the highest educational attainment. As in previous analyses, it was grouped into three categories (*No school and lower secondary*; *Upper secondary*; *Tertiary*).

Some variables concern job-related aspects, that also potentially change between the two working episodes. *Region* indicates the macro-area of Italy where the job takes place (*North-west*; *North-east*; *Centre*; *South and Islands*). In the case of current jobs, since a direct question is missing, the information was replaced with respondent's current residence. The variable *Industry* follows the Ateco classification used to identify economic activities and includes seven categories (*Agriculture*; *Manufacturing*; *Construction*, for females aggregated with manufacturing; *Wholesale and retail trade*; *Accommodation and food services*; *Business services*; *Personal services*. Notice that in the multivariate analysis the additional category of *Care and domestic services* was included. The dichotomous variable *Registered*, even though referring to first jobs only, equals 1 when the job's contract is formally recognised.

A twofold specification of *Occupational qualification* was considered, based on the classification CP2011 provided by Istat. On the one hand, it was transformed[11] into the *ISEI – International Socio-Economic Index*, that assigns a score to each occupation, grounded on wages and educational requirements (Ganzeboom and Treiman 1992, 1996). On the other hand, the CP2011 was re-aggregated in six categories: 1) *MPT and clerks* (classification levels 1-4) aggregates managers, professionals, technicians, and clerks; 2) *Services and sales* (classification level 5, care workers excluded) involves qualified professions in commercial activities and services; 3) *Care and domestic workers* includes two professional groups, in which employers are exclusively families, obtained recombining the CP2011 classification at 5 digits: home personal care activities (caregivers and, less frequently, baby sitters – level 5) and domestic work (level 8); 4) *Craft and skilled manual workers* (classification level 6); 5) *Machine operators and assemblers* (classification level 7); 6) *Elementary occupations* (classification level 8).

When the categorical *Occupational qualification* was treated as a dependent variable of regression models, we aggregated some categories, differently assembling it for males and females since they are employed in completely different segments of the labour market, as already mentioned. In the case of men, three categories were included: *MPT and clerks*; *Elementary occupations* and a last category (*Other manual occupations*) referring to all the other professions that mainly result as skilled manual jobs in manufacturing and construction, as well as manual and non-manual jobs in the wholesale and retail trade industries. In the case of women, the first category (*MPT and clerks*) is the same as for men. However, a second category includes only *Care and domestic workers*, an

[11] Through a previous conversion in the *ISCO08* scale at three digits.

extremely feminised segment that involves more than 50% of current employed immigrant females. A third category (*Other manual occupations*) refers to all the other professions, that mainly result in personal services.

## 3.3 Describing immigrant job finding behaviour

In the following section we present our analysis on socio-demographic factors potentially associated with the use of job finding methods for immigrants in the Italian labour market. At a first stage we considered, through a descriptive analysis, the level of diffusion of different channels used to find a job and how it changes by gender, education, and between first and subsequent jobs.

Descriptive results in tables 3.1 and 3.2 report the distribution of job finding methods at the most disaggregated level, providing a general framework. The relevance of informal methods in the job finding process clearly emerges. In particular, relying on contacts established within one's own ethnic group represents the most important channel through which immigrants obtain a first job in Italy. For both males and females, the incidence of using either relatives or co-ethnic friends/acquaintances exceeds one half of first occupations, being around 60%. However, the higher the educational level, the lower the diffusion of this informal channel: immigrants with a tertiary education less frequently than lower educated rely on relatives or co-ethnic acquaintances and more often use formal methods, related to both traditional formal means and (less importantly) public and private intermediary institutions; whereas contacts with Italians are mostly unchanged by education.

Furthermore, we notice that the relative incidence of using relationships with immigrants of a different origin, for both men and women, is extremely small. It means that in our sample the immigrant contacts that are effective in the job search are almost all inside the ethnic group, whereas contacts that criss-cross the group are very few. Yet, also the incidence of illegal recruiters of workers is extremely scarce and for immigrant women almost disappears. In this regard, it must be noticed that we exclusively refer to a sample of regular resident immigrants at their interview's date, whose first job is retrospectively recorded. However, illegal recruitment practices could also involve regular migrants and lead to formally registered jobs, even though many illegal recruiters could be considered as co-ethnic acquaintances by the interviewed. Therefore, it is in any case hard to isolate this phenomenon.

Table 3.1: Males. Job finding method by *Education*, first and subsequent (current) jobs.

| | First job | | | | Subsequent job | | | |
|---|---|---|---|---|---|---|---|---|
| | No school and lower secondary | Upper secondary | Tertiary | **Total** | No school and lower secondary | Upper secondary | Tertiary | **Total** |
| Relatives | 20.7 | 20.8 | 12.2 | **20.0** | 12.2 | 9.4 | 12.4 | **10.9** |
| Co-ethnic friends and acquaintances | 43.6 | 39.9 | 32.5 | **41.0** | 35.7 | 30.7 | 16.7 | **31.5** |
| Other immigrant friends and acq. | 1.5 | 1.0 | 1.0 | **1.2** | 1.2 | 1.3 | 2.3 | **1.3** |
| Illegal recruiters of day laborers | 0.9 | 0.8 | 0.3 | **0.8** | 0.1 | 0.2 | 0.0 | **0.1** |
| Italian friends and acquaintances | 7.2 | 9.5 | 11.1 | **8.6** | 15.1 | 21.0 | 14.9 | **17.9** |
| Contact with the employer | 17.7 | 15.8 | 17.6 | **16.8** | 19.7 | 20.8 | 20.8 | **20.3** |
| Public emp. service | 1.2 | 1.1 | 2.2 | **1.3** | 1.2 | 1.7 | 1.3 | **1.4** |
| Temporary emp. agencies | 1.4 | 1.7 | 3.9 | **1.8** | 6.0 | 5.5 | 11.6 | **6.3** |
| Other interm. institutions | 1.2 | 1.6 | 0.6 | **1.3** | 0.6 | 0.7 | 1.0 | **0.7** |
| Other formal methods | 4.5 | 7.7 | 18.8 | **7.2** | 8.4 | 8.8 | 18.9 | **9.6** |
| **Total** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** |
| Frequency | 2,513 | 2,218 | 346 | 5,077 | 722 | 814 | 138 | 1,674 |

Weighted data. Source: SCIF 2011-2012

Table 3.2: Females. Job finding method by *Education*, first and subsequent (current) jobs.

| | First job | | | | Subsequent job | | | |
|---|---|---|---|---|---|---|---|---|
| | No school and lower secondary | Upper secondary | Tertiary | **Total** | No school and lower secondary | Upper secondary | Tertiary | **Total** |
| Relatives | 22.3 | 18.3 | 15.6 | **19.0** | 17.4 | 10.4 | 6.0 | **11.5** |
| Co-ethnic friends and acquaintances | 40.2 | 40.4 | 30.3 | **38.8** | 27.7 | 23.9 | 24.5 | **25.0** |
| Other immigrant friends and acq. | 0.9 | 0.9 | 2.1 | **1.1** | 1.2 | 1.6 | 0.6 | **1.3** |
| Illegal recruiters of day laborers | 0.2 | 0.3 | 0.5 | **0.3** | 0.0 | 0.0 | 0.0 | **0.0** |
| Italian friends and acquaintances | 13.9 | 15.1 | 15.8 | **14.8** | 26.6 | 31.3 | 18.9 | **28.0** |
| Contact with employer/firm | 12.6 | 13.1 | 15.4 | **13.3** | 15.6 | 16.8 | 14.5 | **16.1** |
| Public emp. service | 1.3 | 1.1 | 1.8 | **1.3** | 1.8 | 1.7 | 2.2 | **1.8** |
| Temporary emp. agencies | 2.0 | 2.2 | 2.7 | **2.2** | 1.8 | 3.7 | 4.7 | **3.3** |
| Other interm. institutions | 1.6 | 1.3 | 4.5 | **1.9** | 1.3 | 1.2 | 1.0 | **1.2** |
| Other formal methods | 5.3 | 7.2 | 11.3 | **7.2** | 6.7 | 9.5 | 27.7 | **11.8** |
| **Total** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | **100** |
| Frequency | 1,794 | 2,901 | 742 | 5,407 | 427 | 1,002 | 279 | 1,708 |

Weighted data. Source: SCIF 2011-2012

We also notice a different use of Italian contacts between males and females. For immigrant men it approaches 8% of first jobs, whereas for women it is closer to 15%. Moreover, observing subsequent jobs, this gender difference is maintained in a context of a substantial increase of contacts with the native population, leading respectively to 18% and 28%. It must be noticed that the context in which relationships with Italians emerge substantially differs between men and women. We know that in Italy almost 50% of female immigrant employment is confined in the care and domestic segment of the labour market. A specificity of this sector is that its organisational units are households, not firms. It implies that many contacts established with Italians are actually part of a network of families, that act as employers demanding these services. Conversely, fewer immigrant males are in this economic sector and most of them are employees within firms in agriculture, manufacturing or construction industries. Therefore, the different occupational composition not only affects the observed level of diffusion of contacts with Italians, but also determines who they are, implying that the kind of connections with natives differs between men and women.

Whereas informal channels represent the most diffused ways of finding a first job after arrival into Italy, formal methods, at first occupation, are used by respectively 28.4% and 25.9% of immigrant men and women. In particular, directly asking the employer regards more than half of them, representing an important channel at each educational level. Conversely, relying on intermediary institutions count for very few respondents. Among them, private temporary agencies are more diffused, especially for higher educated. This variation by education is accentuated at subsequent jobs, a circumstance in which private employment agencies are even more important. A similar dynamic pertains to other more traditional formal methods, that involve a consistent proportion of tertiary educated, especially women at subsequent jobs.

Therefore, in general terms, our data shows that co-ethnic ties play a central informative role in the labour market. This dimension is even more important if we consider that, even though we are not able to investigate this aspect with our data, at least part of spontaneous applications to employers are addressed to co-ethnics. Interpersonal connections outside co-ethnic relationships, on the other hand, are reduced and established only with Italians, whereas data suggests that interconnections between immigrant groups are almost completely absent. Nevertheless, we observed that the longer the experience in the host labour market, the lower the ethnic group's informational centrality (especially when referred to relatives), whilst over time the incidence of formal channels and

relationships with Italians grows. However, whereas for males using contacts with co-ethnic friends/acquaintances remains the most important channel, also considering subsequent jobs (regarding 1/3 of them); for females connections with Italians become the most used finding method. This important aspect, as already noticed, deals with the different occupational composition of immigrant men and women, that affects how work-relevant information circulates.

Table 3.3: First job. *Job finding method* per gender. Immigrants who found the first job in Italy before migrating (*Already found*) and those without a job at entrance (*No job*).

| | Already found | | | No job | | |
|---|---|---|---|---|---|---|
| | Males | Females | **Total** | Males | Females | **Total** |
| Relatives | 41.6 | 35.7 | **38.3** | 18.7 | 17.8 | **18.2** |
| Co-ethnic friends/acquaintances | 30.7 | 38.9 | **35.3** | 43.7 | 40.3 | **42.0** |
| Italian friends/acquaintances | 6.1 | 7.2 | **6.7** | 8.7 | 15.4 | **12.0** |
| Direct contact with the employer | 7.0 | 9.1 | **8.2** | 17.4 | 13.6 | **15.6** |
| Formal methods | 14.6 | 9.1 | **11.5** | 11.4 | 12.9 | **12.2** |
| **Total** | **100** | **100** | **100** | **100** | **100** | **100** |
| Frequency | 290 | 414 | **704** | 4,787 | 4,993 | **9,780** |

Weighted data. Source: SCIF 2011-2012

Other descriptive results are presented in table 3.3, that reports the distribution of aggregated job finding methods by gender, for two immigrant groups: those who found their first job in Italy before migrating (*Already found*) and those without a job at entrance (*No job*). In the former case respondents are obviously fewer, about 7% of the sample related to first jobs. It represents a completely different job finding situation, in which job-related information is grasped by prospect migrants and interpersonal co-ethnic networks play a crucial role. Indeed, we notice that individuals who obtained their first job in Italy before migrating rely on familial contacts to a greater extent, leading the estimated relative incidence to +23% (males) and +18% (females). Therefore, familial ethnic networks can be considered as dense structures that easily connect not only new, but also prospect migrants to employment. Table 3.3 also shows that, amongst those who already found their first job, with respect to other

immigrants, the relative incidence of relying on co-ethnic friends/acquaintances slightly decreases for men (given the greater importance of relatives), whereas for women is almost unchanged. Finally, for both men and women, the incidence of all the other finding methods decreases.

At a subsequent stage, we considered the composition of job finding methods within different *industries* and *occupations*. Observing firstly economic sectors (figures 3.1 and 3.2, referred to first jobs and distinguished by gender), we notice that for men the incidence of co-ethnics is always higher than 50%. It means that, at entrance into the labour market, co-ethnic relationships are not particularly specialised, rather they imply trans-sector connections. However, in some industries the relative incidence of co-ethnic ties is higher, being around 70%: *agriculture*, *construction*, and *wholesale and retail trade*. These are economic sectors where formal methods are substantively less diffused, also for Italians, and ethnic networks have consolidated as the main way of access. For women *agriculture* and *personal services* show the highest concentration of co-ethnic contacts, with a great difference. In agriculture, familial relationships are more relevant, whereas in personal services the incidence of Italian ties is twice as much. Furthermore, we notice that contacts with natives are similarly diffused in all female economic sectors (except for agriculture). However, since immigrant women are concentrated in personal services, that are mainly domestic and care services, it follows that these contacts are mostly relationships with Italian families.

For both immigrant men and women, co-ethnic job finding relationships are concentrated in the lower ranks of the professional ladder (figures 3.3 and 3.4) and over-represented in the care/domestic occupational niche. Furthermore, care and domestic male workers, about 7% of the male sample, largely use contacts with relatives, whereas females rely on other co-ethnic ties (and Italian contacts) to a greater extent. Conversely, formal methods are more diffused in higher level professions, that few immigrants access via co-ethnic contacts. These aspects will be further investigated in sections 3.4 and 3.5, accounting for various factors that affect labour market outcomes.

In order to account simultaneously for multiple variables that influence how work-relevant information circulates and in particular to investigate determinants of relying on co-ethnic networks, we finally developed a multinomial logistic regression model on the probability of using a certain *Job finding method*. In this case, the dependent variable is restricted to three categories, to simplify the interpretation[12]: *Co-ethnic connections*; *Italian connections*; *Formal methods*.

[12]See the previous section for the variable specification.

Figure 3.1: Males, first job. Composition of *Job finding methods* by *Industry*. Weighted data.

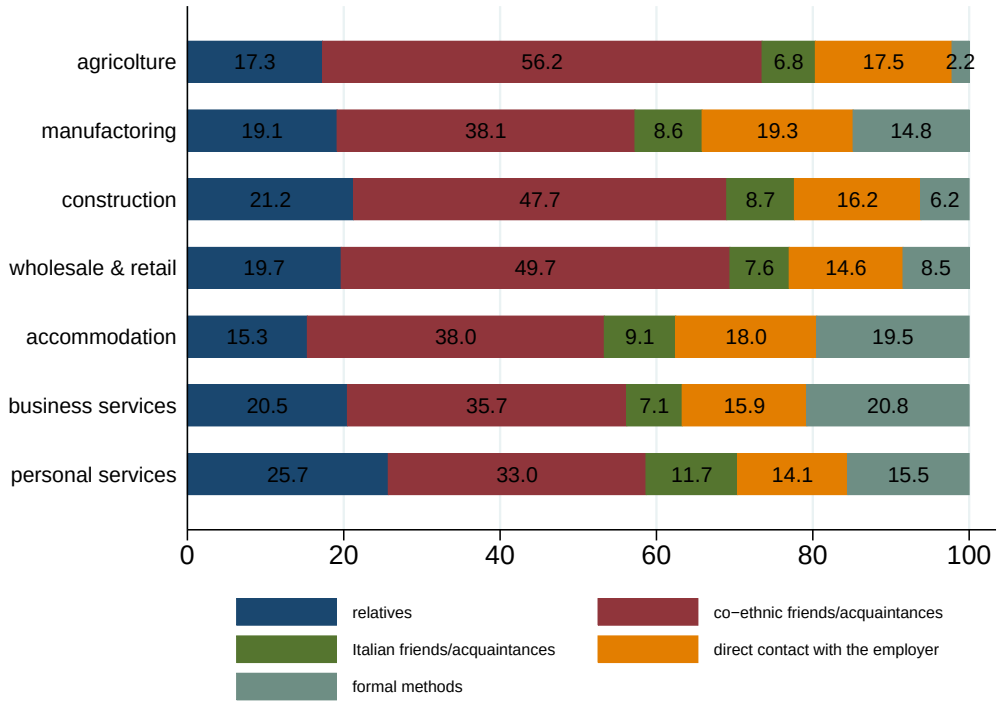



Figure 3.2: Females, first job. Composition of *Job finding methods* by *Industry*. Weighted data.

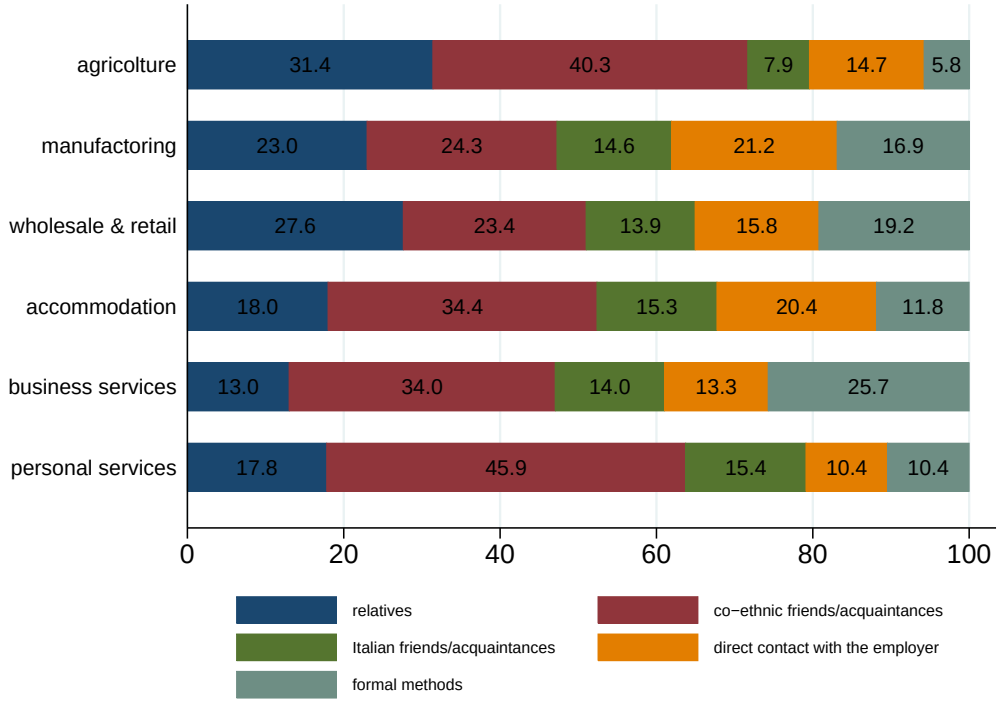


Figure 3.3: Males, first job. Composition of *Job finding methods* by *Occupational qualification*. Weighted data.

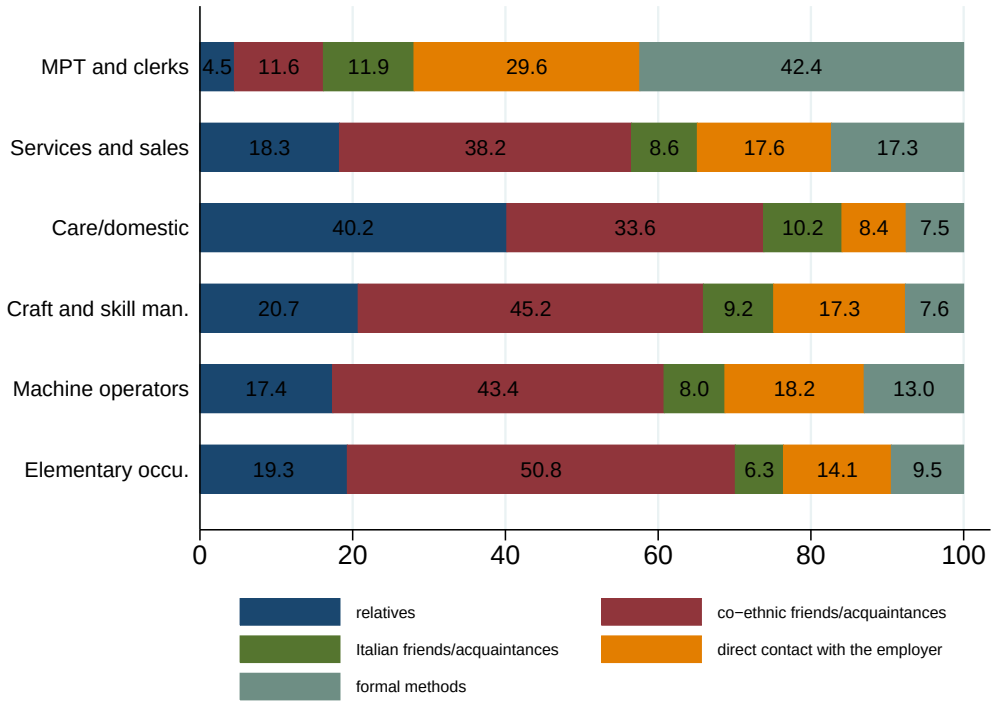
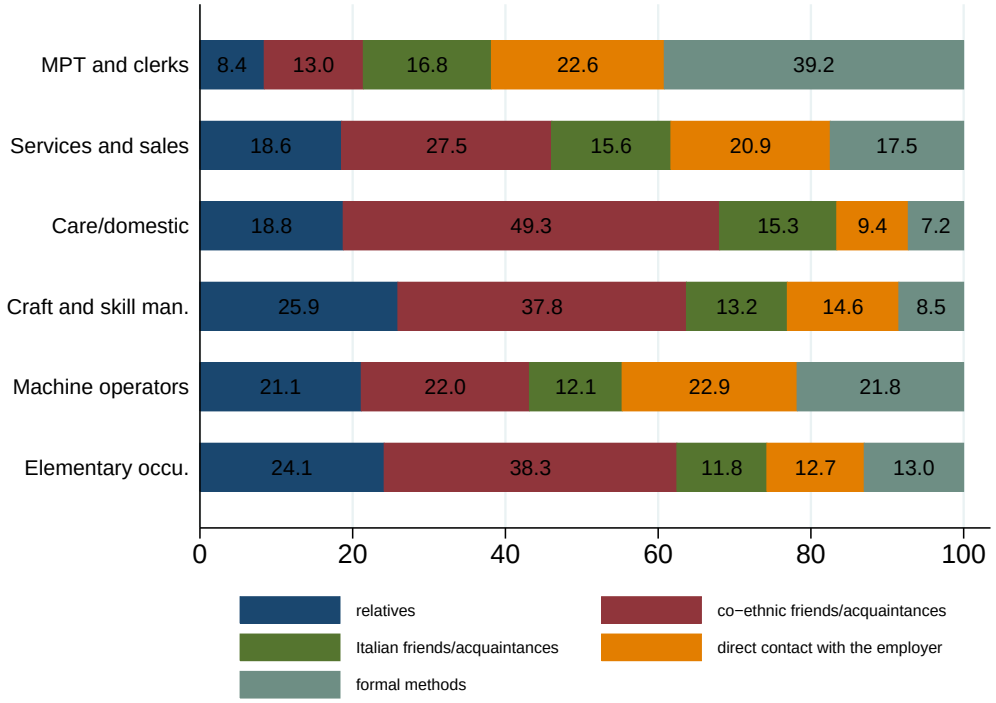



Figure 3.4: Females, first job. Composition of *Job finding methods* by *Occupational qualification*. Weighted data.



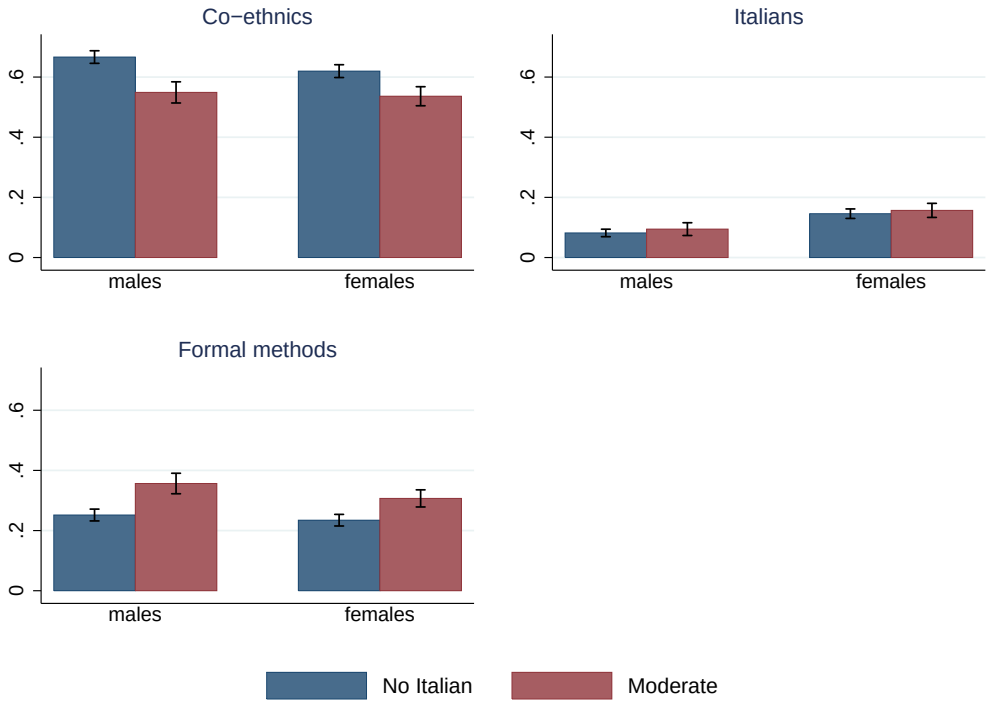
Our model aims at considering two main aspects that are potentially associated with the job finding behaviour. First, we evaluated whether the human capital impact suggested by descriptive analyses also holds in a multivariate context, looking at the incidence of *Education* and *Language proficiency*. Secondly, we focused on the *Origin* of respondents, in order to check for the presence of differences between immigrant groups, even accounting for other socio-demographic and contextual characteristics. Furthermore, by comparing results of differentiated models on first and subsequent jobs, we were also interested in testing the hypothesis of a decreasing informational centrality of the ethnic group over time (i.e. along the individual career).

In this regard, the dependent variable and some independent characters vary according to the two circumstances. Thus, as unchanged independent variables, models included: *Origin*, *Cohort of entrance in Italy* and *Education*. As independent variables that change between models, we considered *Age*, *Language proficiency*, *Region*, *Industry*, *Search duration* for the first job or alternatively *Years since migration* to the beginning of the current occupation, depending on the considered circumstance. Finally, analyses were separated between men and women. In order to provide a better understanding of our results, we will present predicted probabilities of using a certain method of job finding, according to changing values of some variables of interest, whilst tables reporting coefficients are fully presented in Appendix B.

Graphs in figure 3.5 show predicted probabilities (only for models on first jobs) by level of *Language proficiency* at the arrival into Italy. It emerges that, for both women and (slightly more clearly) men, a moderate language proficiency decreases the probability of job finding through co-ethnics and increases the chance of finding via formal methods. In particular, women with higher language proficiency experience a 34% increase in the probability of job finding through formal methods, whilst men a 44% increase, respectively to those with no Italian fluency. These important variations suggest that language skills, as expected, are crucial in formally applying for a job and allow some immigrants to exit the co-ethnic circle, as source of information. However, no variation by language proficiency is observed in the chance of finding via interpersonal contacts with Italians. The incidence of *Education*, for which no graph is shown, once controlling for *Language proficiency*, generally appears less consistent, except for tertiary educated women on the use of formal methods rather than co-ethnics (see Appendix B).

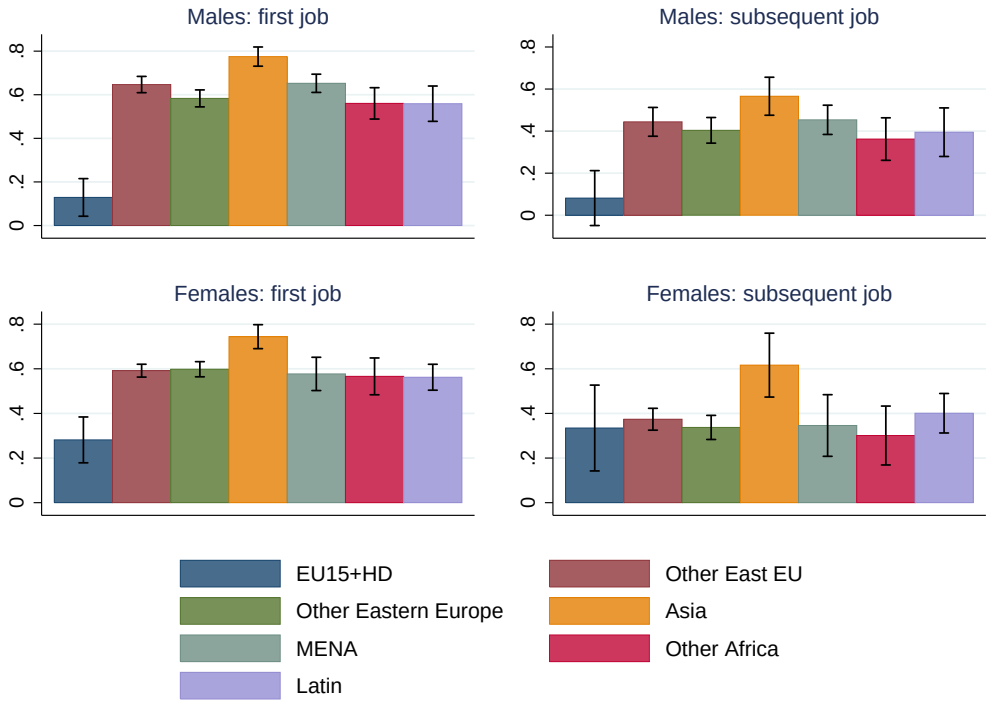
Subsequently, accounting for this aspect, we consider differences by area of *Origin*. Graphs in figure 3.6 report predicted probabilities of using co-ethnic

Figure 3.5: Predictive Margins on the probability of finding a first job through *Co-ethnics*, *Italians* and *Formal methods* at different values of *Language proficiency*. Models, distinguished between males and females, also control for *Origin*, *Cohort of entrance*, *Search duration*, *Age*, *Education*, *Region* and *Industry*.




contacts to find a job. On the one hand, considering first occupations, we notice that Asian immigrants show the highest probability of relying on internal co-ethnic contacts, that for both men and women is close to 0.8 points. This result is always significantly larger than any other group. Furthermore, immigrants from *EU15+HD* countries, especially males, have the lowest probability of co-ethnic job finding, always significantly different from other immigrant groups. By contrast, amongst the other groups we observe no or extremely few differences. At subsequent jobs, on the other hand, we notice an overall decreasing predicted probability for these groups, with the exception of immigrants from *EU15+HD* whose chance of co-ethnic job finding slightly increases, and Asian immigrants whose reduction with respect to first jobs is not statistically significant. This trend confirms the hypothesis of a reducing informative centrality of the ethnic group along their career already observed in our descriptive analysis, especially with respect to the declining relevance of using relatives. This result does not hold for migrants coming from the most developed countries, who generally use co-ethnic relationships to a lesser extent.

Figure 3.6: Predictive Margins on the probability of finding a job through *Co-ethnics*, at different areas of *Origin*. Models, distinguished by gender and by first/subsequent (current) job, control for: *Cohort of entrance*, *Education*, *Age*, *Language proficiency*, *Region*, *Industry* and *Search duration* (or *Years since migration*).




Therefore, in our analysis we observed many factors associated with different job finding methods. On the one hand, we noticed that the probability of relying on internal contacts, inside the own ethic group, changes by important aspects. Firstly, language proficiency favours access to formal methods, reducing a migrant's reliance on co-ethnics. It must be noticed that in our analysis this aspect refers to the Italian fluency held at entrance into Italy, as a condition temporally preceding job finding. Secondly, the tendency of relying on co-ethnic relationships in the job market is higher for Asian immigrants, whereas few differences exist amongst other immigrant groups. This result follows our findings on the use of informal methods as a whole (see Chapter 2), thus now we empirically confirm that almost all the informal channels used by Asian immigrants are built in their ethnic networks, an aspect that could only be hypothesised in previous analyses. Thirdly, given the similar incidence of ethnic networks across economic sectors, we observed that immigrants who found a first job via co-ethnic relationships are more likely to access lower qualified professions, where they are mostly confined.

On the other hand, with respect to the probability of relying on contacts with the native population our models predicted less variation. This is because most changes in the use of Italian relationships are determined by factors not included as independent variables in the models, as gender and job position in one's career (first/subsequent). Thus, immigrant women use contacts with natives to a greater extent in the job finding process, and the relevance of contacts with Italians grows along the career, when the informational centrality of the ethnic group is reduced. Therefore, accounting for gender differences and dynamic variations in the use of job finding methods throughout the working trajectory will become relevant also in the subsequent analysis, where we will focus on the relationship between job finding methods and labour market outcomes.

## 3.4 Job finding methods and transition to first jobs

This and the subsequent sections will present empirical strategies and results, referring to our hypotheses 5-7 (see Section 3.1), that evaluate the informative resources of different job finding methods by observing immigrant occupational outcomes. Two analyses of labour market outcomes and occupational conditions of immigrants were separately carried out. In this section, accounting for the role of job finding methods in the transition to employment of immigrants, we exclusively considered first jobs after entrance into Italy. In the next section, we focused on subsequent jobs and occupational trajectories, observing job changes and entrapment risks along individual careers.

The relationship between job finding methods and occupational outcomes, as considered by studying models, is not much informative about the causal mechanism that relates the two variables. On the one hand, adopting an individual perspective, we may think that the relational structure in which immigrants are embedded, affects their occupational outcomes. In this sense, we hypothesized, those that are more likely to rely on informal channels of information, based on co-ethnic networks of relationships, obtain redundant information that implies lower labour market outcomes. Conversely, those having access to relationships with natives, or finding non-ethnically bounded information through formal methods, are more likely to obtain higher returns. On the other hand, we may assume that employers play an active role in defining recruitment strategies, even when these are based on interpersonal networks of relationships (Marsden and Gorman 2001). There are many possible reasons why employers, in some segments of the labour market, could prefer to exploit networks of co-ethnic

insider referrals (Grieco 1987, Elliott 2001), given that network factors operate at several stages of the recruitment process (Fernandez and Fernandez-Mateo 2006): to accelerate recruitment, to obtain employees with supposed similar characteristics (as a consequence of statistical discrimination), to find trustworthy candidates, to improve their control on the labour force. Furthermore, we may think that some specificities of labour markets influence the channels through which information is spread to fill a vacancy, affecting the prevalence of interpersonal relationships. For instance, considering the Italian case, we can suppose that in the care and domestic occupational segment an informal network of both families and co-ethnics has developed for the recruitment of caregivers and domestic workers, that is not comparable to other professional labour markets. In these terms, finding methods and outcomes are also characterised by a reversed causation relationship, not exclusively determined by a job seeker's choices. That having been said, it is however relevant, in our view, to state an association between job finding methods and labour market outcomes, taking into consideration that different sides of this causal relationship are in place.

Initially, in this section, with respect to the analysis of first jobs we considered four dependent variables. The *Search duration*, as already mentioned, represents the time spent since starting to actively look for a job after entrance into Italy. It is considered as a dichotomous dependent variable (that equals 1 for durations of *0-3 months*), on which we developed a logistic regression model. With respect to this analysis, two aspects must be taken into consideration. First, we exclusively refer to immigrants that transited into their first job, excluding those currently looking for their first job at the interview's date. Indeed, the information we have on job search methods of unemployed respondents is not comparable, since individuals can use multiple job search strategies, whereas they obtain the job only through one of them. Secondly, even though we know the individual duration of the first unemployment spell, we are not aware of the timing of the job search behaviour: the single method used to find a job has been potentially activated either at the end, or throughout the entire search process, or even without an active behaviour of the prospect employee, who passively received the information[13].

