Job Networks in İzmir: Why are Migrants Different?

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Abstract:

The aim of this paper is to investigate the network effect on the probability of finding employment. This paper uses a specific data set from the Izmir region, prepared by the Turkish Statistical Institute for a specific project carried out by Izmir University of Economics in cooperation with the Izmir Chamber of Commerce, the Izmir branch of theTurkish Statistical Institute and the Turkish Labour Institute. Izmir, the third biggest city in Turkey, attracts both skilled and unskilled migrants, and has become one of the preferred destinations for migrants. The relative success of migrants in employment relates to their use of job search channels. We differentiate job search channels into formal/individual, and network forms. The latter refers to the job referral or job information diffusion through relatives and acquaintances. We find that migrants benefit from a comparative advantage in the usage of the network channel. Moreover, this network advantage is more robust for less educated workers.

Keywords: Social networks, migrants, Izmir

JEL codes: J15, J61, D83

1. Introduction

Unemployment is a major concern for the majority of the residents in İzmir, the third biggest city in Turkey. Various channels are used to improve the likelihood of finding a job, including both formal and informal channels. Predominantly, the informal channels involve connections among immediate family, extended family, and acquantaces. Information on job openings and personal referral may spread on such social networks.

Formal channels include registering in the government employment office (İŞKUR) for job matching, reviewing ads, and individual job applications. Individual/formal channels require a set of qualifications on the job seekers.

There exists no precise knowledge on the issue of which channels are more effective for the migrants.Highly educated migrant workers tend to use formal channels more than informal channels. The less educated workers, whether migrants or not, prefer informal channels.

We differentiate the resident workers and the migrants. Social networks are more important for migrants in general. We proxy network size/quality by the "migrant" dummy variable. However, it is important to note the limitations of such an approach. Nevertheless, there are institutional features that justify this choice defendable. First, being highly educated or not, the networks will differ. Migrants enjoy higher density of social network if geographically located in close ranges, and the cumulative stock of existing migrants attracts more neighbours using home-city connections over time. However, as various studies point out if the migrants have higher unemployment rates, and then the newcomers can also suffer from high levels of unemployment. In our study we observe that unemployment rates for migrants and residents are equal.

Table 1 Unemployment rate and rate in total population of migrants and residents in Izmir

	Unemployment Rate	% of total population
Migrant	17.12%	41.35%
Resident	17.12%	58.65%

Source: Authors' own calculations from the data

Table 1 shows that migrants in Izmir have a greater presence in the labor market than their position in the total sample. They constitute 47% of the labor force, inspite of being only 41% of the entire sample. In terms of employment, they also make up 47% of the total.

Migrants face lower cost when they decide to use networks to seek employment due to their localization[1] and their home-city connections. Such networks are more effective for low qualified jobs, but not sufficient for high qualified employment. As shown in Figure 1 and 2, jobs found by social networks are less well-paid.

For the highly educated workers, the quality of the network, and the personal qualifications of the individual worker are equally important as the size and the density of the networks. Resident workers are expected to benefit from better knowledge of the firms and jobs on demand. Highly educated migrant workers also face lower relative benefits of using social networks, thus are more likely to prefer formal/individual job search channels.

We control for workers' characteristics and job characteristics, which is made possible by the data availability. The main contribution of our study is to test empirically the effects of social

[1] Migrant coming from the city tend to live close to each other in the city they move to. For example in Izmir in Balcova region mostly migrants from Manisa and Aydin, in Bornova district migrants from Manisa and Konya, in Buca district migrants from Konya and Manisa, in Cigli region migrants from Erzurum and Manisa, in Gaziemir region migrants from Mardin and Afyon, in Guzelbahce distrcit migrants from Balikesir and Manisa, in Karsiyaka district migrants from Manisa and Erzurum, in Konak region migrants from Mardin and Manisa, and in Narlidere region migrants from Diyarbakir and İcel live.

networks proxied by migrant status on the probability of finding a job in the local, but relatively large labor market in Izmir.

The outline of this paper is as follows: The next section is devoted to the literature review. In section 3, we give a brief explanation about the characteristics of migrants in Izmir and in section 4, we describe the data. The model is explained in section 5, while section 6 presents the estimation results. Section 7 concludes.

