

Job seekers' search intensity in Algeria: Does gender matter?

Moundir LASSASSI*

Abstract - This article presents an empirical analysis of the determinants of job search strategies and the intensity seeking for job in Algeria. We adopt different estimation techniques (discrete choice models, count regression models) to operationalize search strategies and intensity and find that age, sex, marital status, education level, characteristics of household and characteristics of the area determine the job search strategies and significantly influence the intensity of a job seeker's efforts. Our results show stronger gender specificities in strategies to seek jobs. Women not only use more methods in the search for employment, but also spend more time than men engaged in their job search, this trend has increased in recent years.

JEL Classification
C25, J23, J64, O12

Key-words

Job search methods
Search intensity
Labour market
Discrete choice models
Count model
Algeria

I would like to thank the reviewer and the editor for their time and effort performing the reviews for this manuscript.

*Researcher, Center for Research in Applied Economics for Development (CREAD), Algeria ; lassassim@gmail.com

1. INTRODUCTION

Search theory suggests that the amount of effort an individual devotes to job hunting and the likelihood of receiving an offer are positively correlated (McCall, 1970). A higher search effort is anticipated to increase the seeker's knowledge on unfilled job vacancies and in return, raise the probability of exiting unemployment. Boheim and Taylor (2001), among others, provide empirical evidence to corroborate the claim that a higher search effort increases the probability of entering employment.

The probability of receiving a job offer depends on many factors, but past studies indicate that the individual's search strategy is a pivotal one. By investing the time and effort into the job search, an individual gains more information about vacancies, which is likely to result in a higher probability of receiving an offer of employment. However, job search methods are not uniform: they differ depending on an individual's time, preferences, and competencies, the costs and constraints he faces, and the returns he anticipates. Moreover, different job search approaches generate different types of employment outcomes. Considering these variations, it's important to note that the individual choice of strategy reflects the perception of costs and benefits associated with each method for a particular unemployed jobseeker.

In some empirical works, the determinants of job search intensity are analysed using discrete choice models (ordered probit model) where job search intensity is measured by the number of methods used by an unemployed job seeker. Using cross-sectional data, other studies have sought to analyse the determinants of job search intensity, the relationship between intensity and duration of research, the effectiveness of strategies, and the impact of unemployment benefits on job search efforts. Other authors have worked on longitudinal data to analyse the influence of research intensity on transitions in the labour market and the dynamics of job search intensity over time.

The empirical work on search intensity primarily focuses on developed countries (Banerjee 1981; Mazumdar 1987; Holzer 1987, 1988; Blau and Robins 1990; Gregg and Wadsworth 1996; Munshi 2003; Ioannides and Loury 2004). The empirical work finds that job seekers in Britain use multiple search methods rather than relying on a single method. Gregg and Wadsworth (1996) find that unemployed people in Britain use on average three job-search methods, such as the number used by unemployed youth in the United States (Holzer 1988), Addison and Portugal (2002) find similar results for the unemployed in Portugal.

Few studies have analysed the determinants of search intensity in the case of developing countries, more particular countries in the Middle East and North Africa (MENA) region. This represents a gap in the MENA labour market literature. This gap is particularly critical in light of the considerable underemployment and large informal private sector composition previously examined in numerous MENA labour markets, all of which most heavily affect young workers. Therefore, our examination of job search intensity is a critical first step towards a stronger empirical understanding of the mechanisms that enhance the likelihood of a successful transition to desired employment, especially for young workers in the MENA countries.

The objective of this paper is to examine job search intensity in Algeria. We measure (as proxy) job search intensity by the number of methods a job seeker uses to find job. We examine how job search strategies vary by human capital accumulation, experience, demographic characteristics, household characteristics and characteristics of region.

After the introduction, the paper is outlined as follows: we share major labour market indicators in Section 2 and provide background on job placement mechanisms available to the unemployed. Section 3 discusses the methodology followed and the data used in the paper. Section 4 provides descriptive empirical results and Section 5 concludes.

2. BACKGROUND ON ALGERIAN LABOR MARKET

Since the 1990's, structural readjustment schemes have resulted in a decline in public sector job opportunities. This has represented a disruption of an earlier culture of human capital accumulation and job aspirations, in which labour force participants looked to the public sector for desirable employment opportunities, and higher levels of public education translated to socioeconomic mobility through public sector jobs. Parallel to this decline in public sector opportunities has been the growth of the informal sector, which offers poor working conditions and insecurity. The labour market in Algeria is characterized by a relatively high unemployment rate, particularly for women, youth and educated people.

The declining of employment opportunities in the public sector on the one hand and the increase of the informal sector on the other hand has been especially detrimental for female labour force participation, who often would choose to be out of the labour force waiting to find a job in the public sector which offers better working conditions, stability and security compared to the informal sector. Jobs at informal sector are socially perceived as "inappropriate" for females especially those married (Assaad et al. 2018).

Table 1. Key labour market indicators in 2018

	Men	Women	Total
Labour force participation rate			
15 years and more	66.7	16.6	41.9
15-24 years	42.4	8.6	25.9
Employment rate			
15 years and more	60.7	13.4	37.2
15-24 years	32.9	4.6	19.1
25 years and more	69	15.9	42.5
Unemployment rate			
Total	9	19.5	11.1
Youth (16-24 years)	22.4	46.9	26.4
Adults (25 years and more)	6,7	15.9	8,6
Unemployment rate by level of education			
Without instruction	3.4	3.8	3.5
Primary	7.3	9.4	7.5
Intermediate	10.8	19.7	11.6
Secondary	8.1	19.8	10.6
University	9.9	23.3	16.4
Unemployment rate by diploma			
No diploma	8.3	14.6	8.9
Graduate of vocational training	10.9	19.8	12.8
Graduate of higher education	10	23.1	16.8
% of young people aged 15-24 years not in education, employment or training (NEET)	18.4	32.9	25.5

Source: ONS, 2018, Labour force survey.

We observe a low labour force participation rates among women. Indeed, for women aged 15 and over, participation stands at 16.6% (Table 1). Despite the increase in the employment rate in recent years, this has not had enough impact to

boost the labour force. Moreover, we see that young people aged 15-24 are the most affected by the aforementioned labour market transitions. Indeed, the youth unemployment rate is three times higher compared to adults. The unemployment rate of women is also 2.3 times higher than that of men.

Unemployment affects graduates more. The unemployment rate of graduates is 16.4%, which means that one in six graduates finds themselves unemployed after leaving university. According to gender, it appears that educated women are more affected by unemployment than educated men (23.3% for women vs 9.9% for men). Indeed, one out of three university educated women find themselves unemployed after graduation against one man in ten. Another more dramatic result is that 25.5% of young people aged 15-24 years old (one in four young people) are not in education, employment or training "NEET". This proportion is higher for girls 32.9% compared to boys 18.4% (Table 1).

Employment policies (active vs. passive) depend on two ministerial departments: Ministry of Employment and Social Security (MTESS) and Ministry of National Solidarity and Family (MSNF). These two ministries oversee five agencies: the National Agency for Employment (ANEM), the National Agency for the Support of Youth Employment (ANSEJ), the National Unemployment Insurance Fund (CNAC), the Social Development Agency (ADS), and the National Agency for Microcredit Management (ANGEM).

Expenditures on national employment programmes are rather low: Algeria spends 14 billion Algerian Dinar (approximately 130,000 dollars) annually – which represents 0.4 per cent of GDP. However, these figures correspond to the expenditure of the programs and do not include the operating costs of the structures that implement them such as ANEM. If the estimated amount of training expenditure is added, it is not unreasonable to place the total amount of active expenditure at around 0.5 per cent of GDP. The passive expenditure between the payment of unemployment benefits (2.5 billion DA) and the solidarity allowance (1 billion DA) is raised to 3.5 billion DA, which represents 0.1 per cent of GDP. The total expenditure on labour market policies can therefore be estimated at around 0.6 per cent of GDP.