The *Regularity* of employment is also treated as a binary dependent variable, on which a logistic regression model was implemented. The variable equals

[13]For all these reasons, we decided not to develop a duration model for the analysis of first unemployment spells, since we are not able to exploit the main advantages of such an analytical tool: the inclusion of censored cases and the possibility of determining when a variable intervenes in the process of interest.

1 whether the individual has a *registered* first job. However, some considerations make us suppose that our data-set underestimates immigrants accessing irregular employment[14]. In the first place, since our data refers to personal interviews, part of non-registered positions could not be declared, especially when the respondent's first job is still ongoing. Secondly, a first occupation could potentially start without any formal contract and then be regulated afterwards. In these cases, whether the job is considered as a registered one, depends on a perceived evaluation of the interviewee. Thirdly, registered jobs could include some ambiguous circumstances in which part of the work provision is regulated by a formal contract, part is extra-hours illegally paid out of regulation.

The *Occupational qualification* was investigated through two different dependent variables. On the one hand, following the CP2011 classification, the variable was re-aggregated into three categories with gender specificities (*MPT and clerks*, *Elementary occupations* and *Other manual occupations* for men; *MPT and clerks*, *Care and domestic workers* and *Other manual occupations* for women), as already described. In this case we carried out a multinomial logistic regression model, differently implemented between males and females. On the other hand, following the ISEI classification, it was treated as a continuous variable, on which a linear regression model was implemented.

All the analyses were separated between men and women, considering that they enter different labour markets. As independent variables, in addition to *Job finding method*, models include individual socio-demographic aspects related to human capital characteristics and migratory background[15]: *Age*, *Education*, *Language proficiency*, area of *Origin* and *Cohort of entrance* into Italy. Some contextual factors were also included: *Region* in which the job took place and *Industry*[16]. Finally, models control for *Search duration*, except for cases in which it is the dependent variable.

### 3.4.1 Results

The following tables and graphs report empirical results for some variables of interest, whereas full tables of the multivariate analyses can be found in Appendix B. Concerning models the *Search duration* for the first job (table 3.4),

[14] A reminder that our reference population pertains to currently regular migrants, whose first job is retrospectively recorded. Therefore, currently irregular immigrants without a formal residence, who can only work illegally, are not taken into account.

[15] All considered at the entrance into Italy, or set at the beginning of the first job.

[16] In this case, only for models on *Regularity* of employment and *Search duration*. Indeed the *Occupational qualification* already reflects specificities of economic sectors that we preferred to maintain.

we notice that ethnic networks are of great importance in guaranteeing a faster transition to employment, even compared to contacts with Italians that are instead associated with a longer search duration. In the case of men, familial contacts are particularly effective also with respect to other co-ethnic relationships, whereas no statistically significant differences are observed between co-ethnic friends/acquaintances and other methods. In the case of immigrant women, both family and other co-ethnic ties are significantly associated with a faster transition to the first job, with respect to all the other methods. Therefore, familial networks (for both males and females) and other co-ethnic relationships (only for females) can be considered as dense structures, well consolidated at the beginning of the migratory experience, rapidly pushing newcomers to employment. This is especially the case, if we consider the relevance of family ties in the transmission of effective information also to prospect migrants (see table 3.3).

Other considered variables show statistically significant coefficients. Regarding the country of origin, we observe that male immigrants from *Eastern EU* and *EU15+HD* experience a shorter search duration especially with respect to those from *Other Africa*. On the other hand, female migrants from *Other Africa* and *MENA* are associated with a longer search duration, as compared to immigrants from European and most developed countries, whereas few differences are observed amongst other groups. Looking at the economic sector, greater gender differences emerge. For men, finding a first job in *agriculture* and (to a lesser extent) in *wholesale and retail trade* industries, as compared to *manufacturing*, is more likely associated with a search duration of *0-3 months*, rather than a longer one. Conversely, for women only *care/domestic services* show a propensity significantly larger than *manufacturing*. Therefore, also accounting for job finding method, some economic sectors offer effective information flows that significantly improve the chance of rapidly finding a first job in Italy.

Obtaining a first job through co-ethnics, other aspects being equal, is also associated with a higher propensity of finding a non-registered occupation, rather than a registered one, with respect to formal methods and also contacts with Italians, that report a substantial reduction: 40% or more (see table 3.5). For both males and females, the relative propensity of a linkage with the black labour market is also significantly larger amongst immigrants relying on friends/acquaintances, rather than relatives. Furthermore, other considered aspects affect the *Regularity* of employment. As expected, the chance of obtaining a non-registered first job changes by macro area in which it takes place. For both immigrant men and women, southern regions offer more opportunities in the

Table 3.4: First job. Logistic regression on the probability of having a search duration of *0-3 months*. Models, distinguished between males and females, also control for *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*. Odds Ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| co-ethnic friends and acquaintances | ref. | | ref. | |
| Relatives | 1.488** | (0.190) | 1.254 | (0.157) |
| Italian friends/acquaintances | 0.816 | (0.131) | 0.702** | (0.090) |
| direct contact with the employer | 0.794 | (0.099) | 0.694** | (0.095) |
| formal methods | 0.835 | (0.126) | 0.491*** | (0.066) |
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 1.280 | (0.493) | 0.964 | (0.244) |
| Other Eastern Europe | 0.649*** | (0.085) | 0.964 | (0.107) |
| Asia | 0.666* | (0.113) | 0.858 | (0.141) |
| MENA | 0.557*** | (0.081) | 0.676* | (0.125) |
| Other Africa | 0.386*** | (0.073) | 0.562** | (0.114) |
| Latin | 0.563** | (0.117) | 0.823 | (0.129) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agriculture | 2.430*** | (0.421) | 1.422 | (0.342) |
| construction | 1.294 | (0.171) | | |
| wholesale and retail trade | 1.753*** | (0.288) | 1.410 | (0.313) |
| accomodation/food services | 1.104 | (0.192) | 1.262 | (0.233) |
| business services | 1.111 | (0.202) | 1.279 | (0.262) |
| personal services | 1.088 | (0.238) | 1.358 | (0.229) |
| care/domestic services | 1.195 | (0.259) | 2.244*** | (0.360) |
| Observations | 5,077 | | 5,407 | |
| Pseudo $R^2$ | 0.049 | | 0.072 | |

Exponentiated coefficients; Robusta standard errors in parentheses; Weighted data

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

black labour market, whereas in northern-east regions the relative propensity is reduced, as compared with northern-west ones. Furthermore, some economic sectors more than others result associated with non-registered jobs. For men, with respect to the *manufacturing* industry, *agriculture*, *whole sale and retail trade*, *accommodation/food services*, and *construction* show a positive and large propensity of providing immigrants with a non-registered job rather than a registered one. For women, *care/domestic services* offer the highest chances. These sectors, except for accommodation services, are also largely associated with co-ethnic job finding networks, as already noticed.

Table 3.5: First job. Logistic regression on the probability of having a *non-registered* occupation. Models, distinguished between males and females, also control for *Origin*, *Search duration*, *Cohort of entrance*, *Age*, *Education*, and *Language proficiency*. Odds Ratios.

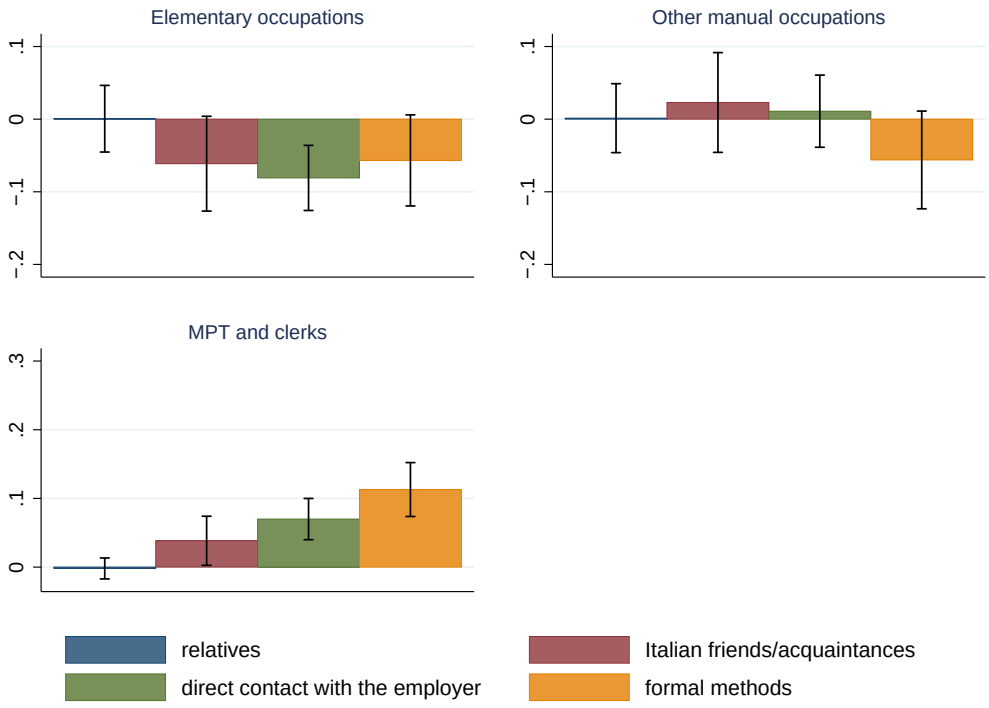
| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| co-ethnic friends/acquaintances | ref. | | ref. | |
| Relatives | 0.657** | (0.085) | 0.771* | (0.091) |
| Italian friends/acquaintances | 0.611** | (0.110) | 0.583*** | (0.078) |
| direct contact with the employer | 0.367*** | (0.055) | 0.445*** | (0.066) |
| formal methods | 0.293*** | (0.060) | 0.339*** | (0.060) |
| *Region* | | | | |
| North-west | ref. | | ref. | |
| North-east | 0.578** | (0.098) | 0.740* | (0.108) |
| Center | 1.253 | (0.181) | 1.205 | (0.154) |
| South and islands | 1.865*** | (0.248) | 1.594*** | (0.193) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agriculture | 2.192*** | (0.374) | 0.801 | (0.214) |
| construction | 1.799*** | (0.278) | | |
| wholesale and retail trade | 1.941*** | (0.343) | 0.906 | (0.239) |
| accomodation/food services | 1.904** | (0.417) | 1.249 | (0.271) |
| business services | 1.012 | (0.237) | 0.680 | (0.180) |
| personal services | 1.500 | (0.382) | 1.161 | (0.241) |
| care/domestic services | 1.452 | (0.388) | 1.886** | (0.371) |
| Observations | 5,203 | | 5,407 | |
| Pseudo $R^2$ | 0.104 | | 0.091 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Regarding the *Occupational qualification*, treated as a categorical character, results are reported through graphs that show average marginal effects of

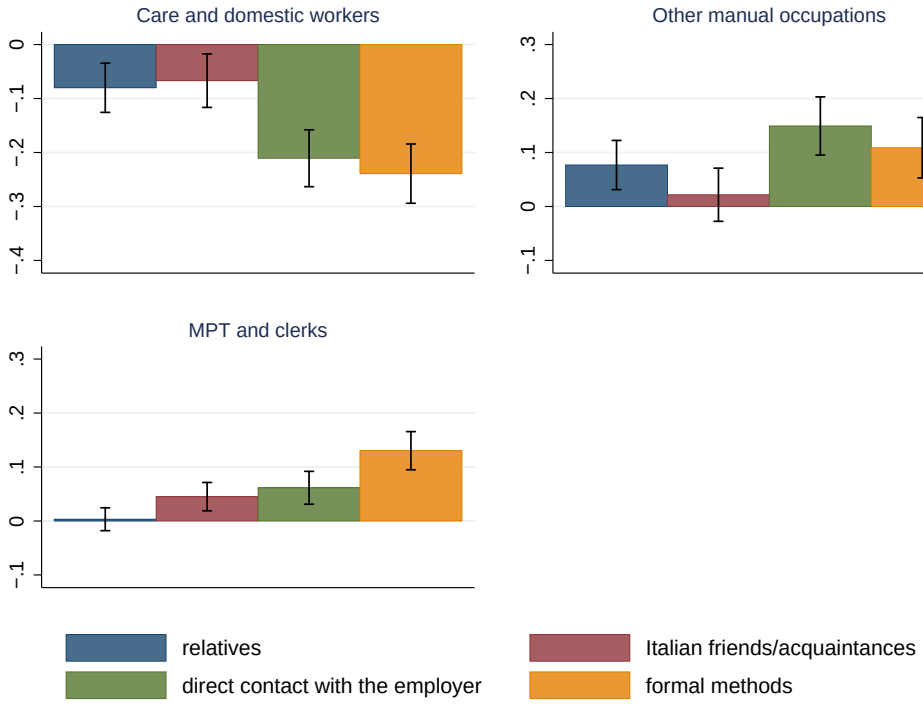
the variable *Job finding method*, indicating the difference in the probability of obtaining each of the three identified groups of professions, between immigrants who found their first job via co-ethnic friends/acquaintances (reference category) and those relying on the other considered channels. For immigrant men (figure 3.7), we notice few differences by *Job finding method* concerning the probability of having *Elementary occupations* or *Other manual occupations*. We only observe, in the case of elementary professions, a decreasing probability among immigrants sending spontaneous applications or directly asking the employer (*direct contact with the employer*), with respect to those relying on *co-ethnic friends/acquaintances*. However, we observe that finding a job through all formal methods and contacts with Italians significantly improves the chance of accessing a higher qualified first job. It must be noticed that in this case the absolute probability is extremely reduced (only about 6% of immigrant men are in this wide professional group), thus also small changes are relevant in substantial terms. Importantly, this holds controlling for educational level, that largely affects this outcome (see Appendix B).

Figure 3.7: Males, first job. Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic friends/acquaintances*) on the probability of having a specified occupation, with 95% CIs. The model also controls for *Origin*, *Search duration*, *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*.



For immigrant women (figure 3.8), all methods based on personal relationships are more likely connected to care and domestic professions. Indeed, all informal contacts (with co-ethnics and natives) are statistically different from formal methods, which represent for women the only informative channels partially unbound from the care/domestic segment of the labour market. Internal differences amongst informal methods, even though statistically significant, are rather less substantive, given the large proportion of women employed in this professional area. It means that also job finding contacts with Italians are largely associated with household professions. Furthermore, women obtaining their first job via co-ethnic and Italian friends/acquaintances, are less likely to accede *Other manual occupations*. Yet, the probability of having a higher qualified profession for females shows a pattern similar to males: accounting for all the other aspects included in the analysis, finding a job though *Italian friends/acquaintances*, *direct contact with the employer* and *formal methods* significantly improves this probability.

Figure 3.8: Females, first job. Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic friends/acquaintances*) on the probability of having a specified occupation, with 95% CIs. The model also controls for *Origin*, *Search duration*, *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*.




When the *Occupational qualification* is considered as a continuous indicator

that follows the ISEI scale, other more general aspects are observed. On the one hand, the evidence of a higher occupational status achieved by immigrants relying, at first job, on formal methods and lower returns of ethnic networks is confirmed (table 3.6). On the other hand, only for immigrant women, results show that contacts with natives improve, even though to a lesser extent, the occupational status. Conversely for men the same increasing value is not statistically significant, given that fewer males rely on Italian contacts at first jobs.

Table 3.6: First job. Linear regression on the *Occupational qualification – ISEI*. Models, distinguished between males and females, also control for *Origin*, *Search duration*, *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| co-ethnic friends and acquaintances | ref. | | ref. | |
| relatives | 0.140 | (0.405) | 0.235 | (0.372) |
| Italian friends/acquaintances | 1.214 | (0.805) | 1.180* | (0.526) |
| direct contact with the employer | 2.088*** | (0.497) | 2.741*** | (0.640) |
| formal methods | 4.312*** | (0.671) | 6.021*** | (0.658) |
| Observations | 5,203 | | 5,407 | |
| $R^2$ | 0.273 | | 0.299 | |

Robust standard errors in parentheses; Weighted data

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

Therefore, we observed a composition of labour market outcomes at entrance into Italy, that differently specify three groups of informative channels used by immigrants in the job finding process. Co-ethnic relationships result characterised by fast transitions to employment (for males pertaining only relatives), higher chances of non-registered jobs, and fewer accesses to higher qualified professions. Formal methods and direct applications are associated to a slower transition to employment after entrance into Italy, but are more likely connected with registered jobs and higher ranks of the occupational ladder. Finally, contacts with natives provide immigrants with a slower entrance into a first job, more often registered occupations, and a partial access to the highest segments of the labour market, that few migrants access. However, for immigrant men, there is no evidence of a generalised increase of occupational status by relationships with Italians, that are also less frequently used. Differently, for immigrant women these relationships, more frequently activated, even if they positively affect the occupational status, appear also largely associated with the access to care and domestic professions, that predominantly characterise female

immigrant employment in Italy.

## 3.5 Job finding methods and immigrant occupational trajectories

Our last analysis considers immigrant subsequent working experiences in the Italian labour market and accounts for changes that occur throughout the individual career, exploiting information on two different time points referring to the same respondent. For these purposes, we referred to a sample of currently employed immigrants, who already had a previous job in Italy (see section 3.2). Given the partial retrospective structure of the data, there is a caveat that must be pointed out. Indeed, the two considered episodes do not have the same time span for all respondents. Firstly, subsequent jobs, even though currently ongoing, start according to time variations. Secondly, also the beginning of first jobs changes depending on the individual working and migratory history. Therefore, the time window surfacing the two points, along with the duration of each working episode, is not a constant, but individually changes. This aspect must be kept in mind when the transitions are considered.

Table 3.7: Subsequent job. Linear regression on the *Occupational qualification – ISEI*. Models, distinguished between males and females, also control for *Origin*, *Years since migration*, *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| co-ethnic friends and acquaintances | ref. | | ref. | |
| relatives | -1.902** | (0.729) | 1.184 | (1.108) |
| Italian friends/acquaintances | -0.037 | (0.853) | 0.642 | (0.748) |
| direct contact with the employer | -0.131 | (0.719) | 3.678*** | (1.043) |
| formal methods | 2.830*** | (0.798) | 5.886*** | (0.949) |
| Observations | 1,642 | | 1,672 | |
| $R^2$ | 0.190 | | 0.267 | |

Robust standard errors in parentheses; Weighted data

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

Two different analyses of careers were conducted. On the one hand, focusing on both the ISEI scale and the *Occupational qualification* as a categorical variable, we studied the relationship between job finding methods and occupational status at subsequent jobs. Comparing these results with those previously presented on first jobs, we aimed at observing how occupational qualification changes between the two working episodes, according to different job finding

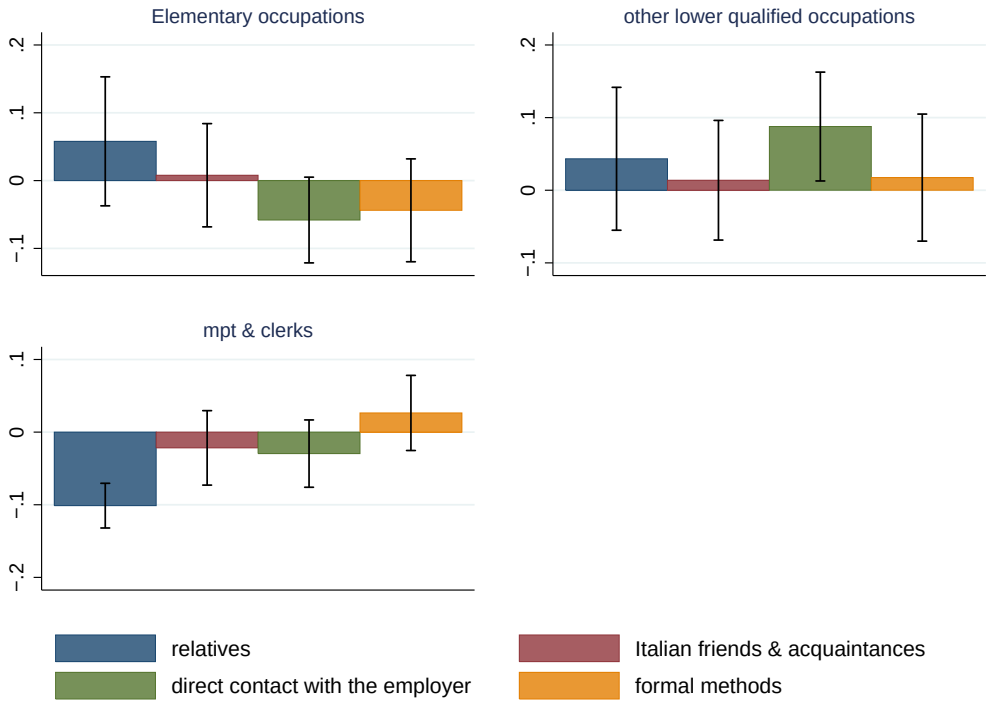
methods. On the other hand, focusing on the *Occupational qualification* only as a categorical variable, we simultaneously considered the individual's transition between the two jobs. Thus, we aimed at investigating the relationship between entrapment risks in lower occupational segments and job finding behaviour of immigrants over time.

Concerning the former analysis, similarly to our study on first jobs, we considered two dependent variables. A categorical indicator of the *Occupational qualification* in three categories, on which we developed a multinomial regression model, and a continuous variable, based on the ISEI classification, on which we carried out a linear regression model. As covariates, we included the same independent variables used for the analysis of first jobs[17]: *Job finding method*, *Age* at the beginning of current occupation, *Education*, current *Language proficiency*, *Origin*, *Cohort of entrance*, current macro *Region* of residence. Furthermore, instead of controlling for *Search duration*, we included a variable that accounts for time spent since entrance into Italy to the beginning of current job (*Years since migration*). Analyses were separated between males and females. Results are presented through tables showing estimated coefficients, in the case of models on the ISEI scale, and graphs reporting average marginal effects, in the case of categorical *Occupational qualification*, both referring to the variable *Job finding method*.

Our results show that immigrant men who found a subsequent job through formal methods are more likely to achieve a higher occupational status (table 3.7). By contrast, those relying on relatives at a subsequent stage of their career, are more penalised, also with respect to immigrant men using other co-ethnic ties. No differences in the ISEI score are then observed between co-ethnic and Italian friends/acquaintances. Furthermore, we notice that only males finding subsequent jobs through familial contacts have less chances of accessing the most qualified professions, whereas no differences are observed concerning other finding methods (figure 3.9). Generally, for males, few differences by *Job finding methods* emerge at subsequent jobs. In the first place, it means that, other aspects being equal, also direct and spontaneous applications, are over time well established in lower segments of the labour market. Yet, we must think that informal methods, for immigrants who changed jobs, are more likely to maintain professional relationships that emerged in the workplace. Therefore, also job-related contacts with Italians, that increase at subsequent jobs, can be partially connected with lower occupational ranks, where immigrants are confined. Finally, familial co-ethnic networks, that are not professional contacts, even

[17]Considered that all these indicators are now referring to subsequent job.

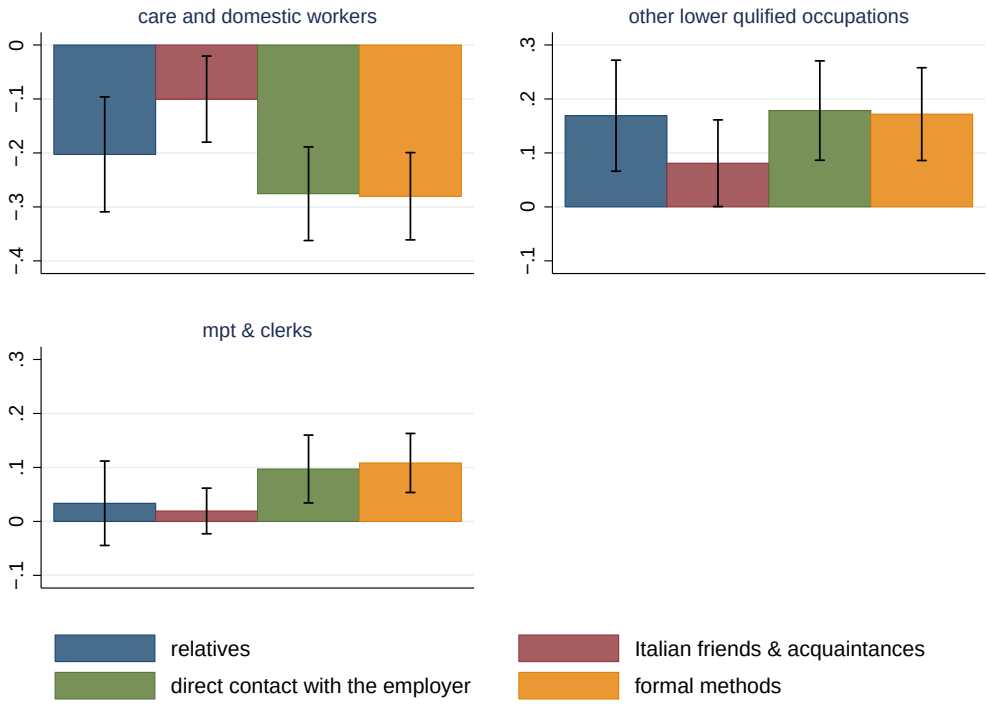
Figure 3.9: Males, subsequent job. Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic friends/acquaintances*) on the probability of having a specified occupation, with 95% CIs. The model also controls for *Origin*, *Years since migration*, *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*.




though less frequently activated at subsequent jobs, sustain particularly redundant and penalising information flows, that lower the few chances of accessing more qualified professions.

We further observe that immigrant women using formal methods or finding jobs through direct applications are generally more likely to achieve a higher occupational status, with respect to women relying on co-ethnic friends and acquaintances (table 3.7). In particular, all formal methods offer higher chances of accessing the most qualified occupations at subsequent jobs, whereas lower the risk of entering care and domestic professions (figure 3.10). By contrast, contacts with natives for women are associated with a higher probability of finding a job as caregivers and domestic workers. With respect to first jobs, we observe that the gap between formal methods and Italian friends/acquaintances, which continues to be statistically significant (a circumstance not observed for relatives), is larger at subsequent jobs. It means that job-finding relationships that immigrant women establish with Italians, importantly much more frequent at subsequent working episodes, represent (along with non-familial co-ethnic

Figure 3.10: Females, subsequent job. Average marginal effects of the variable *job finding method* (ref. category: *co-ethnic friends/acquaintances*) on the probability of having a specified occupation, with 95% CIs. The model also controls for *Origin*, *Years since migration*, *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*.




ties) a network of privileged access to care and domestic occupations, that gains importance at subsequent stages of the career. This evidence is also reinforced by observing the incidence of the variable *Italian friends/acquaintances* on the ISEI scale, no longer statistically different from zero (table 3.7).

Our subsequent analysis aims to explore transitional occupational outcomes. Thus, initially we show how the composition of the occupational qualification changes between the two considered episodes and how movements occur. Tables 4.8 and 4.9 report transition matrices for the categorical variable *Occupational qualification*, distinguishing between males and females. Generally, we observe a completely different occupational composition per gender at both working episodes, as many times reminded in our analyses. Immigrant men enter the Italian labour market mainly as skilled manual (well established in construction and manufacturing industries) or elementary workers. Later on, many transitions between these two professional groups occur, especially from elementary to skilled manual occupations. Furthermore, at subsequent jobs numerous changes into machine operators are observed. Therefore, for men we notice many more

transitions towards craft and skilled manual professions or machine operators and assemblers, than observed for women, whilst passages into elementary occupations frequently occur for both males and females.

Differently, women enter the Italian labour market largely as care/domestic workers or (to a lesser extent) access services and sales professions or elementary occupations. At subsequent jobs the relative incidence of care/domestic professions decreases, but it still remains substantively relevant. Indeed, more than 40% of immigrant women who found their first job as care/domestic workers, at some point exit this segment. However, there are many cases of transitions into this professional area from both elementary occupations and services/sales. Generally, for women we notice more substantive movements towards care/domestic professions, services and sales occupations, MPT and clerks, than observed for men.

As a further specification of the occupational transition between the two episodes, we define an area of specific disadvantage in the individual working career, corresponding to the orange coloured portion of tables 4.8 and 4.9. In particular this area, that identifies a new transitional variable, accounts for 1) cases of entrapment within the same low quality occupational segment; 2) cases of downgrading towards lower occupational ranks. Firstly, this character excludes cases of individuals over time confined in mid-higher quality professions (*MPT and clerks* and *Services and sales*). Secondly, by virtue of its restrictive specification, this area excludes those that are considered horizontal mobility patterns or transitions whose downgrading is less evident (from *Services and sales* or *Care and domestic* to *Skilled manual* and *Machine operator*, and vice versa). Finally, it excludes frequently observed changes within low occupational ranks, that are however considered upgrading mobility patterns (for instance: from *Elementary occupation* to *Care and domestic*, for women; from *Elementary occupation* to *Skilled manual* or *Machine operator* for men). Therefore, a dichotomous variable called *Entrapped* is specified, that equals 1 when the individual belongs to this area[18].

Through this perspective, we also have the chance to observe how the individual job finding behaviour changes between the first and the subsequent (current) job. Tables 4.7 and 3.11 report transition matrices from first to subsequent aggregated job finding method, for males and females. Firstly, we notice that about one half of immigrants that entered the first job through co-ethnic contacts (friends or relatives), certainly the large majority of first occupations, at a subsequent job actually exit the co-ethnic informative circle

[18] A circumstance that involves about 55% of our sample, both males and females.

Table 3.8: Males. Transition from first *Occupational qualification* (T1) to subsequent *Occupational qualification* (T2).

| T1 \ T2 | MPT and clerks | Services and sales | Care and domestic | Skilled manual | Machine operators | Elementary occupations | **Total** | **Freq** |
|---|---|---|---|---|---|---|---|---|
| MPT and clerks | 66.6 | 3.8 | 5.4 | 4.1 | 14.5 | 5.6 | **100** | 55 |
| Services and sales | 17.3 | 29.6 | 2.9 | 26.1 | 13.6 | 10.5 | **100** | 153 |
| Care and domestic | 6.4 | 19.1 | 23.2 | 17.4 | 11.9 | 22.0 | **100** | 135 |
| Skilled manual | 6.0 | 6.5 | 2.1 | 54.4 | 16.7 | 14.3 | **100** | 661 |
| Machine Operators | 6.8 | 6.4 | 0.0 | 28.6 | 42.6 | 15.6 | **100** | 83 |
| Elementary occupations | 5.1 | 8.3 | 1.5 | 39.5 | 17.9 | 27.6 | **100** | 574 |
| **Freq** | 132 | 181 | 80 | 653 | 277 | 338 | | 1'661 |

Source: SCIF 2011-2012; Weighted data

Table 3.9: Females. Transition from first *Occupational qualification* (T1) to subsequent *Occupational qualification* (T2).

| T1 \ T2 | MPT and clerks | Services and sales | Care and domestic | Skilled manual | Machine operators | Elementary occupations | **Total** | **Freq** |
|---|---|---|---|---|---|---|---|---|
| MPT and clerks | 69.3 | 9.8 | 12.3 | 5.6 | 1.4 | 1.8 | **100** | 104 |
| Services and sales | 12.2 | 52.2 | 20.2 | 5.8 | 4.0 | 5.7 | **100** | 196 |
| Care and domestic | 7.3 | 15.3 | 57.2 | 5.7 | 3.1 | 11.5 | **100** | 1'064 |
| Skilled manual | 10.9 | 10.9 | 24.9 | 26.3 | 3.9 | 23.2 | **100** | 88 |
| Machine Operators | 22.6 | 17.5 | 23.6 | 3.4 | 17.6 | 15.3 | **100** | 35 |
| Elementary occupations | 8.5 | 12.7 | 37.0 | 8.1 | 4.7 | 29.0 | **100** | 217 |
| **Freq** | 192 | 295 | 850 | 104 | 49 | 214 | | 1'704 |

Source: SCIF 2011-2012; Weighted data

toward other non-ethnic channels. Secondly, our tables show a relevant gender difference. Whereas males exiting co-ethnic networks indistinctly use other finding channels, females more frequently transit to Italian contact persons. In particular we observe that, for women who accessed their first job through co-ethnic friends/acquaintances, the relative incidence of a transition to contacts with natives at a subsequent job is almost doubled compared to men (+13.5%). Generally, for immigrant women this transition, from any other channel used at first job, occurs to a larger extent than observed for men (direct contact +9%; formal methods +11%). Furthermore, for both men and women, a transition from *Other formal methods* to informal methods is usually observed. This is particularly the case for females, given the large attractiveness of contacts with natives. Males conversely more frequently transit into direct contacts with the employer (importantly, also from other channels).

As further development, we introduce a transitional variable at the individual level, that accounts for changes in the job finding behaviour. The rationale behind the variable's specification is to consider theoretically relevant transitions and simultaneously to maintain an internal coherence in terms of number of observations in each category. Particularly, we am at distinguishing immigrants that always rely on ethnic networks, those exiting co-ethnic connections, and those always avoiding job finding via co-ethnic contacts[19]. This variable, that we call *Transitional job finding method* is specified in seven categories: 1) *family enclosed*, that refers to immigrants that in both circumstances found their job through relatives; 2) *co-ethnic enclosed*, that considers transitions within co-ethnic informal channels (relatives-relatives excluded); 3) *co-ethnic* $\rightarrow$ *formal*; 4) *co-ethnic* $\rightarrow$ *direct*; 5) *co-ethnic* $\rightarrow$ *Italian*; 6) *avoid co-ethnics*, that refers to immigrants finding jobs always without relying on co-ethnics; 7) *achieved co-ethnics* including the few respondents who found a first job through every mean out of the ethnic circle and then used co-ethnics at subsequent jobs.

Tables 3.12 and 3.13 report a descriptive distribution of the variable, per gender and educational level. Firstly, we observe a similar composition between males and females, with just one relevant difference, for that matter already noticed: the percentage of women transiting from co-ethnics to Italians is substantively larger. Furthermore, this percentage appears higher for women with an upper secondary or lower education and decreases for higher educated, whereas for men fewer differences by education exist. Secondly, we notice that both lower educated immigrant men and women are more likely entrapped within

[19] 'always' in this case only refers to the two considered working episodes. It could certainly be the case that different changes occur in jobs that took place between the episodes, but can not be observed.