2. Related Literature

Jackson and Calvo-Armengol (2004, 2007) provide benchmark theoretical models and insights, which highlights externalities both in terms of job information transmission and long-term employment opportunities. Thus, employed workers tend to cluster and create a positive feedback loop among each other, in terms of knowledge of job openings, and diffusing info to the connected agents.

Munshi (2003) examines the social networks effects on the Mexican migrants' employment opportunities in US. The higher the number of existing migrants from a particular local area, the greater the likelihood of employment for the newcomers from the same locality. The stock of migrants in a locality has a positive influence on the likelihood of finding a job for the newcomers, due to social networks effetcts.

A closely related study by Wahba and Zenou (2005) focuses on the impact of population density (as measured by the population per inhabited square kilometer) on the probability of finding employment using social networks in Egypt. They find that the probability to find a job through friends and relatives increases and is concave with population density. This effect

is stronger for the uneducated than the educated. Finally, the probability to find a job through friends and relatives decreases in correspondence with local unemployment rate.

Zenou (2012) provides findings in relation to whether migrants or residents in France and UK use social networks more successfully to find employment. The most successful group in finding jobs through their social networks are the non-French Europeans. This result is confirmed by the finding of the current study in Izmir. Although non-European immigrants use their social networks more intensively, they have a lower chance with this method as compared to direct applications. In the United Kingdom, on the other hand, "although Indians, Pakistanis, Bangladeshis and 'Others' used personal networks the most , there is little evidence that they benefited from this method more so than whites.".

We use migrant status as a distinction in terms of social network use. In particular we focus on uneducated/unskilled migrants who are more likely to use informal channels and social networks in order to find employment. Moreover, we will proxy the quality of the social network by the status of the parents.

3. Are Migrants Different?

The recent developments in the labor markets in Turkey provide mixed but generally negative signals. After the global crisis, the unemployment rates increased throughout the country, and especially in İstanbul and İzmir. Unlike İstanbul, İzmir continued to suffer from much higher than average unemployment rates.

Table 2 Unemployment Rates

NUTS2 Regions	Unemployment rate (%)						
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
TR10 (İstanbul)	11.5	11.4	10.4	11.2	16.8	14.3	11.8
TR31 (İzmir)	13.9	12.0	10.5	11.8	16.2	15.1	14.7
Overall unemployment rate (TurkStat)	**10.6**	**10.2**	**10.3**	**11.0**	**14.0**	**11.9**	**9.8**

Source: TurkStat

Education level is an important determinant of the usage of network channels. We expect that the less educated would depend more network channels as they lack the necessary qualifications to find a job on their own or using other channels. Table 3 shows the percentage of people that use network channels.

Table 3 Education distribution of people that use networks

	Migrants		**Residents**	
	Educated	Less Educated	Educated	Less Educated
Networks	13.58	23.05	16.96	16.46

Source: Authors's own calculations

Less educated migrants tend to seek for a job via networks more than the educated ones, while among the residents there is not such a great dintinction between educated and less educated ones in terms of network use. The migrants that have lower education level prefer networks as they are ready to accept low qualified jobs. Such migrants tend to choose the cities where their networks are strongest, and live closer to their network, and accept the jobs that their countrymen or relatives find for them.

Another important factor in the differentiation between migrants and residents is their earnings. Moreover, it is also important to see whether there is a difference in wage distribution between those using networks, and those that did not

