Social networks and labour market outcomes among Senegalese migrants in Europe and Africa

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Abstract

This paper examines the role of social ties in the economic integration of Senegalese migrants in Europe and Africa. Previous studies have generally converged in their finding of a positive effect of ties to natives – "bridging" social capital in Putnam's terminology - on immigrants' labour market outcomes. In contrast, the role of co-ethnic ties (or "bonding" social capital) is less clear-cut. Some have argued that the higher degree of in-group solidarity that characterize co-ethnic ties make these a valuable resource and increase immigrants' wages and working hours. Others have documented negative effects ties such as trapping workers in worse and sometimes exploitative employment conditions and isolating them from the mainstream opportunities. Furthermore, social scientists have argued that the functioning of networks is shaped by characteristics of the immigrant stream and by structural conditions in the host society, but so far there is little empirical evidence documenting this. Most research examined the influence of social ties in immigrants' incorporation in Western societies. Very few studies have addressed these questions in the context of South-South migrations. This is an important omission with respect to African migration flows, since they are still mainly intra-continental. Using quantitative data on Senegalese migrants collected in two European (France, Italy) and one African country (Mauritania), we explore the extent to which social capital impact their economic outcomes across different destination contexts. We aim to investigate the extent to which Senegalese migrants rely on social networks for securing employment, the impact of network use on employment outcomes, and whether and how the ethnic and social composition of their networks influences their occupational attainment and mobility. Furthermore, taking advantage of the multi-sited nature of the survey, we are able to examine the ways in which contexts of reception shape the role of networks.

Introduction

This paper examines the role of social ties in the economic integration of Senegalese migrants in different European and African countries. As a measure of economic integration we use employment status and employment quality; therefore our main interest lies in the determinants of migrants' performances in the labour market of destination countries. This includes both what determines the "quality" of their job upon arrival and what allows them to improve their employment status over time. More specifically, we examine the role played by migrant networks in immigrants' economic incorporation at destination.

Migrant's labour market attainment and trajectories are a major concern in the policy debate. First of all, they can be a major factor of integration [Fokkema and De Haas, 2011]. At the same time, there is evidence of migrants' disadvantage in destination countries' labour markets: a number of studies identify a U-shaped pattern of occupational trajectories [Chiswick, Lee and Miller (2005) ; Obucina (2011),] and a disadvantage with respect to natives together with a greater probability of being employed in unskilled manual jobs [Brodmann and Polavieja, 2011, Fullin and Reyneri, 2011]. Social capital is often considered as playing a role in labour market processes; migrants are considered to rely more than natives on social capital since they lack other endowments of capital. Specifically regarding Senegalese migration, an important phenomenon among Senegalese migrants is the strong propensity to create associations (Paternò, 2004). A relevant question is therefore whether this helps in terms of occupational achievements.

There is an extensive literature on the effects of social capital on labour market outcomes [*inter alia*, Granovetter 1973 and 1995, Li 1983 and 1985]. In the case of migrants the older studies focus on Mexican migrants in the US [Portes and Jensen, 1989], and more recent ones on migration towards Europe [Kanas et al 2011, Lancee, 2012; Toma, 2016]. One of the points raised in the literature is that different ties may have different impacts, as argued by Putnam introducing the distinction between "bridging" and "bonding" social capital [Putnam, 2000]. "Bridging" social capital, corresponding to the links with natives, is usually considered positive for labour market outcomes [Kanas and Van Tubergen, 2006 on Netherlands]; "bonding" social capital (identified with the links with co-ethnics) is considered having a twofold effect. On one hand, it can increase trust and promote channels of reliable communication (the "closure argument"); other studies documenting the positive effects of co-ethnic ties underline the fact that these may foster alternative path for upward mobility trough "ethnic economicy" channels and through the possibility of resource pooling for newcomers (Munshi, 2001 and Aguilera and Massey, 2003 on Mexican migrants in US). On the side of negative effects we find the risk of increased distinctiveness from mainstream society and loss of information ("isolation argument") and the risk of being trapped into the ethnic economy niche and in solidarity obligations [Wiley, 1967]. On this side, Kanas and Van Tubergen (2006 and 2011) find negative effect on ISEI scores[1], while Amuedo-Durantes et al (2004) highlight that the presence of family members reduces employment.

The data: the MIDDAS survey and the variables of interest

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[1] We will discuss later on of the ISEI score to rank the "quality" of jobs.

We use the data collected through a survey conducted in 2009 among Senegalese migrants in France, Italy and Mauritania and in 2010 in Ivory Coast; the migrant samples are matched data with PSF survey (*Pauvreté et Structure Familiale*) in Senegal. The questionnaire includes several modules on post-migration status and several modules on networks (family, friends, associations, etc.).

At a first stage of the work, we use the dataset on migrants in France, Italy and Mauritania (893 observations. In the following stages, we will extend the analysis also to the Ivorian sample. We present the analysis aiming at pointing out the difference among the three destination countries instead contrasting Mauritania and Europe because there seems to be a high degree of heterogeneity within Europe between Italy and France.

Table 1. Descriptive statistics.