3. DESCRIPTION OF THE DATA

We use household employment survey conducted by the National Statistics Office in 1997, 2003 and 2007. In addition to the variables related to jobs and demographic characteristics, the unemployed responded to questions about their main method used to seek for a job. The unemployed could choose more than one answer among four suggestions: (1) registration at a government employment agency, (2) asking at the work place, (3) through friends and relatives and (4) other methods. For each search method, the unemployed could answer by Yes or No. We use the number of job search methods used by a job seeker as a proxy of the job search intensity.

Table 2 shows that in 2007, the main search method used by the unemployed is personal or family relationships for both men (86.5%) and women (84%). This proportion increased sharply between 1997 and 2007 as the use of public intermediation agencies declined by 22.6 percentage points overall. This appears to illustrate the drop in public sector job opportunities following structural readjustment. Interestingly, we still find that the majority of females unemployed register with government employment offices in the hope of job placement, an outcome that corresponds to evidence that women in the labour force have maintained their aspirations of public sector opportunities.

Table 2. Search methods used by job seekers

	1997			2007		
	Total	Men	Women	Total	Men	Women
Government employment agency	63.7	63.5	64.6	41.1	35.5	60.3
Asking at the work place	69.5	70.4	63.9	62.2	61.6	64.1
Friends and relatives	57.3	57.1	58.1	85.9	86.5	84
Others	32.6	33.7	26.4	61.5	60.9	63.8
Number of unemployed (thousands)	1735	1481	253	1255	969	286

NB: Unemployed can choose more than one answer.

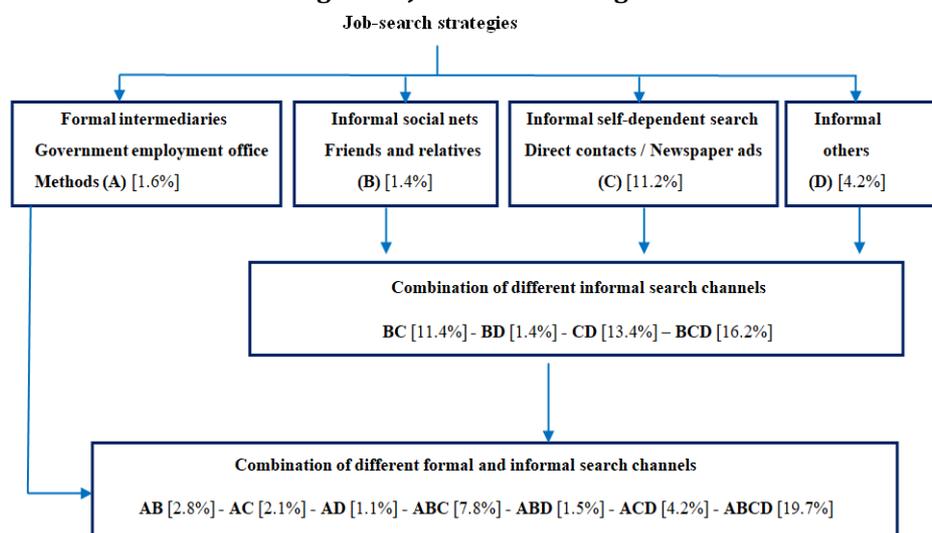
Source: Computed by author from the official labour force survey 1997-2007.

From these results we observe how social networks have become the primary method used by the unemployed in their quest for a job. These results also show that men and women have completely different strategies in their job search and that these strategies may change over time.

4. DETERMINANTS OF SEARCH STRATEGIES AND SEARCH INTENSITY

4.1. Job Search Strategies

We identify three types of job search strategies. First, the unemployed use a single method seeking for job, whether formal or informal research method, 18.4% of the unemployed follow this strategy. 42.4% of unemployed combine several formal methods in their job search (second strategy). 39.2% of the unemployed use at the same times both formal and informal research methods; this is the third type of job search strategy.

Figure 1. Job search strategies

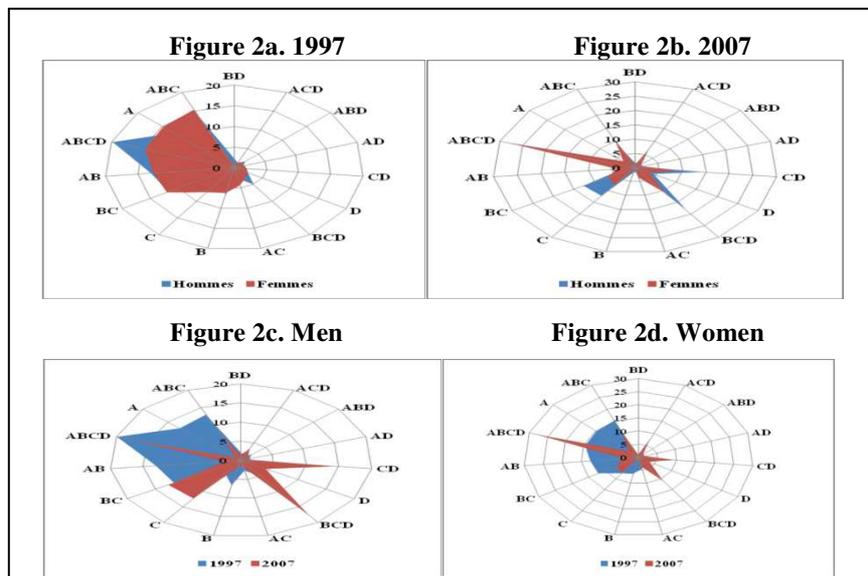
In figure 1, we report the proportion of the unemployed who used only one method in the job search, then those who used only two methods, three methods and so on. However, in Table 2, for each search method, we report the proportion of the unemployed who used a specific search method regardless of whether the

person used other methods or not (a person can look for a job using at the same time several methods). This explains why the proportions in figure 1 are lower compared to the proportions reported in table 2.

From the analysis of job search strategies, it appears that women use more methods compared to men. Indeed, 28% of women reported using all methods in the job search, as opposed to 17% for men (figure 2). This may be due to the fact that women find more difficulty entering the labour market, which explains why they use all possible methods in research to maximize their chances to find a job.

Women seek more through government employment agency comparatively to men who seeks more by using their social networks. Another result, women are more likely to combine formal and informal methods at the same time, whereas men tend to combine several informal methods.

Figure 2. Job Search Strategies: Men vs. Women



Source: Computed by author from labour force survey data 1997-2007.

Over the period between 1997-2007 (figure 2), we see an increase in the number of search methods used by the unemployed. This first result is due to a women's effect, in fact, it is more women who use more and more methods in research over time. Three possible explanations: women find it more difficult to enter the labour market. The second is probably due to the fact that there are more and more educated women entering the labour market, they are more motivated to find a job and to value their diploma. The third possible explanation is a cultural one, woman in Algeria but also in the Arab countries, have more pressure from their family, if the woman decides to work and if the family accepts this decision, it is in the interest of women to find a job quickly. In these countries, there is less tolerance for women to leave all the time for job search. This phenomenon is observed more in rural areas. These three points partly explain why women use more methods seeking for job. Individual choice of job search strategy also depends on employers' recruitment policies, which vary according to business characteristics and economic conditions (Gregg and Wadsworth 1996; Manning and Petrongolo 2011).