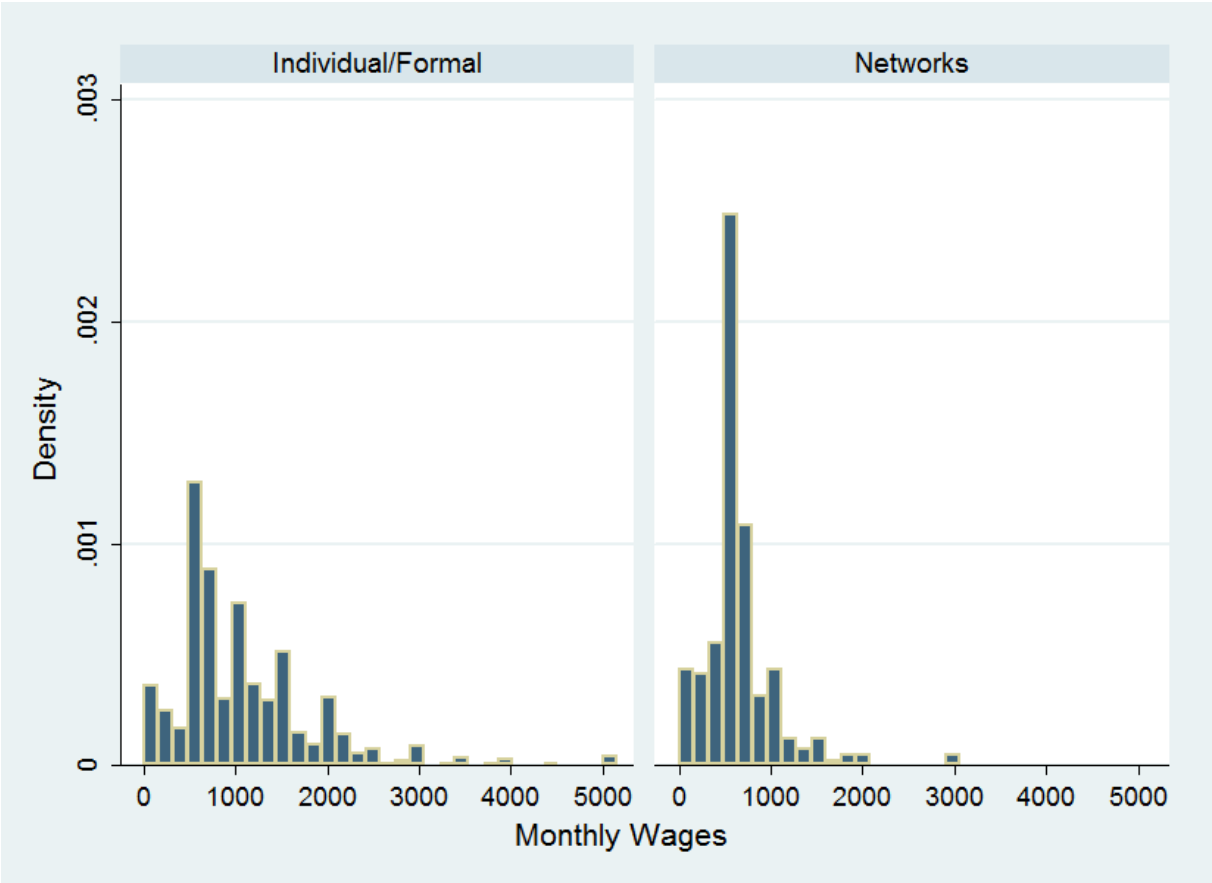
Table 4 Average monthly wages of migrants vs residents

	Migrant		**Resident**	
	Average	Max	Average	Max
Using Network	659,3152	3000	621,3115	3000
Not Using Network	1100,6030	7500	860,5601	25000