	ALL	FRANCE	ITALY	MAURITANIA	Differences MAU/EUR
share of men	71.7	74.8	77.8	63.5	***
age	36.7	38.2	36.2	35.9	**
period of arrival					
before '90s	42	26.3	11.8	85.5	***
90s	21.4	27.9	34.3	4.3	***
2000s	36.6	45.9	53.9	13.2	***
education					
primary	17.8	20	15.8	17.8	
secondary	30.1	26.3	47.1	17.8	***
tertiary	13.3	19.3	21.2	1.2	***
TOT OBS	893	270	297	326	

According to our data, in both France and Italy the majority of migrants come from the Dakar region, followed by Eastern Senegal and Senegal River Valley in the French sample, and by the Peanut Basin in the Italian sample. Most migrants in Mauritania come from the Saint-Louis region, followed by the Dakar region and the Peanut Basin.

We try to identify how different kinds of networks and ties play different roles on the labour market performances of migrants. The main methodological challenge is that the relationship between social capital and labour market outcomes can go in both directions. For this reason, we adopt a two-step approach (cfr. Mouw, 2003):

1. Who are the people who rely on networks to find a job? In this case the dependent variable is the type of job search process;
2. How do different networks and job search processes affect job characteristics? In this case, the dependent variables are different labour market outcomes (employment likelihood and quality).

For both steps we have information on both first and current (or last) jobs. As explanatory variables we use human capital, background in Senegal, characteristics of migration, network access, network use.

A summary of the dependent variables is the following.

Table 2.

	First job	Current job
Network use	Did he/she found the first job through … ? • Informal (network) channel • Family network • Friends' network	Did he/she found the current job through … ? • Informal (network) channel • Family network • Friends' network
Labour market outcome	Quality (ISEI score) of the first job	Is he/she is currently employed? Quality (4 categories) of the current job Quality (ISEI score) of the current job

A summary of the explanatory variables is the following

Table 3.

	First job	Current job
Human capital	Schooling at arrival Age at arrival Had a job in Senegal	Schooling at survey time Whether graduated in Europe Age at arrival
Background in Senegal	Origin hh lives in Dakar	Origin hh lives in Dakar
Characteristics of migration	Year of arrival undocumented at arrival	Year of arrival undocumented at arrival
Other controls	Sex Destination country	Sex Destination country
Access to social capital	Ethnic origin Religion Family network at arrival Association membership at arrival Size of the network known before migration	Ethnic origin Religion Family network before the current job Association membership before the current job Size of the network known before the current job Are there some Europeans in the network?
Use of social capital	Did he/she found the first job through informal (network) channel?	Did he/she found the current job through informal (network) channel?

How do we measure "quality" of jobs? We adopt two different approaches. First, we use standard categorical variables: unskilled/skilled/white collar/self-employed. Second, we use the "occupational score" proposed by Ganzeboom et al. (1992); this is the International Socio-

Economic Index (ISEI) of occupational status that is a weighted sum of socio-economic characteristics of incumbent of each occupation (education, income and occasionally some others). Ganzeboom and Treiman (1996) associate this classification to ISCO88 (ILO classification), 4 digits. We are aware of some of the ISEI limitations, especially that it is based on estimates on male population on a selection of 16 countries, that makes the comparison difficult between African and European contexts. Descriptive statistics of the ISEI variable are displayed in the following table.

Table 4. Descriptive statistics labour market outcomes

	ALL	FRANCE	ITALY	MAURITANIA	Differences MAU/EUR
isei first job	29.1	27	29.1	30.8	***
isei last job	31.9	32.1	32.1	31.7	
wage (euros)	769	1260	1123	118	***
unemployed %	15.6	15.2	21.6	10.4	***

To be noted that the "quality of job" ISEI score is on average higher in Mauritania than in Europe upon arrival. This difference, nevertheless, cancels out for employment at survey time. The wage gap is very large (to be noted that it is not converted in PPP).

Table 5. Descriptive statistics of social capital variables

	ALL	FRANCE	ITALY	MAURITANIA	Differences MAU/EUR
find first job though network %	69.4	55.6	75.9	74.4	**
find last job though network %	51.5	40.5	49.4	72.6	***
size of family network at arrival	1.01 (1.25)	1.25 (1.33)	0.7 (0.9)	1.12 (1.34)	**
size of family network at time of last job	1.13 (1.40)	1.27 (1.37)	0.86 (1.17)	1.27 (1.59)	**
member of association upon arrival %	10.3	6.3	11.8	12.3	*
Network size at survey time	1.21 (1.46)	1.37 (1.71)	1.25 (1.33)	1.05 (1.33)	**

The main usual problems in analysing the relationship between social capital and labour market are two. First, reverse causality is an issue, as labour market integration may shape individuals' social integration as well (for example, a good professional position may open up broader networks, with a higher share of natives). To tackle this, we use the time dimension to identify the direction of the relationship, making sure we only select those social ties that were formed prior to the job we are studying. Second, there are strong endogeneity issues: unobservables can explain both "being well-

connected" and "labour market outcomes" or "using informal channels" and "labour market outcomes" [Mouw, 2003].