Table 3.10: Males. Transition from first *Job finding method* (T1) to subsequent *Job finding method* (T2).

| T1 \ T2 | Relatives | Co-ethnic friends and acquaintances | Italian friends and acquaintances | Contact with the employer | Other formal methods | **Total** | **Freq** |
|---|---|---|---|---|---|---|---|
| Relatives | 33.3 | 23.9 | 15.4 | 12.4 | 15.0 | **100** | 375 |
| Co-ethnic friends, acquaint. | 4.1 | 46.6 | 15.4 | 18.1 | 15.8 | **100** | 808 |
| Italian friends, acquaint. | 2.8 | 12.5 | 45.8 | 19.3 | 19.6 | **100** | 141 |
| Contact with the employer | 6.4 | 17.3 | 10.2 | 50.1 | 16.1 | **100** | 204 |
| Other form. methods | 3.1 | 21.1 | 21.2 | 16.7 | 37.9 | **100** | 133 |
| **Freq** | 180 | 555 | 314 | 357 | 255 | | 1'661 |

Source: SCIF 2011-2012; Weighted data

Table 3.11: Females. Transition from first *Job finding method* (T1) to subsequent *Job finding method* (T2).

| T1 \ T2 | Relatives | Co-ethnic friends and acquaintances | Italian friends and acquaintances | Contact with the employer | Other formal methods | **Total** | **Freq** |
|---|---|---|---|---|---|---|---|
| Relatives | 29.7 | 24.2 | 17.4 | 15.0 | 13.8 | **100** | 344 |
| Co-ethnic friends, acquaint. | 7.0 | 35.4 | 28.9 | 13.9 | 14.8 | **100** | 847 |
| Italian friends, acquaint. | 7.5 | 12.7 | 46.5 | 11.2 | 22.2 | **100** | 209 |
| Contact with the employer | 5.2 | 15.9 | 19.0 | 45.4 | 14.5 | **100** | 150 |
| Other form.l methods | 8.0 | 12.2 | 32.6 | 7.7 | 39.4 | **100** | 154 |
| **Freq** | 196 | 508 | 471 | 248 | 281 | | 1'704 |

Source: SCIF 2011-2012; Weighted data

Table 3.12: Males. *Transitional job finding method* per *Education*.

| | No school and lower secondary | Upper secondary | Tertiary | **Total** | **Freq** |
|---|---|---|---|---|---|
| family enclosed | 9.3 | 6.6 | 6.2 | **7.7** | 125 |
| co-ethnic enclosed | 33.3 | 29.4 | 15.6 | **29.7** | 503 |
| co-ethnic → formal | 10.0 | 10.5 | 17.7 | **11.0** | 151 |
| co-ethnic → direct | 12.7 | 10.3 | 11.9 | **11.5** | 210 |
| co-ethnic → Italian | 9.1 | 12.7 | 10.1 | **10.9** | 194 |
| avoid co-ethnics | 19.5 | 24.8 | 28.9 | **23.0** | 371 |
| achieved co-ethnics | 6.2 | 5.7 | 9.6 | **6.3** | 107 |
| **Total** | **100** | **100** | **100** | **100** | |
| **Freq** | 711 | 812 | 138 | | 1,661 |

Weighted data. Source: SCIF 2011-2012

co-ethnic informative networks (42.6% males and 38.3% females), with respect to higher educated (21.8% and 22.6% respectively). However, for females, repeatedly relying on co-ethnic friends/acquaintances is well diffused also amongst higher educated, who conversely result much less confined than lower educated within familial networks. Finally, we observe that exiting co-ethnic contacts toward formal methods, as well as avoiding co-ethnics, is much more diffused amongst high educated, for both men and women.

Through the following analysis we considered whether being part of the previously identified penalising career pattern is associated with specific transitional job finding behaviours, given the hypothesised redundancy of information circulating through ethnic networks. For this purpose, we developed a logistic regression model on the probability of being *Entrapped*. As independent variables, in addition to *Transitional job finding method*, we included migratory background characteristics, like *Origin*, *Cohort of entrance* and *Years between jobs* (that accounts for the time span between the two episodes); human capital aspects, as *Education*, *Language proficiency*, and *Age* (the last two considered at the entrance into Italy); finally, we controlled for *Region* of the first labour market experience. Models once again are distinguished between males and

Table 3.13: Females. *Transitional job finding method* per *Education*.

| | No school and lower secondary | Upper secondary | Tertiary | **Total** | **Freq** |
|---|---|---|---|---|---|
| family enclosed | 9.8 | 5.4 | 1.9 | **6.0** | 115 |
| co-ethnic enclosed | 28.5 | 25.4 | 20.7 | **25.4** | 476 |
| co-ethnic → formal | 7.5 | 9.3 | 16.3 | **10.0** | 156 |
| co-ethnic → direct | 10.0 | 10.3 | 7.5 | **9.8** | 145 |
| co-ethnic → Italian | 15.6 | 20.4 | 10.6 | **17.5** | 299 |
| avoid co-ethnics | 20.5 | 24.2 | 34.5 | **24.9** | 400 |
| achieved co-ethnics | 8.2 | 5.0 | 8.5 | **6.4** | 113 |
| **Total** | **100** | **100** | **100** | **100** | |
| **Freq** | 425 | 1'000 | 279 | | 1'704 |

Weighted data. Source: SCIF 2011-2012

females.

Results are partially reported in table 3.14, whilst complete tables can be found in Appendix B. Firstly, we notice the importance of *Education* in affecting these aggregated mobility patterns for both men and women. Tertiary educated immigrants are always significantly less penalised than lower educated. Furthermore, only for females, *Age* is a relevant aspect. Indeed, elderly immigrant women at the entrance into Italy have substantive less chances of experiencing any kind of ascendant mobility pattern or accessing higher qualified professions, than youngsters, resulting particularly penalised in their careers. Accounting for these aspects and also migratory background characteristics, we notice important gender differences concerning the incidence of *Transitional job finding method*. For males, being confined within familial ethnic networks is significantly penalising with respect to *co-ethnic enclosed* and also other job finding behaviours. However, non-statistically significant differences are observed between *co-ethnic enclosed* and other transitional methods. These results reinforce our findings on the informative redundancy of family-based networks at subsequent jobs and scarce differences for males amongst other job finding methods.

Conversely, for females we observe that *co-ethnic enclosed* immigrants result

Table 3.14: Logistic regression on the probability of being *Entrapped*. Models, distinguished between males and females, also control for *Origin*, *Years between jobs*, *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*. Odds Ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Transitional job finding method* | | | | |
| co-ethnics enclosed | ref. | | ref. | |
| family enclosed | 1.931* | (0.598) | 0.595 | (0.203) |
| co-ethnic → formal | 0.783 | (0.195) | 0.164*** | (0.046) |
| co-ethnic → direct | 0.906 | (0.210) | 0.334*** | (0.096) |
| co-ethnic → Italian | 0.980 | (0.240) | 0.527** | (0.119) |
| avoid co-ethnics | 0.963 | (0.181) | 0.336*** | (0.071) |
| achieve co-ethnics | 1.010 | (0.316) | 0.640 | (0.191) |
| *Age* | | | | |
| less than 19 | ref. | | ref. | |
| 19-24 | 1.318 | (0.288) | 1.828* | (0.545) |
| 25-29 | 1.272 | (0.297) | 2.846*** | (0.877) |
| 30-34 | 1.341 | (0.361) | 3.373*** | (1.147) |
| 35-39 | 1.402 | (0.409) | 4.368*** | (1.537) |
| 40-44 | 2.380 | (1.135) | 9.621*** | (3.594) |
| 45 or more | 1.353 | (0.679) | 8.804*** | (3.392) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 1.054 | (0.160) | 0.715 | (0.132) |
| Tertiary | 0.476** | (0.136) | 0.276*** | (0.067) |
| Observations | 1,629 | | 1,668 | |
| Pseudo $R^2$ | 0.051 | | 0.165 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

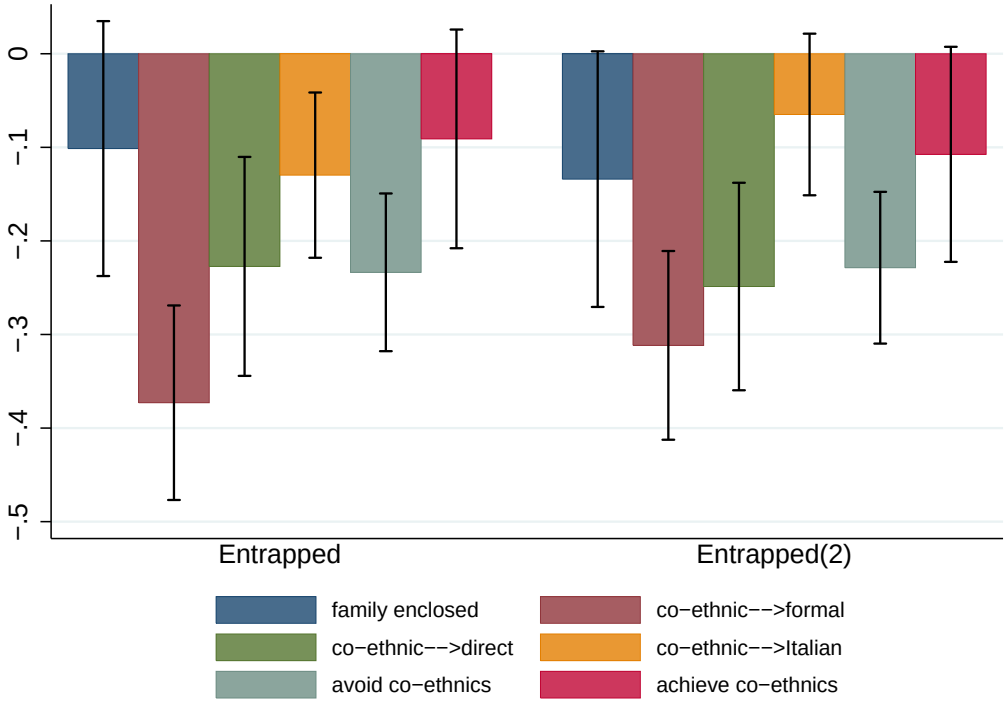
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

strongly penalised in their career, with no significant differences as compared to *family enclosed*. Indeed, we notice relevant differences between *co-ethnic enclosed* and all the other pathways of exiting co-ethnic informational networks, including *avoid co-ethnics*, that substantively reduce the relative risk of being *Entrapped*. Furthermore, we notice that not all these channels are equally reducing the risk. Importantly, exiting co-ethnic job finding networks towards formal methods is much more advantageous than transiting towards Italian contacts. Our general interpretation is that ethnic networks for women are redundant informative structures that reduce the chance of access to higher quality occupational segments and foster the risk of being confined within lower quality jobs, to which these relational structures are particularly tied. On the other hand, the way out from these career traps is more likely to occur for those that are able to break co-ethnic networks in favour of formal informative channels. Differently, Italian job informants, even though they offer more chances of accessing more qualified professions with respect to co-ethnics, are also strongly associated to career pathways inside the care and domestic labour segment.

In order to further investigate this aspect, we ran (only for females) a regression model on a slightly different dependent variable, called *Entrapped(2)*. This variable simply differs from *Entrapped* since it also considers, as equal to 1, all possible transitions towards *Care and domestic*, even those from *Skilled manual*, *Machine operators* and (most importantly for women) *Elementary occupations*. Therefore, it includes the risk of transition from the general area of low qualified occupations into the specific segment of caregivers and domestic activities. Results are presented in table 3.15 only for the variable *Transitional job finding method* (the complete table is reported in Appendix B). We notice that, as compared with our findings on the probability of being *Entrapped* (table 3.14 – females), the gap between *co-ethnic enclosed* and *co-ethnic* $\rightarrow$ *Italian* is no longer significant, whereas other differences hold. Therefore, both these transitional informal channels, within co-ethnics and from co-ethnics to natives, imply for women a similar risk of being *Entrapped(2)*. Conversely, *family enclosed* immigrant women are associated with a risk reduction.

In figure 3.11 we propose a graph that compares, only for females, average marginal effects of *Transitional job finding method* on the two different dependent variables. On the one hand, concerning the probability of being *Entrapped*, it emerges that, even though both transitions *co-ethnic* $\rightarrow$ *Italian* and *co-ethnic* $\rightarrow$ *formal* have a negative effect (with respect to *co-ethnic enclosed*), the latter reduces this probability to a greater extent than the former, with a statistically significant difference between the two. On the other hand, we observe that im-

Figure 3.11: Females. Average marginal effects of the variable *Transitional job finding method* (ref. category: *co-ethnic enclosed*) on the probability of being *Entrapped* (Model 1) and the probability of being *Entrapped(2)* (Model 2), with 95% CIs. Models also control for *Origin*, *Years between jobs*, *Cohort of entrance*, *Age*, *Education*, *Language proficiency*, and *Region*.




migrant women transiting from co-ethnic to Italian informative channels, not only have a higher probability of being *Entrapped(2)* than *co-ethnic* → *formal*, *co-ethnic* → *direct* and *avoid co-ethnics*, but even show a non-statistically significant decreasing probability with respect to *co-ethnic enclosed* females.

## 3.6 Conclusions

The chapter investigated the role of ethnic relationships in the Italian labour market, when co-ethnic networks are used to spread information on vacancies that favours the matching of immigrants to jobs. Considering that a wide range of job finding behaviours is feasible (including many kinds of personal informants), which our survey only partially collected, it emerged that in Italy relying on relationships established within one's own ethnic group is actually the job finding method most diffused amongst male and female immigrants (Hp1). Human capital characteristics (Hp2), migratory backgrounds (Hp3), and pathways in the host labour market (Hp4) are partially responsible for this

diffusion, that consolidates within specific lower quality segments of the Italian labour market, making available to employers a powerful instrument of informal recruitment, and to prospect immigrant employees an effective channel of job searching.

However, the explored literature has emphasised the ambivalence of ethnic networks in the labour market. This mixed outcome reflects the emergence of a trade off in our analysis, between fast transition into employment and low occupational qualification. On the one hand, the information obtained via ethnic contacts, circulating through dense and cohesive relational structures that provide help and support to immigrants (especially newcomers), is rapidly accessible (Hp5). On the other hand, relying on these networks, that embrace those occupations where immigrants are segregated, enhances the risk of accessing and being entrapped within poorer jobs (Hp6-7-8). Nevertheless, an important gender difference emerged from our analysis. In the case of immigrant men, only familial relationships accelerate the transition to employment and simultaneously improve the risk of a descendant and entrapping career. For women, both relatives and other co-ethnic ties have these characteristics. Importantly, the above mentioned ethnic networks' trade off reproduces an exchange already observed in the Italian context between low unemployment and bad jobs for immigrants (Fullin and Reyneri 2011a). Therefore, our analysis emphasised that job finding methods, and more generally relational aspects, are potential determinants of immigrant integration in the labour market, affecting the level of ethnic disadvantage.

By contrast, channels that overcome the co-ethnic group offer higher quality information, providing more chances of entering qualified segments of the labour market, that are generally extremely reduced for immigrants, and registered occupations. This is the case of formal methods, that are repeatedly associated with higher occupational levels, a circumstance usually observed also for natives, whereas provide immigrants with a slower access into the labour market.

The statement of occupational disadvantages related to bonding relationships internal to one's own ethnic group and economic advantages of connections with the native population has only been partially confirmed by our study. At entrance into the labour market contacts with Italians, as part of the social structure of immigrants, are valuable forms of relation: immigrants relying on these informative channels lower the risk of accessing non-registered jobs and enhance the (few) chances of acceding the highest occupational segments, although experience a longer search duration. At subsequent jobs these ties, significantly improving their effectiveness in the job finding process, are more

likely to emerge in those professional areas where immigrants are confined. This is particularly the case for women, for whom contacts with natives, along with co-ethnic networks of friends and acquaintances, over time consolidate around care and domestic services. The interplay between co-ethnic informal finding methods and care/domestic activities was already observed in Italy, especially referring to co-habiting caregivers, whereas domestic hourly employees were found to largely use Italian contacts (Fullin, Reyneri and Vercelloni 2009). Along career paths, both these informal methods of job finding represent a privileged way of access and a potential entrapping channel.

Table 3.15: Females. Logistic regression on the probability of being *Entrapped(2)* in the transition from first to subsequent jobs.

| | Odds Ratios | $(\hat{\sigma})^2$ |
|---|---|---|
| *Transitional job finding method* | | |
| co-ethnics enclosed | ref. | |
| family enclosed | $0.474^{*}$ | (0.174) |
| co-ethnic $\rightarrow$ formal | $0.197^{***}$ | (0.055) |
| co-ethnic $\rightarrow$ direct | $0.269^{***}$ | (0.080) |
| co-ethnic $\rightarrow$ Italian | 0.683 | (0.176) |
| avoid co-ethnics | $0.296^{***}$ | (0.068) |
| achieve co-ethnics | 0.543 | (0.175) |
| Observations | 1,668 | |
| Pseudo $R^2$ | 0.198 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
$^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

# Chapter 4

# Migratory status on entry, transition to work, and current employment outcomes

## 4.1 Introduction and hypotheses

Although some research studies, at the European level, investigated labour market outcomes of immigrants with a different migratory status *on arrival* (see our review in Chapter 1, Section 1.3), to our knowledge, this perspective seems to be absent from the literature on the Italian case.

In the last few decades, Italy had introduced more structured immigration controls. The admission of migrants for family reasons has been legally recognised since the early 1980s (Foschi Low) and it has become over time one of the main entry channels. Thereafter, also other non-labour related categories of migrants have been recognised. However, although relatively high border and internal restrictions has been introduced, a considerable number of undocumented immigrants (as well as migrants overstaying their entry visa) has been admitted and subsequently legalised through a series of amnesties (Colombo 2012). Therefore, a large proportion of immigrants, once in Italy, has experienced a time frame of illegal condition. Furthermore, the presence of a developed underground economy has attracted illegal entrances, operating as a pull factor, and contributed to the presence of irregular employment spells in immigrant careers (Reyneri 2003).

Our empirical analysis offered some contributions to the comprehension of labour market pathways of immigrant admittance categories in the Italian context. Firstly, we introduced a categorisation of migratory status on entry, distinguishing EU nationals from other international migrants and considering the *reason for migration* of non-EU migrants. Secondly, we described the composition of the immigrant population in Italy by entry category, according to

some socio-demographic and migratory background characteristics: cohort of entrance, gender, country of origin, and education. Thirdly, we observed the relationship between entry condition, in terms of reason for migration, and first residency permit, in order to observe whether those who migrated for different reasons are also inserted in a different regulatory framework, in terms of kind and achievement procedure of the subsequently obtained residency allowance. Finally, we studied labour market outcomes of groups with different migratory statuses on arrival.

A first outcome regards the timing from arrival to accessing a first job, thus emphasises dynamic aspects. Particularly, our analysis aims at observing whether the *initial employment gap* that some non-EU categories of immigrants retain at the beginning of their residence, which emerged by other studies (Bratsberg *et al.* 2017, Schulz-Nielsen 2017, Bakker 2017), holds also for the Italian case. Therefore, we state that:

**Hp 1** *the transition to employment, i.e. the access to a first job after a migrant's entrance into Italy, varies by categories of entry. Immigrants admitted via labour migration channels are more likely to experience a first job and to rapidly enter employment. Family and humanitarian or forced non-EU migrants are less likely to access employment and experience a delayed transition into the labour market.*

Focusing on the time-frame from arrival into the host country to a first job's access was not possible in other considered studies, neither with cross-sectional survey data, that exclusively refer to the current employment condition, nor with longitudinal register data, that generally collect information on migrants since their formal acquisition of a residency allowance. Conversely, our data (see the next section), although based on currently residing respondents, collect retrospective information on both the migratory history and the first employment experience of immigrants, allowing to study immigrants' first insertion in the labour market.

This aspect is particularly important for the Italian case, since many undocumented immigrants were admitted in the last decades. Indeed, although respondents in our sample must have a recognised legal residency at the interview's date, this was not necessarily the case when they first entered Italy.

Related to this aspect, a subsequent analysis investigates the kind of labour market segment that different immigrant categories accessed as first jobs. Particularly, our data allow to distinguish first transitions into regular and irregular employment. Therefore, given that the reason for migration also reflects

the channel through which immigrants were admitted and recognised (or not recognised), we hypothesise different risks of accessing irregular employment by migratory status on entry:

**Hp 2** *EU nationals (including those from EU post-enlargement member countries) and family dependants, who are largely regularly admitted, are less likely to access a first non-registered job than labour or humanitarian migrants, that are more likely to access Italy illegally and experience a faster transition into a first non-registered job.*

Furthermore, we considered the current employment status. Particularly, other studies pointed out, also with cross-sectional data, that some immigrant categories (especially family dependants and refugees), experience persistent employment gaps, although decreasing by year since migration. Therefore, we aim at observing whether this is the case also for Italy:

**Hp 3** *accounting for years since migration and other characteristics, some categories of migrants outside labour migration channels, particularly family and humanitarian migrants, are less likely to participate in the labour market and more likely to be currently unemployed.*

Furthermore, we state that:

**Hp 4** *the employment gap, in terms of inactivity and unemployment risks, of some categories of migrants outside labour migration channels, decreases over time since migration.*

Finally, our study aims at observing different labour market outcomes, especially for non-economic migrants, between men and women. Particularly, we expect that:

**Hp 5** *employment gaps between immigrants admitted via labour routes and other categories, especially family migrants, are larger among women. Conversely men, also when admitted via non-labour channels are more likely to participate in the labour market.*

## 4.2 Sample selection, variables, and methodological aspects

In order to explore these issues, data from the survey *Social Condition and Integration of Foreign Citizens* have been analysed[1]. Our sample was selected as

[1]See Section 3.2 in Chapter 3 for a description of the data-set.

followed: immigrants that entered Italy between the age of 15 and 60, from 1989 to 2012. The study was thus restricted to first generation migrants. Notice that, differently from our previous analyses on job finding methods, we also included currently non-employed individuals and those who never accessed a first job. Indeed, we adopted a wider perspective on the population that entered Italy through various considered channels.

Furthermore, the sample refers to a population of immigrants currently residing in Italy at the time of the interview (2011-2012). This implies, as occurs for all cross-sectional surveys investigating immigrant populations, some selection problems. In particular, we must consider that: 1. Immigrants that recently entered Italy, without a formal residence at the interview date, including all more recent illegal accesses, are excluded from the survey. 2. Less recent entrance cohorts are more likely affected by return migration selection processes. Outflows, particularly, might differently influence our entrance categories. For example, whereas migrants entered for employment reasons, or students, are more likely to have a temporary mind-set, family migrants are generally more likely oriented in permanent residency plans. These problems affected our analyses, even though return migration bias was partially reduced by the exclusion of very long-established immigrants, that accessed Italy before 1989[2]. Keeping these caveats in mind, the study exploited the relevant retrospective information collected in the survey. All individuals in our sample had a *first* entrance into Italy, that might have occurred also many years before the interview (since 1989). In this way, also illegal accesses were potentially considered. Furthermore, the majority of respondents had a *first* job in Italy, that was equally retrospectively recorded. The current employment status is conversely referring to the interview date.

The variable *Entry category* was organised (only for descriptive purposes) in 8 immigrant categories on entry. Firstly, relying on the citizenship of respondents, we identified EU citizens on entrance, distinguishing: *EU nationals* – immigrants from one of the EU15 countries; and *EU post-enlargement* – immigrants from Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia that accessed Italy since $1^{st}$ May 2004, and immigrants from Bulgaria and Romania that entered since $1^{st}$ January 2007. For all the other respondents, we referred to the reason for migration, particularly to the question (Section D, Migratory Pathway): "Which main reasons pushed you to leave your origin country?". Since multiple answers were possible, we identified a hierarchy, such that some categories are nested as sub-sets of

[2]As we did for the analysis presented in Chapter 3

others[3]. Therefore, we defined the following categories. *Study* – for respondents indicating 'Study reasons' and eventually one or more of all the other possible motivations. *Humanitarian/forced* – for those answering (at least one of the following and eventually one or more of all the other motivations, except for 'Study reasons'): 'To escape from family problems'; 'War, civil conflict, environmental disaster'; 'Persecutions, freedom restrictions'; 'It was not my choice'. *Family* – for those indicating 'Family reasons' (along with eventually one or more of all the other motivations, except for 'Study reasons', 'To escape from family problems', 'War, civil conflict, environmental disaster', 'Persecutions, freedom restrictions', 'It was not my choice'). *Employment - no job* – for those indicating exclusively (and eventually also 'Having new experiences' or 'Other reasons'): 'Job finding difficulties in the country of origin'; 'To get higher earnings'; 'To improve the individual/familial life quality'. *Employment - job found* – for the same respondents who found their first job in Italy before migrating. *Other*, for those exclusively answering: 'Having new experiences' or 'Other reasons' (or both).

For multivariate analyses, the variable includes five categories. *EU nationals*, that aggregates all current EU citizens, including nationalities from post-enlargement countries; *Employment*, without distinguishing the few who already found their first job before migrating; *Family*; *Humanitarian/forced*; and *Other*, that also includes immigrants for study reasons.

It must be noticed that information concerning entry visas, that belonged to immigrants at the entrance into Italy, are not available in the survey. Therefore, it was not possible to precisely identify the documented/undocumented entrance, nor the presence of those who overstay their visa, a commonly used way of accessing Italy (Colombo 2012). However, the survey covered important information on the first residency permit. Notice, again, that the first residence allowance in Italy does not define a condition *on entry*; rather, it is usually obtained after a first period of stay, sometimes also after the beginning of a first job. Therefore, we used this information to describe its relationship with entry categories, on the basis of the reason for migration.

The variable *First permit* refers to the kind of first residency allowance obtained in Italy. The survey collected this information only from non-EU respondents on the interview date (2011-2012). Therefore, it is not available also for a considerable number of current EU nationals that entered Italy before the 2004 and 2007 EU enlargements, for whom a residency permit was required

[3]The hierarchy follows the order *Study* – *Humanitarian/forced* – *Family* – *Employment* – *Other*.

Table 4.1: Males and females by *Entry category*.

| | Males | Females | **Total** | Freq. |
|---|---|---|---|---|
| EU15 nationals | 2.6 | 3.3 | **3.0** | 344 |
| EU post enlargement | 7.6 | 8.8 | **8.3** | 1,351 |
| Employment job found | 3.4 | 3.2 | **3.3** | 479 |
| Employment no job | 60.3 | 37.0 | **47.2** | 6,695 |
| Family | 13.2 | 36.3 | **26.2** | 3,415 |
| Humanitarian/ forced | 7.7 | 6.2 | **6.9** | 1,021 |
| Study | 1.5 | 2.0 | **1.8** | 190 |
| Other | 3.6 | 3.3 | **3.4** | 404 |
| Total | **100** | **100** | **100** | |
| Freq. | 5,923 | 7,976 | | 13,899 |

Weighted data. Source: SCIF 2011-2012

upon entrance. Although referring only to currently non-EU respondents, the variable was organised as follows. *Employment* and *Family* aggregate any kind of related residency permit. *Refugee* refers to asylum and international protection permits. *EC residence* indicates the EC residence permit for long-term residents, a form of open-ended residency allowance. *Study* indicates permits for study reasons. *Other* aggregates all the other permits. *Don't know* refers to respondents that are not aware of the kind of first residency permit they own. *No permit* includes (the few) individuals who, for many reasons, have never had a residency permit in Italy: it can be that their entry visa has not yet expired, or that, whether expired, they have not asked for a formal permit.

The variable *First permit achievement* indicates the way the first residency allowance was obtained, also in this case referring only to currently non-EU citizens. It is divided into three categories: *Amnesty*, the 'sanatoria' through which undocumented immigrants have been legalised in Italy; *Decreto flussi*, referred to the Italian decree by which immigrants were admitted through quotas; *Other*, indicating all the other possibilities.

The study considered other variables, already defined in Chapter 3 (see sec-

tion 3.2 for a precise definition of these variables' categories). Some of them are exactly the same indicators: *Sex*; *Education* and *Language proficiency*. The variable *Origin* was redefined aggregating *Eastern EU* and *Other Eastern Europe* in one category. A new version of the variable *Cohort of entrance*, in two levels, was added[4], that divided immigrants who entered in *1989-2001* and those who entered in *2002-2012*. Some other variables, in addition to the current status, were also referred to the condition on arrival into Italy[5]: *Age* and *Region* of residence. Finally, we re-defined the variable *Years since migration* as years since the considered entrance, to the interview date.

Two labour market outcomes were studied in this chapter. Firstly, we modelled the *Transition to employment* of immigrants after their entrance into Italy, following an *Event History* approach. The process of interest refers to the duration (in months) from the first arrival into Italy, up to employment access. We started counting from the *first* entrance, considered as the first access into Italy that occurred at 15 years or more[6]. Furthermore, we stopped counting at the beginning of the first job that occurred within the observation window, referring to the *first* residence length. We adopted Event History modelling mainly for the possibility of including censored cases in the analysis, that in our study represent immigrants who do not experience their first job in the observation window. In particular, there are no left censored cases in our sample, since all respondents report the date of entrance. However, for those observed as not experiencing a first job, right censoring occurred on the interview date (in 2011 or 2012). Conversely, for those in the same condition but having more than one entrance, it occurred at the end of the first permanence. Although years of relevant dates were always reported, some respondents had missing months for some dates. For this reason, we randomised missing values imposing restrictions to preserve the internal coherence of sequences. In this way, the *Transition to employment* represents both the timing of the process and the probability of experiencing the event of interest (Yamaguchi 1991, Bernardi 2001, Blossfield *et al.* 2007). Finally, we modelled multiple destinations after the event, qualifying the first job as *registered* or *non-registered* occupation.

The second labour market outcome that we analysed is the *Current employ-*

[4]Although also the 'old' version in three categories was maintained.

[5]Notice that in Chapter 3 we differently referred to the first job's beginning.

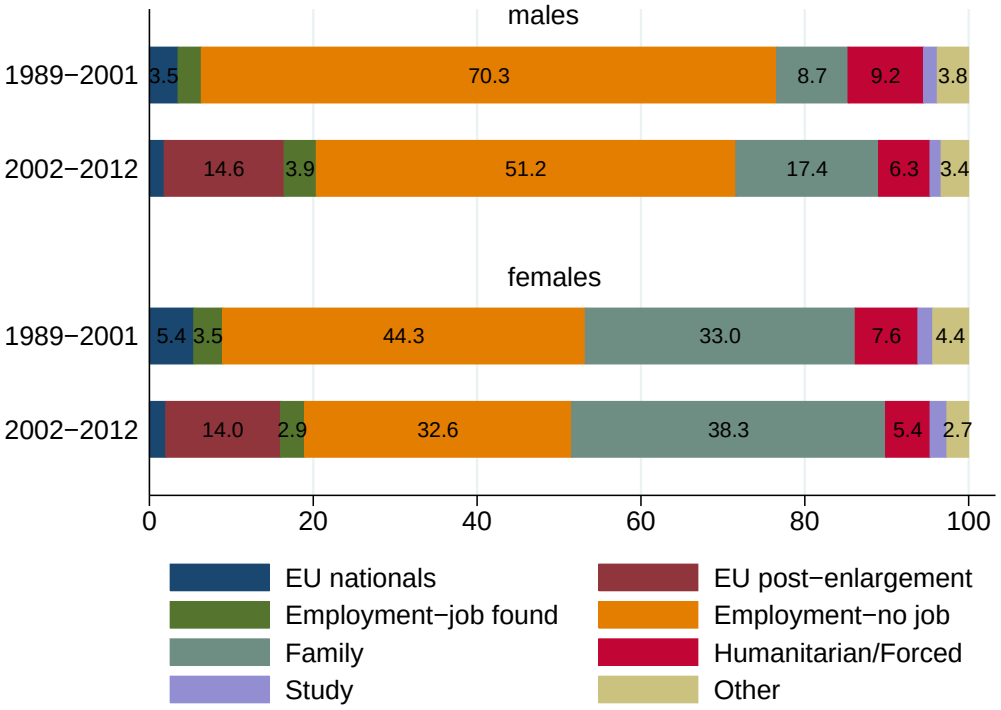
[6]Few respondents in our sample (about 200 cases) had more than one entrance. Some of them entered Italy for the first time at the age of 15 years or more. In this case, the observation window refers to this first access. Others experienced a first permanence in Italy when they were less than 15 (without any employment transition) and subsequently accessed Italy when 15 or more. In this case, our observation window is referred to this subsequent access.

*ment status*, i.e. the employment status at the interview's date, referring to a variable that follows the Istat classification, in three categories: *Employed*; *Unemployed*; *Inactive*. On the one hand, we studied the probability of being *inactive* for all immigrants, through a dichotomous dependent variable that equals 1 for inactive respondents and equals 0 in the other cases. On the other hand, defining a second dummy variable, we analysed the probability of being *unemployed*, only for currently active immigrants.

## 4.3 Describing immigrant categories on entry

Figures 4.1-4.5 show the composition of the immigrant population by cohort of entrance, gender, country of origin, and migratory status on arrival as defined by the variable *Entry category* (see also table 4.1, that reports the size of each category in our sample, for men and women).

Figure 4.1: Immigrants of different cohorts of entrance, by *Entry category*.




Firstly, observing figure 4.1, we notice the large relative incidence of non-economic international immigrants that accessed Italy in the last decades. This is especially the case for women, given the great relevance of family reunifications, whereas labour migrants are in any case prevalent among males. The access of family migrants, for both men and women, has become even more

Figure 4.2: Males. Long-established immigrants (entered in *1989-2001*), from different areas of *Origin*, by *Entry category*.

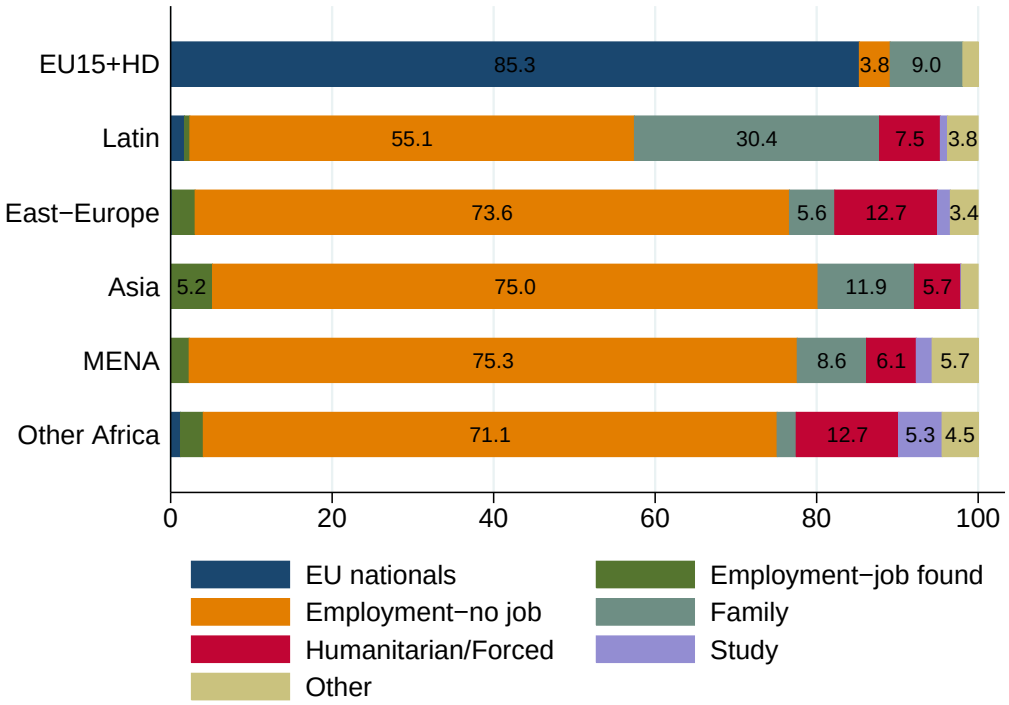



Figure 4.3: Males. Recent immigrants (entered in *2002-2012*), from different areas of *Origin*, by *Entry category*.

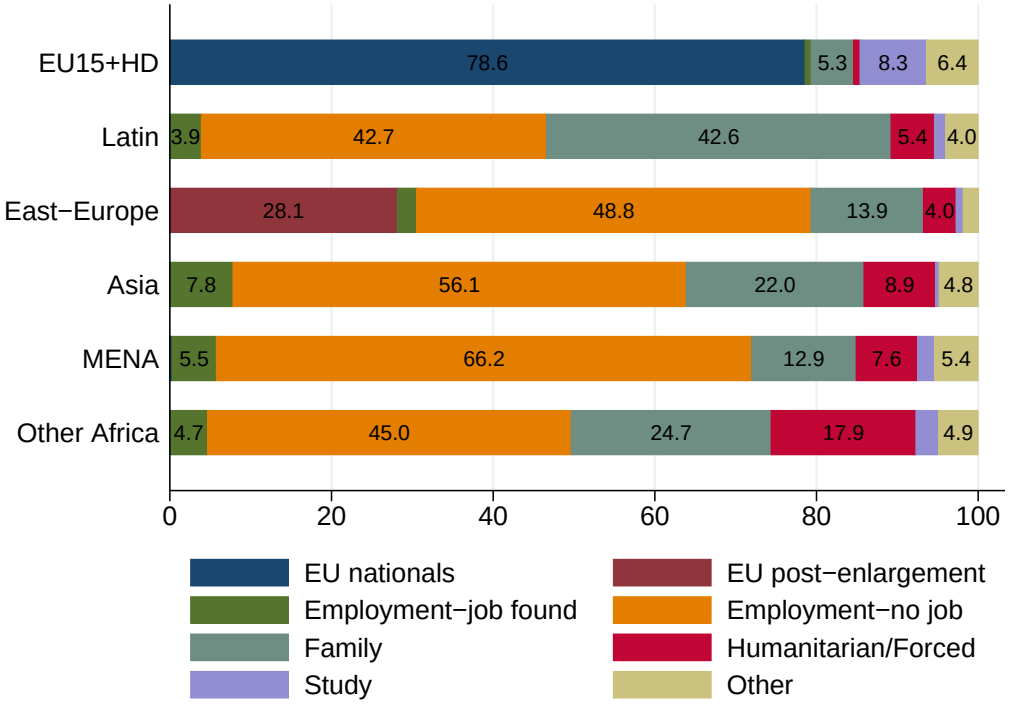


Figure 4.4: Females. Long-established immigrants (entered in *1989-2001*), from different areas of *Origin*, by *Entry category*.