Source: Authors' own calculations

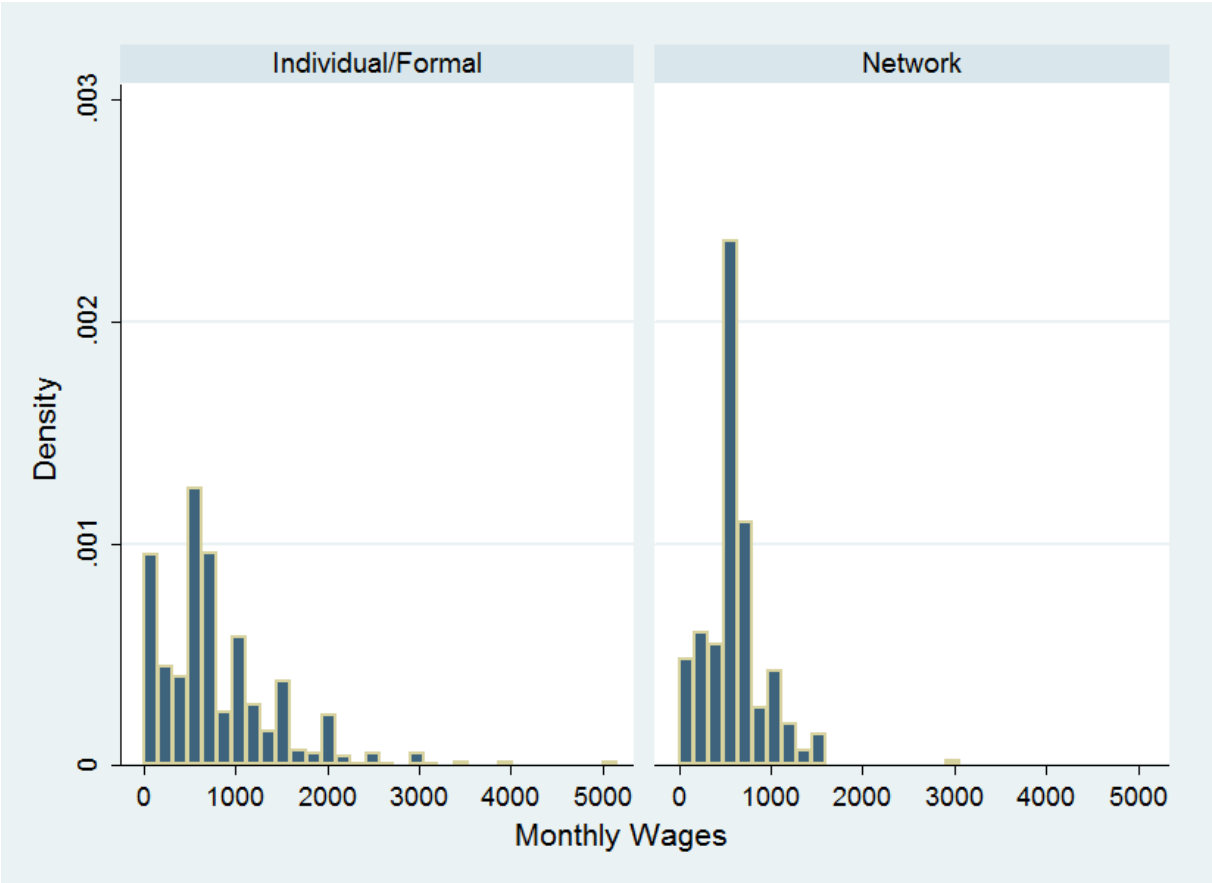
Both table 4, and figures 1 and 2 show that those finding jobs via networks earn less, regardless of whether or not they are migrants. It can be concluded that networks are important in finding less-skilled work.

Figure 1: MonthlyWages of Migrants



A similar pattern emerges for the resident workers. If they find jobs individually/formally, then the monthly wages are higher.

Figure 2: MonthlyWages of Residents



Lastly, it is important to know from the city of origins of migrants in Izmir. Table 5 shows that Izmir receives few migrants from Eastern part of Turkey, unlike other major cities. Migrants from big cities like Istanbul, Ankara, and Bursa are more likely to be high skilled, and better ecucated. Such migrants tend to use formal channels more and generally find better paid jobs.

Table 5 Where do migrants come from? (2010)

Origin	Total Migrants	# of migrants in Izmir
Turkey	2360079	111255
İstanbul	336932	11177
Manisa	35497	9785
Ankara	13344	7046
Aydın	29923	5926
Balıkesir	35162	4504
Muğla	2885	3643
Konya	56729	3685
Diyarbakır	44858	2982
Bursa	5722	2774
Antalya	61662	2752
Denizli	23468	2495

Source: TURKSTAT

4. Data

This paper uses a specific data set from the Izmir region, prepared by theTurkish Statistical Institute for a specific project carried out by Izmir University of Economics in cooperation with the Izmir Chamber of Commerce, the Izmir branch of theTurkish Statistical Institute and the Turkish Labour Institute.

Table 6- Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Netjob	**0.176**	**0.38**	**0**	**1**
Sex	0.6836	0.4651	0	1
Age	37.0165	11.4025	15	65
Age^2	1500.199	887.6565	225	4225
Migrant	0.4730	0.4993	0	1
Education	2.11	1.28	0	5
Single	0.2783	0.4482	0	1
Divorced	0.0359	0.1861	0	1
Size	3.7346	.03910	1	11
Father's Education	1.1168	1.0687	0	5
Qualified Father	0.1264	0.3324	0	1
Self Employed Father	0.1549	0.3619	0	1
Qualified Worker Father	0.2298	0.4207	0	1
Unqualified Worker Father	0.1634	0.3698	0	1
lnWage	6.66	0.695	2.30	10.12
SGK	0.67	0.47	0	1
Firm Size	0.48	0.49	0	1

As Table 6 illustrates, the average worker is predominantly male, with education levels ranging from primary school to intermediate high school, middle aged, and married. Thee are slightly fewer migrant workers than the resident workers.