Part of our strategy is to carefully identify the relevant subsamples: first, we exclude from the sample those who were born in Europe and those who are still at school - which leaves us with a sample of N = 888. Second, we get the proper subsample for each sub-question: regarding the characteristics of the first job, we exclude those who were students at arrival and those who never got a job (unemployed or inactive) (N=777). For the characteristics of the current job, we just consider those having a (not occasional) job at survey time (N=715); when looking at the probability of having a job today: we exclude those who never looked for a job, retired and non-working because injured (N=862).

Job search method and network use.

To address the first set of questions (first step) we use two specifications:

a. multinomial logit of job search method upon arrival where the dependent variable is the answer to the question *"When you arrived in France/Italy, how did you find your first job?"*

b. multinomial logit of job search method for current job (*"How did you find your current job?"*)

The results of the first specification are displayed in Table 6.

Table 6. Multinomial logit of job search method upon arrival [ref. category is "Formal channel"] (Marginal effects), *"When you arrived in France/Italy, how did you find your first job?*

	Network use to find first job	
	Family	Friends
Mauritanian sample (d)	1.315***	0.514*
	(0.386)	(0.312)
Italian sample (d)	1.191***	0.999***
	(0.395)	(0.303)
Primary education (at arrival) (d)	-0.144	0.392
	(0.353)	(0.290)
Secondary education (at arrival) (d)	-0.400	0.223
	(0.300)	(0.237)
Tertiary education (at arrival) (d)	-0.789	-0.111
	(0.509)	(0.375)
Age at arrival	-0.053***	-0.018
	(0.015)	(0.012)
Origin household was living in Dakar at time of departure (d)	0.171	0.023
	(0.253)	(0.207)
Arrived in the 1990s (d)	-0.480	-0.251
	(0.381)	(0.291)
Arrived in the 2000s (d)	-0.042	-0.536**
	(0.310)	(0.261)
Undocumented migrant (at arrival) (d)	0.316	0.933***
	(0.418)	(0.316)
Male (d)	-0.954***	-0.468**

	(0.261)	(0.234)
Muslim Murid (d)	-0.098	-0.294
	(0.334)	(0.280)
Muslim Tidjan (d)	-0.536	-0.340
	(0.328)	(0.268)
Non Muslim (d)	-0.412	-0.919
	(0.674)	(0.572)
Wolof (d)	-0.209	-0.403
	(0.337)	(0.275)
Peul (d)	-0.247	-0.531
	(0.411)	(0.338)
Soninke (d)	-0.876	-0.689
	(0.592)	(0.439)
Number of relatives in destination country (at arrival)	0.225***	-0.183**
	(0.085)	(0.087)
Size of social network	0.131	-0.034
	(0.095)	(0.086)
Number of "natives" in social network	0.069	0.128
	(0.263)	(0.252)
Was a member of an association before departure (d)	-0.099	0.043
	(0.367)	(0.301)
Constant	1.227*	1.640***
	(0.641)	(0.527)
Observations	724	724

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Looking at network use upon arrival (for finding the first job), we see that both the Italian and the Mauritanian sample show greater values than the French sample. Younger migrants, women and migrants entering the destination country undocumented have greater probability to use informal channels to find jobs: this is true for family channel for youngsters, for friends channel for undocumented, and for both in case of women. The quantity and type of social capital available upon arrival, also seems to play a role in job search method. In terms of network use we find a correlation between family network access (measured as number of family members present upon arrival) and probability of finding job through informal channels. It seems that there is a degree of "substitutability" of family and friends network: the availability of family network increases the use of family as job search channel and decreases the use of other informal channels. The presence of "natives" in the network plays a role in network use, but only in the two European subsamples (not shown).

Table 7 displays the same specifications but at survey time, i.e. the determinants of network use for the more recent or current job. The difference between the Italian sample and the French one is smaller than the previous model, while the difference between the Mauritanian and the French sample is bigger. With respect to the first job results, education starts playing a role in decreasing the use of network (secondary and tertiary education): this is consistent with the idea that everybody needs network upon arrival, but that, for subsequent job searches, more educated people rely more on formal channels.

Undocumented migrants do not display a greater use of friends network anymore, but they display instead a lower use of family network, also after controlling for network access.

Concerning the correlation between network use and network access, we find similar results as before: the presence of family members at the time of the last employment increases the probability of using family channels to search for job. The size of social network and the number of "natives" does not display significant coefficients.