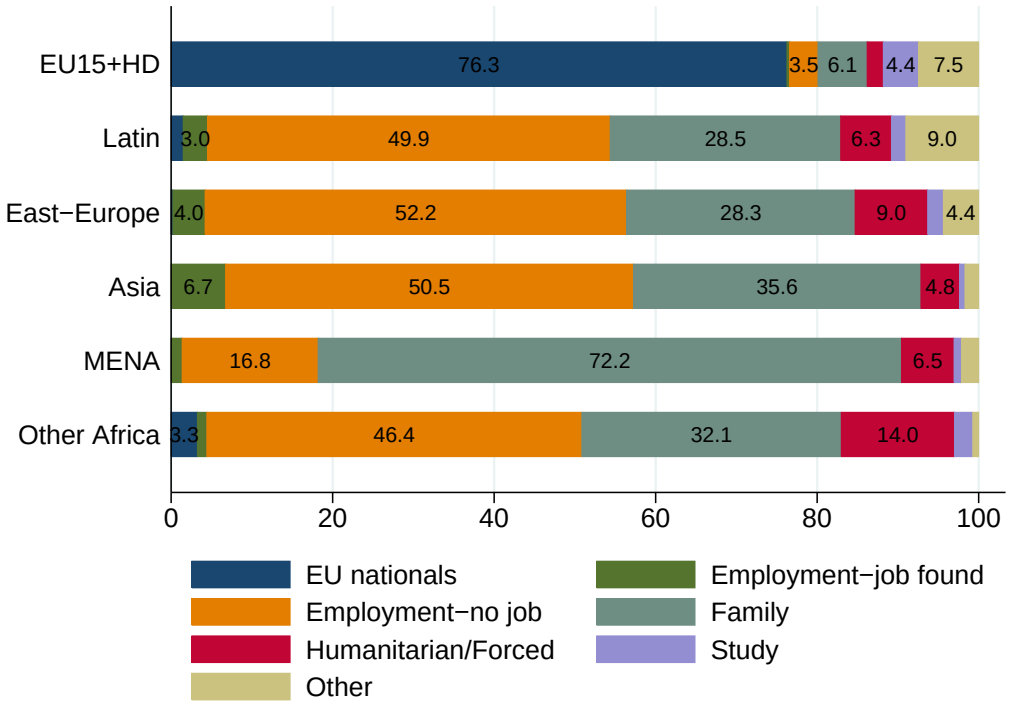



Figure 4.5: Females. Recent immigrants (entered in *2002-2012*), from different areas of *Origin*, by *Entry category*.

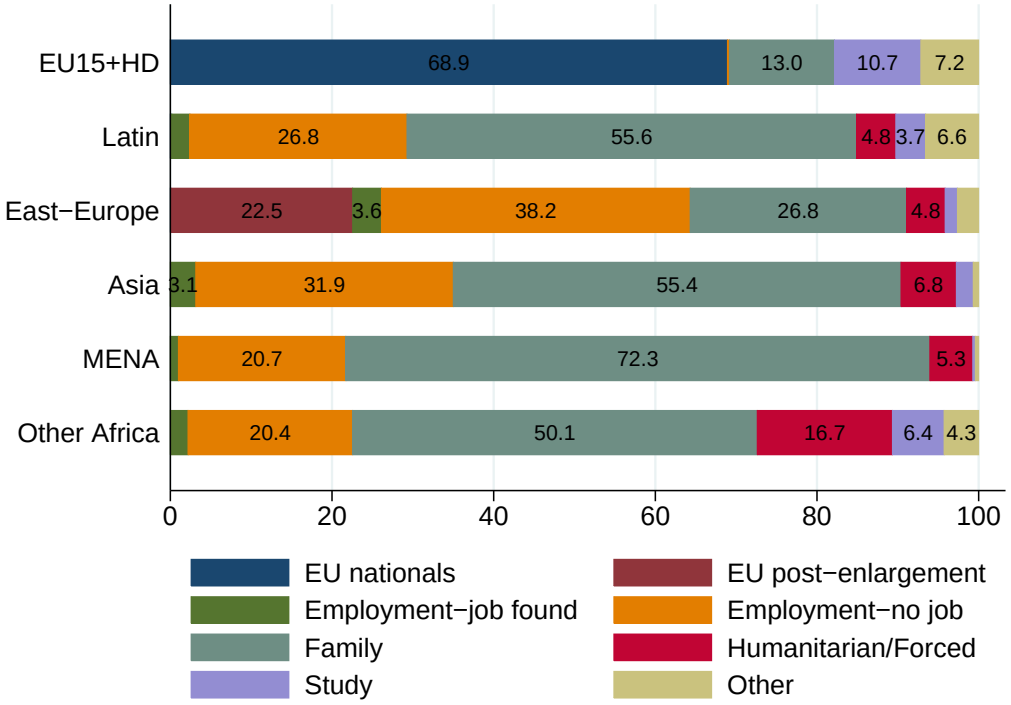


Figure 4.6: Males. Immigrants of different entry categories, by *Education*.

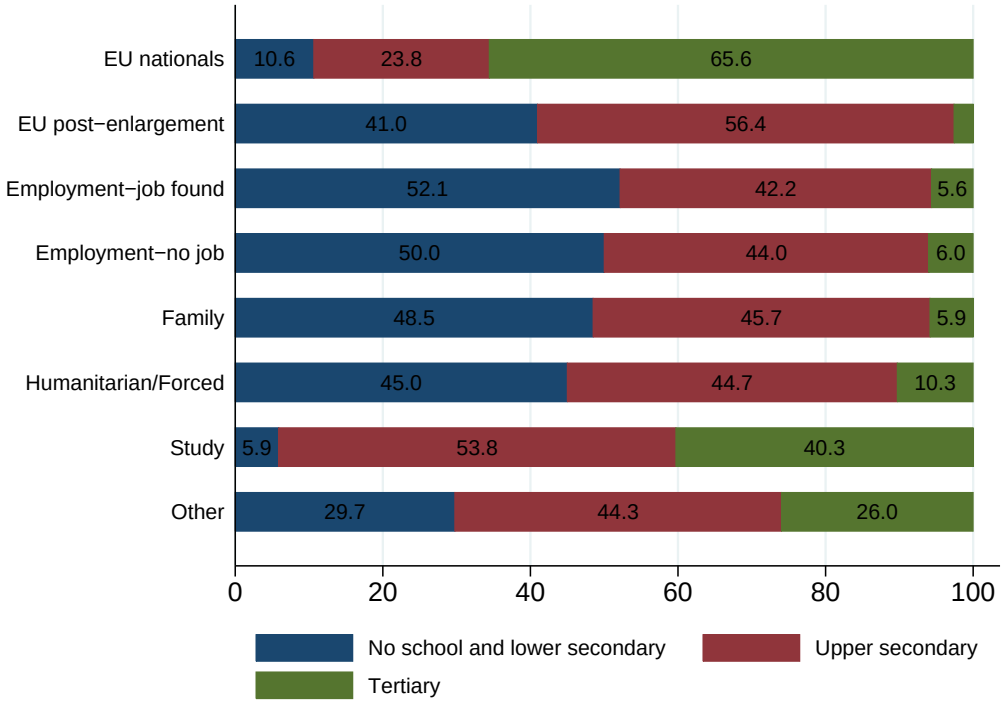
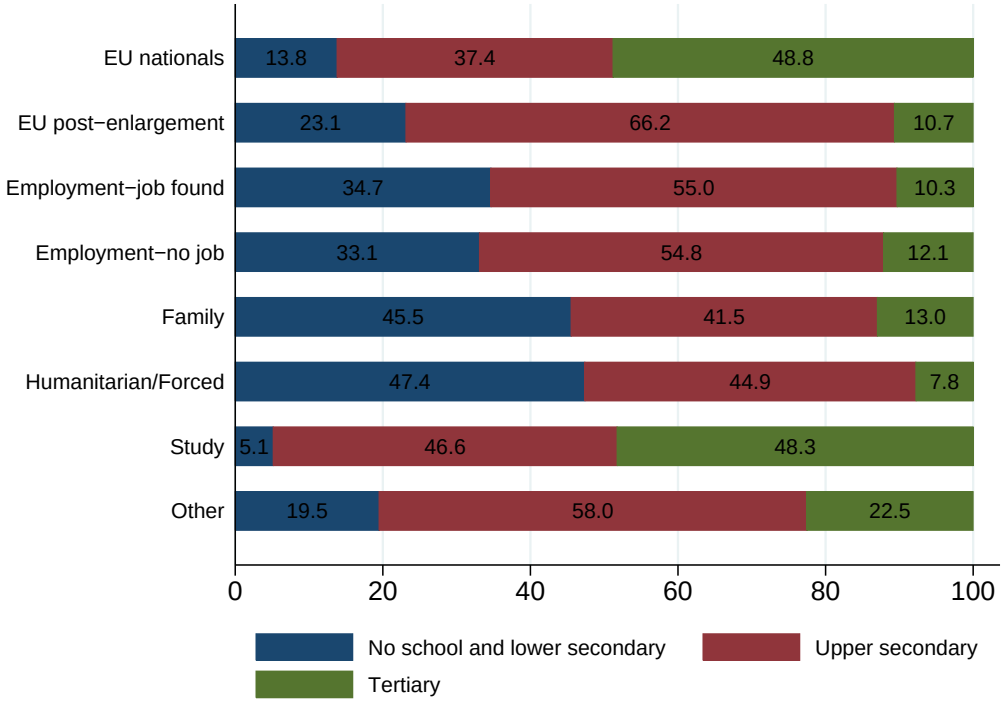



Figure 4.7: Females. Immigrants of different entry categories, by *Education*.



important in more recent entrances, an aspect that emerges even though EU nationals from post-enlargement countries (part of whom migrated for family reasons) are separately considered in our analysis. Conversely, we observe a decreasing incidence of humanitarian migrants between cohorts. Finally, studying has always represented a residual admittance channel in Italy.

Further elements emerge if the area of *Origin* is considered. Firstly, we notice that *Humanitarian/forced* immigrants have not simply decreased over time, but a change in the main sanding countries has occurred. Whereas, for long established cohorts, Eastern European countries were the main source of humanitarian migrants, as a consequence of post-1989 conflicts, recent cohorts mainly came from *Asia*, *MENA* and *Other Africa* (especially men, 18% – figure 4.3). Therefore, humanitarian migrants have decreased in absolute terms, but the geographical shift suggests their potential further growth[7].

Secondly, amongst the considered cohorts of entrance, the relative incidence of family migrants has grown in all sending areas, especially amongst migrants from *Latin America* (a sending area with also a large percentage of male family migrants), *Asia* and *Other Africa*. Particularly, amongst women from the Middle East and North Africa, we observe the highest incidence of family migrants (about 70%), in both cohorts, whereas those migrating for employment reasons are very few, a pattern also followed by recent cohorts of other African immigrant women.

Thirdly, the highest proportion of migrants for study reasons is observed in highly developed sending countries. For both men and women, we also notice a growth at recent cohorts. However, this tendency might also indicate selection effects, since international students are generally characterised by high geographical mobility.

Some differences by educational levels emerge amongst migratory categories on entrance. Men admitted as EU nationals and migrants for study reasons show the highest proportion of people with higher educational credentials (figure 4.6). Furthermore, post-enlargement immigrants are more likely to have an upper secondary level. Conversely, few differences, in terms of educational credentials are observed amongst other categories of migrants, more likely unbalanced towards lower education, even though male humanitarian immigrants are more likely tertiary educated. Women (figure 4.7) generally follow the same pattern, with the relevant difference that family and humanitarian/forced migrants are more likely lower educated than any other category.

[7]Notice that the ongoing refugee crisis that started in 2014 is not taken into account by the survey.

Table 4.2: Males, *Entry category* (columns) and *First residency permit* (rows). Only currently non-EU immigrants.

| | Emp. job-found | Emp. no-job | Family | Hum./ forced | Study | Other | **Total** | Freq. |
|---|---|---|---|---|---|---|---|---|
| Employment | 93.3 | 77.3 | 36.2 | 55.9 | 36.6 | 65.6 | **67.8** | 2'943 |
| Family | 2.4 | 9.4 | 44.3 | 19.1 | 1.4 | 11.4 | **15.5** | 637 |
| EC residence | 3.8 | 5.4 | 7.0 | 6.3 | 3.9 | 5.9 | **5.7** | 201 |
| Refugee | 0.0 | 0.7 | 0.0 | 14.4 | 1.8 | 2.2 | **1.9** | 80 |
| Study | 0.0 | 0.7 | 4.5 | 1.8 | 54.7 | 2.3 | **2.3** | 62 |
| Other | 0.0 | 2.2 | 3.1 | 3.9 | 1.7 | 4.0 | **2.5** | 98 |
| Don't know | 0.3 | 3.5 | 1.5 | 2.4 | 0.2 | 4.8 | **3.0** | 166 |
| No permit | 0.2 | 1.2 | 3.4 | 0.3 | 1.0 | 3.8 | **1.5** | 58 |
| **Total** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | |
| Frequency | 183 | 2,806 | 609 | 437 | 70 | 140 | | 4,245 |

Weighted data. Source: SCIF 2011-2012

Table 4.3: Females, *Entry category* (columns) and *First residency permit* (rows). Only currently non-EU immigrants.

| | Emp. job-found | Emp. no-job | Family | Hum./ forced | Study | Other | **Total** | Freq. |
|---|---|---|---|---|---|---|---|---|
| Employment | 72.3 | 64.3 | 10.3 | 29.8 | 16.4 | 26.2 | **34.7** | 1'842 |
| Family | 12.6 | 22.7 | 74.1 | 42.0 | 24.7 | 43.9 | **48.5** | 2'352 |
| EC residence | 9.8 | 4.3 | 7.5 | 9.2 | 6.7 | 6.4 | **6.3** | 281 |
| Refugee | 0.0 | 0.3 | 0.0 | 9.1 | 1.1 | 0.0 | **0.4** | 21 |
| Study | 0.0 | 0.4 | 0.7 | 0.0 | 49.3 | 4.9 | **1.9** | 73 |
| Other | 2.6 | 3.8 | 3.0 | 4.6 | 0.0 | 10.0 | **3.7** | 153 |
| Don't know | 2.0 | 2.7 | 1.4 | 1.7 | 0.0 | 5.5 | **2.1** | 156 |
| No permit | 0.7 | 1.6 | 2.9 | 3.6 | 1.9 | 3.2 | **2.3** | 97 |
| **Total** | **100** | **100** | **100** | **100** | **100** | **100** | **100** | |
| Frequency | 154 | 1,937 | 2,225 | 429 | 91 | 139 | | 4,975 |

Weighted data. Source: SCIF 2011-2012

Table 4.4: Males, *Entry category* and *First residency permit achievement*. Only currently non-EU immigrants.

| | Amnesty | Other | Decreto flussi | **Total** | Freq. |
|---|---|---|---|---|---|
| Employment job found | 29.0 | 55.9 | 15.1 | **100** | 181 |
| Employment no job | 47.9 | 48.4 | 3.8 | **100** | 2,773 |
| Family | 24.9 | 72.2 | 2.9 | **100** | 595 |
| Humanitarian/ forced | 31.6 | 64.4 | 4.0 | **100** | 434 |
| Study | 21.2 | 78.0 | 0.8 | **100** | 68 |
| Other | 46.7 | 49.4 | 4.0 | **100** | 136 |
| Total | **41.9** | **54.1** | **4.1** | **100** | |
| Freq. | 1,703 | 2,343 | 141 | | 4,187 |

Weighted data. Source: SCIF 2011-2012

Table 4.5: Females, *Entry category* and *First residency permit achievement*. Only currently non-EU immigrants.

| | Amnesty | Other | Decreto flussi | **Total** | Freq. |
|---|---|---|---|---|---|
| Employment job found | 35.6 | 57.5 | 6.9 | **100** | 151 |
| Employment no job | 43.5 | 49.7 | 6.8 | **100** | 1,914 |
| Family | 18.9 | 79.4 | 1.7 | **100** | 2,170 |
| Humanitarian/ forced | 33.5 | 64.8 | 1.7 | **100** | 420 |
| Study | 14.3 | 78.9 | 6.8 | **100** | 89 |
| Other | 32.5 | 65.5 | 2.1 | **100** | 133 |
| Total | **30.1** | **65.9** | **4.0** | **100** | |
| Freq. | 1,562 | 3,148 | 167 | | 4,877 |

Weighted data. Source: SCIF 2011-2012

Tables 4.2 and 4.3 show, for men and women, the kind of first residency permit that immigrants who accessed Italy for different reasons obtained. In this case the analysis only refers to currently non-EU citizens, for restrictions in our data (see the previous section). Therefore, also immigrants from post-enlargement countries, that entered Italy before the enlargement, are necessarily excluded. Firstly, we observe that immigrants that entered for employment reasons, generally also obtained an employment residency permit. However, for women, we notice that a large proportion (more than 20%) of labour-related immigrants without a job on entrance, obtained a family permit, a percentage that for men is close to 10%. Conversely, most women that accessed Italy for family reasons also obtained a family related permit, whereas a large proportion of men (36%) got an employment permit. This implies, on the one hand, that male immigrants, also when migrating for non-strictly economic reasons, generally aim at participating in the labour market. On the other hand, female immigrants, also when migrating for strictly economic reasons, are more likely in such conditions to ask for family reunification permits.

Very few immigrants that in the considered period entered for humanitarian reasons or were forced to migrate, accessed a first residency permit for international protection. Men, particularly, more likely obtained an employment permit, whilst women were usually admitted through family reunifications. This aspect is partly explained by the low recognition rate of asylum seekers in Italy (Perino and Eve 2017[8]). In this context humanitarian migrants, given that they face the urgent need to actively participate in the labour market, might find easier to reach other permits, in order to be formally recognised.

Tables 4.4 and 4.5 refer to the achievement procedure of the first residency permit, by *Entry category*[9]. At a general level, we observe that very few immigrants have been admitted through quotas (*Decreto flussi*), also amongst those that entered via labour related channels who found their job before migrating, that show the highest percentages. Conversely, obtaining the first permit via amnesty is much more diffused, involving about 40% of males and 30% of females. Although a period of previous undocumented entry or residence might also be consistent with other channels of achievement, amnesties imply, by definition, the presence of a previous illegal stay in Italy. Furthermore, we observe that some immigrant entry categories, in terms of reason for migration, were more likely to reach the first residency permit via amnesty, particularly *Employment* (especially without a job on entrance), *Humanitarian/forced*, and *Other*.

[8]They report that in 2016 60% of asylum seekers had their claim denied.
[9]Only for currently non-EU immigrants.

Therefore, these categories were more likely to experience an illegal spell after their entrance into Italy.

## 4.4 Entry status and employment outcomes

### 4.4.1 Transition to employment

The first labour market outcome considered in this section pertains to the transition to first jobs, after immigrant entrance into Italy. Therefore, our emphasis is on the timing of this transition and the risk of experiencing the event. Table 4.6 reports for our sample the number of total observations and failures, i.e. people who experienced a first job. We notice that about 2,450 cases in our sample have never accessed employment, in the observation window. Furthermore, almost one third of them accessed a non-registered job.

Table 4.6: Survival time analysis

| | |
|---|---|
| Total observations | 13,899 |
| Failures (transition to job) | 11,444 |
| Failures (transition to *registered* job) | 8,065 |
| Failures (transition to *non-registered* job) | 3,379 |

A first description of the employment access, can be observed in figure 4.8, that shows Kaplan-Meier survival estimates per month, distinguishing by gender. We generally notice that immigrants enter employment very fast in Italy, since the curves immediately decrease. Particularly, men show a median transition at 4 months, whereas women at 9 months after arrival. This pattern can also be observed in our non-parametric estimates of the hazard function for all the immigrant population (figure 4.9), that indicate a high risk in the first period of entrance, that subsequently decreases very fast and stabilises for longer durations. Furthermore, we observe that, after about 3 years since arrival, about 90% of men have experienced a first job. Conversely, for women they are about 65%, thus suggesting a different participation in the labour market.

In the next step, we modelled the transition rate, in order to observe whether the hazard rate changes according to different entry categories of immigrants, accounting for various individual socio-demographic and contextual aspects. Particularly, we considered a *Cox* model, that typically leaves the baseline hazard unspecified. A formal expression of the model, for each $i$th individual in

Figure 4.8: Males and females. Survival functions.

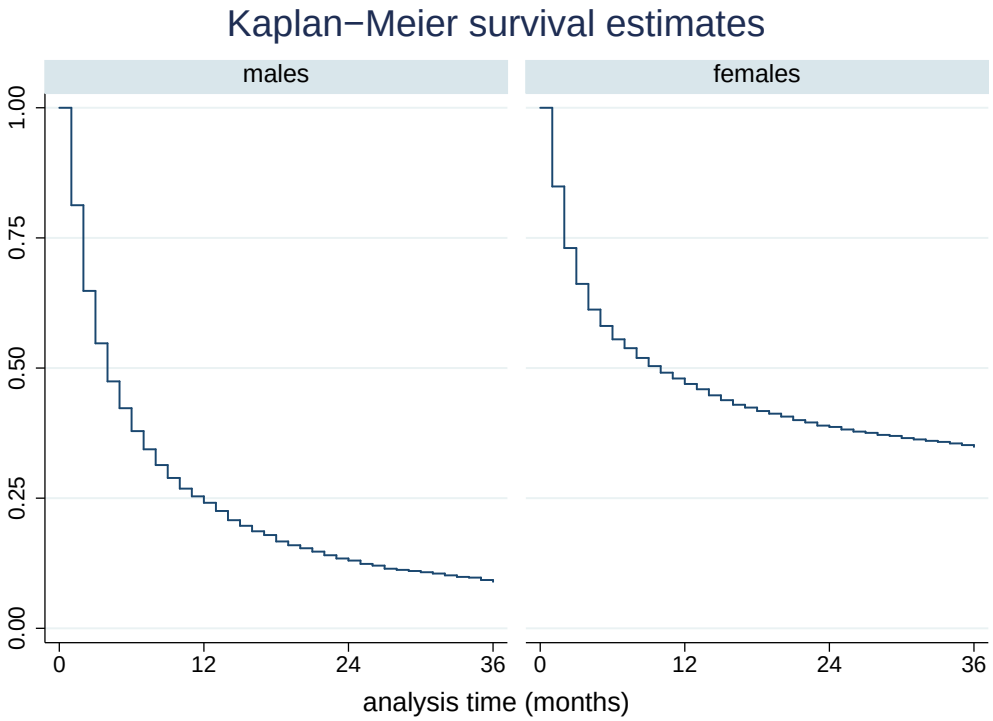
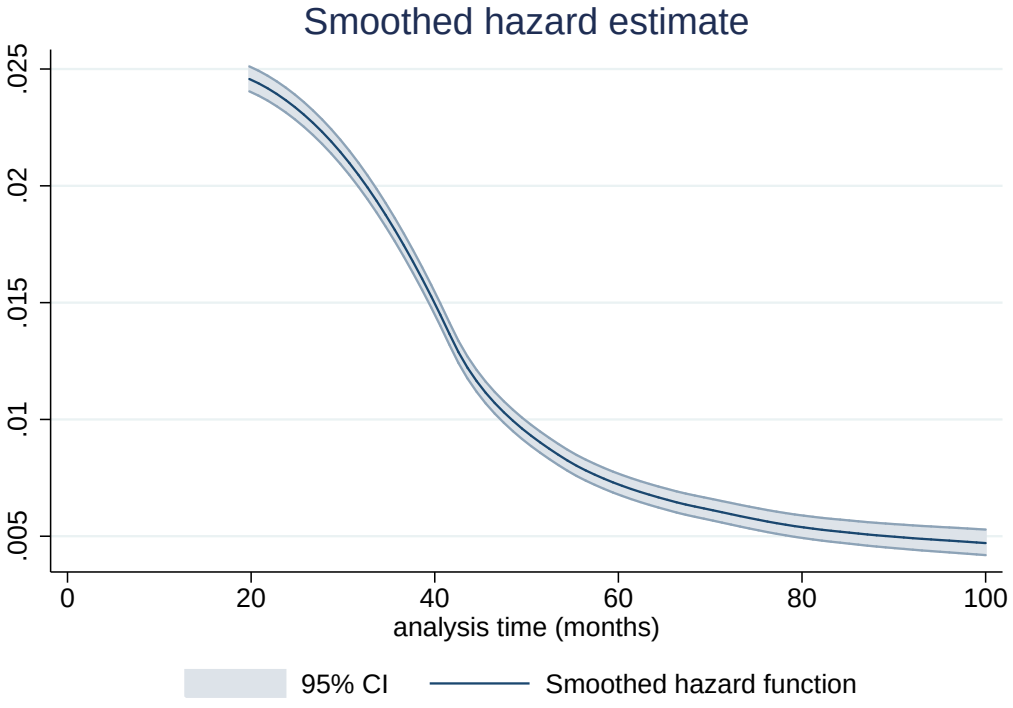



Figure 4.9: All immigrants. Hazard function.



our sample, can be generalised as follows:

$$h_i^{(k)}(t) = h_0^{(k)}(t) \exp\{\beta^{(k)} entry_i^{(k)} + \boldsymbol{\gamma'}^{(k)} \boldsymbol{X'}_i^{(k)} + \epsilon_i^{(k)}\}$$

Where $h(t)$ represents the hazard function; *entry* refers to a set of dummies for the variable *Entry category*, $\boldsymbol{X'}$ indicates a vector of variables that includes: *Origin*; *Cohort of entrance*; *Age*, on entrance; *Education*; *Language proficiency* at arrival into Italy; and first macro *Region* of residence. Notice that the term $k$ represents each possible destination state. In the case of single transition models, there is only one possible destination. Conversely, for competing risks models the $k$ destination state indicates a first *registered* or *non-registered* job.

Our analyses are separate for men and women, that differently participate in the labour market, as already noticed. Complete models, with all considered independent variables are presented in Appendix C. Furthermore, Appendix D reports *Piecewise Constant Exponential* estimates on the same models, in order to provide further support to our results. Importantly, all these models considered include covariates with proportional effects. Tests on the proportionality assumption and further analyses of non-proportional effects, are considered and illustrated in Appendix D.

Table 4.7 shows our single transition estimates for some variables of interest. In the case of men, we observe no differences between international immigrants who entered for strictly employment reasons and *EU nationals* upon entrance. All these groups rapidly access employment. Furthermore, we observe that *Family* and *Humanitarian/forced* migrants, also accounting for other important characteristics, experience a significant delayed transition to employment, with respect to the *Employment* immigrants. This is especially the case for those who accessed Italy for family motivations.

In the case of women, differences in the transition to employment between immigrants entered via labour migration routes and other categories are even larger, given the great differentials in the labour market participation. Firstly, women who entered for employment reasons are also more likely to rapidly access the labour market than EU nationals, who in some cases migrated for non-economic reasons. Secondly, we observe that female family migrants, to a larger extent than males, are particularly less likely to access employment (and eventually also the labour market).

Observing other variables, we notice that *Education*, for both men and women, positively affects the hazard of transiting employment, since those more educated are more likely to participate to the labour market. This is partic-

ularly the case for women, whose inactive population is more generally lower educated. Rather, other aspects being equal, the language proficiency makes no difference (see Appendix C). Furthermore, considering the area of *Origin*, both male and female immigrants from *Other Africa*, other aspects being equal, are observed to experience a delayed access to employment. Only for women, immigrants from Asia and particularly from the Middle East and North Africa area are less likely to access employment. This aspect can also be explained with religious factors, that differently affect male and female activity rates in the labour market.

Table 4.7: Males and females. *Cox* models on the transition to first jobs. Models also control for *Cohort of entrance*, *Age*, *Language proficiency*, and *Region*.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| | Hazard Ratios | s.e. | Hazard Ratios | s.e. |
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.944 | (0.083) | 0.682*** | (0.044) |
| Family | 0.484*** | (0.030) | 0.330*** | (0.015) |
| Humanitarian/forced | 0.762*** | (0.044) | 0.604*** | (0.040) |
| Other | 0.651*** | (0.056) | 0.534*** | (0.045) |
| *Origin* | | | | |
| East-Europe | ref. | | ref. | |
| EU15+HD | 0.698* | (0.118) | 0.605*** | (0.066) |
| Latin | 0.917 | (0.073) | 1.079 | (0.062) |
| Asia | 0.917 | (0.047) | 0.800*** | (0.051) |
| MENA | 0.922 | (0.039) | 0.428*** | (0.033) |
| Other Africa | 0.728*** | (0.045) | 0.777** | (0.061) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.127*** | (0.040) | 1.506*** | (0.062) |
| Tertiary | 1.203** | (0.084) | 1.695*** | (0.095) |
| Observations | 5,923 | | 7,976 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Further elements emerge if we consider multiple destinations of the first job transition, in terms of regular-irregular employment. In general terms, we observe larger differences by *Entry category* referring to regular employment access, whereas hazard ratios of accessing irregular employment show, for some groups, lower or no differentials with respect to strictly *Employment* migrants.

Table 4.8: Males. Competing risks *Cox* model on the transition to first *Registered* or *Non-registered* jobs. Models also control for *Origin*, *Cohort of entrance*, *Age*, and *Language proficiency*.

| | *(1)Registerd* | | *(2)Non-registered* | |
|---|---|---|---|---|
| | Hazard Ratios | s.e. | Hazard Ratios | s.e. |
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.992 | (0.101) | 0.842 | (0.131) |
| Family | 0.485*** | (0.036) | 0.493*** | (0.062) |
| Humanitarian/forced | 0.741*** | (0.055) | 0.869 | (0.113) |
| Other | 0.562*** | (0.061) | 1.056 | (0.180) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD | 0.762 | (0.141) | 0.392* | (0.179) |
| Latin | 0.923 | (0.088) | 0.987 | (0.164) |
| Asia | 0.954 | (0.060) | 0.830 | (0.091) |
| MENA | 1.004 | (0.052) | 0.761** | (0.074) |
| Other Africa | 0.768*** | (0.058) | 0.631*** | (0.084) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.136** | (0.049) | 1.067 | (0.080) |
| Tertiary | 1.267** | (0.104) | 0.839 | (0.140) |
| *Region* | | | | |
| North-West | ref. | | ref. | |
| North-East | 1.069 | (0.063) | 0.652*** | (0.082) |
| Center | 0.958 | (0.056) | 1.111 | (0.112) |
| South and islands | 0.892* | (0.047) | 1.508*** | (0.143) |
| Observations | 5,923 | | 5,923 | |
| Failures | 4,045 | | 1,573 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4.9: Females. Competing risks *Cox* model on the transition to first *Registered* or *Non-registered* jobs. Models also control for *Origin*, *Cohort of entrance*, *Age*, and *Language proficiency*.

| | *(1)Registerd* | | *(2)Non-registered* | |
|---|---|---|---|---|
| | Hazard Ratios | s.e. | Hazard Ratios | s.e. |
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.688*** | (0.055) | 0.648*** | (0.075) |
| Family | 0.308*** | (0.017) | 0.380*** | (0.031) |
| Humanitarian/forced | 0.576*** | (0.050) | 0.685** | (0.087) |
| Other | 0.489*** | (0.050) | 0.632** | (0.092) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD | 0.653*** | (0.083) | 0.456*** | (0.102) |
| Latin | 1.149 | (0.084) | 0.984 | (0.107) |
| Asia | 0.874 | (0.068) | 0.652*** | (0.080) |
| MENA | 0.520*** | (0.046) | 0.228*** | (0.038) |
| Other Africa | 0.879 | (0.088) | 0.570** | (0.098) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.530*** | (0.077) | 1.451*** | (0.109) |
| Tertiary | 1.828*** | (0.125) | 1.424** | (0.160) |
| *Region* | | | | |
| North-West | ref. | | ref. | |
| North-East | 1.036 | (0.064) | 0.941 | (0.099) |
| Center | 0.993 | (0.059) | 1.199 | (0.112) |
| South and islands | 0.990 | (0.057) | 1.490*** | (0.127) |
| Observations | 7,976 | | 7,976 | |
| Failures | 4,020 | | 1,806 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

For men (table 4.8), three patterns are observed. *EU nationals*, that mainly include immigrants from post-enlargement countries, are very similar to labour migrants. This pertains to the access to registered jobs, for which no significant differences are observed, and irregular employment transitions, for which we observe a slightly decreasing difference, even though not significant. *Family* migrants face a delayed entrance, with respect to labour migrants, both into registered and non-registered first jobs (coefficients in this case are very similar). Importantly, *Humanitarian/forced* migrants experience a delayed transition to employment that can exclusively refer to registered first jobs. Indeed, they access irregular employment as rapidly as strictly *Employment* immigrants.

In the case of women (table 4.9), non-EU immigrants that entered for employment reasons are always more likely to access both regular and irregular employment. Importantly, female EU citizens, including those who entered Italy after the 2004 and 2007 enlargements, as compared to regular employment, have even lower chances of accessing irregular employment. Rather, other categories, like *Humanitarian/forced* female migrants, show higher differentials, with respect to those admitted for employment reasons, in accessing registered jobs and lower (although significant) differences in entering irregular employment. It must be noticed that, for females, non-registered jobs are mainly in care and domestic services, in which Eastern European female migrants are largely employed (see Chapter 3, Section 3.4). However, in this case, a legal access as a EU national can make the difference.

Considering other variables, we notice that for men high levels of education and a sufficient Italian language proficiency (see also Appendix C) positively affect the chances of entering regular employment, whereas do not influence a transition to a non-registered job. Conversely, for women, *Education* is positively associated with both transitions into regular and irregular employment. Indeed, for females it generally affects the participation into the labour market. Furthermore, for both men and women, Eastern Europeans and Latin Americans face higher risks of accessing a non-registered job. Differences with respect to these groups are particularly large for women, given that they more frequently access the household segment, an occupational area where the absence of formal contracts is widespread in Italy. Finally, we observe that southern regions of Italy, that are generally associated with a slower entrance into regular employment, substantively increase the risk and rapidity of accessing irregular employment, representing an area of particular occupational disadvantage for both male and female immigrants.

### 4.4.2 Current employment status

So far, we have considered the first employment access after arrival into Italy and variations by migratory status upon entrance. However, different entry categories of migrants are likely to experience diverging labour market pathways, throughout their entire working history. In this section we will focus on the current employment status of immigrants, as a labour market outcome that in many cases occurred after the first working episode. Moreover, we will emphasise differences amongst migratory entry channels at different years since migration, thus at different stages of their permanence in Italy. This will allow some consideration on immigrant employment condition over time. However, in this analysis we faced many limitations due to the cross-sectional data structure. Particularly, when comparing immigrants by years since migration, we must always consider that selection problems are in place, derived by return migration processes, that are able to differently affect our groups of immigrants considered.

We first look at variations by different immigrant categories in their current employment status, for men and women (figures 4.10 and 4.11). In the case of men, we generally notice higher employment rates than women. Obviously, labour market participation of male migrants who entered for employment reasons is particularly high. Furthermore, the share of unemployed amongst EU nationals and labour migrants is extremely low with respect to other non-strictly economic immigrants. Amongst women, larger differences in the active labour market participation are observed between labour migrants and other groups. Furthermore, the share of unemployed amongst *Family* and *Humanitarian/forced* migrants highlights a particularly high risk of unemployment for active women in these groups, given their low employment rates.