4.2. Determinants of job search strategies

Using data from the 2007 survey, we model the determinants of the choice of job search strategy used by the unemployed in their quest for a job. We estimate Multinomial Probit with correction of the selection. The Multinomial Probit (MNP) relaxes the assumption of independent error terms, allowing for correlation in individual choices. Our selection model relies on estimating the probability of an individual to use one method in the job search.

Variable used for Main (MNP) and selection equation

The empirical studies find a significant relationship between the density of the population (proxy for the size of social networks) and job search strategies. Wahba and Zenou (2015) find for the case of Egypt a significant relationship (concave) between the density of the population and the probability of finding job through social networks instead of using other search methods. The size of the relationship network can determine the research effort. In fact, the larger the size, the more a person has relationships, which allow them to diversify their job search methods. Topa (2001) finds that people are more likely to be employed if their social contacts are also employed. So the quality of the relationship network can determine the research method used. Wahba and Zenou (2015), find a similar result for the case of Egypt.

Gender has an effect on job search strategies. Indeed, the descriptive analysis shows that women and men use different strategies in the job search. In fact, women seek more via formal methods, especially through public intermediary agencies. Also, job search intensity differs according to gender. Women find more difficult to participate into the labor market, so they use more methods in job search in order to maximize their chances of finding a job.

Job seekers find barriers to the use of some job search methods, particularly the use of formal methods. This determines both the search intensity and the job search strategies. For example, for the methods "exam and/or competitions", there is the barrier of the level of education. Also for the "newspaper method" it requires a certain level of education to read vacancy announcements. According to Boheim and Taylor (2001), age emerge as key determinants of individual's choice of job search strategy. Taşci (2008) find inverse-U shaped relation between age and job search intensity. Age determines the search intensity but also the job search strategies.

Education is an important determinant for the choice of job search methods. Indeed, educated people choose more the formal research methods which guarantee more to have qualified jobs. However, the least educated people cannot use all the methods, for example, they cannot use the formal methods like exams, contests... they therefore use the informal methods in the job search. We advance the same explanation for the effect of vocational training on the choice of job search methods. Education also has an effect on the number of research methods used. The most educated people tend to use more methods to maximize their chance of finding a job quickly and thus value their diploma. Unemployment affects qualified people by depreciating their human capital. As a result, educated people are more likely to leave unemployment quickly and put more effort into the job search than less educated people. We advance the same explanation for the effect of vocational training on the job search effort (number of methods used).

The experience acquired before losing a job can determine the choice of job search method. A person who has worked in the past has probably built relationships that will influence their job search strategies. The experience before losing

the job can affect the number of job search methods used. A person who has worked in the past probably has an idea about the most effective search methods for finding a job. So they are going to select few search methods instead of using all of them.

Search duration may have an effect on job search strategy. Individuals may vary their strategies depending on their unemployment duration. Schmitt and Wadsworth (1993) find unemployment duration to be one of the most important determinants of job search method choice in Britain. The duration of unemployment also has an effect on the job search effort. Faberman and Kudlyak (2019), Krueger and Mueller (2011) find that search intensity declines over the duration of an individuals' job search spell. A discouraging effect of job seekers.

Various empirical studies (Fischer 1976, 1982 ; Amato 1993 ; Wahba and Zenou 2005) show that there is a significant relationship between the residence stratum (urban vs rural) and job search strategies. People who live in rural areas base their social networks on a limited number of people living nearby, usually family (strong ties) compared to people who live in urban areas who are less likely to base their personal networks on traditional sources (such as family) and are more likely to include other relationships, friends, coworkers (weak ties). Different types of social networks lead to different types of job search methods. The place of residence (urban vs rural) has also an effect on the job search effort. In rural areas, some methods of job search are less effective because there are fewer job opportunities. The unemployed can relate to few methods judged the most effective in their area.

McGregor (1983) hypothesises that higher local unemployment rates increase search through advertisements and employment agencies, while job seekers in low unemployment areas are more likely to use friends and contacts. The local unemployment rate can also determine the effort while looking for a job. Indeed, Individuals who reside in areas where the unemployment rate is high might make less effort seeking for a job because they know that there are few opportunities for job (discouraging effect).

Variable used only for Main equation (MNP)

We used characteristics of area such as informal rate in the district level, industry rate, construction rate, trade rate, services rates and self-employment rate in the district level as control variable in the main equation. Individuals may change their job search behaviour in response to different labour market conditions (Osberg 1993). There is no evidence on the effect of these variables on search intensity.

Wahba and Zenou (2005) used the characteristics of the household, in particular the profession of parents, as a proxy for the quality of the networks. They find that the profession of parents has a negative effect on the use of social networks when parents occupied a skilled job, formal methods in job search are used instead. Like Wahba and Zenou, we use the characteristics of the household such as number of employers, number of employees in public sector, number of employees in private sector in the household as control variables in the main equation. These variables do not have a direct effect on job search intensity.

Variable used only in the selection equation – Instrumental variables

Several empirical studies analyze the effect of the presence of children in the household on the participation of women in the labor force.

The negative relationship between the presence of children and women participation in the labor force is well established. Theoretical household models of time allocation (Mincer 1962 ; Becker 1965 ; Willis 1973 ; Gronau 1977 ; Angrist and

Evans 1996, 1998) suggest that children have a negative effect on the labor supply of women especially those with high education. Parents in the labor force have balanced their work and home life, including the choice of the type of care to provide for their children while they work. Women invest more in the education of the children compared to men, which prevents them from increasing their efforts seeking for jobs. The number of children is used in several studies as an instrument to correct the selection for participation in the labour force.

From this literature review, it is clear that the presence of children in the household has only a significant effect on the job search effort. We use the variables: number of children under 5 years old in the household, number of children aged between 5 and 14 years old in the household and the marital status as instruments in the selected equation.

In the first stage of the model estimates the strategy used to seek job: use one method vs more than one to seek for job.

The selection equation is:

$$z_i^* = w_i \gamma + u_i \quad (1)$$

z_i^* are unobserved (latent) variable, w_i is the covariates used to model the selection process, γ is the coefficient for the selection process and u_i is a random-error term.

$$z_i = \begin{cases} = 1 & \text{if } z_i^* > 0 \\ = 0 & \text{if } z_i^* < 0 \end{cases} \quad (2)$$

In the second stage the outcome equation is a multinomial probit model. As in Greene (2012), the structural equation for the MNP model is:

$$Y_{ij} = X_i \beta_j + \varepsilon_{ij} \quad j=1,2,\dots,n \text{ (the number of choice) in our case } n = 4 \quad (3)$$

From the first stage (probit model) we calculate the inverse Mills Ratio and we include this term in the second stage (multinomial probit) to correction the selection bias.

$$Y_{ij} = X_i \beta_j + \theta_j \hat{\lambda}_i(\alpha) + \varepsilon_{ij} \quad (4)$$

$\hat{\lambda}_i(\alpha)$ is the inverse Mills Ratio.

$$Y = \begin{cases} 1 = \text{Government employment office} \\ 2 = \text{Friends and relatives} \\ 3 = \text{Direct contacts} \\ 4 = \text{Others methods} \end{cases}$$

We estimated the job search strategies for men and women in the same equation given the size of the sample (people who used only one method in the job search). However, we introduced as explanatory variables the dummy of gender and the interaction of the gender with other variables (professional training, experience in unemployment and stratum of residence) to measure the effect of these variables for women and men in the choice of job search strategies.

a) Job search strategies

We use the density of the population as a proxy of the size of the social networks. The results show that the larger are the network size, greater is the probability that unemployed people use the social networks, instead to use a direct contacts. Note that the relation between the size of the network and the probability of using relationships is concave.