5. Econometric Model

Our main concern is to differentiate the effect of the migrant status on the likelihood of using informal job search channel (social networks) to find jobs. To achieve this, we model the determinants of finding employment through social networks. We suppose that the probability of success is a logistic function in which S=1, if an employed worker succesfully found employment through "relatives and friends" and S=0 if an employed worker found employment using any other job search channel (i.e. individual/formal channels). Therefore, we focus on probability of using social networks, conditional that worker is employed.

$$P(S_i = 1 \,|E_i = 1) = \frac{e^{\beta x}}{1 + e^{\beta x}}$$

$$P(S_i = 0 \,|E_i = 1) = \frac{1}{1 + e^{\beta x}}$$

We use explanatory variables concerning individual, household, work and network characteristics (proxied by migrant status, father's education and job status).

6. Results

We first examine whether migrants have a comparative advantage in using social networks to find jobs, conditional that the end result is a success. Table 7 confirms our expectations. Compared to resident workers, and keeping all other characteristics at their average values, migrants are 5.5% more likely to use social networks and find jobs successfully. The

difference between columns (I) and (II) is whether or not we control for the quality of social networks, proxied by the job status of the workers' fathers. We infer from these results in column (II) in Table 7 that if fathers are qualified workers in either public or private sector, the likelihood of finding jobs through social networks increase. We argue that, given the same job offer rate, better qualified fathers are more effective in pırsuading the firms or other employees to hire their children.

Table 7 Probit Results (Marginal effects)

	I	**II**
Sex	-0.0233	-0.0246
	(0.0156)	(0.0156)
Age	-0.0181	-0.0184
	(0.0037)***	(0.0037)***
Age^2	0.0001	0.0001
	(0.0000)***	(0.0000)***
Migrant	0.0559	0.0568
	(0.0142)***	(0.0142)***
Single	0.0214	0.0183
	(0.0212)	(0.0211)
Divorced	0.0094	0.0048
	(0.0413)	(0.0407)
Size	0.0019	0.0018
	(0.0050)	(0.0050)
Education	-0.0332	-0.0359
	(0.0067)***	(0.0068)***
Father's Education	-0.0152	-0.0214
	(0.0081)*	(0.0092)**
Qualified Father		0.0596
		(0.0337)*
Self Employed Father		0.0105
		(0.0235)
Qualified Worker Father		0.0400
		(0.0211)**
Unqualified Worker Father		0.0253
		(0.0215)
N	3009	3009
Pseudo R^2	0.0874	0.0897

Note: *, **, and *** indicate statistical significance at 10, 5 and 1%, respectively.

In Table 8, we divide our sample into two by education levels. The most important finding is that the effect of social networks proxied by migrant status on job finding becomes

insignificant for the "Higher Educated" workers. Moreover, the various status indicators for the father's job also lose significance for these workers. In contrast, for the "Less Educated" workers, there is no change in the results obtained. We conclude that social networks and fathers' job status is more important for the less educated workers, and less important for obtaining better paid jobs requiring qualifications.

Table 8 Probit Results according to education (Marginal effects)

	Total	**Less Educated**	**Higher Educated**
Sex	-0.0246	-0.0526	0.0103
	(0.0156)	(0.0227)**	(0.0207)
Age	-0.0184	-0.0163	-0.0271
	(0.0037)***	(0.0049)***	(0.0064)***
Age^2	0.0001	0.0001	0.0002
	(0.0000)***	(0.0000)*	(0.0001)***
Migrant	0.0568	0.0840	0.0167
	(0.0142)***	(0.0198)***	(0.0201)
Single	0.0183	-0.0156	0.0253
	(0.0211)	(0.0296)	(0.0273)
Divorced	0.0048	-0.0206	0.0552
	(0.0407)	(0.0515)	(0.0681)
Size	0.0018	-0.0012	0.0095
	(0.0050)	(0.0064)	(0.0084)
Education	-0.0359		
	(0.0068)***		
Father's Education	-0.0214	-0.0216	-0.0211
	(0.0092)**	(0.0156)	(0.0104)**
Qualified Father	0.0596	0.1543	-0.0001
	(0.0337)*	(0.0641)***	(0.0386)
Self Employed Father	0.0105	0.0125	-0.0229
	(0.0235)	(0.0325)	(0.0328)
Qualified Worker Father	0.0400	0.0461	0.0067
	(0.0211)**	(0.0282)*	(0.0326)
Unqualified Worker Father	0.0253	0.0244	0.0211
	(0.0215)	(0.0263)	(0.0398)
N	3009	1801	1208
Pseudo R^2	0.0897	0.0785	0.1156

Note: *, **, and *** indicate statistical significance at 10, 5 and 1%, respectively.