In order to observe employment outcomes of immigrant entry categories, accounting for other aspects that are likely to affect the current employment status, we developed two regression models. On the one hand, we modelled the probability of being *inactive*, for all immigrants. On the other hand, we considered, only for currently active respondents, the probability of being *unemployed*. Therefore, we carried out two sets of logistic regression models (both separating men and women), that include as independent variables: migratory background characteristics (*Entry status*, *Years since migration (ysm)*, and *Origin*); individual aspects at the interview date (*Age*, *Education*, and *Language proficiency*); and *Region* of residence, as a contextual factor (complete models are presented in Appendix C).

Observing tables 4.10 and 4.11, we firstly notice that models on *inactivity*

Figure 4.10: Males. Immigrants of different entry categories, by *Employment status*.

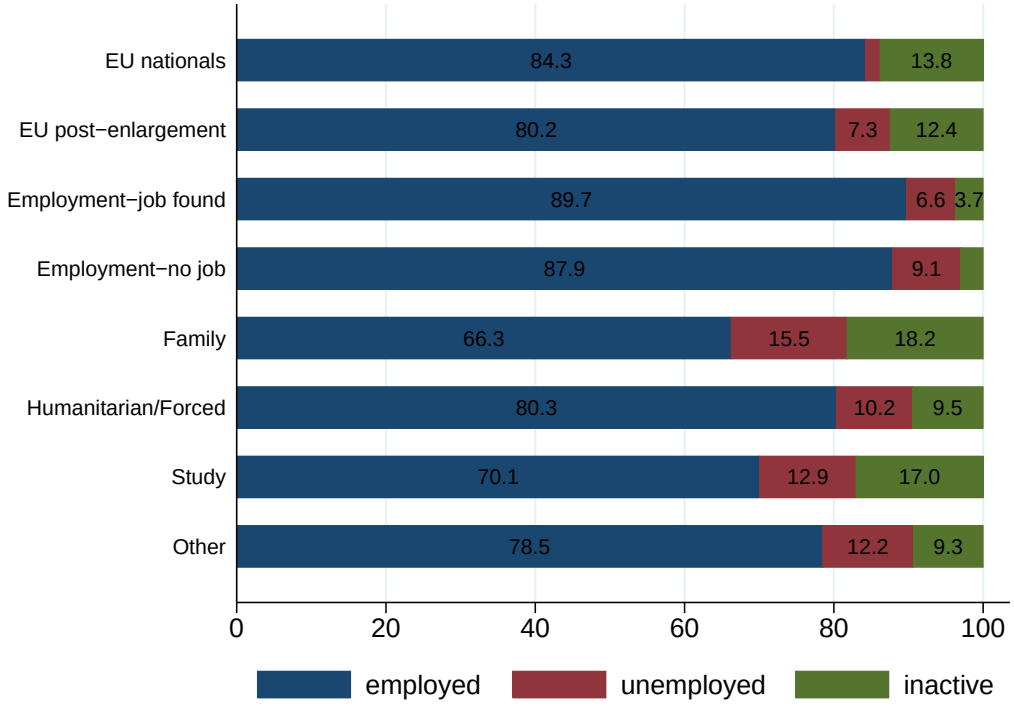



Figure 4.11: Female. Immigrants of different entry categories, by *Employment status*.

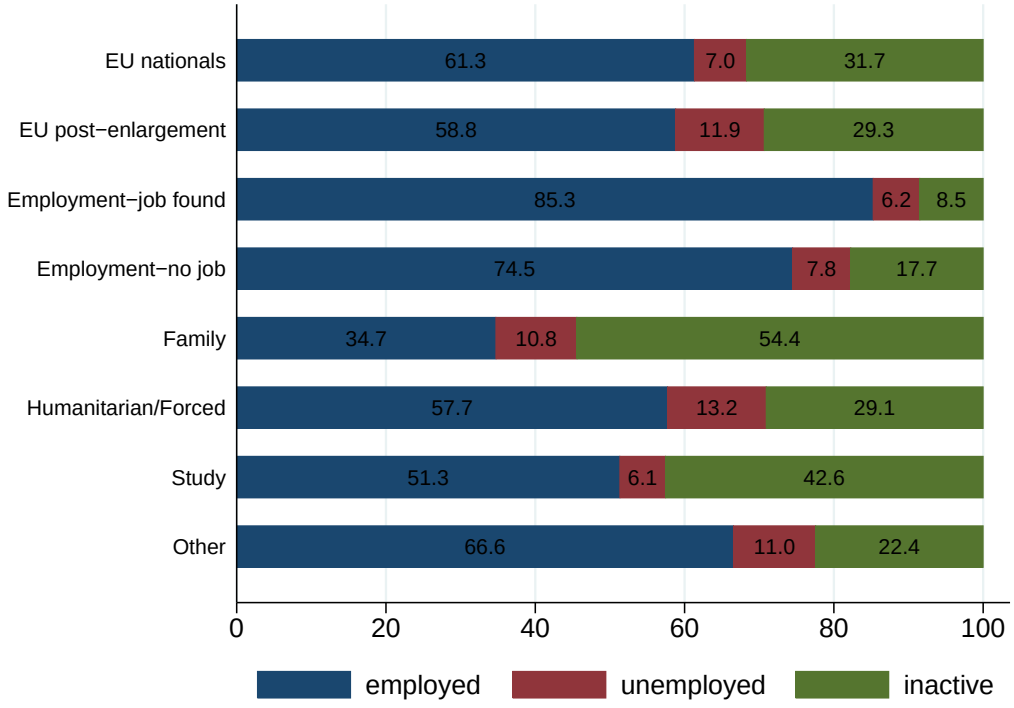


Table 4.10: Logistic regression models on the probability of being *inactive*. Separate models for males and females. Models also control for *Age*, *Language proficiency*, and current *Region* of residence. Odds ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 2.893*** | (0.823) | 1.767*** | (0.244) |
| Family | 6.603*** | (1.183) | 4.344*** | (0.397) |
| Humanitarian/forced | 3.530*** | (0.925) | 1.699*** | (0.242) |
| Other | 5.624*** | (1.715) | 2.658*** | (0.471) |
| Years since migration | 0.937*** | (0.015) | 0.975** | (0.009) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD | 4.385*** | (1.948) | 1.765** | (0.363) |
| Latin | 0.752 | (0.251) | 0.914 | (0.125) |
| Asia | 0.735 | (0.192) | 0.755* | (0.102) |
| MENA | 0.863 | (0.193) | 1.947*** | (0.240) |
| Other Africa | 1.139 | (0.323) | 0.957 | (0.169) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 0.537*** | (0.091) | 0.725*** | (0.060) |
| Tertiary | 0.255*** | (0.084) | 0.615*** | (0.078) |
| Observations | 5,923 | | 7,976 | |
| Pseudo $R^2$ | 0.128 | | 0.157 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4.11: Logistic regression models on the probability of being *unemployed*. Separate models for males and females. Models also control for *Age*, *Language proficiency*, and current *Region* of residence. Odds ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.699 | (0.203) | 1.462 | (0.286) |
| Family | 2.014*** | (0.337) | 2.159*** | (0.309) |
| Humanitarian/forced | 1.328 | (0.310) | 1.977** | (0.424) |
| Other | 1.652 | (0.516) | 1.526 | (0.477) |
| Years since migration | 0.940*** | (0.015) | 0.971 | (0.016) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD | 0.707 | (0.452) | 0.539 | (0.205) |
| Latin | 1.190 | (0.302) | 0.781 | (0.168) |
| Asia | 0.889 | (0.188) | 0.463** | (0.135) |
| MENA | 1.499* | (0.262) | 2.722*** | (0.531) |
| Other Africa | 1.467 | (0.316) | 1.264 | (0.341) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.030 | (0.143) | 0.942 | (0.133) |
| Tertiary | 0.712 | (0.200) | 1.055 | (0.206) |
| Observations | 5,481 | | 5,296 | |
| Pseudo $R^2$ | 0.044 | | 0.096 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

are much more explicative than models on *unemployment* (as suggested by the Pseudo $R^2$). Indeed, we observe lower variation in unemployment rates than in labour market participation, according to the included independent variables, especially for male immigrants.

However, these models generally confirm descriptive results. EU nationals and non-strictly economic migrants, accounting for other independent variables, are more likely to be inactive than immigrants for strictly employment reasons. This is particularly the case for male and female family migrants, that always face lower participation in the labour market. Furthermore, family and humanitarian (only for women) immigrants are also penalised in terms of unemployment risks.

On average, years since migration are observed to reduce inactivity and unemployment. A result consistent with the idea of a progressive adaptation of all immigrants to the host labour market. Education negatively affects inactivity, but does not influence the risk of unemployment. Finally, considering the area of origin, immigrants from highly developed countries are more likely to be inactive than eastern European immigrants, but face lower unemployment risks. Conversely, migrants from *MENA* are more likely to be inactive (females) and also unemployed (males and females).

In order to test for a different incidence of the length of stay in Italy, by migratory status, on labour market participation and unemployment risks of immigrants, we estimated a regression model with interaction effects between the variables *Entry categories* and *Years since migration*, that in our sample can be formalised as follows:

$$\log(\frac{p_i}{1-p_i}) = \alpha_i + \beta_1 entry_i + \beta_2 ysm_i + \beta_4 entry_i * ysm_i + \boldsymbol{\gamma' X'_i} + \epsilon_i$$

Particularly, this model (separate for men and women) allows the effect of *Years since migration* (on $p$, representing in the equation either *inactivity* or *unemployment*) to vary by *Entry category*. Results are presented through graphs showing predicted probabilities of the models, for various entry groups, at different years since migration, keeping other independent variables at their mean. Full models are reported in Appendix C.

Concerning the probability for men and women of being *inactive* (figures 4.12 and 4.13), we notice that *Humanitarian/forced* and *Family* migrants retain relevant and significant activity gaps, with respect to *Employment* immigrants. These gaps are observed to decrease over time since migration. However, for males, family and humanitarian groups catch up with labour migrants only

after 15 years since migration. For females, this is the case only for humanitarian migrants, whereas family immigrants are observed to maintain a large and significant difference also at 15 years after arrival. Therefore, male non-strictly economic immigrants are progressively more likely to participate in the labour market, even though they retain for many years relevant employment gaps. Immigrant women follow similar patterns, but not for family migrants, who preserve their lower participation over time.

Furthermore, female family and humanitarian immigrants are even more penalised. Indeed, they also retain significant unemployment gaps at 5 years after arrival (figure 4.14)[10].

It must be noticed that recent and long-established immigrants also represent different cohorts of entrance. This is particularly important for *Humanitarian/forced* migrants, given that, as suggested by descriptive results, in more recent cohorts a shift in the sending areas has occurred. Therefore, observing decreasing differentials in labour market outcomes for long established humanitarian migrants, does not imply better conditions by length of stay for those in this migratory status. Rather, it suggests lower participation and higher unemployment (for women), for a particularly weak recently accessed group.

## 4.5 Conclusions

The chapter investigated, with new data, the role of migratory status on entry in shaping labour market pathways of immigrants. It can be considered an explorative analysis of the Italian case, for which analytical studies on the linkage between institutional conditions and immigrant labour market outcomes are not available. Although facing many limitations and data constraints the study offered some research advancements. Firstly, descriptive results showed that the immigrant composition by entry category, that in Italy is not exclusively oriented towards labour migration routes, is likely to vary by gender, origin country, and cohort of entrance. Particularly, family migrants and, only for some sending areas, also humanitarian ones, represent an increasing proportion of admitted migrants. Furthermore, a comparison between entry categories and residency permits allowed to consider that many immigrants admitted via labour channels and humanitarian reasons, although usually accessing an employment permit, are likely to obtain their residence allowance via amnesty, thus usually experiencing an undocumented access.

[10]Results for males are not shown because differences in terms of unemployment are not statistically significant.

Secondly, our findings regarded employment outcomes in a dynamic perspective. Particularly, results showed that some categories of non-EU migrants (family and humanitarian), having a delayed transition to employment with respect to labour migrants, experience an *initial employment gap*, that also other studies highlighted (Hp1). Furthermore, family dependants and humanitarian or forced migrants, both men and women, were observed to experience a lower labour market participation at the time of the interview, being more likely currently inactive (Hp3). These groups also experience higher unemployment risks, although in the case of humanitarian migrants this outcome holds only for women. Finally, these employment gaps, even though decreasing over time since migration, which also implies cohort differentials, are maintained for substantive amounts of years (Hp4).

Furthermore, the analyses suggested specific disadvantages for some immigrant categories. This is particularly the case for recently entered humanitarian migrants or those forced to migrate, a group that represents a small proportion of the immigrant population in Italy, that is also expected to increase in the short run. These migrants usually experienced an undocumented entrance. Their delayed transition to employment exclusively regards registered jobs, since they access irregular employment as rapidly as labour admitted immigrants (Hp2). Finally, for consistent amounts of years, they are less likely to participate in the labour market and (only for women) more likely unemployed. These findings suggest the presence of particularly disadvantaged immigrant categories, for which targeted policies of integration in the (legal) labour market are required, considering that very few of them are recognised as refugees.

Figure 4.12: Males. Predicted probabilities of being currently *inactive*, at different *Years since migration*, for *Humanitarian*, *Family*, and *Employment* migrants.

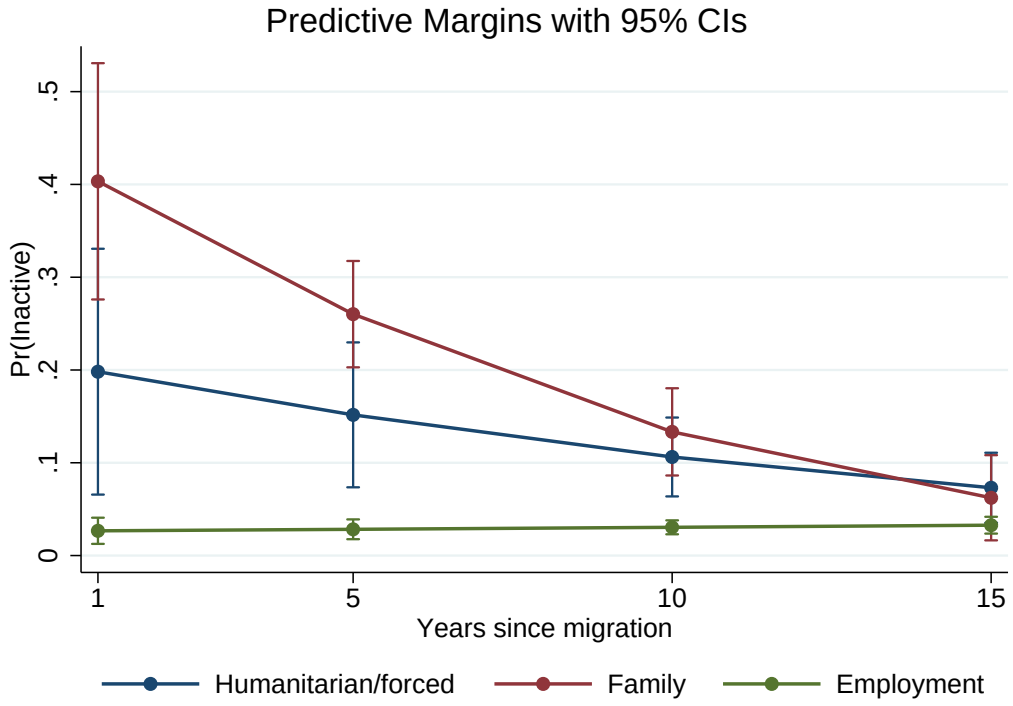


Figure 4.13: Females. Predicted probabilities of being currently *inactive*, at different *Years since migration*, for *Humanitarian*, *Family*, and *Employment* migrants.

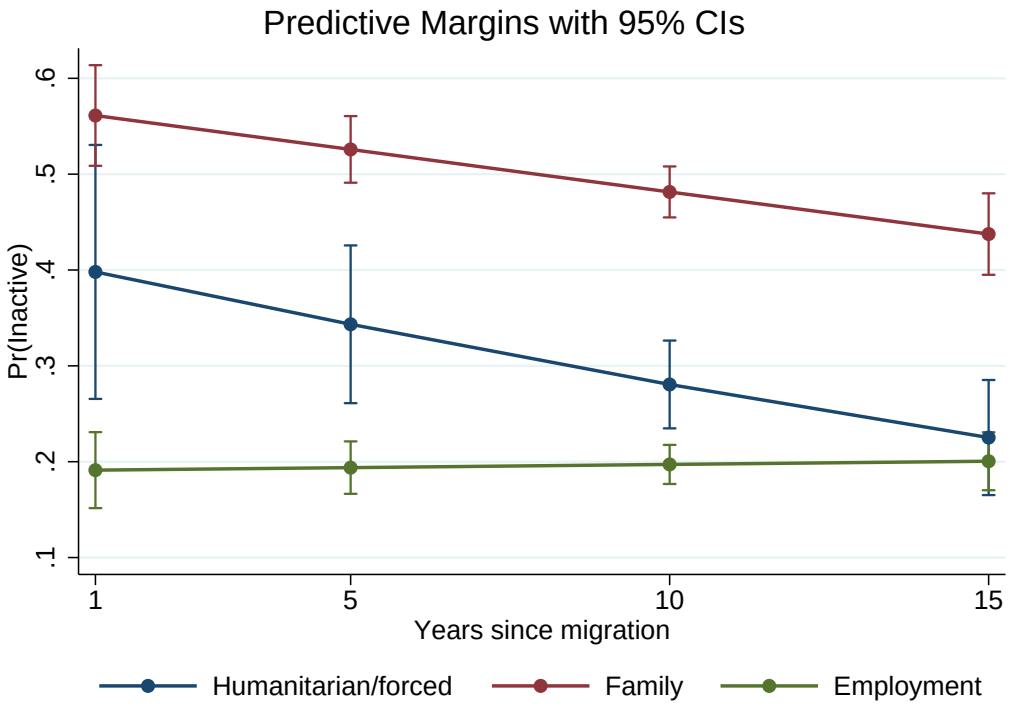
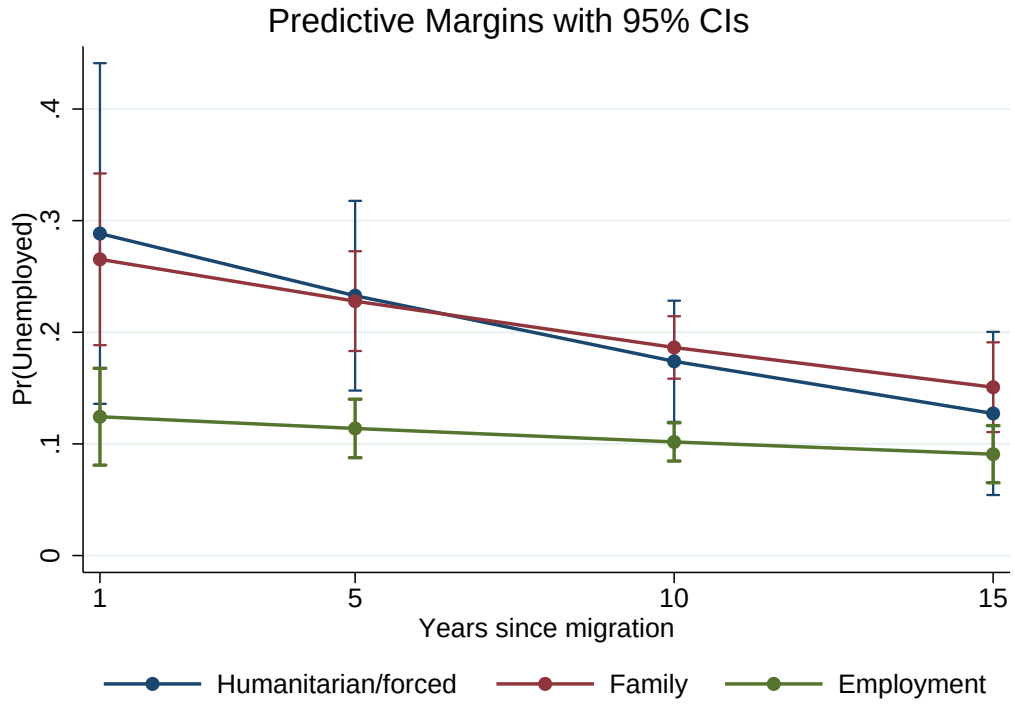


Figure 4.14: Females. Predicted probabilities of being currently *unemployed*, at different *Years since migration*, for *Humanitarian*, *Family*, and *Employment* migrants.



# Appendix A

# Full tables of multivariate analysis

Table A.1: Males. Logistic regression on the probability of job finding through *Relatives, friends and acquaintances*. Models distinguished between Italians and immigrants. Odds ratios.

| | (1) Italians | | (2) Immigrants | |
|---|---|---|---|---|
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 0.852*** | (0.028) | 0.892* | (0.050) |
| Tertiary | 0.645*** | (0.038) | 0.881 | (0.104) |
| | | | | |
| *Age* | | | | |
| 25-34 | ref. | | ref. | |
| 35-44 | 0.866*** | (0.027) | 0.932 | (0.055) |
| 45-54 | 0.822*** | (0.030) | 0.844* | (0.065) |
| | | | | |
| *Region* | | | | |
| north-west | ref. | | ref. | |
| north-east | 0.770*** | (0.030) | 0.662*** | (0.044) |
| center | 1.080 | (0.044) | 1.222** | (0.093) |
| south | 1.059 | (0.041) | 0.697*** | (0.066) |
| islands | 0.992 | (0.046) | 0.519*** | (0.072) |
| | | | | |
| *Year of job finding* | | | | |
| 2007 | ref. | | ref. | |
| 2004 | 1.479*** | (0.130) | 1.613* | (0.352) |
| 2005 | 1.012 | (0.066) | 1.055 | (0.152) |
| 2006 | 1.096 | (0.063) | 0.934 | (0.110) |
| 2008 | 0.931 | (0.047) | 0.920 | (0.090) |
| 2009 | 0.907 | (0.046) | 0.800* | (0.077) |
| 2010 | 0.820*** | (0.042) | 0.759** | (0.075) |
| 2011 | 0.773*** | (0.043) | 0.758** | (0.081) |
| 2012 | 0.742*** | (0.046) | 0.612*** | (0.073) |
| 2013 | 0.646*** | (0.047) | 0.619*** | (0.087) |
| 2014 | 0.583*** | (0.060) | 0.494*** | (0.099) |

| | | | | |
|---|---|---|---|---|
| *Firm's size* | | | | |
| 1-10 | ref. | | ref. | |
| 11-15 | 0.709*** | (0.026) | 0.871 | (0.066) |
| 16-19 | 0.704*** | (0.042) | 0.833 | (0.108) |
| 20-49 | 0.565*** | (0.023) | 0.721*** | (0.062) |
| 50-249 | 0.458*** | (0.019) | 0.611*** | (0.056) |
| 250 or more | 0.341*** | (0.020) | 0.461*** | (0.066) |
| | | | | |
| *Occupational level* | | | | |
| elementary occupations | ref. | | ref. | |
| managers | 0.701** | (0.084) | 0.123* | (0.103) |
| professionals | 0.511*** | (0.043) | 0.149*** | (0.054) |
| technicians | 0.764*** | (0.043) | 0.346*** | (0.073) |
| clerks | 0.819** | (0.051) | 0.602* | (0.125) |
| services and sales | 0.878* | (0.053) | 0.711** | (0.089) |
| craft and skilled manual | 0.993 | (0.049) | 0.913 | (0.069) |
| machine operators | 0.904 | (0.048) | 0.641*** | (0.060) |
| | | | | |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agriculture | 1.178* | (0.089) | 1.302* | (0.144) |
| construction | 1.477*** | (0.067) | 1.518*** | (0.125) |
| wholesale and retail | 1.163** | (0.054) | 1.280* | (0.152) |
| accomodation and food service | 1.318*** | (0.094) | 1.421* | (0.199) |
| transportation and comunication | 0.963 | (0.048) | 1.658*** | (0.180) |
| finance and real estate | 0.890* | (0.045) | 1.404** | (0.174) |
| public services | 0.284*** | (0.019) | 0.726 | (0.167) |
| other services | 1.058 | (0.077) | 2.170*** | (0.286) |
| Observations | 26,722 | | 6,581 | |
| Pseudo $R^2$ | 0.093 | | 0.061 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.2: Females. Logistic regression on the probability of job finding through *Relatives, friends and acquaintances*. Models distinguished between Italians and immigrants. Odds ratios.

| | (1) Italians | | (2) Immigrants | |
|---|---|---|---|---|
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 0.863*** | (0.033) | 0.902 | (0.058) |
| Tertiary | 0.575*** | (0.031) | 0.842 | (0.079) |
| | | | | |
| *Age* | | | | |
| 25-34 | ref. | | ref. | |
| 35-44 | 1.026 | (0.035) | 0.806*** | (0.053) |
| 45-54 | 0.962 | (0.038) | 0.960 | (0.076) |
| | | | | |
| *Region* | | | | |
| north-west | ref. | | ref. | |
| north-east | 0.770*** | (0.031) | 0.662*** | (0.047) |
| center | 1.176*** | (0.050) | 1.231** | (0.099) |
| south | 1.198*** | (0.051) | 1.005 | (0.109) |
| islands | 1.184*** | (0.061) | 0.507*** | (0.077) |
| | | | | |
| *Year of job finding* | | | | |
| 2007 | ref. | | ref. | |
| 2004 | 1.247* | (0.121) | 1.545 | (0.437) |
| 2005 | 1.155* | (0.083) | 1.101 | (0.181) |
| 2006 | 1.154* | (0.072) | 1.041 | (0.146) |
| 2008 | 1.047 | (0.057) | 0.903 | (0.098) |
| 2009 | 0.867** | (0.047) | 0.770* | (0.081) |
| 2010 | 0.848** | (0.047) | 0.629*** | (0.068) |
| 2011 | 0.815*** | (0.048) | 0.641*** | (0.075) |
| 2012 | 0.792*** | (0.052) | 0.548*** | (0.071) |
| 2013 | 0.630*** | (0.049) | 0.493*** | (0.076) |
| 2014 | 0.463*** | (0.054) | 0.404*** | (0.078) |
| | | | | |
| *Firm's size* | | | | |
| 1-10 | ref. | | ref. | |
| 11-15 | 0.593*** | (0.025) | 0.759* | (0.083) |
| 16-19 | 0.532*** | (0.036) | 0.612** | (0.105) |
| 20-49 | 0.460*** | (0.021) | 0.609*** | (0.068) |
| 50-249 | 0.344*** | (0.016) | 0.418*** | (0.047) |
| 250 or more | 0.263*** | (0.018) | 0.306*** | (0.047) |
| | | | | |
| *Occupational level* | | | | |
| elementary occupations | ref. | | ref. | |
| managers | 0.665* | (0.126) | 0.298 | (0.265) |
| professionals | 0.329*** | (0.025) | 0.183*** | (0.048) |
| technicians | 0.622*** | (0.036) | 0.441*** | (0.067) |
| clerks | 0.730*** | (0.039) | 0.514*** | (0.093) |

| | | | | |
|---|---|---|---|---|
| services and sales | 0.634*** | (0.034) | 0.556*** | (0.057) |
| craft and skilled manual | 0.642*** | (0.050) | 0.864 | (0.122) |
| machine operators | 0.574*** | (0.053) | 0.612** | (0.103) |
| | | | | |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agriculture | 1.023 | (0.103) | 2.034*** | (0.412) |
| construction | 1.782*** | (0.203) | 3.416* | (1.997) |
| wholesale and retail | 0.860* | (0.051) | 1.110 | (0.185) |
| accomodation and food service | 1.265*** | (0.087) | 1.341 | (0.210) |
| transportation and comunication | 0.677*** | (0.060) | 1.171 | (0.339) |
| finance and real estate | 0.804*** | (0.044) | 1.171 | (0.164) |
| public services | 0.343*** | (0.019) | 0.741* | (0.111) |
| other services | 1.212** | (0.081) | 2.713*** | (0.386) |
| Observations | 26,107 | | 7,186 | |
| Pseudo $R^2$ | 0.148 | | 0.162 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.3: Males. Logistic regression on the probability of job finding through *Relatives, friends and aquaintances*. Pooled sample of Italians and immigrants. Model with the variable *Origin*.

| | Odds Ratios | s.e. |
|---|---|---|
| *Origin* | | |
| Italians born in Italy, EU15 and Oecd | ref. | |
| EU15 and Oecd | 0.884 | (0.207) |
| Other Eastern EU (New Member States) | 1.773*** | (0.094) |
| Albania | 1.617*** | (0.127) |
| Ex Yugoslavia and other eastern Europe | 1.697*** | (0.137) |
| Center-South Asia | 2.015*** | (0.168) |
| Eastern Asia | 4.579*** | (0.710) |
| Morocco | 1.135 | (0.102) |
| Other North-Africa | 1.628*** | (0.206) |
| Central Africa | 1.227 | (0.130) |
| Latin America | 2.115*** | (0.206) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.871*** | (0.024) |
| Tertiary | 0.693*** | (0.035) |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.886*** | (0.024) |
| 45-54 | 0.833*** | (0.027) |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.744*** | (0.025) |
| center | 1.090* | (0.039) |
| south | 0.989 | (0.035) |
| islands | 0.923 | (0.041) |
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | 1.496*** | (0.121) |
| 2005 | 1.014 | (0.059) |
| 2006 | 1.066 | (0.055) |
| 2008 | 0.927 | (0.041) |
| 2009 | 0.885** | (0.039) |
| 2010 | 0.805*** | (0.037) |
| 2011 | 0.773*** | (0.038) |
| 2012 | 0.715*** | (0.039) |
| 2013 | 0.648*** | (0.041) |
| 2014 | 0.567*** | (0.051) |
| *Firm's size* | | |

| | | |
|---|---|---|
| 1-10 | ref. | |
| 11-15 | 0.741*** | (0.025) |
| 16-19 | 0.732*** | (0.040) |
| 20-49 | 0.597*** | (0.022) |
| 50-249 | 0.488*** | (0.019) |
| 250 or more | 0.358*** | (0.019) |
| | | |
| *Occupational level* | | |
| elementary occupations | ref. | |
| managers | 0.603*** | (0.070) |
| professionals | 0.431*** | (0.034) |
| technicians | 0.677*** | (0.034) |
| clerks | 0.734*** | (0.042) |
| services and sales | 0.810*** | (0.043) |
| craft and skilled manual | 0.951 | (0.039) |
| machine operators | 0.825*** | (0.037) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 1.156* | (0.071) |
| construction | 1.492*** | (0.059) |
| wholesale and retail | 1.198*** | (0.052) |
| accomodation and food service | 1.316*** | (0.084) |
| transportation and comunication | 1.081 | (0.048) |
| finance and real estate | 0.960 | (0.044) |
| public services | 0.307*** | (0.020) |
| other services | 1.209** | (0.075) |
| Observations | 33,303 | |
| Pseudo $R^2$ | 0.106 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.4: Females. Logistic regression on the probability of job finding through *Relatives, friends and aquaintances*. Pooled sample of Italians and immigrants. Model with the variable *Origin*.

| | Odds Ratios | s.e. |
|---|---|---|
| *Origin* | | |
| Italians born in Italy, EU15 and Oecd | ref. | |
| EU15 and Oecd | 1.350 | (0.256) |
| Other Eastern EU (New Member States) | 1.602*** | (0.082) |
| Albania | 1.484*** | (0.149) |
| Ex Yugoslavia and other eastern Europe | 2.074*** | (0.147) |
| Center-South Asia | 1.792** | (0.326) |
| Eastern Asia | 3.959*** | (0.581) |
| Morocco | 1.409* | (0.206) |
| Other North-Africa | 1.219 | (0.428) |
| Central Africa | 1.492** | (0.219) |
| Latin America | 2.130*** | (0.179) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.893*** | (0.029) |
| Tertiary | 0.628*** | (0.029) |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.989 | (0.030) |
| 45-54 | 0.979 | (0.034) |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.739*** | (0.026) |
| center | 1.182*** | (0.044) |
| south | 1.149*** | (0.045) |
| islands | 1.080 | (0.053) |
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | 1.260* | (0.114) |
| 2005 | 1.134 | (0.074) |
| 2006 | 1.126* | (0.064) |
| 2008 | 1.016 | (0.049) |
| 2009 | 0.847*** | (0.040) |
| 2010 | 0.796*** | (0.039) |
| 2011 | 0.775*** | (0.041) |
| 2012 | 0.732*** | (0.043) |
| 2013 | 0.592*** | (0.041) |
| 2014 | 0.446*** | (0.044) |
| *Firm's size* | | |

| | | |
|---|---|---|
| 1-10 | ref. | |
| 11-15 | 0.606*** | (0.024) |
| 16-19 | 0.536*** | (0.034) |
| 20-49 | 0.475*** | (0.020) |
| 50-249 | 0.351*** | (0.015) |
| 250 or more | 0.267*** | (0.017) |
| | | |
| *Occupational level* | | |
| elementary occupations | ref. | |
| managers | 0.588** | (0.108) |
| professionals | 0.290*** | (0.021) |
| technicians | 0.574*** | (0.030) |
| clerks | 0.682*** | (0.033) |
| services and sales | 0.606*** | (0.029) |
| craft and skilled manual | 0.665*** | (0.045) |
| machine operators | 0.559*** | (0.044) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 1.144 | (0.103) |
| construction | 1.929*** | (0.214) |
| wholesale and retail | 0.899 | (0.051) |
| accomodation and food service | 1.198** | (0.076) |
| transportation and comunication | 0.726*** | (0.061) |
| finance and real estate | 0.850** | (0.044) |
| public services | 0.382*** | (0.020) |
| other services | 1.440*** | (0.085) |
| Observations | 33,293 | |
| Pseudo $R^2$ | 0.189 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.5: Males. Logistic regression on the probability of job finding through *Relatives, friends and aquaintances*. Pooled sample of Italians and immigrants. Model with the variable *Origin(ysm)*.

| | Odds Ratios | s.e. |
|---|---|---|
| *Origin(ysm)* | | |
| Italians born in Italy, EU15 and Oecd | ref. | |
| immigrant since 0-3 years | 2.432*** | (0.226) |
| immigrant since 3-6 years | 2.136*** | (0.125) |
| immigrant since 6-9 years | 1.652*** | (0.096) |
| immigrant since 9 or more years | 1.436*** | (0.065) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.878*** | (0.024) |
| Tertiary | 0.692*** | (0.035) |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.901*** | (0.025) |
| 45-54 | 0.849*** | (0.028) |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.736*** | (0.025) |
| center | 1.097** | (0.039) |
| south | 0.976 | (0.035) |
| islands | 0.914* | (0.040) |
| *year of job finding* | | |
| 2007 | ref. | |
| 2004 | 1.504*** | (0.122) |
| 2005 | 1.024 | (0.060) |
| 2006 | 1.068 | (0.055) |
| 2008 | 0.926 | (0.041) |
| 2009 | 0.889** | (0.040) |
| 2010 | 0.809*** | (0.037) |
| 2011 | 0.778*** | (0.038) |
| 2012 | 0.723*** | (0.039) |
| 2013 | 0.655*** | (0.042) |
| 2014 | 0.575*** | (0.052) |
| *Firm's size* | | |
| 1-10 | ref. | |
| 11-15 | 0.740*** | (0.025) |
| 16-19 | 0.728*** | (0.039) |
| 20-49 | 0.597*** | (0.022) |
| 50-249 | 0.487*** | (0.019) |
| 250 or more | 0.357*** | (0.019) |

| | | |
|---|---|---|
| *Occupational level* | | |
| elementary occupations | ref. | |
| managers | 0.588*** | (0.068) |
| professionals | 0.427*** | (0.033) |
| technicians | 0.671*** | (0.034) |
| clerks | 0.730*** | (0.041) |
| services and sales | 0.812*** | (0.043) |
| craft and skilled manual | 0.948 | (0.039) |
| machine operators | 0.827*** | (0.037) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 1.129* | (0.070) |
| construction | 1.478*** | (0.058) |
| wholesale and retail | 1.199*** | (0.052) |
| accomodation and food service | 1.329*** | (0.084) |
| transportation and comunication | 1.076 | (0.048) |
| finance and real estate | 0.969 | (0.044) |
| public services | 0.308*** | (0.020) |
| other services | 1.245*** | (0.076) |
| Observations | 33,303 | |
| Pseudo $R^2$ | 0.105 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.6: Females. Logistic regression on the probability of job finding through *Relatives, friends and aquaintances*. Pooled sample of Italians and immigrants. Model with the variable *Origin(ysm)*.