Men are more likely to seek job through direct contact compared to women who are more likely to use public employment agencies. In Arab countries, families have more confidence in public institutions, they accept that women seek job through these public agencies instead of seeking job directly with companies. Youth are more likely to use social networks in job search (compared to adults) but less formal methods such as a public intermediation agency or direct research with employers. Indeed, there are barriers to the use of formal methods (experience, human capital) compared to informal methods. Youth have less experience and less human capital. The use of relationship networks in job search decreases with the level of education. The more educated a person is, the less they use the networks. However, they are more likely to look for job through public intermediation agencies in the hope of finding more stable and protected employment. On the other hand, the less educated people use more relationship networks probably more constrained than by choice. The effect of vocational training on job search strategies is different between men and women.

Table 3. Determinants of job search strategies - Multinomial Probit Model with Selection

(Ref : Direct contacts)	Multinomial probit (ref : Direct contacts / Newspaper ads)			Selection equation Binary probit (ref: more methods used)
	Government employment office	Friends and relatives	Others	Job Search One vs More methods
Social network				
Density	0.0424 (0.327)	0.214** (0.273)	-0.0589 (0.202)	-0.0446** (0.0187)
Density Squared	-0.0193 (0.0356)	-0.00558** (0.00698)	0.000117 (0.00519)	0.00114** (0.000496)
Demographic characteristics				
Gender (ref: women)				
Men	-0.592* (0.947)	-0.495 (1.170)	-0.0457 (0.796)	0.111** (0.160)
Age (ref: 15 - 24 years)				
Age 25- 34 years	-0.654 (1.317)	-0.805 (1.483)	0.123 (1.082)	-0.256*** (0.0641)
Age 35 - 44 years	0.253** (1.397)	-1.329* (1.597)	0.0669 (1.143)	-0.266*** (0.103)
Marital status				
Married	-	-	-	-0.0210** (0.0937)
Other (ref)	-	-	-	-
Educational Attainment (ref: university)				
No certificate	-0.204** (4.064)	1.534*** (4.635)	0.495 (3.362)	0.818*** (0.170)
Primary	-0.109** (3.197)	0.0623** (3.689)	-0.257 (2.673)	0.645*** (0.113)
Less than secondary	-0.376* (2.952)	0.386 (3.397)	0.145 (2.457)	0.590*** (0.104)
Secondary	-0.348 (2.648)	-0.258* (3.054)	-0.0293 (2.214)	0.531*** (0.108)
Vocational training				
Yes (ref)	-0.397 (0.929)	-1.053 (1.185)	0.0148 (0.800)	0.169*** (0.126)
No	-	-	-	-
Interaction Vocational training # Gender				
(ref: women - Vocational training)	0.766 (1.207)	2.339* (1.411)	0.0753 (0.994)	0.205 (0.148)
Men - No vocational training	-	-	-	-
Experience in unemployment				
Unemployed who have already worked (ref)	0.674 (0.583)	0.696** (0.842)	0.496 (0.527)	-0.00928 (0.133)
Unemployed who have never worked	-	-	-	-
Interaction Experience in unemployment # Gender				
(ref: women without unemployment experience)	-0.356 (0.743)	-0.269 (0.988)	0.382 (0.656)	-0.0943 (0.144)
Men with unemployment experience	-	-	-	-
Search duration (unemployed)				
Search duration	0.00510 (0.0402)	-0.00573 (0.0464)	0.0295 (0.0332)	-0.00792** (0.00342)
Search duration Square (unemployed)	-0.000104 (0.000356)	5.43e-05 (0.000404)	-0.000357 (0.000296)	6.61e-05* (3.61e-05)

Table 3 (continued). Determinants of job search strategies - Multinomial Probit Model with Selection

(ref: Direct contact)	Multinomial probit (ref: Direct contacts / Newspaper ads)			Selection equation Binary probit (ref: more methods used)
	Government employment office	Friends and relatives	Others	Job Search one vs more methods
Household Characteristics				
Children under 5 years in the household	-	-	-	0.00373** (0.0407)
Number of people 5 - 14 years in the household	-	-	-	0.0192** (0.0244)
Number of unemployed in the household	-0.468*** (0.168)	-0.0156 (0.170)	-0.157 (0.127)	-
Number of employers in the household	0.195 (0.593)	0.671 (0.613)	0.635 (0.489)	-
Number of Independents in the household	-0.343* (0.204)	-0.227 (0.257)	-0.410** (0.189)	-
Number of employees in public sector in HH	-0.0375 (0.180)	0.0785 (0.192)	-0.198 (0.156)	-
Number of employees in private sector in HH	-0.0677 (0.157)	0.181 (0.163)	0.0796 (0.128)	-
Number of people 15 - 64 years in the household	0.192** (0.0764)	-0.0335 (0.0837)	-0.0211 (0.0592)	-
Number of people 65 years and more in the household	0.281 (0.179)	0.187 (0.195)	0.224 (0.140)	-
Characteristics of area				
Stratum				
Urban (ref)	1.078	0.508	0.784	0.225*
Rural	(1.224)	(1.435)	(1.028)	(0.130)
Interaction Strate # Gender (ref: women - urban)				
Men in rural area	-1.460* (1.378)	-0.868 (1.607)	-1.571* (1.159)	-0.258 (0.142)
Informal rate in the district level	-0.757 (2.608)	-1.641 (2.707)	-9.858*** (2.231)	-
Industry rate in the district level	2.480 (2.555)	0.417 (2.463)	4.141** (1.956)	-
Construction rate in the district level	-1.949 (1.938)	-0.486 (1.779)	0.681 (1.466)	-
Trade rate in the district level	0.933 (2.007)	-1.167 (2.172)	4.848*** (1.616)	-
Services rates in the district level	0.899 (1.517)	0.750 (1.472)	-0.829 (1.231)	-
Unemployment rate at district level	-1.562 (6.687)	-3.471 (7.514)	-4.119 (5.412)	1.368*** (0.301)
Self-employment rate in the district level	2.760 (1.855)	0.836 (1.879)	2.292 (1.434)	-
Correction term (inverse mills ratio)				
Constant	2.167** (6.086)	3.238** (6.895)	0.0186 (5.022)	-
Constant	-5.661 (11.57)	-6.274 (13.22)	-0.745 (9.613)	-1.485*** (0.183)
Sample size	602	602	602	3275

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

Source: Computed by author from the labour force survey 2007.

Indeed, the interaction between gender and vocational training shows that men who have not followed vocational training are more likely to seek employment through relationship networks instead of direct contacts compared to women who have followed vocational training. Unemployed people who never work in the past are more likely to look for job through relationship networks and other methods, rather than looking for job through direct contact. It should be noted that the integration of this variable with gender is not significant. We controlled with some variables relating to the characteristics of the household. It appears from the results that the presence of the unemployed in the household has a negative effect for the other members of the household to look for a job through government employment office. Also the presence of self-employed in the household has a negative effect for the use of government employment office instead of direct contacts.

On the other hand, the presence of people at working age (15-64 years) in the household has a positive effect in seeking job through government employment office. The interaction between the stratum of residence and gender shows that men residing in rural areas use less government employment office instead of using direct contacts compared to women residing in urban areas. It is observed that correction for the selection bias is justified with the inverse mills ratio across all categories being statistically significant except for the category other methods. The coefficient of the mills ratio is positive in government employment office and friends/relatives, therefore we say that in these, a positive selection bias is noted. Estimating the model without selection parameter would imply an upward bias in the estimated coefficients for these two categories.

b) Selection equation

The results show a convex relationship between the size of the social networks and the use of a single method in job search. This means that the search intensity increases with the size of the relationship network, which is confirmed in the literature (Wahba and Zenou 2015). Men are more likely to use a single method in the job search compared to women.

Youth use fewer methods when looking for a job compared to adults. This result can be explained by the fact that youth find barriers for use of certain methods that require more education and experience. Taşci (2008) find inverse-U shaped relation between age and job search intensity.