Table 7. Multinomial logit of job search method for current job [ref. category is "Formal channel"], *"How did you find your current job?"*

	Network use to find last job	
	Family	Friends
Mauritanian sample (d)	1.457***	0.942***
	(0.454)	(0.336)
Italian sample (d)	0.016	0.650**
	(0.493)	(0.309)
Primary education(d)	-0.549	-0.136
	(0.366)	(0.282)
Secondary education (d)	-0.789**	-0.531*
	(0.369)	(0.275)
Tertiary education (d)	-2.031***	-0.878**
	(0.752)	(0.383)
dipl_eur	-0.132	-0.523
	(0.567)	(0.380)
Age at arrival	-0.037**	-0.031**
	(0.016)	(0.013)
Arrived in the 1990s (d)	-0.154	-0.376
	(0.448)	(0.311)
Arrived in the 2000s (d)	-0.076	0.033
	(0.371)	(0.274)
Undocumented migrant (at arrival) (d)	-1.382**	0.375
	(0.666)	(0.307)
Male (d)	-0.557*	-0.028
	(0.294)	(0.238)
Muslim Murid (d)	0.086	-0.379
	(0.405)	(0.291)
Muslim Tidjan (d)	-0.302	-0.546*
	(0.385)	(0.281)
Non Muslim (d)	0.299	-0.462
	(0.752)	(0.586)
Wolof (d)	-0.350	-0.442
	(0.406)	(0.292)
Peul (d)	-0.223	-1.057***
	(0.484)	(0.365)
Soninke (d)	-0.406	-1.309***
	(0.665)	(0.490)
Number of relatives in destination country (at)	0.244***	0.065
	(0.093)	(0.080)
Size of social network	0.040	-0.007
	(0.103)	(0.074)
Number of Europeans in social network	0.106	-0.152
	(0.212)	(0.192)
Constant	0.414	1.412**
	(0.736)	(0.565)
Observations	579	579

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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Social capital and network use effects on job characteristics.

Switching to the "second step", i.e. the determinants of the "quality" of employment, we use the following specifications:

a. OLS regression and IV regression of socio-economic index (ISEI) of occupational status upon arrival

b. Probit and IV probit of "Being employed at survey time"

c. OLS and IV regressions of socio-economic index (ISEI) of occupational status at survey time

d. Multinomial logit of job categories

The determinants if ISEI score of the employment upon arrival are shown in table 8.

Table 8. OLS and IV regression of socio-economic index (ISEI) of occupational status upon arrival

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) IV
Mauritanian sample (d)	1.247	1.572	2.065*	3.799***	1.647	1.907
	(1.102)	(1.100)	(1.113)	(1.340)	(1.200)	(2.492)
Italian sample (d)	-1.374	-1.291	-0.462	1.251	-0.969	-1.947
	(1.087)	(1.086)	(1.076)	(1.370)	(1.134)	(2.751)
Primary education (at arrival) (d)	1.521	1.600	1.571	1.474	1.480	0.730
	(0.993)	(0.994)	(0.994)	(0.991)	(0.997)	(1.217)
Secondary education (at arrival) (d)	2.686***	2.732***	2.717***	2.631***	2.631***	2.110**
	(0.860)	(0.860)	(0.859)	(0.857)	(0.861)	(1.010)
Tertiary education (at arrival) (d)	3.327**	3.344**	2.341*	2.221	2.239	1.934
	(1.404)	(1.406)	(1.394)	(1.391)	(1.397)	(1.608)
Age at arrival	0.096**	0.103**	0.089**	0.083*	0.089**	0.103
	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.095)
Was working before leaving Senegal	-0.078	-0.123	-0.004	-0.014	-0.051	-0.347
	(0.719)	(0.721)	(0.720)	(0.718)	(0.721)	(0.837)
Origin household was living in Dakar at time of departure (d)	0.993	1.065	0.930	0.945	0.953	1.062
	(0.725)	(0.726)	(0.725)	(0.728)	(0.727)	(0.810)
Arrived in the 1990s (d)	-0.683	-0.686	-0.250	-0.260	-0.246	0.058
	(1.035)	(1.036)	(1.030)	(1.027)	(1.031)	(1.353)
Arrived in the 2000s (d)	-1.948**	-1.943**	-1.761*	-1.848**	-1.842**	-0.515
	(0.909)	(0.910)	(0.910)	(0.908)	(0.913)	(1.409)
Undocumented migrant (at arrival) (d)	-1.818*	-1.773*	-1.456	-1.491	-1.411	-2.941
	(1.058)	(1.059)	(1.065)	(1.063)	(1.066)	(2.011)
Male (d)	4.524***	4.343***	4.246***	4.379***	4.248***	4.433**
	(0.799)	(0.796)	(0.798)	(0.798)	(0.798)	(1.989)
Muslim Murid (d)	-1.371	-1.363	-1.481	-1.650*	-1.489	-1.083
	(0.975)	(0.976)	(0.966)	(0.967)	(0.967)	(1.221)
Muslim Tidjan (d)	-0.491	-0.509	-0.688	-0.861	-0.674	-0.485