| | Odds Ratios | s.e. |
|---|---|---|
| *Origin(ysm)* | | |
| Italians born in Italy, EU15 and Oecd | ref. | |
| immigrant since 0-3 years | 2.528*** | (0.272) |
| immigrant since 3-6 years | 1.835*** | (0.115) |
| immigrant since 6-9 years | 1.944*** | (0.120) |
| immigrant since 9 or more years | 1.552*** | (0.078) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.893*** | (0.029) |
| Tertiary | 0.636*** | (0.029) |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 1.002 | (0.030) |
| 45-54 | 0.996 | (0.035) |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.738*** | (0.026) |
| center | 1.172*** | (0.043) |
| south | 1.135** | (0.045) |
| islands | 1.070 | (0.053) |
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | 1.267** | (0.115) |
| 2005 | 1.141* | (0.074) |
| 2006 | 1.134* | (0.064) |
| 2008 | 1.015 | (0.049) |
| 2009 | 0.848*** | (0.040) |
| 2010 | 0.799*** | (0.039) |
| 2011 | 0.780*** | (0.041) |
| 2012 | 0.736*** | (0.043) |
| 2013 | 0.598*** | (0.041) |
| 2014 | 0.448*** | (0.044) |
| *Firm's size* | | |
| 1-10 | ref. | |
| 11-15 | 0.607*** | (0.024) |
| 16-19 | 0.536*** | (0.034) |
| 20-49 | 0.475*** | (0.020) |
| 50-249 | 0.351*** | (0.015) |
| 250 or more | 0.267*** | (0.016) |

| | | |
|---|---|---|
| *Occupational level* | | |
| elementary occupations | ref. | |
| managers | 0.588** | (0.107) |
| professionals | 0.289*** | (0.021) |
| technicians | 0.572*** | (0.030) |
| clerks | 0.682*** | (0.033) |
| services and sales | 0.610*** | (0.029) |
| craft and skilled manual | 0.668*** | (0.045) |
| machine operators | 0.560*** | (0.044) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 1.127 | (0.101) |
| construction | 1.926*** | (0.214) |
| wholesale and retail | 0.900 | (0.051) |
| accomodation and food service | 1.185** | (0.075) |
| transportation and comunication | 0.724*** | (0.061) |
| finance and real estate | 0.850** | (0.044) |
| public services | 0.380*** | (0.020) |
| other services | 1.455*** | (0.086) |
| Observations | 33,293 | |
| Pseudo $R^2$ | 0.188 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.7: Only immigrants, males. Logistic regression on the probability of job finding through *Relatives, friends and aquaintances*.

| | Odds Ratios | s.e. |
|---|---|---|
| *Years since migration* | | |
| immigrant since 0-3 years | ref. | |
| immigrant since 3-6 years | 0.866 | (0.092) |
| immigrant since 6-9 years | 0.644*** | (0.069) |
| immigrant since 9 or more years | 0.530*** | (0.055) |
| | | |
| *Origin* | | |
| EU15 and Oecd | ref. | |
| Other Eastern EU (New Member States) | 2.248** | (0.572) |
| Albania | 2.315** | (0.606) |
| Ex Yugoslavia and other eastern Europe | 2.151** | (0.560) |
| Center-South Asia | 2.511*** | (0.658) |
| Eastern Asia | 5.258*** | (1.525) |
| Morocco | 1.480 | (0.391) |
| Other North-Africa | 2.200** | (0.610) |
| Central Africa | 1.444 | (0.391) |
| Latin America | 2.362** | (0.621) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.871* | (0.052) |
| Tertiary | 0.775* | (0.090) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 1.018 | (0.062) |
| 45-54 | 0.942 | (0.076) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.647*** | (0.045) |
| center | 1.168* | (0.091) |
| south | 0.615*** | (0.060) |
| islands | 0.474*** | (0.068) |
| | | |
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | 1.815** | (0.402) |
| 2005 | 1.085 | (0.155) |
| 2006 | 0.979 | (0.116) |
| 2008 | 0.909 | (0.090) |
| 2009 | 0.812* | (0.080) |
| 2010 | 0.764** | (0.077) |
| 2011 | 0.774* | (0.084) |
| 2012 | 0.634*** | (0.077) |

| | | |
|---|---|---|
| 2013 | 0.684** | (0.097) |
| 2014 | 0.561** | (0.112) |
| | | |
| *Firm's size* | | |
| 1-10 | ref. | |
| 11-15 | 0.864 | (0.066) |
| 16-19 | 0.869 | (0.113) |
| 20-49 | 0.740*** | (0.064) |
| 50-249 | 0.642*** | (0.059) |
| 250 or more | 0.445*** | (0.064) |
| | | |
| *Occupational level* | | |
| elementary occupations | ref. | |
| mpt and clerks | 0.428*** | (0.066) |
| services and sales | 0.749* | (0.096) |
| craft and skilled manual | 0.943 | (0.073) |
| machine operators | 0.657*** | (0.063) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 1.248* | (0.141) |
| construction | 1.526*** | (0.130) |
| wholesale and retail | 1.288* | (0.155) |
| accomodation and food service | 1.321 | (0.191) |
| transportation and comunication | 1.801*** | (0.198) |
| finance and real estate | 1.345* | (0.170) |
| public services | 0.612* | (0.138) |
| other services | 1.912*** | (0.259) |
| Observations | 6,581 | |
| Pseudo $R^2$ | 0.078 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.8: Only immigrants, males. Logistic regression on the probability of job finding through *Relatives, friends and aquaintances*. Model with *size* of the immigrant group as independent variable.

| | Odds Ratios | s.e. |
|---|---|---|
| *Years since migration* | | |
| immigrant since 0-3 years | ref. | |
| immigrant since 3-6 years | 0.863 | (0.092) |
| immigrant since 6-9 years | 0.643*** | (0.069) |
| immigrant since 9 or more years | 0.531*** | (0.055) |
| | | |
| *Origin* | | |
| EU15 and Oecd | ref. | |
| Other Eastern EU (New Member States) | 2.418** | (0.692) |
| Albania | 1.593 | (0.547) |
| Ex Yugoslavia and other eastern Europe | 1.901* | (0.509) |
| Center-South Asia | 2.246** | (0.602) |
| Eastern Asia | 4.149*** | (1.304) |
| Morocco | 0.997 | (0.347) |
| Other North-Africa | 1.957* | (0.555) |
| Central Africa | 1.412 | (0.383) |
| Latin America | 2.236** | (0.591) |
| | | |
| size | 1.003* | (0.002) |
| size$^2$ | 1.000* | (0.000) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.872* | (0.052) |
| Tertiary | 0.768* | (0.089) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 1.013 | (0.062) |
| 45-54 | 0.937 | (0.075) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.651*** | (0.045) |
| center | 1.167* | (0.090) |
| south | 0.611*** | (0.059) |
| islands | 0.474*** | (0.068) |
| | | |
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | 1.811** | (0.401) |
| 2005 | 1.076 | (0.155) |
| 2006 | 0.975 | (0.116) |
| 2008 | 0.906 | (0.090) |

| | | |
|---|---|---|
| 2009 | 0.807* | (0.079) |
| 2010 | 0.760** | (0.076) |
| 2011 | 0.770* | (0.083) |
| 2012 | 0.630*** | (0.077) |
| 2013 | 0.683** | (0.097) |
| 2014 | 0.558** | (0.112) |
| | | |
| *Firm's size* | | |
| 1-10 | ref. | |
| 11-15 | 0.863 | (0.066) |
| 16-19 | 0.868 | (0.114) |
| 20-49 | 0.741*** | (0.064) |
| 50-249 | 0.643*** | (0.059) |
| 250 or more | 0.447*** | (0.064) |
| | | |
| *Occupational level* | | |
| elementary occupations | ref. | |
| mpt and clerks | 0.439*** | (0.068) |
| services and sales | 0.750* | (0.097) |
| craft and skilled manual | 0.943 | (0.073) |
| machine operators | 0.656*** | (0.063) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 1.243 | (0.140) |
| construction | 1.536*** | (0.130) |
| wholesale and retail | 1.294* | (0.155) |
| accomodation and food service | 1.336* | (0.194) |
| transportation and comunication | 1.800*** | (0.198) |
| finance and real estate | 1.347* | (0.170) |
| public services | 0.605* | (0.137) |
| other services | 1.911*** | (0.259) |
| Observations | 6,581 | |
| Pseudo $R^2$ | 0.078 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.9: Only immigrants, females. Logistic regression on the probability of job finding through *Relatives, friends and aquaintances*.

| | Odds Ratios | s.e. |
|---|---|---|
| *Years since migration* | | |
| immigrant since 0-3 years | ref. | |
| immigrant since 3-6 years | 0.729** | (0.086) |
| immigrant since 6-9 years | 0.792* | (0.094) |
| immigrant since 9 or more years | 0.613*** | (0.071) |
| *Origin* | | |
| EU15 and Oecd | ref. | |
| Other Eastern EU (New Member States) | 1.104 | (0.211) |
| Albania | 1.120 | (0.235) |
| Ex Yugoslavia and other eastern Europe | 1.390 | (0.276) |
| Center-South Asia | 1.239 | (0.323) |
| Eastern Asia | 2.995*** | (0.713) |
| Morocco | 1.046 | (0.248) |
| Other North-Africa | 0.973 | (0.377) |
| Central Africa | 1.084 | (0.256) |
| Latin America | 1.463 | (0.297) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.935 | (0.062) |
| Tertiary | 0.784* | (0.076) |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.850* | (0.058) |
| 45-54 | 1.019 | (0.083) |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.647*** | (0.047) |
| center | 1.245** | (0.101) |
| south | 1.008 | (0.111) |
| islands | 0.509*** | (0.078) |
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | 1.477 | (0.417) |
| 2005 | 1.099 | (0.183) |
| 2006 | 1.046 | (0.148) |
| 2008 | 0.895 | (0.098) |
| 2009 | 0.758** | (0.081) |
| 2010 | 0.629*** | (0.069) |
| 2011 | 0.638*** | (0.075) |
| 2012 | 0.547*** | (0.071) |

| | | |
|---|---|---|
| 2013 | 0.510*** | (0.079) |
| 2014 | 0.418*** | (0.082) |
| | | |
| *Firm's size* | | |
| 1-10 | ref. | |
| 11-15 | 0.733** | (0.080) |
| 16-19 | 0.611** | (0.104) |
| 20-49 | 0.606*** | (0.067) |
| 50-249 | 0.425*** | (0.048) |
| 250 or more | 0.317*** | (0.049) |
| | | |
| *Occupational level* | | |
| elementary occupations | ref. | |
| mpt and clerks | 0.444*** | (0.055) |
| services and sales | 0.553*** | (0.057) |
| craft and skilled manual | 0.832 | (0.117) |
| machine operators | 0.606** | (0.101) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 2.087*** | (0.431) |
| construction | 3.655* | (2.192) |
| wholesale and retail | 1.074 | (0.180) |
| accomodation and food service | 1.340 | (0.211) |
| transportation and comunication | 1.178 | (0.340) |
| finance and real estate | 1.181 | (0.166) |
| public services | 0.729* | (0.109) |
| other services | 2.515*** | (0.359) |
| Observations | 7,186 | |
| Pseudo $R^2$ | 0.169 | |

Exponentiated coefficients; Standard errors in parentheses

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

Table A.10: Only immigrants, females. Logistic regression on the probability of job finding through *Relatives, friends and aquaintances*. Model with *size* of the immigrant group as independent variable.

| | Odds Ratios | s.e. |
|---|---|---|
| *Years since migration* | | |
| immigrant since 0-3 years | ref. | |
| immigrant since 3-6 years | 0.731** | (0.087) |
| immigrant since 6-9 years | 0.792* | (0.093) |
| immigrant since 9 or more years | 0.610*** | (0.071) |
| | | |
| *Origin* | | |
| EU15 and Oecd | ref. | |
| Other Eastern EU (New Member States) | 1.153 | (0.242) |
| Albania | 1.051 | (0.306) |
| Ex Yugoslavia and other eastern Europe | 1.338 | (0.288) |
| Center-South Asia | 1.219 | (0.319) |
| Eastern Asia | 2.862*** | (0.738) |
| Morocco | 0.973 | (0.305) |
| Other North-Africa | 0.945 | (0.371) |
| Central Africa | 1.080 | (0.255) |
| Latin America | 1.444 | (0.295) |
| | | |
| size | 1.001 | (0.001) |
| $size^2$ | 1.000 | (0.000) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.934 | (0.062) |
| Tertiary | 0.783* | (0.076) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.850* | (0.058) |
| 45-54 | 1.016 | (0.082) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.646*** | (0.048) |
| center | 1.245** | (0.101) |
| south | 1.003 | (0.111) |
| islands | 0.510*** | (0.078) |
| | | |
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | 1.482 | (0.419) |
| 2005 | 1.097 | (0.182) |
| 2006 | 1.045 | (0.148) |
| 2008 | 0.894 | (0.098) |

| | | |
|---|---|---|
| 2009 | 0.758** | (0.081) |
| 2010 | 0.629*** | (0.069) |
| 2011 | 0.639*** | (0.075) |
| 2012 | 0.548*** | (0.071) |
| 2013 | 0.510*** | (0.079) |
| 2014 | 0.418*** | (0.082) |
| | | |
| *Firm's size* | | |
| 1-10 | ref. | |
| 11-15 | 0.733** | (0.080) |
| 16-19 | 0.611** | (0.104) |
| 20-49 | 0.606*** | (0.067) |
| 50-249 | 0.426*** | (0.049) |
| 250 or more | 0.316*** | (0.049) |
| | | |
| *Occupational level* | | |
| elementary occupations | ref. | |
| mpt and clerks | 0.442*** | (0.055) |
| services and sales | 0.552*** | (0.057) |
| craft and skilled manual | 0.829 | (0.117) |
| machine operators | 0.607** | (0.101) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 2.076*** | (0.428) |
| construction | 3.650* | (2.185) |
| wholesale and retail | 1.075 | (0.180) |
| accomodation and food service | 1.338 | (0.211) |
| transportation and comunication | 1.181 | (0.341) |
| finance and real estate | 1.178 | (0.165) |
| public services | 0.728* | (0.109) |
| other services | 2.509*** | (0.358) |
| Observations | 7,186 | |
| Pseudo $R^2$ | 0.170 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.11: Males. Logistic regression on the probability of being *Overeducated*. Sample of individuals with at least an upper secondary educational level. Models distinguished between Italians and immigrants. Odds ratios.

| | (1) Italians | | (2) Immigrants | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| relatives, friends, acquaintances | ref. | | ref. | |
| direct contact with employer | 0.773*** | (0.039) | 0.766** | (0.071) |
| intermediary institution | 1.203* | (0.090) | 1.289 | (0.191) |
| other formal methods | 0.684*** | (0.054) | 0.348*** | (0.090) |
| *Education* | | | | |
| Upper secondary | ref. | | ref. | |
| Tertiary | 0.317*** | (0.021) | 2.494*** | (0.325) |
| *Age* | | | | |
| 25-34 | ref. | | ref. | |
| 35-44 | 0.927 | (0.046) | 1.125 | (0.097) |
| 45-54 | 0.888 | (0.056) | 1.134 | (0.126) |
| *Region* | | | | |
| north-west | ref. | | ref. | |
| north-east | 1.195** | (0.076) | 0.951 | (0.091) |
| center | 1.254*** | (0.086) | 0.948 | (0.102) |
| south | 1.715*** | (0.110) | 1.068 | (0.162) |
| islands | 1.704*** | (0.140) | 1.626 | (0.403) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agriculture | 3.463*** | (0.446) | 2.058*** | (0.347) |
| construction | 0.440*** | (0.039) | 0.292*** | (0.034) |
| wholesale and retail | 0.430*** | (0.033) | 0.808 | (0.118) |
| accomodation and food service | 0.202*** | (0.028) | 0.455*** | (0.071) |
| transport. and comunication | 1.461*** | (0.097) | 6.595*** | (1.123) |
| finance and real estate | 0.316*** | (0.027) | 1.694*** | (0.270) |
| public services | 0.434*** | (0.038) | 0.162*** | (0.051) |
| other services | 0.662*** | (0.074) | 2.847*** | (0.457) |
| *Year of job finding* | | | | |
| 2007 | ref. | | ref. | |
| 2004 | 0.990 | (0.149) | 0.547 | (0.174) |
| 2005 | 1.169 | (0.127) | 1.144 | (0.234) |
| 2006 | 1.026 | (0.103) | 1.174 | (0.197) |
| 2008 | 1.186* | (0.100) | 1.070 | (0.147) |
| 2009 | 1.271** | (0.109) | 1.230 | (0.167) |
| 2010 | 1.307** | (0.114) | 0.967 | (0.137) |
| 2011 | 1.404*** | (0.128) | 1.185 | (0.182) |
| 2012 | 1.221 | (0.128) | 1.236 | (0.214) |
| 2013 | 1.800*** | (0.204) | 1.249 | (0.264) |

| | | | | |
|---|---|---|---|---|
| 2014 | 2.174*** | (0.329) | 0.943 | (0.271) |
| Observations | 16,574 | | 3,366 | |
| Pseudo $R^2$ | 0.106 | | 0.164 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.12: Females. Logistic regression on the probability of being *Overeducated*. Sample of individuals with at least an upper secondary educational level. Models distinguished between Italians and immigrants. Odds ratios.

| | (1) Italians | | (2) Immigrants | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| relatives, friends, acquaintances | ref. | | ref. | |
| direct contact with employer | 0.753*** | (0.042) | 0.622*** | (0.062) |
| intermediary institution | 1.023 | (0.085) | 0.692* | (0.104) |
| other formal methods | 0.469*** | (0.040) | 0.332*** | (0.062) |
| *Education* | | | | |
| Upper secondary | ref. | | ref. | |
| Tertiary | 0.775*** | (0.048) | 1.579*** | (0.161) |
| *Age* | | | | |
| 25-34 | ref. | | ref. | |
| 35-44 | 1.092 | (0.058) | 1.580*** | (0.142) |
| 45-54 | 1.484*** | (0.093) | 2.838*** | (0.332) |
| *Region* | | | | |
| north-west | ref. | | ref. | |
| north-east | 1.088 | (0.076) | 0.854 | (0.086) |
| center | 1.304*** | (0.093) | 0.717** | (0.079) |
| south | 1.384*** | (0.098) | 0.830 | (0.131) |
| islands | 1.629*** | (0.136) | 0.838 | (0.181) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agriculture | 7.301*** | (1.113) | 2.435** | (0.724) |
| construction | 0.085*** | (0.036) | 0.405 | (0.242) |
| wholesale and retail | 0.574*** | (0.051) | 0.305*** | (0.054) |
| accomodation and food service | 0.690*** | (0.076) | 0.397*** | (0.058) |
| transport. and comunication | 0.505*** | (0.071) | 0.306*** | (0.102) |
| finance and real estate | 0.487*** | (0.043) | 1.625** | (0.253) |
| public services | 0.579*** | (0.048) | 0.305*** | (0.046) |
| other services | 1.756*** | (0.155) | 9.847*** | (1.548) |
| *Year of job finding* | | | | |
| 2007 | ref. | | ref. | |
| 2004 | 0.792 | (0.165) | 0.650 | (0.229) |
| 2005 | 0.864 | (0.127) | 0.938 | (0.193) |
| 2006 | 1.228 | (0.145) | 0.918 | (0.179) |
| 2008 | 1.304** | (0.132) | 1.135 | (0.167) |
| 2009 | 1.342** | (0.134) | 1.342* | (0.194) |
| 2010 | 1.712*** | (0.169) | 1.553** | (0.230) |
| 2011 | 1.720*** | (0.177) | 1.318 | (0.214) |
| 2012 | 2.025*** | (0.217) | 1.680** | (0.308) |
| 2013 | 2.327*** | (0.278) | 1.874** | (0.414) |

| | | | | |
|---|---|---|---|---|
| 2014 | 2.959*** | (0.470) | 1.496 | (0.444) |
| Observations | 20,008 | | 4,737 | |
| Pseudo $R^2$ | 0.083 | | 0.339 | |

Exponentiated coefficients; Robust standard errors in parentheses

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

Table A.13: Males. Logistic regression on the probability of being *Overeducated*. Pooled sample of Italians and immigrants with at least an upper secondary educational level.

| | $\hat{\beta}$ | s.e. |
|---|---|---|
| *Origin* | | |
| Italian | ref. | |
| immigrant | 1.238*** | (0.064) |
| | | |
| *Job finding method* | | |
| relatives, friends and acquaintances | ref. | |
| direct contact with the employer/firm | -0.157** | (0.053) |
| intermediary institution | 0.398*** | (0.079) |
| other formal methods | -0.231** | (0.082) |
| | | |
| *Origin X Job finding method* | | |
| immigrant X direct | -0.0686 | (0.099) |
| immigrant X intermediary | -0.0201 | (0.155) |
| immigrant X other | -0.418 | (0.228) |
| | | |
| *Education* | | |
| Upper secondary | ref. | |
| Tertiary | -0.510*** | (0.091) |
| | | |
| *Origin X Education* | | |
| immigrant X tertiary | 1.971*** | (0.129) |
| | | |
| *Job finding method X Education* | | |
| direct X tertiary | -0.889*** | (0.127) |
| intermediary X tertiary | -1.415*** | (0.178) |
| other X tertiary | -1.104*** | (0.188) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | -0.0290 | (0.042) |
| 45-54 | -0.0689 | (0.054) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.106* | (0.052) |
| center | 0.131* | (0.057) |
| south | 0.445*** | (0.057) |
| islands | 0.485*** | (0.075) |
| | | |
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | -0.123 | (0.135) |
| 2005 | 0.144 | (0.094) |
| 2006 | 0.0656 | (0.083) |

| | | |
|---|---|---|
| 2008 | 0.134 | (0.070) |
| 2009 | 0.228** | (0.071) |
| 2010 | 0.179* | (0.074) |
| 2011 | 0.315*** | (0.077) |
| 2012 | 0.215* | (0.087) |
| 2013 | 0.505*** | (0.099) |
| 2014 | 0.597*** | (0.136) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 0.950*** | (0.111) |
| construction | -1.127*** | (0.076) |
| wholesale and retail | -0.704*** | (0.067) |
| accomodation and food services | -1.344*** | (0.100) |
| transportation and comunication | 0.651*** | (0.058) |
| finance and real estate | -0.765*** | (0.068) |
| public services | -0.816*** | (0.086) |
| other services | 0.0501 | (0.079) |
| | | |
| Constant | -1.350*** | (0.075) |
| Observations | 19,940 | |
| Pseudo $R^2$ | 0.164 | |

Robust standard errors in parentheses

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

Table A.14: Females. Logistic regression on the probability of being *Overeducated*. Pooled sample of Italians and immigrants with at least an upper secondary educational level.

| | $\hat{\beta}$ | s.e. |
|---|---|---|
| *Origin* | | |
| Italian | ref. | |
| immigrant | 2.475*** | (0.066) |
| | | |
| *Job finding method* | | |
| relatives, friends and acquaintances | ref. | |
| direct contact with the employer/firm | -0.153* | (0.064) |
| intermediary institution | 0.481*** | (0.094) |
| other formal methods | -0.262** | (0.098) |
| | | |
| *Origin X Job finding method* | | |
| immigrant X direct | -0.499*** | (0.099) |
| immigrant X intermediary | -0.652*** | (0.152) |
| immigrant X other | -0.568*** | (0.173) |
| | | |
| *Education* | | |
| Upper secondary | ref. | |
| Tertiary | 0.277*** | (0.084) |
| | | |
| *Origin X Education* | | |
| immigrant X tertiary | 0.339** | (0.104) |
| direct X tertiary | -0.407*** | (0.106) |
| intermediary X tertiary | -1.433*** | (0.162) |
| other X tertiary | -1.137*** | (0.147) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.225*** | (0.045) |
| 45-54 | 0.623*** | (0.052) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | 0.0126 | (0.054) |
| center | 0.121* | (0.058) |
| south | 0.264*** | (0.063) |
| islands | 0.429*** | (0.078) |
| | | |
| *Yeear of job finding* | | |
| 2007 | ref. | |
| 2004 | -0.339* | (0.166) |
| 2005 | -0.149 | (0.110) |
| 2006 | 0.108 | (0.096) |
| 2008 | 0.202** | (0.077) |
| 2009 | 0.254*** | (0.076) |

| | | |
|---|---|---|
| 2010 | 0.466*** | (0.077) |
| 2011 | 0.428*** | (0.082) |
| 2012 | 0.627*** | (0.089) |
| 2013 | 0.749*** | (0.103) |
| 2014 | 0.948*** | (0.148) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agriculture | 1.842*** | (0.153) |
| construction | -2.051*** | (0.309) |
| wholesale and retail | -0.621*** | (0.085) |
| accomodation and food services | -0.769*** | (0.097) |
| transportation and comunication | -0.746*** | (0.138) |
| finance and real estate | -0.393*** | (0.073) |
| public services | -0.648*** | (0.075) |
| other services | 1.217*** | (0.071) |
| | | |
| Constant | -2.309*** | (0.096) |
| Observations | 24,745 | |
| Pseudo $R^2$ | 0.346 | |

Robust standard errors in parentheses

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

Table A.15: Males. Logistic regression on the probability of having an *Elementary occupation*. Pooled sample of Italians and immigrants.

| | $\hat{\beta}$ | s.e. |
|---|---|---|
| *Origin* | | |
| Italian | ref. | |
| immigrant | 1.039*** | (0.055) |
| | | |
| *Job finding method* | | |
| relatives, friends and acquaintances | ref. | |
| direct contact with the employer/firm | -0.142** | (0.051) |
| intermediary institution | 0.710*** | (0.083) |
| other formal methods | 0.358*** | (0.104) |
| | | |
| *Origin X Job finding method* | | |
| immigrant X direct | -0.0936 | (0.079) |
| immigrant X intermediary | -0.806*** | (0.140) |
| immigrant X other | -0.262 | (0.211) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | -0.868*** | (0.059) |
| Tertiary | -2.552*** | (0.211) |
| | | |
| *Origin X Education* | | |
| immigrant X upper | 0.535*** | (0.075) |
| immigrant X tertiary | 2.461*** | (0.221) |
| | | |
| *Job finding method X Education* | | |
| direct X upper | -0.0908 | (0.079) |
| direct X tertiary | -1.040*** | (0.244) |
| intermediary X upper | -0.370** | (0.127) |
| intermediary X tertiary | -0.808** | (0.307) |
| other X upper | -0.513*** | (0.148) |
| other X tertiary | -2.857*** | (0.607) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.139*** | (0.038) |
| 45-54 | 0.248*** | (0.043) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | -0.0616 | (0.050) |
| center | 0.0964 | (0.052) |
| south | 0.672*** | (0.048) |
| islands | 1.012*** | (0.054) |
| | | |
| *Year of job finding* | | |

| | | |
|---|---|---|
| 2007 | ref. | |
| 2004 | -0.443** | (0.137) |
| 2005 | -0.143 | (0.091) |
| 2006 | -0.0616 | (0.076) |
| 2008 | 0.0808 | (0.064) |
| 2009 | 0.314*** | (0.062) |
| 2010 | 0.288*** | (0.063) |
| 2011 | 0.368*** | (0.066) |
| 2012 | 0.454*** | (0.073) |
| 2013 | 0.437*** | (0.084) |
| 2014 | 0.656*** | (0.111) |
| | | |
| Constant | -2.146*** | (0.070) |
| Observations | 34,259 | |
| Pseudo $R^2$ | 0.136 | |

Robust standard errors in parentheses

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

Table A.16: Females. Logistic regression on the probability of having an *Elementary occupation*. Pooled sample of Italians and immigrants.

| | $\hat{\beta}$ | s.e. |
|---|---|---|
| *Origin* | | |
| Italian | ref. | |
| immigrant | 1.001*** | (0.055) |
| | | |
| *Job finding method* | | |
| relatives, friends and acquaintances | ref. | |
| direct contact with the employer/firm | -0.383*** | (0.051) |
| intermediary institution | 0.00368 | (0.082) |
| other formal methods | -0.163 | (0.099) |
| | | |
| *Origin X Job finding method* | | |
| immigrant X direct | -0.253** | (0.081) |
| immigrant X intermediary | -0.781*** | (0.135) |
| immigrant X other | -0.494** | (0.179) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | -1.574*** | (0.054) |
| Tertiary | -3.747*** | (0.180) |
| | | |
| *Origin X Education* | | |
| immigrant X upper | 1.373*** | (0.071) |
| immigrant X tertiary | 3.146*** | (0.182) |
| | | |
| *Job finding method X Education* | | |
| direct X upper | -0.101 | (0.078) |
| direct X tertiary | -0.544** | (0.169) |
| intermediary X upper | 0.0631 | (0.125) |
| intermediary X tertiary | -0.648* | (0.283) |
| other X upper | -0.316* | (0.136) |
| other X tertiary | -1.522*** | (0.330) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.436*** | (0.038) |
| 45-54 | 0.686*** | (0.041) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | -0.0568 | (0.043) |
| center | 0.135** | (0.045) |
| south | 0.632*** | (0.047) |
| islands | 0.407*** | (0.059) |
| | | |
| *Year of job finding* | | |

| | | |
|---|---|---|
| 2007 | ref. | |
| 2004 | -0.118 | (0.115) |
| 2005 | -0.0373 | (0.077) |
| 2006 | -0.115 | (0.070) |
| 2008 | 0.0944 | (0.057) |
| 2009 | 0.117* | (0.057) |
| 2010 | 0.0299 | (0.059) |
| 2011 | 0.00788 | (0.064) |
| 2012 | 0.0618 | (0.071) |
| 2013 | -0.0146 | (0.086) |
| 2014 | 0.157 | (0.121) |
| | | |
| Constant | -1.186*** | (0.065) |
| Observations | 34,909 | |
| Pseudo $R^2$ | 0.259 | |

Robust standard errors in parentheses

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

Table A.17: Males. Logistic regression on the probability of having an *Elementary occupation*. Pooled sample of Italians and immigrants. Model with *Origin(ysm)*.

| | $\hat{\beta}$ | s.e. |
|---|---|---|
| *Origin(ysm)* | | |
| Italians | ref. | |
| immigrant since 0-3 years | 1.579*** | (0.110) |
| immigrant since 3-6 years | 1.555*** | (0.074) |
| immigrant since 6-9 years | 1.325*** | (0.082) |
| immigrant since 9 or more years | 1.060*** | (0.070) |
| | | |
| *Job finding method* | | |
| relatives, friends and acquaintances | ref. | |
| direct contact with the employer/firm | -0.208*** | (0.044) |
| intermediary institution | 0.510*** | (0.067) |
| other formal methods | -0.0733 | (0.078) |
| | | |
| *Origin X Job finding method* | | |
| 0-3 X direct | -0.0631 | (0.231) |
| 0-3 X intermediary | -0.824* | (0.400) |
| 0-3 X other | -0.518 | (0.584) |
| 3-6 X direct | -0.184 | (0.144) |
| 3-6 X intermediary | -0.833** | (0.269) |
| 3-6 X other | -0.573 | (0.520) |
| 6-9 X direct | 0.0773 | (0.143) |
| 6-9 X intermediary | -0.675* | (0.273) |
| 6-9 X other | 0.313 | (0.402) |
| 9 or more X direct | -0.0671 | (0.115) |
| 9 or more X intermediary | -0.632** | (0.201) |
| 9 or more X other | -0.0232 | (0.287) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | -0.764*** | (0.035) |
| Tertiary | -2.160*** | (0.092) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.214*** | (0.038) |
| 45-54 | 0.354*** | (0.043) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | -0.0684 | (0.050) |
| center | 0.0904 | (0.052) |
| south | 0.636*** | (0.048) |
| islands | 1.005*** | (0.053) |

| | | |
|---|---|---|
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | -0.419** | (0.137) |
| 2005 | -0.138 | (0.092) |
| 2006 | -0.0574 | (0.077) |
| 2008 | 0.0696 | (0.065) |
| 2009 | 0.320*** | (0.063) |
| 2010 | 0.292*** | (0.064) |
| 2011 | 0.383*** | (0.067) |
| 2012 | 0.469*** | (0.073) |
| 2013 | 0.454*** | (0.084) |
| 2014 | 0.685*** | (0.112) |
| | | |
| Constant | -2.231*** | (0.068) |
| Observations | 34,259 | |
| Pseudo $R^2$ | 0.126 | |

Robust standard errors in parentheses

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

Table A.18: Females. Logistic regression on the probability of having an *Elementary occupation*. Pooled sample of Italians and immigrants. Model with *Origin(ysm)*.

| | $\hat{\beta}$ | s.e. |
|---|---|---|
| *Origin(ysm)* | | |
| Italians | ref. | |
| immigrant since 0-3 years | 1.983*** | (0.118) |
| immigrant since 3-6 years | 1.855*** | (0.072) |
| immigrant since 6-9 years | 2.017*** | (0.074) |
| immigrant since 9 or more years | 1.769*** | (0.064) |
| | | |
| *Job finding method* | | |
| relatives, friends and acquaintances | ref. | |
| direct contact with the employer/firm | -0.467*** | (0.042) |
| intermediary institution | -0.0575 | (0.065) |
| other formal methods | -0.644*** | (0.068) |
| | | |
| *Origin X Job finding method* | | |
| 0-3 X direct | -0.162 | (0.267) |
| 0-3 X intermediary | -2.158* | (0.915) |
| 0-3 X other | -0.182 | (0.439) |
| 3-6 X direct | -0.170 | (0.146) |
| 3-6 X intermediary | -0.737* | (0.293) |
| 3-6 X other | 0.0205 | (0.305) |
| 6-9 X direct | -0.230 | (0.145) |
| 6-9 X intermediary | -0.949*** | (0.255) |
| 6-9 X other | -0.182 | (0.337) |
| 9 or more X direct | -0.382** | (0.117) |
| 9 or more X intermediary | -0.502** | (0.176) |
| 9 or more X other | -0.612* | (0.275) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | -1.129*** | (0.034) |
| Tertiary | -2.363*** | (0.058) |
| | | |
| *Age* | | |
| 25-34 | ref. | |
| 35-44 | 0.556*** | (0.039) |
| 45-54 | 0.883*** | (0.041) |
| | | |
| *Region* | | |
| north-west | ref. | |
| north-east | -0.0396 | (0.044) |
| center | 0.112* | (0.046) |
| south | 0.572*** | (0.047) |
| islands | 0.391*** | (0.059) |

| | | |
|---|---|---|
| *Year of job finding* | | |
| 2007 | ref. | |
| 2004 | -0.0866 | (0.115) |
| 2005 | -0.0321 | (0.078) |
| 2006 | -0.0934 | (0.071) |
| 2008 | 0.100 | (0.058) |
| 2009 | 0.118* | (0.058) |
| 2010 | 0.0376 | (0.060) |
| 2011 | 0.0149 | (0.065) |
| 2012 | 0.0565 | (0.073) |
| 2013 | 0.0133 | (0.087) |
| 2014 | 0.123 | (0.127) |
| | | |
| Constant | -1.480*** | (0.064) |
| Observations | 34,909 | |
| Pseudo $R^2$ | 0.236 | |

Robust standard errors in parentheses

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

# Appendix B

# Full tables of multivariate analysis

Table B.1: Males, first job. Multinomial logistic regression on the probability of job finding through *Co-ethnics* (base outcome), *Italians* and *Formal methods*. Relative Risk Ratios.