Married people are less likely to use a single method in the job search. They are more likely to use several methods to maximize their chance of finding a job quickly to support the family. The level of instruction is an important factor, it appears from the results that the more educated the people the more they tend to use several methods in the job search. In fact, educated people want to get out of unemployment quickly and promote their diplomas, so they use several methods to maximize their chance of finding a job. Those who have followed vocational training are more likely to use several methods in job search compared to those who have not followed training.

We found a convex relationship between the probability to use single method seeking for job and the unemployment duration. This means that the longer the duration of unemployment and more unemployed people do effort to find a job using several search methods. People who reside in rural areas tend to use fewer job search methods compared to those who reside in urban areas. In rural areas, some methods of job search are less effective because there are fewer job opportunities. The unemployed can relate to few methods judged the most effective in their area.

We also controlled by the number of children in basic age (less than 5 years) and the number of children aged between 5 and 14 years in the household. The results show a significant negative effect of the presence of children in the household on the job search effort. People in this situation (presence of child in the household) tend to use only one method in the job search. The unemployment rate (calculated at district level) is negatively correlated with the number of job search methods used. We can argue that this result is due to a discouragement of unemployed young people who live in regions with high unemployment rates. They will make less effort in the job search because they know that there is less opportunity to find a job.

4.3. Determinants of Job Search Intensity

We measured job search intensity by the number of methods used in the job search. We estimated several models for men and women using data from the 2007 survey. Below the table of coefficients, we report a likelihood ratio test that alpha equals zero—the likelihood ratio test comparing this model to a Poisson model. The

associated chi-squared value is 0 with one degree of freedom. This strongly suggests that alpha is zero and the Poisson model is more appropriate than the negative binomial model for both men and women.

The model is written as follows: $P(Y = y) = \frac{e^{-\lambda} \lambda^y}{y!}$ ($y = 0, 1, 2, \dots$).

Model the parameter λ using the covariates (X_1, X_2, \dots, X_j) with :

$$\ln \lambda = a_0 + a_1 X_1 + \dots + a_j X_j$$

Table 4. Determinants of job search intensity

	Men			Women		
	Coef.	P> z	% ¹	Coef.	P> z	%
Social network						
Density	-0.00978 (0.0143)	0.494	[-1]	-0.0265 (0.0254)	0.298	[-2.6]
Density Squared	0.000172 (0.000359)	0.632	[0]	0.000610 (0.000636)	0.338	[0.1]
Demographic characteristics						
Marital status						
Married	-0.0306 (0.0475)	0.520	[-3]	-0.0779 (0.0804)	0.332	[-7.5]
Other (ref)						
Age (ref: 15 – 24 years)						
Age 25- 34 years	0.0926*** (0.0319)	0.004	[9.7]	0.100* (0.0565)	0.075	[10.6]
Age 35 – 44 years	0.124** (0.0519)	0.017	[13.2]	0.119* (0.0902)	0.188	[12.6]
Educational Attainment (ref: university)						
No certificate	-0.258*** (0.0882)	0.003	[-22.7]	-0.0663 (0.222)	0.765	[-6.4]
Primary	-0.210*** (0.0526)	0.000	[-19]	-0.208* (0.112)	0.064	[-18.8]
Less than secondary	-0.167*** (0.0466)	0.000	[-15.4]	-0.216*** (0.0749)	0.004	[-19.5]
Secondary	-0.164*** (0.0494)	0.001	[-15.1]	-0.186*** (0.0653)	0.004	[-17]
Vocational training						
Yes (ref)	-0.0963*** (0.0327)	0.003	[-9.2]	-0.0217 (0.0557)	0.696	[-2.2]
No						
Experience						
Unemployed who have already worked (ref)	0.00173 (0.0319)	0.957	[0.2]	2.19e-05 (0.0553)	1.000	[0]
Unemployed who have never worked	0.00374** (0.00164)	0.023	[0.4]	0.00318* (0.00311)	0.306	[0.3]
Search duration (unemployed)	-3.65e-05** (1.71e-05)	0.032	[0]	-1.76e-05* (3.42e-05)	0.606	[0]
Household Characteristics						
Children under 5 years in the household	-0.000302 (0.0205)	0.988	[0]	0.00325 (0.0393)	0.934	[0.3]
Number of people 5 – 14 years in the household	-0.00601 (0.0127)	0.637	[-0.6]	-0.0530** (0.0268)	0.048	[-5.2]
Number of people 15 – 64 years in the household	-0.00368 (0.00774)	0.634	[-0.4]	0.0186 (0.0154)	0.227	[1.9]
Number of people 65 years and more in the household	-0.00584 (0.0203)	0.774	[-0.6]	-0.0137 (0.0369)	0.710	[-1.4]
Number of unemployed in the household	0.0153** (0.0180)	0.395	[1.5]	-0.0169 (0.0336)	0.615	[-1.7]
Number of employers in the household	0.0137 (0.0689)	0.842	[1.4]	-0.0747 (0.110)	0.495	[-7.2]
Number of Independents in the household	-0.00674 (0.0256)	0.792	[-0.7]	-0.0244 (0.0478)	0.610	[-2.4]
Number of employees in public sector in HH	0.0209 (0.0186)	0.261	[2.1]	0.00803 (0.0314)	0.798	[0.8]
Number of employees in private sector in HH	-0.0227 (0.0207)	0.273	[-2.2]	-0.0256 (0.0380)	0.499	[-2.5]

Table 4 (continued). Determinants of job search intensity

	Men			Women		
	Coef.	P> z	% ¹	Coef.	P> z	%
Characteristics of area						
Region (Ref: North)						
Middle	-0.0929** (0.0446)	0.037	[-8.9]	-0.101 (0.0805)	0.209	[-9.6]
South	-0.246*** (0.0755)	0.001	[-21.8]	-0.166 (0.128)	0.196	[-15.3]
Great South	-0.154 (0.127)	0.225	[-14.2]	-0.00191 (0.224)	0.993	[-0.2]
Unemployment rate at district level	-0.842*** (0.181)	0.000	[-56.9]	-0.387 (0.341)	0.256	[-32.1]
Stratum						
Urban (ref)	0.0416 (0.0371)	0.263	[4.2]	-0.0426 (0.0711)	0.549	[-4.2]
Rural	-0.459 (0.324)	0.157	[-36.8]	-0.491 (0.564)	0.384	[-38.8]
Industry rate in the district level	0.675** (0.275)	0.014	[96.5]	-0.0687 (0.472)	0.884	[-6.6]
Construction rate in the district level	0.345 (0.223)	0.122	[41.2]	-0.0723 (0.465)	0.876	[-7]
Trade rate in the district level	0.623*** (0.221)	0.005	[86.4]	0.419 (0.371)	0.258	[52.1]
Services rates in the district level	0.627*** (0.188)	0.001	[87.3]	-0.0497 (0.366)	0.892	[-4.9]
Self-employment rate in the district level	0.401* (0.236)	0.089	[49.4]	-0.218 (0.472)	0.644	[-19.6]
Constant	0.730*** (0.231)	0.002		1.315*** (0.434)	0.002	
Sample size	2536	2536	2536	739	739	739

¹ Percentage Change in Expected Count.

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

Likelihood-ratio test of $\alpha = 0$: $\text{chibar2} (01) = 0.00 \text{ Prob} > = \text{chibar2} = 1.000$.

Source: Computed by author from the labour force survey 2007.