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	(1)	(2)	(3)	(4)	(5)	(6)
	(0.932)	(0.933)	(0.934)	(0.935)	(0.934)	(1.437)
Non Muslim (d)	-1.299	-1.316	-0.757	-0.663	-0.705	0.403
	(2.041)	(2.044)	(2.053)	(2.050)	(2.055)	(2.673)
Wolof (d)	1.153	1.175	1.000	1.070	1.015	1.746
	(0.949)	(0.951)	(0.949)	(0.948)	(0.949)	(1.289)
Peul (d)	-2.027*	-2.026*	-2.002*	-2.014*	-1.993*	-0.992
	(1.186)	(1.188)	(1.187)	(1.183)	(1.187)	(1.593)
Soninke (d)	-3.538**	-3.476**	-3.633**	-3.798**	-3.686**	-2.582
	(1.587)	(1.589)	(1.598)	(1.595)	(1.600)	(2.379)
Number of relatives in destination country (at arrival)	-0.095	-0.113				
	(0.281)	(0.281)				
Size of social network	-0.632**					
	(0.283)					
Was a member of an association before departure (d)	-0.691	-0.905				
	(1.068)	(1.059)				
Number of "natives" in social network		-1.453*				
		(0.777)				
findjob_family_o			-1.666*	-1.978**	-3.705**	-0.409
			(0.938)	(0.946)	(1.808)	(13.183)
findjob_friends_o			-2.020***	0.667	-1.956**	6.243
			(0.776)	(1.322)	(0.777)	(11.136)
MAUxfindjob_friends_o				-3.970**		
				(1.692)		
ITAxfindjob_friends_o				-3.599**		
				(1.694)		
MAUxfindjob_family_o					2.240	
					(2.085)	
ITAxfindjob_family_o					3.171	
					(2.252)	
Constant	23.901***	23.367***	24.290***	23.430***	24.689***	19.372*
	(1.854)	(1.849)	(1.945)	(1.971)	(1.970)	(11.431)
Observations	705	705	687	687	687	687
R-squared	0.129	0.127	0.127	0.135	0.130	

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Columns 1 and 2 show the effect of network access, that seems to be negative in both ways it is measured, including the measure of our "bridging" social capital, as measured by the number of "natives" in the social network. Columns 3, 4 and 5 display the effect of network use in job search: this is overall negative, but with specific country effects. The job search through friends seems to decrease the "job quality" upon arrival only in Italy and Mauritania, while the job search through family channels seem to have this effect only in France.

The network effect through job search is nevertheless not robust to instrumentation (col. 6): network use is instrumented using the predicted probabilities calculated through a multinomial logit model. The negative impact of network use seems therefore to be driven by omitted variable bias.

As expected, we find a positive effect of education and strong negative effect of late period of arrival. We moreover find some recurrent significant coefficients of ethnicity dummies (Peul and Soninké), that may conceal some network effect that is not captured by our social capital variables.

If we look at the effect of network on the probability of being employed at survey time, on the contrary, network effects appear to be robust (table 9).

Table 9. Probit and IV Probit of "Being employed at survey time"

VARIABLES	(1) Probit	(2) Probit	(3) IV Probit	(4) Selection equation
Mauritanian sample (d)	0.099**	0.159***	0.399**	-0.498***
	(0.048)	(0.055)	(0.199)	(0.169)
Italian sample (d)	-0.077*	-0.028	-0.298*	-0.073
	(0.041)	(0.049)	(0.159)	(0.156)
Primary education(d)	0.067*	0.068*	0.261*	-0.070
	(0.040)	(0.040)	(0.155)	(0.144)
Secondary education (d)	0.070*	0.067*	0.275*	-0.112
	(0.037)	(0.037)	(0.144)	(0.135)
Tertiary education (d)	0.114**	0.110**	0.445**	-0.032
	(0.051)	(0.051)	(0.201)	(0.193)
dipl_eur	-0.005	-0.003	-0.021	0.093
	(0.049)	(0.048)	(0.190)	(0.182)
Age	-0.001	-0.001	-0.002	-0.012**
	(0.002)	(0.002)	(0.006)	(0.006)
Undocumented migrant (at arrival) (d)	0.006	0.001	0.025	-0.048
	(0.044)	(0.044)	(0.171)	(0.163)
Arrived in the 1990s (d)	0.026	0.025	0.101	0.066
	(0.045)	(0.045)	(0.174)	(0.161)
Arrived in the 2000s (d)	-0.062	-0.063	-0.241	-0.031
	(0.040)	(0.040)	(0.155)	(0.143)
Male (d)	0.120***	0.119***	0.466***	0.082
	(0.029)	(0.029)	(0.116)	(0.114)
Muslim Murid (d)	-0.053	-0.051	-0.199	-0.107
	(0.041)	(0.040)	(0.161)	(0.146)
Muslim Tidjan (d)	-0.030	-0.027	-0.117	0.020
	(0.039)	(0.039)	(0.153)	(0.140)
Non Muslim (d)	0.033	0.024	0.129	-0.025
	(0.082)	(0.081)	(0.318)	(0.296)
Peul (d)	0.038	0.039	0.148	0.048
	(0.047)	(0.047)	(0.183)	(0.176)
Wolof (d)	0.058	0.063*	0.226	-0.000
	(0.037)	(0.037)	(0.146)	(0.140)
Soninke (d)	0.054	0.052	0.210	-0.075
	(0.064)	(0.064)	(0.250)	(0.237)
Size of social network	-0.035***	-0.013	-0.109	
	(0.008)	(0.013)	(0.167)	
MAUxKnetworksize		-0.046**		
		(0.022)		
ITAxKnetworksize		-0.034*		
		(0.020)		
Number of relatives in destination country (at arrival)				0.152***
				(0.042)
Was a member of an association before departure (d)				0.799***
				(0.162)
Constant			0.562	1.627***
			(0.475)	(0.328)

Observations	841	841	841	841

Columns 1 and 2 display the coefficients of a probit model: education and gender display the expected signs, while the country dummies have different coefficients (the Mauritanian sample has greater probability of being employed, while the Italian less, with respect to France that is the reference category). The social capital variable (size of social network) has a negative and significant effect.