| | (1) Italians | | (2) Formal methods | |
|---|---|---|---|---|
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 8.607*** | (5.439) | 16.382*** | (6.838) |
| Other Eastern Europe | 1.331 | (0.263) | 1.320* | (0.177) |
| Asia | 0.175*** | (0.057) | 0.713 | (0.123) |
| MENA | 0.868 | (0.210) | 0.987 | (0.150) |
| Other Africa | 1.166 | (0.382) | 1.457 | (0.293) |
| Latin | 1.499 | (0.480) | 1.453 | (0.320) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 0.622** | (0.103) | 0.994 | (0.103) |
| 2009-2012 | 0.529 | (0.199) | 0.834 | (0.212) |
| *Search duration* | | | | |
| more than 3 months | ref. | | ref. | |
| 0-3 months | 0.728* | (0.115) | 0.706*** | (0.070) |
| *Age* | | | | |
| less than 19 | ref. | | ref. | |
| 19-24 | 0.644 | (0.168) | 1.283 | (0.238) |
| 25-29 | 0.831 | (0.224) | 1.396 | (0.268) |
| 30-34 | 0.823 | (0.240) | 1.569* | (0.311) |
| 35-39 | 0.621 | (0.193) | 1.500 | (0.325) |
| 40-44 | 1.305 | (0.441) | 1.334 | (0.336) |
| 45 or more | 1.013 | (0.397) | 1.957** | (0.507) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |

| | | | | |
|---|---|---|---|---|
| Upper secondary | 1.291 | (0.211) | 0.995 | (0.101) |
| Tertiary | 1.459 | (0.423) | 1.119 | (0.205) |
| | | | | |
| *Language proficiency* | | | | |
| no Italian | ref. | | ref. | |
| moderate | 1.462* | (0.239) | 1.712*** | (0.179) |
| | | | | |
| *Region* | | | | |
| North-west | ref. | | ref. | |
| North-east | 1.174 | (0.256) | 1.291 | (0.184) |
| Center | 1.058 | (0.236) | 1.208 | (0.171) |
| South and islands | 1.057 | (0.227) | 1.150 | (0.150) |
| | | | | |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |
| agricolture | 0.656 | (0.203) | 0.501*** | (0.085) |
| construction | 0.787 | (0.173) | 0.619*** | (0.086) |
| wholesale and retail trade | 0.917 | (0.261) | 0.954 | (0.151) |
| accomodation/food services | 1.405 | (0.397) | 1.352 | (0.244) |
| business services | 0.688 | (0.245) | 0.900 | (0.175) |
| personal services | 2.114* | (0.642) | 1.537* | (0.333) |
| care/domestic services | 0.982 | (0.322) | 0.341*** | (0.089) |
| Observations | 5,203 | | | |
| Pseudo $R^2$ | 0.071 | | | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.2: Females, first job. Multinomial logistic regression on the probability of job finding through *Co-ethnics* (base outcome), *Italians* and *Formal methods*. Relative Risk Ratios.

| | (1) Italians | | (2) Formal methods | |
|---|---|---|---|---|
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 3.298*** | (1.164) | 5.613*** | (1.686) |
| Other Eastern Europe | 0.923 | (0.124) | 0.989 | (0.118) |
| Asia | 0.409*** | (0.108) | 0.599** | (0.112) |
| MENA | 1.214 | (0.289) | 0.990 | (0.204) |
| Other Africa | 1.120 | (0.318) | 1.088 | (0.244) |
| Latin | 1.254 | (0.243) | 1.156 | (0.203) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 0.866 | (0.124) | 0.780* | (0.097) |
| 2009-2012 | 1.174 | (0.338) | 0.818 | (0.200) |
| *Search duration* | | | | |
| more than 3 months | ref. | | ref. | |
| 0-3 months | 0.651*** | (0.080) | 0.552*** | (0.057) |
| *Age* | | | | |
| less than 19 | ref. | | ref. | |
| 19-24 | 1.594 | (0.484) | 0.885 | (0.228) |
| 25-29 | 1.688 | (0.520) | 0.994 | (0.259) |
| 30-34 | 1.712 | (0.545) | 0.916 | (0.246) |
| 35-39 | 2.204* | (0.699) | 1.334 | (0.363) |
| 40-44 | 1.980* | (0.650) | 1.227 | (0.349) |
| 45 or more | 1.580 | (0.521) | 0.712 | (0.211) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 1.070 | (0.141) | 1.154 | (0.131) |
| Tertiary | 1.256 | (0.224) | 1.645** | (0.257) |
| *Language proficiency* | | | | |
| no Italian | ref. | | ref. | |
| moderate | 1.281* | (0.152) | 1.593*** | (0.167) |
| *Region* | | | | |
| North-west | ref. | | ref. | |
| North-east | 1.243 | (0.210) | 1.107 | (0.162) |
| Center | 1.049 | (0.171) | 0.908 | (0.127) |
| South and islands | 1.002 | (0.155) | 0.954 | (0.131) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |

| | | | | |
|---|---|---|---|---|
| agricolture | 0.351** | (0.130) | 0.392*** | (0.106) |
| wholesale and retail trade | 0.895 | (0.278) | 0.892 | (0.210) |
| accomodation/food services | 0.955 | (0.237) | 0.771 | (0.153) |
| business services | 0.791 | (0.225) | 0.786 | (0.175) |
| personal services | 0.862 | (0.201) | 0.745 | (0.135) |
| care/domestic services | 0.741 | (0.162) | 0.271*** | (0.048) |
| Observations | 5,407 | | | |
| Pseudo $R^2$ | 0.075 | | | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.3: Males, subsequent (current) job. Multinomial logistic regression on the probability of job finding through *Co-ethnics* (base outcome), *Italians* and *Formal methods*. Relative Risk Ratios.

| | (1) Italians | | (2) Formal methods | |
|---|---|---|---|---|
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 6.107 | (6.212) | 12.299** | (11.743) |
| Other Eastern Europe | 1.026 | (0.287) | 1.293 | (0.288) |
| Asia | 0.649 | (0.224) | 0.527* | (0.164) |
| MENA | 0.817 | (0.243) | 0.985 | (0.245) |
| Other Africa | 0.730 | (0.315) | 1.687 | (0.530) |
| Latin | 1.374 | (0.504) | 1.099 | (0.390) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 1.295 | (0.298) | 0.896 | (0.162) |
| 2009-2012 | 4.983* | (3.977) | 0.528 | (0.553) |
| *Years since migration* | | | | |
| 0-3 years | ref. | | ref. | |
| 3-6 years | 1.637 | (0.432) | 1.236 | (0.261) |
| 6-9 years | 2.028* | (0.643) | 1.138 | (0.277) |
| 9 years or more | 1.517 | (0.507) | 1.141 | (0.302) |
| *Age* | | | | |
| less than 25 | ref. | | ref. | |
| 25-29 | 0.865 | (0.275) | 0.979 | (0.247) |
| 30-34 | 1.373 | (0.430) | 1.151 | (0.286) |
| 35-39 | 1.934 | (0.688) | 1.650 | (0.462) |
| 40-44 | 2.363* | (0.972) | 1.975* | (0.624) |
| 45-49 | 2.785* | (1.347) | 2.539* | (1.070) |
| 50 or more | 1.979 | (1.469) | 1.374 | (0.729) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 1.255 | (0.262) | 1.053 | (0.177) |
| Tertiary | 1.178 | (0.498) | 2.059* | (0.624) |
| language proficiency at present | 1.606** | (0.247) | 1.191 | (0.122) |
| *Region* | | | | |
| North-west | ref. | | ref. | |
| North-east | 0.731 | (0.192) | 1.136 | (0.212) |
| Center | 1.281 | (0.314) | 0.907 | (0.193) |
| South and islands | 1.245 | (0.320) | 0.938 | (0.194) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |

| | | | | |
|---|---|---|---|---|
| agricolture | 1.163 | (0.474) | 0.337** | (0.129) |
| construction | 0.762 | (0.226) | 0.330*** | (0.075) |
| wholesale and retail trade | 1.300 | (0.429) | 0.883 | (0.236) |
| accomodation/food services | 0.866 | (0.315) | 0.837 | (0.253) |
| business services | 1.035 | (0.303) | 0.620* | (0.135) |
| personal services | 1.621 | (0.850) | 1.094 | (0.431) |
| care/domestic services | 1.930 | (1.053) | 0.159** | (0.090) |
| Observations | 1,619 | | | |
| Pseudo $R^2$ | 0.085 | | | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.4: Females, subsequent (current) job. Multinomial logistic regression on the probability of job finding through *Co-ethnics* (base outcome), *Italians* and *Formal methods*. Relative Risk Ratios.

| | (1)Italians | | (2)Formal methods | |
|---|---|---|---|---|
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 0.973 | (0.606) | 1.263 | (0.670) |
| Other Eastern Europe | 1.362 | (0.268) | 1.051 | (0.220) |
| Asia | 0.185*** | (0.086) | 0.511 | (0.215) |
| MENA | 1.050 | (0.464) | 1.292 | (0.516) |
| Other Africa | 0.833 | (0.390) | 1.969 | (0.838) |
| Latin | 0.854 | (0.258) | 0.850 | (0.240) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 1.490 | (0.360) | 1.307 | (0.300) |
| 2009-2012 | 3.492 | (2.485) | 2.323 | (1.589) |
| *Years since migration* | | | | |
| 0-3 years | ref. | | ref. | |
| 3-6 years | 1.271 | (0.309) | 1.079 | (0.267) |
| 6-9 years | 1.307 | (0.341) | 0.961 | (0.258) |
| 9 years or more | 1.955* | (0.588) | 1.407 | (0.436) |
| *Age* | | | | |
| less than 25 | ref. | | ref. | |
| 25-29 | 1.221 | (0.417) | 1.450 | (0.453) |
| 30-34 | 1.624 | (0.538) | 1.391 | (0.433) |
| 35-39 | 1.483 | (0.499) | 1.367 | (0.451) |
| 40-44 | 1.755 | (0.640) | 1.746 | (0.649) |
| 45-49 | 1.810 | (0.676) | 1.488 | (0.570) |
| 50 or more | 1.020 | (0.403) | 0.914 | (0.386) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 1.122 | (0.231) | 1.314 | (0.294) |
| Tertiary | 0.759 | (0.229) | 2.231** | (0.618) |
| language proficiency at present | 1.460** | (0.180) | 1.334* | (0.181) |
| *Region* | | | | |
| North-west | ref. | | ref. | |
| North-east | 0.832 | (0.205) | 1.064 | (0.242) |
| Center | 1.077 | (0.255) | 0.608* | (0.142) |
| South and islands | 0.717 | (0.161) | 0.464*** | (0.104) |
| *Industry* | | | | |
| manufacturing | ref. | | ref. | |

| | | | | |
|---|---|---|---|---|
| agricolture | 3.772* | (2.010) | 0.426 | (0.285) |
| wholesale and retail trade | 1.727 | (0.951) | 2.353* | (0.907) |
| accomodation/food services | 2.233* | (0.807) | 1.605 | (0.522) |
| business services | 1.935 | (0.808) | 1.357 | (0.480) |
| personal services | 1.708 | (0.620) | 1.380 | (0.428) |
| care/domestic services | 1.793 | (0.601) | 0.499* | (0.152) |
| Observations | 1,643 | | | |
| Pseudo $R^2$ | 0.089 | | | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.5: Males, first job. Logistic regression on the probability of having a search duration of *0-3 months*.

| | Odds Ratios | $Var(\hat{\beta})$ |
|---|---|---|
| *Job finding method* | | |
| co-ethnic friends and acquaintances | ref. | |
| Relatives | 1.488** | (0.190) |
| Italian friends/acquaintances | 0.816 | (0.131) |
| direct contact with the employer | 0.794 | (0.099) |
| formal methods | 0.835 | (0.126) |
| | | |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 1.280 | (0.493) |
| Other Eastern Europe | 0.649*** | (0.085) |
| Asia | 0.666* | (0.113) |
| MENA | 0.557*** | (0.081) |
| Other Africa | 0.386*** | (0.073) |
| Latin | 0.563** | (0.117) |
| | | |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 1.144 | (0.116) |
| 2009-2012 | 1.795* | (0.486) |
| | | |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | 1.806*** | (0.267) |
| 25-29 | 2.036*** | (0.318) |
| 30-34 | 1.847*** | (0.307) |
| 35-39 | 1.644** | (0.303) |
| 40-44 | 2.309*** | (0.540) |
| 45 or more | 1.609 | (0.413) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 1.233* | (0.121) |
| Tertiary | 1.700** | (0.330) |
| | | |
| *Language proficiency* | | |
| no Italian | ref. | |
| moderate | 1.151 | (0.120) |
| North-west | ref. | |
| North-east | 1.037 | (0.139) |
| Center | 0.928 | (0.120) |
| South and islands | 1.119 | (0.139) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |

| | | |
|---|---|---|
| agricolture | 2.430*** | (0.421) |
| construction | 1.294 | (0.171) |
| wholesale and retail trade | 1.753*** | (0.288) |
| accomodation/food services | 1.104 | (0.192) |
| business services | 1.111 | (0.202) |
| personal services | 1.088 | (0.238) |
| care/domestic services | 1.195 | (0.259) |
| Observations | 5,077 | |
| Pseudo $R^2$ | 0.049 | |

Exponentiated coefficients; Standard errors in parentheses; Weighted data

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

Table B.6: Males, first job. Logistic regression on the probability of having a search duration of *0-3 months*.

| | Odds Ratios | $Var(\hat{\beta})$ |
|---|---|---|
| *Job finding method* | | |
| co-ethnic friends and acquaintances | ref. | |
| Relatives | 1.254 | (0.157) |
| Italian friends/acquaintances | 0.702** | (0.090) |
| direct contact with the employer | 0.694** | (0.095) |
| formal methods | 0.491*** | (0.066) |
| | | |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 0.964 | (0.244) |
| Other Eastern Europe | 0.964 | (0.107) |
| Asia | 0.858 | (0.141) |
| MENA | 0.676* | (0.125) |
| Other Africa | 0.562** | (0.114) |
| Latin | 0.823 | (0.129) |
| | | |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 0.840 | (0.096) |
| 2009-2012 | 1.650* | (0.408) |
| | | |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | 0.990 | (0.172) |
| 25-29 | 1.204 | (0.217) |
| 30-34 | 1.372 | (0.265) |
| 35-39 | 2.006*** | (0.421) |
| 40-44 | 1.662* | (0.353) |
| 45 or more | 2.777*** | (0.625) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 1.436*** | (0.145) |
| Tertiary | 1.449* | (0.211) |
| | | |
| *Language proficiency* | | |
| no Italian | ref. | |
| moderate | 0.954 | (0.092) |
| | | |
| *Region* | | |
| North-west | ref. | |
| North-east | 1.055 | (0.139) |
| Center | 0.805 | (0.097) |
| South and islands | 1.288* | (0.153) |

| | | |
|---|---|---|
| *Industry* | | |
| manufacturing | ref. | |
| agricolture | 1.422 | (0.342) |
| wholesale and retail trade | 1.410 | (0.313) |
| accomodation/food services | 1.262 | (0.233) |
| business services | 1.279 | (0.262) |
| personal services | 1.358 | (0.229) |
| care/domestic services | 2.244*** | (0.360) |
| Observations | 5,407 | |
| Pseudo $R^2$ | 0.072 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.7: Males, first job. Logistic regression on the probability of having a *non–registered* occupation.

| | Odds Ratios | $Var(\hat{\beta})$ |
|---|---|---|
| *Job finding method* | | |
| co-ethnic friends/acquaintances | ref. | |
| relatives | 0.656** | (0.085) |
| Italian friends/acquaintances | 0.613** | (0.111) |
| direct contact with the employer | 0.366*** | (0.055) |
| formal methods | 0.292*** | (0.060) |
| | | |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 0.107*** | (0.069) |
| Other Eastern Europe | 0.828 | (0.115) |
| Asia | 0.743 | (0.133) |
| MENA | 0.783 | (0.124) |
| Other Africa | 1.016 | (0.209) |
| Latin | 1.360 | (0.314) |
| | | |
| *Search duration* | | |
| more than 3 months | ref. | |
| 0-3 months | 1.298* | (0.145) |
| | | |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 0.594*** | (0.065) |
| 2009-2012 | 0.327*** | (0.098) |
| | | |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | 1.135 | (0.197) |
| 25-29 | 1.060 | (0.193) |
| 30-34 | 0.878 | (0.172) |
| 35-39 | 1.139 | (0.247) |
| 40-44 | 0.737 | (0.195) |
| 45 or more | 0.819 | (0.218) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 1.037 | (0.110) |
| Tertiary | 1.004 | (0.228) |
| | | |
| *Language proficiency* | | |
| no Italian | ref. | |
| moderate | 0.816 | (0.093) |
| | | |
| *Region* | | |
| North-west | ref. | |

| | | |
|---|---|---|
| North-east | 0.576** | (0.097) |
| Center | 1.255 | (0.182) |
| South and islands | 1.858*** | (0.248) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agricolture | 2.185*** | (0.373) |
| construction | 1.796*** | (0.277) |
| wholesale and retail trade | 1.935*** | (0.342) |
| accomodation/food services | 1.903** | (0.417) |
| business services | 1.011 | (0.236) |
| personal services | 1.494 | (0.381) |
| care/domestic services | 1.448 | (0.387) |
| Observations | 5,203 | |
| Pseudo $R^2$ | 0.104 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.8: Females, first job. Logistic regression on the probability of having a *non–registered* occupation.

| | Odds Ratios | $Var(\hat{\beta})$ |
|---|---|---|
| *Job finding method* | | |
| co-ethnic friends/acquaintances | ref. | |
| relatives | 0.771* | (0.091) |
| Italian friends/acquaintances | 0.583*** | (0.078) |
| direct contact with the employer | 0.445*** | (0.066) |
| formal methods | 0.339*** | (0.060) |
| | | |
| *origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 0.762 | (0.228) |
| Other Eastern Europe | 1.084 | (0.115) |
| Asia | 0.463*** | (0.086) |
| MENA | 0.423*** | (0.096) |
| Other Africa | 0.705 | (0.177) |
| Latin | 0.916 | (0.146) |
| | | |
| *Search duration* | | |
| more than 3 months | ref. | |
| 0-3 months | 1.319** | (0.137) |
| | | |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 0.933 | (0.108) |
| 2009-2012 | 0.500* | (0.137) |
| | | |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | 0.820 | (0.175) |
| 25-29 | 0.607* | (0.134) |
| 30-34 | 0.521** | (0.120) |
| 35-39 | 0.691 | (0.160) |
| 40-44 | 0.460** | (0.110) |
| 45 or more | 0.381*** | (0.090) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.947 | (0.099) |
| Tertiary | 0.772 | (0.114) |
| | | |
| *Language proficiency* | | |
| no Italian | ref. | |
| moderate | 0.783* | (0.080) |
| | | |
| *Region* | | |
| North-west | ref. | |

| | | |
|---|---|---|
| North-east | 0.740* | (0.108) |
| Center | 1.207 | (0.155) |
| South and islands | 1.595*** | (0.193) |
| | | |
| *Industry* | | |
| manufacturing | ref. | |
| agricolture | 0.804 | (0.215) |
| wholesale and retail trade | 0.907 | (0.239) |
| accomodation/food services | 1.251 | (0.272) |
| business services | 0.682 | (0.180) |
| personal services | 1.162 | (0.241) |
| care/domestic services | 1.887** | (0.371) |
| Observations | 5,407 | |
| Pseudo $R^2$ | 0.091 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.9: Males, first job. Multinomial logistic regression on the probability of being employed in *Elementary occupations* (base outcome), *Other manual occupations* and *MPT and clerks*. Relative Risk Ratios.

| | (1) Other | | (2) MPT and clerks | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| co-ethnic friends/acquaintances | ref. | | ref. | |
| relatives | 0.995 | (0.116) | 0.880 | (0.344) |
| Italian friends/acquaintances | 1.319 | (0.245) | 3.991** | (1.839) |
| direct contact with the employer | 1.415** | (0.185) | 7.312*** | (2.397) |
| formal methods | 1.054 | (0.173) | 10.042*** | (3.211) |
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 1.946 | (1.162) | 42.057*** | (25.249) |
| Other Eastern Europe | 1.122 | (0.148) | 1.414 | (0.515) |
| Asia | 0.520*** | (0.077) | 0.989 | (0.377) |
| MENA | 0.593*** | (0.083) | 0.788 | (0.320) |
| Other Africa | 0.431*** | (0.079) | 0.956 | (0.427) |
| Latin | 0.655 | (0.142) | 1.781 | (0.761) |
| *Search duration* | | | | |
| more than 3 months | ref. | | ref. | |
| 0-3 months | 0.879 | (0.088) | 1.178 | (0.284) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 1.001 | (0.100) | 1.163 | (0.316) |
| 2009-2012 | 0.563* | (0.132) | 0.552 | (0.326) |
| *Age* | | | | |
| less than 19 | ref. | | ref. | |
| 19-24 | 0.794 | (0.134) | 1.372 | (0.713) |
| 25-29 | 0.860 | (0.152) | 1.148 | (0.621) |
| 30-34 | 0.873 | (0.162) | 1.172 | (0.629) |
| 35-39 | 0.988 | (0.197) | 0.776 | (0.429) |
| 40-44 | 0.767 | (0.193) | 2.079 | (1.250) |
| 45 or more | 0.784 | (0.208) | 1.484 | (1.011) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 1.137 | (0.109) | 3.275*** | (0.927) |
| Tertiary | 1.055 | (0.233) | 15.919*** | (5.328) |
| *Language proficiency* | | | | |
| no Italian | ref. | | ref. | |
| moderate | 1.049 | (0.110) | 1.297 | (0.311) |
| *Region* | | | | |

| | | | | |
|---|---|---|---|---|
| North-west | ref. | | ref. | |
| North-east | 1.142 | (0.162) | 0.578 | (0.184) |
| Center | 0.983 | (0.136) | 0.946 | (0.291) |
| South and islands | 0.503*** | (0.060) | 0.297*** | (0.087) |
| Observations | 5,203 | | | |
| Pseudo $R^2$ | 0.146 | | | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.10: Females, first job. Multinomial logistic regression on the probability of being employed in *Care/domenstic professions* (base outcome), *Other manual occupations* and *MPT and clerks*. Relative Risk Ratios.

| | (1) Other | | (2) MPT and clerks | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| co-ethnic friends/acquaintances | ref. | | ref. | |
| relatives | 1.497*** | (0.174) | 1.291 | (0.409) |
| Italian friends/acquaintances | 1.244 | (0.163) | 2.950*** | (0.818) |
| direct contact with the employer | 2.521*** | (0.345) | 5.299*** | (1.490) |
| formal methods | 2.551*** | (0.380) | 12.084*** | (3.111) |
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 2.702* | (1.205) | 16.214*** | (6.811) |
| Other Eastern Europe | 0.881 | (0.096) | 0.573* | (0.147) |
| Asia | 1.414* | (0.221) | 0.852 | (0.297) |
| MENA | 1.602** | (0.288) | 1.076 | (0.428) |
| Other Africa | 1.161 | (0.250) | 0.952 | (0.387) |
| Latin | 0.604** | (0.102) | 1.195 | (0.331) |
| *Search duration* | | | | |
| more than 3 months | ref. | | ref. | |
| 0-3 months | 0.510*** | (0.049) | 0.523*** | (0.095) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 1.095 | (0.124) | 1.135 | (0.247) |
| 2009-2012 | 0.892 | (0.208) | 0.541 | (0.218) |
| *Age* | | | | |
| less than 19 | ref. | | ref. | |
| 19-24 | 0.742 | (0.155) | 1.795 | (1.420) |
| 25-29 | 0.582* | (0.125) | 1.311 | (1.036) |
| 30-34 | 0.355*** | (0.078) | 0.881 | (0.700) |
| 35-39 | 0.289*** | (0.066) | 0.368 | (0.306) |
| 40-44 | 0.169*** | (0.041) | 0.515 | (0.425) |
| 45 or more | 0.126*** | (0.032) | 0.417 | (0.357) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 0.811* | (0.081) | 2.554** | (0.777) |
| Tertiary | 0.757 | (0.120) | 16.767*** | (5.188) |
| *Language proficiency* | | | | |
| no Italian | ref. | | ref. | |
| moderate | 1.362** | (0.134) | 2.567*** | (0.467) |
| *Region* | | | | |

| | | | | |
|---|---|---|---|---|
| North-west | ref. | | ref. | |
| North-east | 1.609*** | (0.214) | 1.425 | (0.326) |
| Center | 0.770* | (0.102) | 0.888 | (0.214) |
| South and islands | 1.107 | (0.135) | 0.571* | (0.132) |
| Observations | 5,407 | | | |
| Pseudo $R^2$ | 0.216 | | | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.11: Males, first job. Linear regression on the *Occupational status – Isei*.

| | $\hat{\beta}$ | $Var(\hat{\beta})$ |
|---|---|---|
| *Job finding method* | | |
| co-ethnic friends and acquaintances | ref. | |
| relatives | 0.140 | (0.405) |
| Italian friends/acquaintances | 1.214 | (0.805) |
| direct contact with the employer | 2.088*** | (0.497) |
| formal methods | 4.312*** | (0.671) |
| | | |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 20.675*** | (2.489) |
| Other Eastern Europe | 0.377 | (0.464) |
| Asia | −3.839*** | (0.532) |
| MENA | −1.034 | (0.555) |
| Other Africa | −0.784 | (0.750) |
| Latin | −0.175 | (0.858) |
| | | |
| *Search duration* | | |
| more than 3 months | ref. | |
| 0-3 months | −0.446 | (0.365) |
| | | |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 0.765* | (0.383) |
| 2009-2012 | −2.361* | (0.971) |
| | | |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | −0.621 | (0.635) |
| 25-29 | −0.675 | (0.661) |
| 30-34 | −0.797 | (0.691) |
| 35-39 | −0.117 | (0.717) |
| 40-44 | −0.308 | (1.028) |
| 45 or more | −0.975 | (1.088) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.523 | (0.349) |
| Tertiary | 5.114*** | (0.963) |
| | | |
| *Language proficiency* | | |
| no Italian | ref. | |
| moderate | 0.229 | (0.407) |
| | | |
| *Region* | | |
| North-west | ref. | |

| | | |
|---|---|---|
| North-east | −0.220 | (0.504) |
| Center | −0.426 | (0.531) |
| South and islands | −4.025*** | (0.462) |
| | | |
| Constant | 29.840*** | (0.850) |
| Observations | 5,203 | |
| $R^2$ | 0.273 | |

Robust standard errors in parentheses; Weighted data

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

Table B.12: Females, first job. Linear regression on the *Occupational status – Isei*.

| | $\hat{\beta}$ | $Var(\hat{\beta})$ |
|---|---|---|
| *Job finding method* | | |
| co-ethnic friends and acquaintances | ref. | |
| relatives | 0.235 | (0.372) |
| Italian friends/acquaintances | 1.180* | (0.526) |
| direct contact with the employer | 2.741*** | (0.640) |
| formal methods | 6.021*** | (0.658) |
| | | |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 15.927*** | (1.538) |
| Other Eastern Europe | −1.189** | (0.397) |
| Asia | −0.306 | (0.639) |
| MENA | −1.120 | (0.793) |
| Other Africa | −0.667 | (0.685) |
| Latin | 0.718 | (0.652) |
| | | |
| *Search duration* | | |
| more than 3 months | ref. | |
| 0-3 months | −0.681 | (0.405) |
| | | |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 0.771 | (0.475) |
| 2009-2012 | −0.399 | (0.838) |
| | | |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | −0.911 | (0.728) |
| 25-29 | −0.902 | (0.788) |
| 30-34 | −1.218 | (0.765) |
| 35-39 | −2.687*** | (0.756) |
| 40-44 | −2.339** | (0.790) |
| 45 or more | −1.217 | (0.807) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 1.276*** | (0.333) |
| Tertiary | 7.157*** | (0.712) |
| | | |
| *Language proficiency* | | |
| no Italian | ref. | |
| moderate | 2.162*** | (0.383) |
| | | |
| *Region* | | |
| North-west | ref. | |

| | | |
|---|---|---|
| North-east | 0.106 | (0.514) |
| Center | −0.299 | (0.505) |
| South and islands | −1.085* | (0.442) |
| | | |
| Constant | 24.109*** | (0.966) |
| Observations | 5,407 | |
| $R^2$ | 0.299 | |

Robust standard errors in parentheses; Weighted data

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

Table B.13: Males, subsequent job. Multinomial logistic regression on the probability of being employed in *Elementary occupations* (base outcome), *Other manual occupations* and *MPT and clerks*. Relative Risk Ratios.

| | (1) Other | | (2) MPT and clerks | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| co-ethnic friends/acquaintances | ref. | | ref. | |
| relatives | 0.797 | (0.219) | 0.006*** | (0.007) |
| Italian friends/acquaintances | 0.984 | (0.237) | 0.672 | (0.291) |
| direct contact with the employer | 1.492 | (0.348) | 0.889 | (0.377) |
| formal methods | 1.289 | (0.355) | 1.657 | (0.630) |
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 4.416 | (4.730) | 114.274*** | (131.294) |
| Other Eastern Europe | 0.966 | (0.260) | 1.707 | (0.796) |
| Asia | 0.591 | (0.184) | 1.797 | (1.099) |
| MENA | 0.439** | (0.118) | 1.564 | (0.716) |
| Other Africa | 0.565 | (0.201) | 1.800 | (1.010) |
| Latin | 0.241*** | (0.083) | 1.013 | (0.602) |
| *Years since migration* | | | | |
| 0-3 years | ref. | | ref. | |
| 3-6 years | 0.829 | (0.198) | 1.891 | (0.843) |
| 6-9 years | 0.839 | (0.243) | 2.547 | (1.270) |
| 9 years or more | 0.837 | (0.247) | 1.196 | (0.612) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 0.893 | (0.180) | 0.788 | (0.258) |
| 2009-2012 | 0.379 | (0.232) | 0.000*** | (0.000) |
| *Age* | | | | |
| less than 25 | ref. | | ref. | |
| 25-29 | 1.010 | (0.283) | 2.771 | (1.567) |
| 30-34 | 0.938 | (0.260) | 3.197* | (1.784) |
| 35-39 | 1.123 | (0.368) | 1.852 | (1.153) |
| 40-44 | 1.033 | (0.374) | 1.785 | (1.223) |
| 45-49 | 0.949 | (0.410) | 3.549 | (2.614) |
| 50 or more | 0.582 | (0.303) | 0.578 | (0.577) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 1.051 | (0.199) | 1.548 | (0.532) |
| Tertiary | 1.743 | (0.755) | 11.880*** | (6.292) |
| language proficiency at present | 1.225 | (0.138) | 1.942** | (0.421) |
| *Region* | | | | |

| | | | | |
|---|---|---|---|---|
| North-west | ref. | | ref. | |
| North-east | 1.334 | (0.301) | 1.298 | (0.460) |
| Center | 0.806 | (0.182) | 1.137 | (0.411) |
| South and islands | 0.450*** | (0.091) | 0.432* | (0.160) |
| Observations | 1,642 | | | |
| Pseudo $R^2$ | 0.128 | | | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.14: Females, subsequent job. Multinomial logistic regression on the probability of being employed in *Care/domenstic professions* (base outcome), *Other manual occupations* and *MPT and clerks*. Relative Risk Ratios.

| | (1) Other | | (2) MPT and clerks | |
|---|---|---|---|---|
| *Job finding method* | | | | |
| co-ethnic friends/acquaintances | ref. | | ref. | |
| relatives | 2.561*** | (0.679) | 2.818 | (1.721) |
| Italian friends/acquaintances | 1.598* | (0.331) | 1.723 | (0.643) |
| direct contact with the employer | 3.625*** | (0.905) | 7.303*** | (3.085) |
| formal methods | 3.546*** | (0.820) | 8.351*** | (3.126) |
| *Origin* | | | | |
| Eastern EU | ref. | | ref. | |
| EU15+HD | 4.598 | (3.654) | 40.153*** | (32.337) |
| Other Eastern Europe | 0.795 | (0.146) | 0.636 | (0.196) |
| Asia | 0.978 | (0.345) | 0.394 | (0.300) |
| MENA | 2.197* | (0.867) | 1.245 | (0.727) |
| Other Africa | 1.366 | (0.539) | 0.660 | (0.639) |
| Latin | 0.706 | (0.192) | 0.716 | (0.320) |
| *Years since migration* | | | | |
| 0-3 years | ref. | | ref. | |
| 3-6 years | 1.176 | (0.247) | 1.194 | (0.420) |
| 6-9 years | 1.688* | (0.384) | 2.410* | (0.946) |
| 9 years or more | 1.222 | (0.304) | 2.192 | (1.050) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 0.798 | (0.163) | 0.689 | (0.285) |
| 2009-2012 | 0.963 | (0.615) | 0.961 | (1.347) |
| *Age* | | | | |
| less than 25 | ref. | | ref. | |
| 25-29 | 0.539* | (0.151) | 0.698 | (0.326) |
| 30-34 | 0.388*** | (0.108) | 0.516 | (0.251) |
| 35-39 | 0.495* | (0.141) | 0.447 | (0.235) |
| 40-44 | 0.187*** | (0.059) | 0.354 | (0.220) |
| 45-49 | 0.166*** | (0.053) | 0.109*** | (0.062) |
| 50 or more | 0.073*** | (0.028) | 0.049*** | (0.034) |
| *Education* | | | | |
| No school and lower secondary | ref. | | ref. | |
| Upper secondary | 1.068 | (0.195) | 1.973 | (0.898) |
| Tertiary | 1.013 | (0.314) | 16.631*** | (8.386) |
| language proficiency at present | 1.083 | (0.122) | 1.502 | (0.448) |
| *Region* | | | | |

| | | | | |
|---|---|---|---|---|
| North-west | ref. | | ref. | |
| North-east | 1.897** | (0.401) | 0.783 | (0.249) |
| Center | 1.415 | (0.312) | 0.738 | (0.249) |
| South and islands | 0.954 | (0.203) | 0.606 | (0.204) |
| Observations | 1,672 | | | |
| Pseudo $R^2$ | 0.221 | | | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.15: Males, subsequent job. Linear regression on the *Occupational status – Isei*.

| | $\hat{\beta}$ | $Var(\hat{\beta})$ |
|---|---|---|
| *Job finding method* | | |
| co-ethnic friends/acquaintances | ref. | |
| relatives | $-1.902^{**}$ | (0.729) |
| Italian friends/acquaintances | $-0.037$ | (0.853) |
| direct contact with the employer | $-0.131$ | (0.719) |
| formal methods | $2.830^{***}$ | (0.798) |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | $12.959^{*}$ | (6.352) |
| Other Eastern Europe | 0.150 | (0.732) |
| Asia | $-2.736^{**}$ | (0.992) |
| MENA | $-1.187$ | (0.768) |
| Other Africa | $-0.860$ | (1.156) |
| Latin | $-1.593$ | (1.110) |
| *Years since migration* | | |
| 0-3 years | ref. | |
| 3-6 years | 0.094 | (0.685) |
| 6-9 years | 0.479 | (0.779) |
| 9 years or more | $-0.517$ | (0.919) |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | $-0.032$ | (0.587) |
| 2009-2012 | 0.160 | (2.526) |
| *Age* | | |
| less than 25 | ref. | |
| 25-29 | 0.944 | (0.780) |
| 30-34 | 0.226 | (0.836) |
| 35-39 | 0.221 | (0.919) |
| 40-44 | $-0.536$ | (1.037) |
| 45-49 | $-1.346$ | (1.420) |
| 50 or more | $-2.356$ | (1.581) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | $1.252^{*}$ | (0.515) |
| Tertiary | $6.250^{***}$ | (1.543) |
| language proficiency at present | $1.161^{**}$ | (0.365) |
| *Region* | | |
| North-west | ref. | |

| | | |
|---|---|---|
| North-east | 0.835 | (0.637) |
| Center | −0.269 | (0.815) |
| South and islands | −3.596*** | (0.701) |
| Constant | 31.070*** | (1.188) |
| Observations | 1,642 | |
| $R^2$ | 0.190 | |

Robust standard errors in parentheses; Weighted data

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

Table B.16: Females, subsequent job. Linear regression on the *Occupational status – Isei*.