We can write the likelihood function as:
$$L(a) = \prod_{i=1}^n \frac{e^{-\exp(X_i a)} [\exp(X_i a)]^{y_i}}{y_i}$$

and the log likelihood, which we have to maximize as a function of (a):

$$LL(a) = \sum_{i=1}^n y_i \times X_i a - \exp(X_i a) - \ln y_i$$

a) Demographic Characteristics

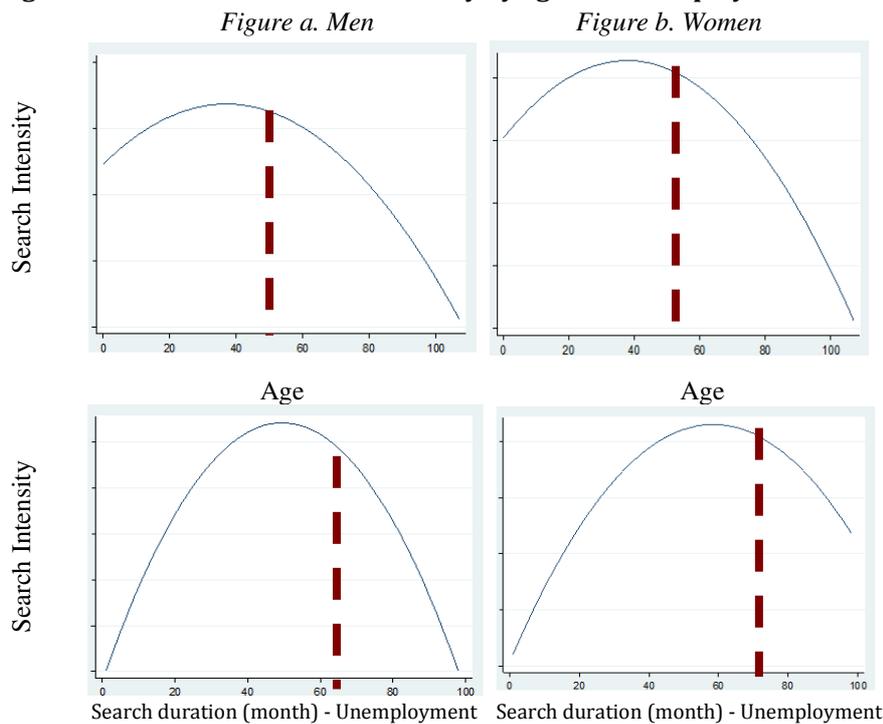
The model shows that age is significant for both sexes with an inverted U-shape. The intensity of job search increases with age until a certain threshold point, at which intensity decreases with age. It is on the declining side of this U-shape that we can evoke the concept of discouraged unemployed. For men, the intensity decreases after the age of 39 years and for women after 35 years old. For women, this result can be explained by the fact that the average age of marriage in Algeria is 30 years. At the age of 35, married women will likely have children, which decreases their effort in seeking for a job. The effect of age is more important for women. Indeed, for men aged between 25 and 34 years we observe an increase in research intensity by 9.7 per cent as compared to those aged between 15 and 24 years. This proportion is 10.6 per cent for women in the same category of age. For men, being between the ages of 35 and 44 years increases the job

search intensity by 13.2 per cent as compared to the younger (15-24 years). Likewise, this proportion rises to 12.6% for women. The marital status is not significant for both men and women.

Few empirical work analyse the relationship between search intensity and search duration. Most works find a negative relationship between search duration and the probability of finding a job (Faberman and Kudlyak 2019 ; Machin and Manning 1999 ; Van den Berg and Van Ours 1996).

The results (table 4) show a concave relationship between search duration and job search intensity. This means that the search intensity increases until a threshold beyond which the search effort decreases. From the simulation of search intensity by search duration, it appears for men that research intensity decreases from the fourth year of research, while for women it decreases from the seventh year of research. This means that women continue to seek with the same intensity, on average three years more compared to men. This may be due to the fact that women find it more difficult to enter the labour market compared to men. This result must be taken with caution since the variable search duration is probably endogenous (causal effect between search duration and job search intensity).

Figure 3. Simulation of search intensity by age and unemployment duration



Source: Computed by author from labour force survey 2007.

b) Human capital (education vs. experience)

The intensity of job search increases with the level of education for both men and women. Blan and Robins (1990), Wanberg et al. (1999) for the United States, Schmitt and Wadsworth (1993) for England and Sabatier (2000) for France found similar results. Education is positively correlated with search intensity, which means that educated people are more motivated to find a job so they use maximum of

channels in their job search to increase their chances to find a job. One possible explanation is that educated people find more difficulties to enter the labour market (unemployment rate is 16.4% (23.3% for women and 9.9% for men, cf. Table 1), which forces them to do more efforts seeking for jobs.

Also, unemployment deprives skilled individuals of their high wages (potential wages) and can also depreciate their human capital. Therefore, educated people are more excited to get quickly out of unemployment by downing more effort seeking for job compared to less educated individuals. The effect of this variable is more important for men. Indeed, having a higher education level increases the research intensity by 29% for men compared to women (7%). Vocational training has a positive effect on research intensity for men. Indeed, research intensity increases by 10% for men who have followed vocational training. This variable is not significant for women.

c) Household Characteristics

The presence of children aged 5-14 years in the household has a negative effect on the intensity of job search for women. Women invest more in the education of the children compared to men, which prevents them from increasing their efforts seeking for jobs.

The presence of unemployed in the household has a positive effect (for men) on the intensity in the job search for the other unemployed in the same households. More unemployed people are in the household and more the individuals of this household need to make efforts seeking for job in order to financially help the family. Schmitt and Wadsworth (1993) found similar results for men unemployed in Britain in the 1980s.

d) Characteristics of area

All the variables relating to geographic and area characteristics are only significant for men. Research intensity is lower in the middle regions and in the southern regions compared to the northern regions. This is probably due to the fact that the unemployed in these regions know that the opportunities to find a job are limited so they do less effort seeking for jobs, resulting in discouragement and protracted unemployment. This result has important implications for labour policy. Policy makers need to invest more in these regions and encourage the private sector to settle in these areas of the country.

The results show a negative relationship between the local unemployment rate and the intensity of job search. Böheim and Taylor (2001), Jones (1989) found a similar result for Britain. Here we find evidence of a discouraged unemployment driven by location. The higher the unemployment rate gets in a region, the fewer are the opportunities to find a job and the less the unemployed intensify their search. We find in the analysis of job search modes that in regions where unemployment is high, the unemployed are more likely to use social networks that considers more effective in these conditions.

The intensity of job search is less important in regions where the main activity is the agriculture. Youth disfavour the low wages and harsh conditions in the agricultural sector, we observe a low intensity of job search in these regions. In other words, we believe the unemployed youth in agricultural areas are expressing a preference for non-agricultural jobs by restricting their job searches. On the other hand, we find that job search intensity is higher in regions where the most dominant form of employment is the independent activities: that is, in regions where the economic activity is more important.

5. CONCLUSION

In this article, we investigated the determinants of job search strategies and the intensity seeking for job for men and women separately. We took the number of methods used in the job search as a proxy for the search effort. The results show that job search strategies vary according to socio-demographic characteristics. Men, young people and the most educated adopt different job search strategies compared to women, adults and the least educated. Also, the characteristics of the households and the regional specificities explain the differences in the job search strategies of the unemployed.

The analysis shows that women use more different strategies in their job search compared to men. Women mainly use formal methods in research especially through public agencies, when men use more informal methods especially social networks. Women not only use more methods in job search but also seek for a longer period compared to men, a trend has become more pronounced in the recent years. This is due on the one hand to the decline in public sector employment opportunities and on the other hand to the increase of informal sector, this sector do not offer the best working conditions for women, less stability and less protection. Women find more and more difficulties for the insertion into the labour market. The intensity of job search increases with the level of education for both sexes. Educated people find it increasingly difficult to enter the labour market, which forces them to make more efforts in the search for jobs. The results of the estimates also show that household characteristics and regional specificities play a very important role in the strategies and intensity of job search, at least for men.