In column 2 we interact social capital with country dummies and this again sheds light on different patterns : in France, social capital plays no role on the probability of being employed, while in Italy and Mauritania it does, negatively. The country effect, on those who report no social network, keeps being positive in Mauritania, but ceases to be negative in Italy.

The last two columns display the instrumentation procedure and results: size of social network at survey time is instrumented using the number of relatives present at arrival and association membership upon arrival (both significant determinants of social capital, as shown in col. 4). The social capital effect on the probability of being employed is not robust to this specification.

Turning to the determinants of "job quality" of the last or current job, we find network variables playing no or negative role, but not robust to instrumentation.

Column 1 to 4 of Table 10 show the results for the network use variables, while column 5 shows the results for social capital access. The latter is not significant, neither in an OLS specification, nor if instrumented with the family network upon arrival (not shown).

Looking at columns 1-4 (OLS and IV models for ISEI) we see, as expected, that education and especially graduation in destination countries have strong positive effects. The negative effect of being undocumented upon arrival has long-lasting consequences also on employment at survey time (specifications 3, 4 and 5). An important predictor of the quality of last job is the quality of first job, but they can also be collinear, thus we include both specifications with and without this control. Network use has a negative effect on job "quality" only if we do not control for the initial job quality (col 3). Once controlling for it (col 2), network use in job search seems to display a negative effect only in France, while it shows no effect in Mauritania and a positive effect in Italy. The country effects for the individuals using formal job search channels are not significant anymore.

In column 4 we instrument network use with its predicted probability (using a probit model) and the network use result does not hold anymore.

Again, though, to indicate some network effect, we observe some variables related to religion and ethnic groups that show significant effects (Murid muslims and Soninkes).

Table 10. OLS and IV regression of socio-economic index (ISEI) of occupational status at survey time (or last job if unemployed)

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) IV network use	(5) OLS
Mauritanian sample (d)	0.253	-0.952	2.242	2.307	0.018
	(1.654)	(2.242)	(1.890)	(2.451)	(1.135)
Italian sample (d)	-0.789	-2.547	-1.720	-1.677	-0.134
	(1.267)	(1.550)	(1.451)	(1.775)	(1.064)
isei_first	0.565***	0.560***			0.563***
	(0.046)	(0.046)			(0.037)
Primary education(d)	1.366	1.556	3.716**	3.691**	0.516
	(1.259)	(1.260)	(1.486)	(1.600)	(0.954)
Secondary education (d)	1.751	1.708	3.919***	3.848*	1.919**
	(1.222)	(1.221)	(1.424)	(2.229)	(0.921)
Tertiary education (d)	3.720**	4.104**	8.942***	8.849***	4.370***
	(1.632)	(1.641)	(1.883)	(2.934)	(1.342)
dipl_eur	10.369***	9.809***	9.039***	9.008***	8.561***
	(1.601)	(1.623)	(1.718)	(1.879)	(1.316)
Age	-0.017	-0.050	-0.276	-0.288	0.005
	(0.319)	(0.319)	(0.376)	(0.472)	(0.226)
age2	0.001	0.001	0.005	0.005	0.001
	(0.004)	(0.004)	(0.005)	(0.006)	(0.003)
Undocumented migrant (at arrival) (d)	-2.041	-1.870	-3.027*	-3.015*	-2.028*
	(1.305)	(1.305)	(1.546)	(1.576)	(1.090)
Arrived in the 1990s (d)	1.365	1.270	2.066	2.039	1.103
	(1.498)	(1.496)	(1.692)	(1.807)	(1.070)
Arrived in the 2000s (d)	1.134	0.895	1.460	1.459	0.030
	(1.401)	(1.409)	(1.602)	(1.603)	(0.933)
Male (d)	1.936*	2.007*	4.146***	4.128***	1.006
	(1.027)	(1.027)	(1.177)	(1.259)	(0.783)
Muslim Murid (d)	1.738	1.499	-0.460	-0.461	1.724*
	(1.279)	(1.284)	(1.457)	(1.458)	(0.984)
Muslim Tidjan (d)	1.034	0.909	-1.385	-1.405	0.992
	(1.218)	(1.218)	(1.402)	(1.480)	(0.931)
Non Muslim (d)	1.726	1.814	-2.817	-2.860	-0.080
	(2.633)	(2.627)	(2.862)	(3.051)	(2.009)
Peul (d)	1.876	1.860	-0.256	-0.336	1.596
	(1.539)	(1.535)	(1.794)	(2.637)	(1.188)
Wolof (d)	0.063	0.125	0.548	0.490	-1.156
	(1.288)	(1.286)	(1.476)	(2.020)	(0.960)
Soninke (d)	-3.726**	-3.792**	-6.730***	-6.813**	-3.534**
	(1.882)	(1.878)	(2.147)	(2.943)	(1.593)
findjob_network	-0.748	-2.808**	-1.856*	-2.225	
	(0.906)	(1.428)	(1.053)	(8.976)	
MAUxfindjob_network		2.334			
		(2.403)			
ITAxfindjob_network		3.958*			
		(2.022)			
Size of social network					0.239
					(0.232)
Constant	9.800	11.507*	28.885***	29.420*	11.158**
	(6.641)	(6.682)	(7.601)	(15.005)	(4.672)
Observations	409	409	449	449	627
R-squared	0.452	0.458	0.287	0.286	0.402