In Table 9, we delineate the effects of wages on conditional probability of successfully using social networks to find jobs. The results shed light on the characterisitics of jobs found through social networks. As pay increases for both less educated and higher educated, there is

a decline in the likelihood that social networks will be effective in finding jobs. As we expected, networks are mainly used for less qualified jobs.

Table 9 Probit Results according to education controlling for wage (Marginal effects)

	Total	**Less Educated**	**Higher Educated**
Sex	-0.0331	-0.0876	0.0218
	(0.0176)*	(0.0284)***	(0.0197)
Age	-0.0163	-0.0174	-0.0180
	(0.0041)***	(0.0056)***	(0.0065)***
Age^2	0.0001	0.0001	0.0001
	(0.0000)**	(0.0000)*	(0.0001)*
Migrant	0.0454	0.0629	0.0161
	(0.0148)***	(0.0215)***	(0.0194)
Single	0.0041	-0.0331	0.0178
	(0.0216)	(0.0320)	(0.0258)
Divorced	-0.0096	-0.0434	0.0403
	(0.0395)	(0.0508)	(0.0631)
Size	0.0021	0.0024	0.0002
	(0.0053)	(0.0070)	(0.0083)
Education	-0.0244		
	(0.0076)***		
Father's Education	-0.0149	-0.0135	-0.0136
	(0.0096)	(0.0171)	(0.0101)
Qualified Father	0.0471	0.1283	0.0187
	(0.0340)	(0.0653)**	(0.0332)
Self Employed Father	0.0150	0.0182	-0.0087
	(0.0249)	(0.0358)	(0.0336)
Qualified Worker Father	0.0401	0.0415	0.0187
	(0.0222)*	(0.0303)	(0.0332)
Unqualified Worker Father	0.0162	0.0124	0.0193
	(0.0223)	(0.0284)	(0.0390)
lnWage	-0.0815	-0.0730	-0.1014
	(0.0122)***	(0.0163)***	(0.0177)***
N	2726	1572	1154
Pseudo R^2	0.1151	0.0971	0.1540

Note: *, **, and *** indicate statistical significance at 10, 5 and 1%, respectively.

Controlling for wages, male workers are less likely to find and accept job offers through social networks. For the less educated, this negative gender effect is more relevant, as the coefficient increased more than two-fold. A possible cause for this tendency is that male workers find jobs and migrate, and then use their newly established networks to find jobs for their wives.

Table 10: Probit Results According to Education Controlling for Wages and Work (Marginal effects)