| | $\hat{\beta}$ | $Var(\hat{\beta})$ |
|---|---|---|
| *Job finding method* | | |
| co-ethnic friends/acquaintances | ref. | |
| relatives | 1.184 | (1.108) |
| Italian friends/acquaintances | 0.642 | (0.748) |
| direct contact with the employer | 3.678*** | (1.043) |
| formal methods | 5.886*** | (0.949) |
| | | |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 14.783*** | (2.153) |
| Other Eastern Europe | −0.915 | (0.764) |
| Asia | −1.772 | (1.362) |
| MENA | −0.662 | (1.647) |
| Other Africa | −2.218 | (1.842) |
| Latin | −1.331 | (1.234) |
| | | |
| *Years since migration* | | |
| 0-3 years | ref. | |
| 3-6 years | 0.643 | (0.806) |
| 6-9 years | 1.219 | (0.970) |
| 9 years or more | 1.026 | (1.123) |
| | | |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | −1.421 | (1.049) |
| 2009-2012 | 1.937 | (4.056) |
| | | |
| *Age* | | |
| less than 25 | ref. | |
| 25-29 | −0.073 | (1.105) |
| 30-34 | −1.861 | (1.182) |
| 35-39 | −1.486 | (1.104) |
| 40-44 | −3.173* | (1.373) |
| 45-49 | −4.238*** | (1.156) |
| 50 or more | −3.210** | (1.182) |
| | | |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.872 | (0.724) |
| Tertiary | 8.936*** | (1.325) |
| | | |
| language proficiency at present | 0.378 | (0.496) |
| | | |
| *Region* | | |
| North-west | ref. | |

| | | |
|---|---|---|
| North-east | $-2.294^{*}$ | (0.906) |
| Center | $-1.783$ | (0.920) |
| South and islands | $-2.481^{**}$ | (0.891) |
| Constant | $27.075^{***}$ | (1.766) |
| Observations | 1,672 | |
| $R^2$ | 0.267 | |

Robust standard errors in parentheses; Weighted data

$^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

Table B.17: Males. Logistic regression on the probability of being *Entrapped* in the transition from first to subsequent jobs.

| | Odds Ratios | $Var(\hat{\beta})$ |
|---|---|---|
| *Transitional job finding method* | | |
| co-ethnics enclosed | ref. | |
| family enclosed | 1.931* | (0.595) |
| co-ethnic → formal | 0.782 | (0.195) |
| co-ethnic → direct | 0.903 | (0.208) |
| co-ethnic → Italian | 0.972 | (0.239) |
| avoid co-ethnics | 0.963 | (0.181) |
| achieve co-ethnics | 1.012 | (0.319) |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 0.210 | (0.184) |
| Other Eastern Europe | 1.032 | (0.212) |
| Asia | 0.456** | (0.117) |
| MENA | 0.617* | (0.138) |
| Other Africa | 0.771 | (0.221) |
| Latin | 0.642 | (0.188) |
| *Time between jobs* | | |
| 0-3 years | ref. | |
| 3-6 years | 0.940 | (0.173) |
| 6-9 years | 0.750 | (0.157) |
| 9 years or more | 0.901 | (0.193) |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 1.282 | (0.200) |
| 2009-2012 | 1.759 | (1.321) |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | 1.324 | (0.290) |
| 25-29 | 1.276 | (0.298) |
| 30-34 | 1.336 | (0.359) |
| 35-39 | 1.406 | (0.410) |
| 40-44 | 2.378 | (1.130) |
| 45 or more | 1.371 | (0.685) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 1.052 | (0.160) |
| Tertiary | 0.473** | (0.135) |
| *Language proficiency* | | |
| no Italian | ref. | |

| | | |
|---|---|---|
| moderate | 0.854 | (0.137) |
| | | |
| *Region* | | |
| North-west | ref. | |
| North-east | 0.531** | (0.109) |
| Center | 0.872 | (0.178) |
| South and islands | 0.680* | (0.133) |
| Observations | 1,629 | |
| Pseudo $R^2$ | 0.051 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.18: Females. Logistic regression on the probability of being *Entrapped* in the transition from first to subsequent jobs.

| | Odds Ratios | $Var(\hat{\beta})$ |
|---|---|---|
| *Transitional job finding method* | | |
| co-ethnics enclosed | ref. | |
| family enclosed | 0.595 | (0.203) |
| co-ethnic → formal | 0.164*** | (0.046) |
| co-ethnic → direct | 0.333*** | (0.096) |
| co-ethnic → Italian | 0.527** | (0.119) |
| avoid co-ethnics | 0.335*** | (0.071) |
| achieve co-ethnics | 0.640 | (0.191) |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 0.168** | (0.092) |
| Other Eastern Europe | 1.102 | (0.197) |
| Asia | 1.490 | (0.518) |
| MENA | 1.217 | (0.441) |
| Other Africa | 0.957 | (0.349) |
| Latin | 1.374 | (0.330) |
| *Years between jobs* | | |
| 0-3 years | ref. | |
| 3-6 years | 1.066 | (0.208) |
| 6-9 years | 1.010 | (0.217) |
| 9 years or more | 1.193 | (0.300) |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 1.296 | (0.271) |
| 2009-2012 | 1.897 | (1.030) |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | 1.829* | (0.546) |
| 25-29 | 2.841*** | (0.876) |
| 30-34 | 3.371*** | (1.147) |
| 35-39 | 4.371*** | (1.542) |
| 40-44 | 9.628*** | (3.602) |
| 45 or more | 8.802*** | (3.393) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.715 | (0.131) |
| Tertiary | 0.276*** | (0.067) |
| *Language proficiency* | | |
| no Italian | ref. | |

| | | |
|---|---|---|
| moderate | 0.707* | (0.117) |
| | | |
| *Region* | | |
| North-west | ref. | |
| North-east | 1.001 | (0.227) |
| Center | 1.204 | (0.251) |
| South and islands | 1.176 | (0.240) |
| Observations | 1,668 | |
| Pseudo $R^2$ | 0.165 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table B.19: Females. Logistic regression on the probability of being *Entrapped(2)* in the transition from first to subsequent jobs.

| | Odds Ratios | $Var(\hat{\beta})$ |
|---|---|---|
| *Transitional job finding method* | | |
| co-ethnics enclosed | ref. | |
| family enclosed | 0.474* | (0.174) |
| co-ethnic → formal | 0.197*** | (0.055) |
| co-ethnic → direct | 0.269*** | (0.080) |
| co-ethnic → Italian | 0.683 | (0.176) |
| avoid co-ethnics | 0.296*** | (0.068) |
| achieve co-ethnics | 0.543 | (0.175) |
| *Origin* | | |
| Eastern EU | ref. | |
| EU15+HD | 0.132*** | (0.072) |
| Other Eastern Europe | 1.213 | (0.233) |
| Asia | 1.412 | (0.492) |
| MENA | 1.394 | (0.546) |
| Other Africa | 1.317 | (0.528) |
| Latin | 1.048 | (0.262) |
| *Years between jobs* | | |
| 0-3 years | ref. | |
| 3-6 years | 0.983 | (0.197) |
| 6-9 years | 0.922 | (0.211) |
| 9 years or more | 1.460 | (0.396) |
| *Cohort of entrance* | | |
| 1989-1998 | ref. | |
| 1999-2008 | 1.448 | (0.319) |
| 2009-2012 | 1.557 | (0.892) |
| *Age* | | |
| less than 19 | ref. | |
| 19-24 | 2.333** | (0.697) |
| 25-29 | 3.295*** | (1.016) |
| 30-34 | 3.830*** | (1.334) |
| 35-39 | 5.079*** | (1.839) |
| 40-44 | 17.89*** | (7.561) |
| 45 or more | 15.49*** | (6.483) |
| *Education* | | |
| No school and lower secondary | ref. | |
| Upper secondary | 0.562** | (0.111) |
| Tertiary | 0.234*** | (0.060) |
| *Language proficiency* | | |
| no Italian | ref. | |

| | | |
|---|---|---|
| moderate | 0.643* | (0.112) |
| | | |
| *Region* | | |
| North-west | ref. | |
| North-east | 0.976 | (0.230) |
| Center | 0.937 | (0.206) |
| South and islands | 1.186 | (0.257) |
| Observations | 1,668 | |
| Pseudo $R^2$ | 0.198 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

# Appendix C

# Full tables of multivariate analysis

Table C.1: Males and Fenales. Cox regression models on the transition to a first job. Hazard Ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.939 | (0.081) | 0.681*** | (0.045) |
| Family | 0.487*** | (0.030) | 0.329*** | (0.015) |
| Humanitarian/forced | 0.772*** | (0.045) | 0.606*** | (0.040) |
| Other | 0.663*** | (0.058) | 0.529*** | (0.045) |
| | | | | |
| *Origin* | | | | |
| East-Europe | ref. | | ref. | |
| EU15+HD | 0.681* | (0.111) | 0.603*** | (0.066) |
| Latin | 0.933 | (0.076) | 1.070 | (0.060) |
| Asia | 0.918 | (0.048) | 0.797*** | (0.051) |
| MENA | 0.933 | (0.040) | 0.426*** | (0.033) |
| Other Africa | 0.732*** | (0.045) | 0.777** | (0.062) |
| | | | | |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 1.074 | (0.040) | 0.992 | (0.045) |
| 2009-2012 | 0.911 | (0.096) | 0.646*** | (0.065) |
| | | | | |
| Age | 1.006** | (0.002) | 1.007*** | (0.002) |
| | | | | |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.111** | (0.040) | 1.516*** | (0.062) |
| Tertiary | 1.161* | (0.082) | 1.708*** | (0.096) |
| | | | | |
| *Language proficiency* | | | | |
| No Italian | ref. | | ref. | |
| Moderate | 1.041 | (0.040) | 0.930 | (0.037) |

| | | | | |
|---|---|---|---|---|
| *Region* | | | | |
| North-West | ref. | | ref. | |
| North-East | 0.969 | (0.049) | 1.000 | (0.052) |
| Center | 0.998 | (0.048) | 1.038 | (0.051) |
| South and islands | 1.055 | (0.046) | 1.106* | (0.051) |
| Observations | 5'923 | | 7'976 | |

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

Table C.2: Males. Competing risks *Cox* model on the trantition to first *Registerd* or *Non-registered* jobs. Hazard Ratios.

| | (1)Registered | | (2)Non-registered | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.989 | (0.101) | 0.840 | (0.132) |
| Family | 0.483*** | (0.036) | 0.496*** | (0.063) |
| Humanitarian/forced | 0.747*** | (0.056) | 0.880 | (0.116) |
| Other | 0.544*** | (0.059) | 1.028 | (0.178) |
| *Origin* | | | | |
| East-Europe | ref. | | ref. | |
| EU15+HD | 0.712 | (0.128) | 0.362* | (0.162) |
| Latin | 0.908 | (0.085) | 0.949 | (0.162) |
| Asia | 0.941 | (0.059) | 0.804* | (0.088) |
| MENA | 0.979 | (0.051) | 0.733** | (0.071) |
| Other Africa | 0.767*** | (0.059) | 0.628*** | (0.084) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 1.204*** | (0.056) | 0.808** | (0.061) |
| 2009-2012 | 1.064 | (0.132) | 0.687 | (0.151) |
| Age | 1.006* | (0.003) | 1.006 | (0.004) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.136** | (0.050) | 1.075 | (0.081) |
| Tertiary | 1.326*** | (0.110) | 0.868 | (0.145) |
| *Language proficiency* | | | | |
| No Italian | ref. | | ref. | |
| Moderate | 1.151** | (0.052) | 0.823* | (0.070) |
| *Region* | | | | |
| North-west | ref. | | ref. | |
| North-east | 1.075 | (0.064) | 0.654*** | (0.082) |
| Center | 0.954 | (0.055) | 1.101 | (0.111) |
| South and islands | 0.877* | (0.046) | 1.487*** | (0.141) |
| Observations | 5'923 | | 5'923 | |
| Failures | 4'045 | | 1'573 | |

Exponentiated coefficients; Standard errors in parentheses; Weighted data

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

Table C.3: Females. Competing risks *Cox* model on the trantition to first *Registerd* or *Non-registered* jobs. Hazard Ratios.

| | (1)Registered | | (2)Non-registered | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.696*** | (0.055) | 0.651*** | (0.076) |
| Family | 0.309*** | (0.017) | 0.383*** | (0.031) |
| Humanitarian/forced | 0.581*** | (0.050) | 0.691** | (0.088) |
| Other | 0.493*** | (0.050) | 0.644** | (0.094) |
| *Origin* | | | | |
| East-Europe | ref. | | ref. | |
| EU15+HD | 0.650*** | (0.083) | 0.455*** | (0.102) |
| Latin | 1.145 | (0.083) | 0.984 | (0.107) |
| Asia | 0.875 | (0.068) | 0.653*** | (0.080) |
| MENA | 0.520*** | (0.046) | 0.229*** | (0.038) |
| Other Africa | 0.882 | (0.088) | 0.572** | (0.098) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 1.011 | (0.057) | 0.974 | (0.080) |
| 2009-2012 | 0.734** | (0.087) | 0.464*** | (0.092) |
| Age | 1.010*** | (0.002) | 1.000 | (0.003) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.534*** | (0.077) | 1.449*** | (0.109) |
| Tertiary | 1.850*** | (0.127) | 1.434** | (0.161) |
| *Language proficiency* | | | | |
| No Italian | ref. | | ref. | |
| Moderate | 1.009 | (0.049) | 0.770*** | (0.059) |
| *Region* | | | | |
| North-west | ref. | | ref. | |
| North-east | 1.037 | (0.065) | 0.946 | (0.100) |
| Center | 0.991 | (0.059) | 1.197 | (0.111) |
| South and islands | 0.988 | (0.057) | 1.489*** | (0.127) |
| Observations | 7'976 | | 7'976 | |
| Failures | 4'020 | | 1'806 | |

Exponentiated coefficients; Standard errors in parentheses; Weighted data

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

Table C.4: Males and Fenales. Logistic regression models on the probability of being *Inactive*. Odds Ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 2.889*** | (0.821) | 1.764*** | (0.244) |
| Family | 6.613*** | (1.185) | 4.340*** | (0.397) |
| Humanitarian/forced | 3.531*** | (0.925) | 1.698*** | (0.242) |
| Other | 5.624*** | (1.715) | 2.642*** | (0.467) |
| Years since migration | 0.937*** | (0.015) | 0.975** | (0.009) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD | 4.387*** | (1.948) | 1.767** | (0.364) |
| Latin | 0.751 | (0.250) | 0.915 | (0.125) |
| Asia | 0.735 | (0.192) | 0.755* | (0.102) |
| MENA | 0.862 | (0.192) | 1.948*** | (0.240) |
| Other Africa | 1.138 | (0.323) | 0.957 | (0.169) |
| Age | 1.020* | (0.009) | 0.989** | (0.004) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 0.537*** | (0.091) | 0.725*** | (0.060) |
| Tertiary | 0.255*** | (0.084) | 0.615*** | (0.078) |
| Language proficiency | 0.863 | (0.069) | 0.667*** | (0.028) |
| *Region* | | | | |
| North-West | ref. | | ref. | |
| North-East | 1.119 | (0.230) | 0.939 | (0.097) |
| Center | 0.955 | (0.213) | 0.843 | (0.089) |
| South and islands | 1.120 | (0.200) | 1.103 | (0.101) |
| Observations | 5'923 | | 7'976 | |
| Pseudo $R^2$ | 0.128 | | 0.157 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table C.5: Males and Fenales. Logistic regression models on the probability of being *Unemployed*. Odds Ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.697 | (0.203) | 1.426 | (0.279) |
| Family | 2.018*** | (0.338) | 2.161*** | (0.309) |
| Humanitarian/forced | 1.328 | (0.310) | 1.978** | (0.424) |
| Other | 1.652 | (0.516) | 1.595 | (0.491) |
| Years since migration | 0.940*** | (0.015) | 0.971 | (0.016) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD | 0.708 | (0.452) | 0.547 | (0.208) |
| Latin | 1.189 | (0.301) | 0.777 | (0.167) |
| Asia | 0.888 | (0.188) | 0.462** | (0.134) |
| MENA | 1.498* | (0.262) | 2.716*** | (0.530) |
| Other Africa | 1.465 | (0.315) | 1.259 | (0.340) |
| Age | 1.006 | (0.008) | 0.966*** | (0.007) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.030 | (0.143) | 0.942 | (0.133) |
| Tertiary | 0.712 | (0.200) | 1.050 | (0.205) |
| Language proficiency | 0.865 | (0.068) | 0.751*** | (0.062) |
| *Region* | | | | |
| North-West | ref. | | ref. | |
| North-East | 1.004 | (0.158) | 1.098 | (0.169) |
| Center | 0.733 | (0.128) | 0.999 | (0.161) |
| South and islands | 0.449*** | (0.071) | 0.681* | (0.102) |
| Observations | 5'481 | | 5'296 | |
| Pseudo $R^2$ | 0.044 | | 0.096 | |

Exponentiated coefficients; Robust standard errors in parentheses; Weighted data

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

Table C.6: Males and Fenales. Logistic regression models (with interaction terms) on the probability of being *Inactive*.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 2.249*** | (0.448) | 0.708** | (0.220) |
| Family | 3.513*** | (0.435) | 1.882*** | (0.197) |
| Humanitarian/forced | 2.360*** | (0.557) | 1.189** | (0.368) |
| Other | 2.427*** | (0.659) | 1.911*** | (0.421) |
| Years since migration | 0.015 | (0.023) | 0.005 | (0.014) |
| *EntryXysm* | | | | |
| EmploymentXysm | ref. | | ref. | |
| EU nationalsXysm | -0.152* | (0.063) | 0.001 | (0.027) |
| FamilyXysm | -0.188*** | (0.051) | -0.043* | (0.018) |
| HumanitarianXysm | -0.100* | (0.046) | -0.069* | (0.033) |
| OtherXysm | -0.065 | (0.054) | -0.093* | (0.038) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD | 1.798*** | (0.501) | 0.409 | (0.236) |
| Latin | -0.267 | (0.341) | -0.110 | (0.137) |
| Asia | -0.267 | (0.262) | -0.306* | (0.136) |
| MENA | -0.139 | (0.223) | 0.677*** | (0.125) |
| Other Africa | 0.030 | (0.285) | -0.080 | (0.176) |
| Age | 0.022* | (0.008) | -0.010* | (0.004) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | -0.607*** | (0.170) | -0.317*** | (0.083) |
| Tertiary | -1.332*** | (0.337) | -0.495*** | (0.126) |
| Language proficiency | -0.119 | (0.081) | -0.405*** | (0.043) |
| *Region* | | | | |
| North-West | ref. | | ref. | |
| North-East | 0.107 | (0.208) | -0.066 | (0.104) |
| Center | -0.049 | (0.225) | -0.170 | (0.106) |
| South and islands | 0.139 | (0.181) | 0.108 | (0.093) |
| Constant | -4.182*** | (0.434) | -0.994*** | (0.235) |
| Observations | 5'923 | | 7'976 | |
| Pseudo $R^2$ | 0.143 | | 0.159 | |

Robust standard errors in parentheses; Weighted data

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

Table C.7: Males and Fenales. Logistic regression models (with interaction terms) on the probability of being *Unemployed*.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.326 | (0.545) | -0.246 | (0.358) |
| Family | 1.449*** | (0.339) | -0.213 | (0.296) |
| Humanitarian/forced | 0.093 | (0.559) | 0.697 | (0.482) |
| Other | 1.265* | (0.591) | -1.030 | (0.623) |
| Years since migration | -0.026 | (0.018) | -0.038 | (0.023) |
| *EntryXysm* | | | | |
| EmploymentXysm | ref. | | ref. | |
| EU nationalsXysm | -0.131 | (0.106) | 0.080 | (0.051) |
| FamilyXysm | -0.131** | (0.042) | 0.040 | (0.028) |
| HumanitarianXysm | 0.007 | (0.049) | -0.023 | (0.049) |
| OtherXysm | -0.092 | (0.048) | 0.111* | (0.054) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD | -0.417 | (0.720) | -1.126** | (0.371) |
| Latin | 0.244 | (0.260) | -0.158 | (0.200) |
| Asia | -0.041 | (0.212) | -0.544* | (0.269) |
| MENA | 0.481** | (0.174) | 0.367* | (0.185) |
| Other Africa | 0.350 | (0.216) | 0.319 | (0.240) |
| Age | 0.004 | (0.007) | -0.028*** | (0.006) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 0.107 | (0.138) | 0.094 | (0.134) |
| Tertiary | -0.189 | (0.279) | 0.194 | (0.182) |
| Language proficiency | -0.089 | (0.079) | 0.016 | (0.070) |
| *Region* | | | | |
| North-West | ref. | | ref. | |
| North-East | 0.002 | (0.156) | 0.158 | (0.144) |
| Center | -0.271 | (0.174) | 0.083 | (0.154) |
| South and islands | -0.745*** | (0.156) | -0.246 | (0.137) |
| Constant | -2.270*** | (0.304) | -1.081** | (0.337) |
| Observations | 5'923 | | 7'976 | |
| Pseudo $R^2$ | 0.043 | | 0.033 | |

Robust standard errors in parentheses; Weighted data

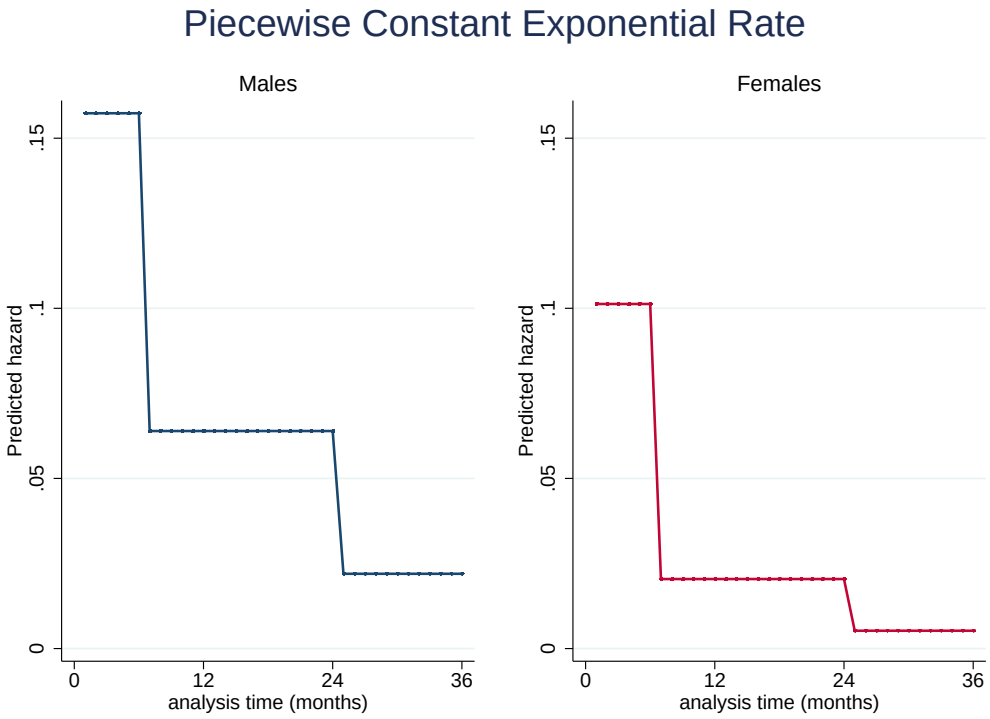
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

# Appendix D

# Testing the proportionality assumption

Event History Analysis provides several solutions for modelling a transition to an event of interest and specifically the hazard function. In Chapter 4, we adopted *Cox* modelling for studying the transition to work. Here we present results from a *Piecewise Constant Exponential* model, that allows for time-constant estimates of the hazard line at different chunks of time, in order to provide further support to our analysis.

Figure D.1: Males and females. Predicted hazard estimates of *Piecewise Constant Exponential* models without covariates.




Firstly, we identified 3 time-periods: 0-6, 6-24, and more than 24 months. Figure D.1 reports, for males and females, the predicted hazard from models without covariates. It clearly emerges a descending risk of experiencing the

event over time. Subsequently, we estimated a model, for each $i$th individual, that can be formalised as follows:

$$h_i(t) = \exp\{\alpha_j + \beta entry_i + \boldsymbol{\gamma'} \boldsymbol{X'}_i\} \tag{D.1}$$

Results, reported in table D.1, confirm our findings from *Cox* models presented in Chapter 4. However, a basic feature of the developed *Cox* and *Piecewise Constant Exponential* models is that the effect of different values of covariates on the hazard rate, thus on the risk of experiencing an event of interest throughout the time-process, is proportional. Indeed, both these Event History models are called *proportional transition rate models* (Blossfeld *et al.* 2007, Box-Steffensmeier and Jones 2004).

Thus, in this Appendix we also introduce a test for the proportionality assumption and propose an application of non-proportional estimates to our data. Tests are applied exclusively on the single transition *Cox* models.

We decided to test for the proportional-hazard assumption using Schoenfeld residuals, that can be interpreted as the difference between observed and expected values of covariates, given the risk set at that time. Therefore:

$H_0$: Coefficients of the Cox model are proportional (Schoenfeld residuals show no temporal trends).

$H_1$: Coefficients of the Cox model are not proportional (a linear regression of the scaled Schoenfeld residuals on time shows coefficients significantly different from 0).

Results are shown in table D.2, for both models on males and females. We notice that for the global test and for many covariates Schoenfeld residuals are significantly correlated with time, therefore we reject the null, i.e. the proportionality assumption does not hold in our models. This is also the case for dummies derived from the independent variable *Entry category*. It means that its effect on the hazard rate is not constant, but over time changes. We offered a solution to this problem, by estimating *Piecewise Constant Exponential* models, with period-specific effects (Blossfeld *et al.* 2007), formally:

$$h_i^{(k)}(t) = \exp\{\alpha_j^{(k)} + \beta_j^{(k)} entry_i^{(k)} + \boldsymbol{\gamma'}_j^{(k)} \boldsymbol{X'}_i^{(k)}\} \tag{D.2}$$

Results, reported in table D.2 only for a single transition model, show period-specific trends. Particularly, we observe that male family immigrants experience a delayed transition to employment, that is constant over the time periods. Conversely, male humanitarian migrants face lower differences with respect to labour migrants, on earlier time-periods, but higher differentials onward in time. This result can be interpreted as a tendency, for many humanitarian immigrants to rapidly access employment in the short run, that turn to a lower labour market participation for longer periods.

Table D.1: Males and Fenales. Pecewise Constant Exponential regression models, with proportional effects, on the transition to a first job. Hazard Ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| t1 | 0.145*** | (0.012) | 0.105*** | (0.010) |
| t2 | 0.065*** | (0.006) | 0.028*** | (0.003) |
| t3 | 0.024*** | (0.002) | 0.008*** | (0.001) |
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals | 0.944 | (0.087) | 0.664*** | (0.046) |
| Family | 0.470*** | (0.031) | 0.307*** | (0.014) |
| Humanitarian/forced | 0.746*** | (0.047) | 0.587*** | (0.041) |
| Other | 0.649*** | (0.061) | 0.505*** | (0.046) |
| *Origin* | | | | |
| East-Europe | ref. | | ref. | |
| EU15+HD | 0.632* | (0.113) | 0.573*** | (0.066) |
| Latin | 0.935 | (0.081) | 1.066 | (0.065) |
| Asia | 0.914 | (0.051) | 0.793*** | (0.054) |
| MENA | 0.936 | (0.044) | 0.411*** | (0.033) |
| Other Africa | 0.724*** | (0.048) | 0.760** | (0.064) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008 | 1.105* | (0.045) | 1.064 | (0.053) |
| 2009-2012 | 0.943 | (0.105) | 0.690*** | (0.073) |
| Age | 1.005* | (0.002) | 1.008*** | (0.002) |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper secondary | 1.122** | (0.044) | 1.562*** | (0.068) |
| Tertiary | 1.175* | (0.090) | 1.783*** | (0.108) |
| *Language proficiency* | | | | |
| No Italian | ref. | | ref. | |
| moderate | 1.036 | (0.043) | 0.919* | (0.039) |
| *Region* | | | | |
| North-West | ref. | | ref. | |
| North-East | 0.963 | (0.052) | 0.991 | (0.055) |
| Center | 0.996 | (0.052) | 1.029 | (0.054) |
| South and islands | 1.051 | (0.050) | 1.102 | (0.055) |
| Observations | 8'831 | | 14'958 | |
| N of clusters | 5'923 | | 7'976 | |

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

Table D.2: Results of the Schoenfeld-residuals test on the proportionality assumprion, applied to *Cox* models (for males and females).

| | Males | | Females | |
|---|---|---|---|---|
| | $\chi^2$ | $Prob > \chi^2$ | $\chi^2$ | $Prob > \chi^2$ |
| EU nationals | 21.99 | 0.0000 | 0.01 | 0.9320 |
| Family | 4.80 | 0.0285 | 11.06 | 0.0009 |
| Humanitarian/forced | 0.00 | 0.9819 | 0.11 | 0.7347 |
| Other | 0.01 | 0.9290 | 30.08 | 0.0000 |
| | | | | |
| EU15+HD | 4.66 | 0.0308 | 5.32 | 0.0211 |
| Latin | 4.07 | 0.0437 | 1.52 | 0.2175 |
| Asia | 23.20 | 0.0000 | 0.05 | 0.8303 |
| MENA | 41.08 | 0.0000 | 1.53 | 0.2167 |
| Other Africa | 27.41 | 0.0000 | 9.58 | 0.0020 |
| | | | | |
| 1999-2008 | 4.80 | 0.0284 | 0.02 | 0.8959 |
| 2009-2012 | 1.12 | 0.2904 | 3.28 | 0.0702 |
| | | | | |
| age | 165.63 | 0.0000 | 132.28 | 0.0000 |
| | | | | |
| Upper secondary | 1.39 | 0.2389 | 1.53 | 0.2157 |
| Tertiary | 2.25 | 0.1335 | 2.40 | 0.1214 |
| | | | | |
| moderate | 2.68 | 0.1018 | 0.05 | 0.8224 |
| | | | | |
| North-east | 0.85 | 0.3572 | 2.71 | 0.0998 |
| Center | 5.16 | 0.0232 | 1.63 | 0.2023 |
| South and islands | 4.44 | 0.0350 | 4.22 | 0.0398 |
| global test | 406.22 | 0.0000 | 298.63 | 0.0000 |

Table D.3: Males and Fenales. Pecewise Constant Exponential regression models on the transition to a first job, with period-specific effects. Hazard Ratios.

| | (1)Males | | (2)Females | |
|---|---|---|---|---|
| t1 | 0.123*** | (0.013) | 0.082*** | (0.009) |
| t2 | 0.060*** | (0.009) | 0.034*** | (0.006) |
| t3 | 0.081*** | (0.025) | 0.023*** | (0.006) |
| *Entry status* | | | | |
| Employment | ref. | | ref. | |
| EU nationals*t1 | 1.001 | (0.092) | 0.694*** | (0.053) |
| EU nationals*t2 | 0.849 | (0.170) | 0.708* | (0.102) |
| EU nationals*t3 | 0.388* | (0.164) | 0.336*** | (0.101) |
| Family*t1 | 0.482*** | (0.042) | 0.267*** | (0.018) |
| Family*t2 | 0.438*** | (0.054) | 0.301*** | (0.029) |
| Family*t3 | 0.463*** | (0.085) | 0.491*** | (0.063) |
| Humanitarian*t1 | 0.754** | (0.068) | 0.609*** | (0.055) |
| Humanitarian*t2 | 0.822 | (0.100) | 0.522*** | (0.081) |
| Humanitarian*t3 | 0.495*** | (0.104) | 0.748 | (0.138) |
| Other*t1 | 0.647** | (0.089) | 0.508*** | (0.060) |
| Other*t2 | 0.656* | (0.126) | 0.386*** | (0.075) |
| Other*t3 | 0.457** | (0.115) | 0.730 | (0.154) |
| *Origin* | | | | |
| East Europe | ref. | | ref. | |
| EU15+HD*t1 | 0.818 | (0.138) | 0.571*** | (0.087) |
| EU15+HD*t2 | 0.521* | (0.172) | 0.543* | (0.129) |
| EU15+HD*t3 | 0.475 | (0.241) | 1.237 | (0.371) |
| Latin*t1 | 0.888 | (0.095) | 0.988 | (0.077) |
| Latin*t2 | 1.057 | (0.179) | 1.431** | (0.191) |
| Latin*t3 | 0.801 | (0.296) | 1.268 | (0.224) |
| Asia*t1 | 0.847* | (0.060) | 0.772** | (0.066) |
| Asia*t2 | 0.996 | (0.115) | 0.758* | (0.106) |
| Asia*t3 | 1.162 | (0.245) | 1.078 | (0.172) |
| MENA*t1 | 0.776*** | (0.051) | 0.360*** | (0.043) |
| MENA*t2 | 1.179 | (0.110) | 0.486*** | (0.072) |
| MENA*t3 | 1.655** | (0.304) | 0.479*** | (0.081) |
| Other Africa*t1 | 0.607*** | (0.063) | 0.585*** | (0.082) |
| Other Africa*t2 | 0.747* | (0.098) | 0.853 | (0.149) |
| Other Africa*t3 | 1.428* | (0.255) | 1.376 | (0.265) |
| *Cohort of entrance* | | | | |
| 1989-1998 | ref. | | ref. | |
| 1999-2008*t1 | 1.121* | (0.060) | 1.025 | (0.065) |
| 1999-2008*t2 | 1.008 | (0.083) | 1.054 | (0.111) |
| 1999-2008*t3 | 1.096 | (0.157) | 1.087 | (0.125) |
| 2009-2012*t1 | 1.089 | (0.137) | 0.723** | (0.088) |
| 2009-2012*t2 | 0.639* | (0.138) | 0.541** | (0.111) |

| | | | | |
|---|---|---|---|---|
| 2009-2012*t3 | 0.578 | (0.362) | 0.910 | (0.529) |
| | | | | |
| Age*t1 | 1.013*** | (0.002) | 1.018*** | (0.002) |
| Age*t2 | 1.007 | (0.004) | 1.001 | (0.004) |
| Age*t3 | 0.961*** | (0.007) | 0.960*** | (0.006) |
| | | | | |
| *Education* | | | | |
| No school and lower sec. | ref. | | ref. | |
| Upper sec.*t1 | 1.117* | (0.055) | 1.566*** | (0.086) |
| Upper sec.*t2 | 1.115 | (0.086) | 1.480*** | (0.131) |
| Upper sec.*t3 | 0.973 | (0.147) | 1.430** | (0.164) |
| Tertiary*t1 | 1.173 | (0.117) | 1.775*** | (0.126) |
| Tertiary*t2 | 1.040 | (0.164) | 1.511** | (0.210) |
| Tertiary*t3 | 1.843* | (0.525) | 1.957*** | (0.336) |
| | | | | |
| *Language proficiency* | | | | |
| No Italian | ref. | | ref. | |
| Sufficient*t1 | 1.027 | (0.053) | 0.912 | (0.047) |
| Sufficient*t2 | 1.063 | (0.086) | 0.959 | (0.087) |
| Sufficient*t3 | 0.923 | (0.158) | 0.950 | (0.115) |
| | | | | |
| *Region* | | | | |
| North-west | ref. | | ref. | |
| North-east*t1 | 0.927 | (0.066) | 0.987 | (0.069) |
| North-east*t1 | 1.130 | (0.121) | 1.151 | (0.130) |
| North-east*t1 | 0.895 | (0.172) | 0.802 | (0.116) |
| Center*t1 | 0.993 | (0.065) | 0.996 | (0.066) |
| Center*t2 | 1.023 | (0.110) | 1.124 | (0.130) |
| Center*t3 | 0.875 | (0.166) | 1.130 | (0.160) |
| South*t1 | 1.091 | (0.066) | 1.195** | (0.073) |
| South*t2 | 1.030 | (0.098) | 0.981 | (0.104) |
| South*t3 | 0.925 | (0.163) | 0.817 | (0.111) |
| Observations | 8'831 | | 14'958 | |
| N of clusters | 5'923 | | 7'976 | |

Exponentiated coefficients; Standard errors in parentheses; Weighted data

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

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