The performance of public agencies in charge of employment services is not adequate and largely underdeveloped. As a matter of fact, policy makers are advised to pay more attention to boasting the effectiveness of public agencies. They must look for effective policy formulation processes that facilitate non-discriminatory employment. In general, national employment policies and strategies should take into account the impact of social networks in employment and labor market participation, particularly among women. More investment in education and training, especially in remote areas may enhance the efficiency of job search and equity of opportunities offered by labor markets.

REFERENCES

- Addison J., Portugal P.**, 2002, Job search methods and outcomes. *Oxford Economic Papers*, 54, 505-533.
- Amato P.R.**, 1993, Urban-rural differences in helping friends and family members. *Social Psychology Quarterly*, 56, 249-262.
- Angrist J.D., Evans W.N.**, 1996, Children and Their Parents' Labor Supply: Evidence from Exogenous Variation in Family Size. *NBER Working Paper* no. 5778.
- Angrist J.D., Evans W.N.**, 1998, Children and Their Parents' Labor Supply: Evidence from Exogenous Variation in Family Size. *The American Economic Review*, 80, 450-477.
- Arulampalam W., Booth A.L and Taylor M. P.**, 2000, Unemployment persistence. *Oxford Economic Papers*, 52, 24-50.
- Assaad R., Hendy R., Lassassi M., Yassin S.**, 2018, Explaining the MENA Paradox: Rising Educational Attainment, Yet Stagnant Female Labor Force Participation. IZA DP No. 11385.
- Banerjee B.**, 1981, Rural-urban migration and family ties: an analysis of family considerations in migration behavior in India. *Oxford Bulletin of Economics and Statistics*, 43, 321-355.
- Becker G.S.**, 1965. A Theory of the Allocation of Time. *The Economic Journal*, 75, 299, 493-517.
- Blau D.M. and P.K. Robins.**, 1990, Job search outcomes for the employed and unemployed. *Journal of Political Economy*, 98, 637-655.

- Boheim R., Taylor M.P.**, 2001, Job search methods, intensity and success in Britain in the 1990s. ISER Working Paper Series 7. University of Essex.
- Faberman R.J., Kudlyak M.**, 2019, The Intensity of Job Search and Search Duration. *American Economic Journal : Macroeconomics*, 11, 3, 327-357.
- Fischer C.**, 1976, *The Urban Experience*. Harcourt Brace Jovanovich, New York.
- Fischer C.**, 1982, *To Dwell Among Friends: Personal Networks in Town and City*. University of Chicago Press, Chicago.
- Gregg P., Wadsworth J.**, 1996, How effective are state employment agencies? Jobcentre use and job matching in Britain. *Oxford Bulletin of Economics and Statistics*, 58, 43-67.
- Gronau R.**, 1977, Leisure, Home Production, and Work - The Theory of the Allocation of Time Revisited. *Journal of Political Economy*, 85, 1099-1123.
- Holzer H.** 1987, Job Search by Employed and Unemployed Youth. *Industrial and Labor Relations Review*. 40, 4, 601-611.
- Holzer H.**, 1988, Search method used by unemployed youth. *Journal of Labor Economics* 6, 1-20.
- Ioannides Y.M., Linda Datcher Loury, L.D.**, 2004, Job Information Networks, Neighborhood Effects, and Inequality. *Journal of Economic Literature*, 42, 4, 1056-1093.
- Jones S.**, 1989, Job search methods, intensity and effects, *Oxford Bulletin of Economics and Statistics*, 51, 277-296.
- Krueger A.B., Mueller A.**, 2011, Job Search, Emotional Well-Being, and Job Finding in a Period of Mass Unemployment: Evidence from High-Frequency Longitudinal Data. *Brookings Papers on Economic Activity*, 41, 1, 1-81.
- Machin S., Manning A.**, 1999, The Causes and Consequences of Long-term Unemployment in Europe. In O. Ashenfelter and D. Card (ed.), *Handbook of Labor Economics*, Vol. 3, Ch. 47, 3085-3139.
- Manning A., Petrongolo B.**, 2011, How Local Are Labour Markets? Evidence from a Spatial Job Search Model. CEP Discussion Paper No 1101, IZA.
- Mazumdar D.**, 1987, Rural-urban migration in developing countries. In Mills E. (Ed.), *Handbook of Regional and Urban Economics*, Vol. 2. North-Holland, Amsterdam, 1097- 1128.
- McCall J.J.**, 1970, Economics of Information and Job Search. *The Quarterly Journal of Economics*, 84, 1, 113-126.
- McGregor A.**, 1983, Neighbourhood influence on job search and job finding methods, *British Journal of Industrial Relations*, 21, 1, 91-99.
- Mincer J.**, 1962, *Labor Force Participation of Married Women, in Aspects of Labor Economics*, ed. H.G. Lewis, Princeton University Press, Princeton, NJ, 63-105.
- Munshi K.**, 2003, Networks in the modern economy: Mexican migrants in the US labor market. *Quarterly Journal of Economics*, 118, 549-599.
- Osberg L.**, 1993, Fishing in different pools: job-search strategies and job-finding success in Canada in the early 1980s. *Journal of Labour Economics*, 11, 2, 348-386.
- Sabatier M.**, 2003, Stratégies d'insertion et durée d'accès au premier emploi : Une analyse micro économétrique sur le panel téléphonique du CEREQ (1989-1993), *Revue d'Economie Politique*, 5, 113, 671-696.
- Schmitt J., Wadsworth J.**, 1993, Unemployment benefit levels and search activity, *Oxford Bulletin of Economics and Statistics*, 55, 1, 1-20.
- Taşci H.M.**, 2008, Search and determinants of job search intensity in Turkey, *METU Studies in Development*, 35, 399-425.
- Topa G.**, 2001, Social interactions, local spillovers and unemployment. *Review of Economic Studies*, 68, 261-295.
- Van den Berg G.J., van Ours J.C.**, 1996, Unemployment Dynamics and Duration Dependence. *Journal of Labor Economics*, 14, 1.
- Wahba J., Zenou Y.**, 2005, Density, social networks and job search methods: Theory and application to Egypt. *Journal of Development Economics*, 78, 443-473.
- Wanberg C.R., Kanfer R., Rotundo M.**, 1999, Unemployed individuals: Motives, job search competencies, and job search constraints as predictors of job seeking and reemployment. *Journal of Applied Psychology*, 84, 6, 987-910.
- Willis R.**, 1973, A New Approach to the Economic Theory of Fertility Behavior. *Journal of Political Economy*, 81, 2, Part 2: New Economic Approaches to Fertility, S14-S64.