	Total		Less Educated		Higher Educated	
	I	**II**	**I**	**II**	**I**	**II**
Sex	-0.0322	-0.0248	-0.0822	-0.0620	0.0220	0.0211
	(0.0176)*	(0.0174)	(0.0283)***	(0.0276)**	(0.0196)	(0.0197)
Age	-0.0157	-0.0157	-0.0156	-0.0159	-0.0187	-0.0189
	(0.0042)***	(0.0042)	(0.0057)***	(0.0056)***	(0.0065)***	(0.0065)***
Age^2	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002
	(0.0000)*	(0.0000)**	(0.0001)	(0.0001)	(0.0001)**	(0.0001)**
Migrant	0.0451	0.0406	0.0639	0.0551	0.0177	0.0188
	(0.0148)***	(0.0148)***	(0.0214)***	(0.0213)***	(0.0194)	(0.0195)
Single	0.0038	0.0044	-0.0345	-0.0320	0.0182	0.0187
	(0.0216)	(0.0215)	(0.0318)	(0.0315)	(0.0258)	(0.0259)
Divorced	-0.0106	-0.0093	-0.0465	-0.0411	0.0420	0.0425
	(0.0394)	(0.0392)	(0.0503)	(0.0498)	(0.0635)	(0.0637)
Size	0.0019	0.0023	0.0017	0.0027	0.0005	0.0005
	(0.0053)	(0.0053)	(0.0070)	(0.0070)	(0.0083)	(0.0083)
Education	-0.0233	-0.0250				
	(0.0077)***	(0.0077)***				
Father's	-0.0146	-0.0144	-0.0115	-0.0143	-0.0141	-0.0143
Education	(0.0096)	(0.0095)	(0.0171)	(0.0170)	(0.0101)	(0.0101)
Qualified	0.0455	0.0429	0.1260	0.1164	0.0072	0.0075
Father	(0.0339)	(0.0336)	(0.0652)**	(0.0644)**	(0.0387)	(0.0387)
Self	0.0150	0.0197	0.0203	0.0314	-0.0076	-0.0086
Employed	(0.0249)	(0.0252)	(0.0359)	(0.0368)	(0.0337)	(0.0336)
Father						
Qualified	0.0405	0.0407	0.0423	0.0418	0.0183	0.0180
Worker	(0.0222)*	(0.0222)*	(0.0304)	(0.0302)	(0.0331)	(0.0331)
Father						
Unqualified	0.0160	0.0161	0.0109	0.0134	0.0179	0.0181
Worker	(0.0223)	(0.0223)	(0.0283)	(0.0281)	(0.0388)	(0.0388)
Father						
lnWage	-0.0771	-0.0823	-0.0599	-0.0663	-0.1077	-0.1052
	(0.0129)***	(0.0130)***	(0.0172)***	(0.0173)***	(0.0188)***	(0.0191)***
SGK	-0.0192	-0.0444	-0.0522	-0.1024	0.0276	0.0326
	(0.0182)	(0.0200)**	(0.0234)**	(0.0258)***	(0.0257)	(0.0258)
Firm Size		0.0647		0.1304		-0.0160
		(0.0160)***		(0.0244)***		(0.0219)
N	2726	2726	1572	1572	1154	1154
Pseudo R^2	0.1155	0.1218	0.1003	0.1195	0.1550	0.1556

Note: *, **, and *** indicate statistical significance at 10, 5 and 1%, respectively.

In Table 10, we further control for work characteristics, such as social security coverage and firm size. Migrant status, as a proxy for the social network, keeps its significance for the less educated. However, the job status of the father becomes insignificant, except for the less educated workers whose fathers are employed in public sector.

Conditional on the success of finding employment, migrants have mores success than residents in finding jobs through social networks. The share of migrants in the labor force (about 47%) implies that migrants cannot be considered a minority group. Both residents and migrants use social networks for job finding, but migrants are relatively more successful, even when controlled for individual characteristics such as age, gender, education level, marital status, and household size.

7. Conclusion

The aim of this paper is to investigate the network effect on the probability of finding employment. Since our main concern is to differentiate the effect of the migrant status on the likelihood of using informal job search channel (social networks) to succeed in finding jobs, we model the determinants of finding employment through social networks. Therefore, we focus on probability of using social networks, conditional that employment status is reached, and use explanatory variables concerning individual, household, work and network characteristics (proxied by migrant status, father's education and job status).

We first examine whether migrants have a comparative advantage in using social networks to find jobs, conditional that the end result is a success, finding that is indeed the case. Later, the sample was divided into two subsamples according to education level. The effect of social networks proxied by migrant status on job finding becomes insignificant for the "Higher Educated" workers. In contrast, for the "Less Educated" workers, there is no change in the results we obtain for the whole sample. We conclude that social networks and fathers' job status are effective for the less well educated workers. Moreover, we add the controls such as wages, social security coverage and firm size to our analysis. The results shed light on the nature of jobs that is possible to find through social networks. As expected, networks are mainy used for less well-paid jobs.

We note that the main limitations of our study are largely due to the unmeasured social network variable, for which migrant status was used. If social network effects are more important for the less educated migrants, it is important to differentiate the relative effects of weak and strong links in the migrants' network. Unfortunately, this is not possible with the current data. In future research, we intent to use a more detailed adata set to disentangle the relative significance of retaining stetter or less well educated.

The results of this paper show that the usage of networks mostly depends on education level and esidency. Migrants tend to make more use of social networks to obtain less well paid jobs. It could be suggested that İŞKUR revize its job matching policies taking into account these factors.

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