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In the discrete model of occupational status upon arrival (table 11), the reference category is "unskilled manual". We find a strong impact of job search method on the shift to self-employed

occupations. This holds both for the broader informal search channel (col 3) and for the two sub-channels of family and friends (col. 9). Although these results have unsolved endogeneity issues, they convey the idea that informal job search method often "channel" the migrants to self-employment, e.g. street vending (Toma 2016).

Interacting country dummies and job search channel (col 4-6), we find that using an informal channel affects negatively the probability of being into a skilled profession in France, while it has a positive sign in Italy.

The country effects are also interesting: observations in the Italian sample have a lower probability than in France to shift from unskilled manual to unskilled non-manual, while in Mauritania the opposite is true.

The other results are in line with what is found in the literature (and expectations): we find a postive impact of "graduated in host country" and education in general on the access to "higher" professions. Being undocumented upon arrival has long lasting negative occupational mobility consequences only in the European sample (not shown).

Table 11. Multinomial logit of job categories [ref. is unskilled manual] (Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0)

	(1) Unskilled non manual	(2) Semi-skilled	(3) Self-employed/other	(4) Unskilled non manual	(5) Semi-skilled	(6) Self-employed/other	(7) Unskilled non manual	(8) Semi-skilled	(9) Self-employed/other
Mauritanian sample (d)	1.040*	3.004***	1.508*	1.335*	2.426***	-11.754	1.102*	3.041***	1.558**
	(0.573)	(0.619)	(0.777)	(0.788)	(0.769)	(629.237)	(0.577)	(0.621)	(0.776)
Italian sample (d)	-1.529***	0.192	0.616	-2.000***	-0.215	0.565	-1.480***	0.211	0.647
	(0.462)	(0.416)	(0.495)	(0.623)	(0.480)	(0.678)	(0.462)	(0.417)	(0.497)
Primary education(d)	0.524	0.605	-0.632	0.544	0.651	-0.588	0.563	0.605	-0.634
	(0.438)	(0.469)	(0.528)	(0.440)	(0.472)	(0.528)	(0.442)	(0.470)	(0.528)
Secondary education (d)	0.500	1.230***	-0.031	0.474	1.262***	-0.020	0.550	1.238***	-0.031
	(0.442)	(0.437)	(0.458)	(0.441)	(0.437)	(0.459)	(0.446)	(0.438)	(0.458)
Tertiary education (d)	1.774***	2.279***	0.295	1.881***	2.389***	0.305	1.833***	2.297***	0.304
	(0.595)	(0.548)	(0.620)	(0.602)	(0.552)	(0.627)	(0.598)	(0.550)	(0.621)
dipl_eur	0.381	1.198**	0.128	0.298	1.122**	0.103	0.385	1.206**	0.136
	(0.522)	(0.482)	(0.700)	(0.531)	(0.484)	(0.700)	(0.523)	(0.484)	(0.703)
Age	0.023	-0.000	0.004	0.021	0.001	0.008	0.024	0.001	0.007
	(0.018)	(0.018)	(0.022)	(0.018)	(0.018)	(0.022)	(0.018)	(0.018)	(0.022)
Undocumented (at arrival) (d)	-0.561	0.150	0.646	-0.552	0.259	0.666	-0.460	0.197	0.706
	(0.490)	(0.447)	(0.469)	(0.493)	(0.455)	(0.472)	(0.495)	(0.452)	(0.474)
Arrived in the 1990s (d)	0.065	0.247	1.082*	0.032	0.266	1.171*	0.086	0.263	1.106*
	(0.480)	(0.489)	(0.613)	(0.483)	(0.491)	(0.629)	(0.483)	(0.490)	(0.612)
Arrived in the 2000s (d)	-0.507	0.166	0.773	-0.604	0.138	0.890	-0.452	0.188	0.810
	(0.482)	(0.468)	(0.613)	(0.489)	(0.470)	(0.637)	(0.485)	(0.468)	(0.613)
Male (d)	-1.729***	0.594	-0.813**	-1.775***	0.625	-0.788**	-1.719***	0.587	-0.816**
	(0.345)	(0.410)	(0.388)	(0.349)	(0.411)	(0.389)	(0.346)	(0.410)	(0.388)
Muslim Murid (d)	-0.429	0.129	0.257	-0.502	0.111	0.264	-0.474	0.101	0.223
	(0.440)	(0.411)	(0.523)	(0.442)	(0.415)	(0.528)	(0.442)	(0.412)	(0.525)
Muslim Tidjan (d)	0.074	-0.200	0.316	0.073	-0.247	0.291	0.058	-0.210	0.296
	(0.404)	(0.411)	(0.527)	(0.406)	(0.412)	(0.531)	(0.405)	(0.413)	(0.529)
Non Muslim (d)	-1.240	-1.195	1.414	-1.352	-1.137	1.492	-1.333	-1.242	1.385
	(0.821)	(0.908)	(0.988)	(0.830)	(0.918)	(0.990)	(0.830)	(0.908)	(0.991)
Wolof (d)	-0.094	-0.067	0.657	-0.098	-0.055	0.685	-0.127	-0.076	0.661
	(0.436)	(0.422)	(0.551)	(0.436)	(0.425)	(0.554)	(0.437)	(0.423)	(0.551)
Peul (d)	-0.591	-0.643	-0.056	-0.587	-0.656	-0.036	-0.658	-0.683	-0.102
	(0.515)	(0.502)	(0.667)	(0.515)	(0.507)	(0.669)	(0.515)	(0.504)	(0.670)
Soninke (d)	-0.693	-1.962**	-0.496	-0.700	-2.088***	-0.419	-0.785	-2.000***	-0.518
	(0.558)	(0.771)	(0.955)	(0.563)	(0.784)	(0.958)	(0.564)	(0.771)	(0.954)
findjob_network	0.409	-0.479	1.116***	0.286	-1.504**	0.909			
	(0.323)	(0.304)	(0.364)	(0.432)	(0.615)	(0.639)			
MAUxfindjob_network				-0.367	1.506	13.678			
				(0.857)	(0.931)	(629.237)			
ITAxfindjob_network				0.933	1.309*	0.216			
				(0.774)	(0.757)	(0.796)			
findjob_family							0.971**	-0.202	1.471**
							(0.494)	(0.539)	(0.574)
findjob_friends							0.230	-0.554*	1.037***
							(0.345)	(0.321)	(0.377)
Constant	0.079	-2.200*	-2.889**	0.299	-2.019*	-3.096**	-0.021	-2.236*	-2.993**
	(1.108)	(1.150)	(1.409)	(1.123)	(1.160)	(1.490)	(1.114)	(1.156)	(1.416)
Observations	443	443	443	443	443	443	443	443	443

Concluding remarks.

In this paper we preliminary assess the role played by social capital on labour market outcomes of a sample of Senegalese migrants in France, Italy and Mauritania. Most research so far examined the economic integration of immigrants in Western societies. The innovative feature of this paper is to exploit multi-sited data that include observations both in European and in African destination countries. This is particularly relevant in our case since intra-African migrations are the majority of African mobility flows (Flahaux and De Haas, 2016).

Our investigation proceeds in two steps: first, we inquire the determinants of different jobs search channels and of social capital use. Second, we look at the social capital and job search channels' effects on labour market outcomes.

Channels of job search differ greatly across countries. This part of the analysis suggests that social ties and access to social capital play a role in job search method used. Still, this role is not clearly disentangled from country specific effects. It seems, though, that the younger, female and undocumented migrants (and the less educated, with respect to last job) are more likely to find jobs through networks. This makes us think that the selection into "network use" is a relevant aspect to be explored. This can partly explain the non-robustness of our subsequent findings.

Social capital per se does not seem to display significant effects on labour market outcomes. We find an impact of network use variables both concerning the job obtained upon arrival and the job at survey time. Nevertheless, in both case, this impact is not robust to IV specifications and seems to be driven by omitted variable bias. This is, according to us, an important result, that indicates that the use of social networks is highly endogenous. This contributes to putting into perspective some of the "pessimist" findings on the role of networks. The analysis of "who uses networks" to find a job is therefore relevant, and it points to the idea that groups who start from a disadvantaged position are more likely to use informal channels.

The comparison across countries before instrumentation shows some interesting results, to be explored further. First, the negative effect of network use on "job quality" upon arrival is driven by a family effect in France and a friends effect in Italy and Mauritania. Second, the informal job search channel has positive effect on last job attainment in Italy, while this is negative in France and nil in Mauritania.

Still, variables that are probably related to the availability of informal networks seem to have an impact on job quality. These are variables capturing religion and especially the belonging to specific ethnic groups within the Senegalese population.

The analysis done on categorical variables does not solve endogeneity issues, but highlight interesting patterns: a pattern of informal network use "channeling" migrants into self-employment, and –again- diverging effect on "quality of job" between France and Italy, with positive effect of network use in the latter and negative in the former.

This work is very preliminary. Next immediate stages are the introduction of the analysis of wages and the use of the Ivory Coast subsample of Senegalese migrants. Next, we shall explore the role of ethnic and religious dummies to understand whether they mirror network effects, or they "hide" urban/rural divide. Finally, we shall explore more the differences across countries besides the effects of social networks and social capital variables.