ANNEX

Table A1. Characteristics of the Unemployed by the Research Methods Used (1997 - 2007)

	1997				2007			
	Personal or Family Relationships	Asking at the work place	Government employment offices	Others	Personal or Family Relationships	Asking at the work place	Government Employment offices	Others
Genre								
Male	57,1	70,4	63,5	33,7	86,5	61,6	35,5	60,9
Female	58,1	63,9	64,6	26,4	84	64,1	60,3	63,8
Marital status								
Married	61,3	70,3	64,6	41,9	86,5	62,8	34,1	59,5
Other (ref)	56,2	69,2	63,4	30,2	85,9	62,1	42,4	61,9
Household relationship								
Head of household	61,1	67,8	64,8	42,8	88,3	63,8	29	56,2
Other	56,4	69,8	63,4	30,5	85,7	62	42,4	62,1
Age								
16-24	54	67,5	65,3	29,4	84,8	55,4	33,6	58,4
25-34	59,9	71,7	60,8	34,6	86,2	68	49,2	65,6
35-44	65,2	76,4	64,4	40,5	89,2	67,4	43,4	61
45-54	61,7	65	61,9	36,2	87,8	60,8	31,8	55,3
55-59	57,5	67,2	65,6	50,1	85,9	40,4	9,3	40,2
Educational Attainment (ref: university)								
No certificate	60,1	64,6	68,3	44,1	82,3	48,4	25,3	52,8
Primary	56	66,1	64,3	33,6	88,2	54,3	27,4	54
Less than secondary	52,7	67,3	65,3	29,3	86,7	59,6	32,6	62,7
Secondary	60,5	75,1	61,9	30,5	85,8	63,1	43,6	60,9
University	72,1	83,3	46,6	35,7	82,8	77,7	74,9	69
Stratum								
Urban (ref)	58,5	72,7	59,2	30,8	85,2	65,1	46,1	63,2
Rural	55,9	66,1	68,3	34,6	87,2	56,9	32,4	58,7
Region								
North	62,8	72,9	64,2	38,4	87,8	64,6	43,8	65,4
Middle	47,8	65,4	64,8	19,9	84,5	60,2	35,6	66,6
South	50,4	58,9	56,8	30,6	82,8	60,6	51,7	18,1
Great South	37,6	76,6	75,3	39,2	82,5	47,7	47,5	41,7
Sample size (in thousand)	993	1205	1105	566	1078	780	516	772

Source: Computed by author from labour force survey 1997-2007.

Table A2. Determinants of job search intensity

	Probit		Logit	
	Male	Female	Male	Female
Social network				
Density	-0.0277 (0.0245)	-0.0875* (0.0467)	-0.0517 (0.0418)	-0.138* (0.0802)
Density square	0.000478 (0.000613)	0.00201* (0.00117)	0.000920 (0.00105)	0.00312 (0.00200)
Demographic characteristics				
Marital status				
Married	-0.0847 (0.0802)	-0.244* (0.143)	-0.133 (0.135)	-0.442* (0.239)
Other (ref)				
Age (ref: 15 – 24 years)				
Age 25- 34 years				
	0.259*** (0.0536)	0.318*** (0.101)	0.464*** (0.0914)	0.539*** (0.173)
Age 35 – 44 years				
	0.345*** (0.0885)	0.344** (0.160)	0.583*** (0.151)	0.573** (0.269)
Educational Attainment (ref: university)				
No certificate				
	-0.792*** (0.145)	-0.225 (0.385)	-1.309*** (0.246)	-0.397 (0.654)
Primary				
	-0.678*** (0.0945)	-0.631*** (0.188)	-1.143*** (0.164)	-1.071*** (0.317)
Less than secondary				
	-0.570*** (0.0860)	-0.681*** (0.132)	-0.976*** (0.150)	-1.155*** (0.225)
Secondary				
	-0.556*** (0.0908)	-0.604*** (0.119)	-0.974*** (0.158)	-1.040*** (0.203)
Vocational training				
Yes (ref)				
No	-0.280*** (0.0567)	-0.0604 (0.0997)	-0.484*** (0.0963)	-0.0902 (0.169)
Experience				
Unemployed who have already worked (ref)				
Unemployed who have never worked	1.89e-05 (0.0538)	-0.00419 (0.0998)	-0.00983 (0.0918)	0.0238 (0.170)
Search duration (unemployed)				
	0.0109*** (0.00279)	0.0104* (0.00563)	0.0196*** (0.00476)	0.0137 (0.00949)
Search duration (unemployed) square				
	-0.000105*** (2.89e-05)	-5.54e-05 (6.31e-05)	-0.000195*** (4.93e-05)	-5.62e-05 (0.000107)
Household Characteristics				
Children under 5 years in the household				
	0.00124 (0.0342)	0.00404 (0.0706)	0.00708 (0.0578)	1.33e-05 (0.118)
Number of people 5 – 14 years in the household				
	-0.0127 (0.0209)	-0.142*** (0.0454)	-0.0226 (0.0351)	-0.242*** (0.0775)
Number of people 15 – 64 years in the household				
	-0.0123 (0.0129)	0.0606** (0.0282)	-0.0198 (0.0218)	0.113** (0.0473)
Number of people 65 years and more in the household				
	-0.0125 (0.0345)	-0.0520 (0.0665)	-0.0262 (0.0586)	-0.0609 (0.113)
Number of unemployed in the household				
	0.0434 (0.0302)	-0.0629 (0.0605)	0.0725 (0.0508)	-0.119 (0.106)
Number of employers in the household				
	0.0215 (0.119)	-0.242 (0.191)	0.0596 (0.206)	-0.420 (0.310)
Number of Independents in the household				
	-0.0193 (0.0429)	-0.0920 (0.0853)	-0.0401 (0.0729)	-0.180 (0.142)
Number of employees in public sector				
	0.0639** (0.0320)	0.0352 (0.0580)	0.0980* (0.0545)	0.0517 (0.0984)
Number of employees in private sector				
	-0.0653* (0.0343)	-0.0807 (0.0676)	-0.117** (0.0587)	-0.136 (0.113)

Table A2 (continued). Determinants of job search intensity

	Probit		Logit	
	Male	Female	Male	Female
Characteristics of area				
Region (Ref: North)				
Middle	-0.277*** (0.0768)	-0.351** (0.149)	-0.483*** (0.131)	-0.598** (0.254)
South	-0.698*** (0.127)	-0.470** (0.229)	-1.193*** (0.218)	-0.800** (0.398)
Great South	-0.459** (0.204)	-0.0742 (0.381)	-0.829** (0.351)	-0.0944 (0.650)
Unemployment rate at district level	-2.381*** (0.300)	-1.318** (0.601)	-3.954*** (0.510)	-2.108** (1.033)
Stratum				
Urban (ref)	0.138** (0.0631)	-0.142 (0.129)	0.244** (0.108)	-0.229 (0.223)
Rural	-1.312** (0.550)	-1.717* (1.029)	-2.217** (0.947)	-2.524 (1.744)
Industry Rate in the district level	1.906*** (0.466)	-0.107 (0.881)	3.401*** (0.787)	0.206 (1.488)
Construction rate in the district level	1.013*** (0.362)	-0.295 (0.853)	1.804*** (0.613)	-0.636 (1.429)
Trade rate in the district level	1.851*** (0.380)	1.396** (0.680)	3.296*** (0.659)	2.246* (1.163)
Services Rates in the district level	1.848*** (0.312)	-0.286 (0.689)	3.245*** (0.536)	-0.382 (1.172)
Non-salary rate in the district level	1.249*** (0.390)	-0.644 (0.863)	2.178*** (0.664)	-1.113 (1.469)
cut1				
Constant	-0.509 (0.385)	-2.305*** (0.811)	-0.737 (0.659)	-3.716*** (1.380)
cut2				
Constant	0.515 (0.385)	-1.364* (0.809)	0.976 (0.660)	-2.103 (1.376)
cut3				
Constant	1.474*** (0.385)	-0.449 (0.808)	2.590*** (0.661)	-0.581 (1.374)
Sample size	2,536	739	2,536	739

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

Source: Computed by author from labour force survey 2007.

Table A3. Determinants of job search intensity

	Male Nbreg	P> z	%	Female Nbreg	P> z	%
Social network						
Density	-0.00978 (0.0143)	0.494	[-1]	-0.0265 (0.0254)	0.298	[-3]
Density square	0.000172 (0.000359)	0.632	[0]	0.000610 (0.000636)	0.338	[0]
Demographic characteristics						
Marital status						
Married	-0.0306 (0.0475)	0.520	[-3]	-0.0779 (0.0804)	0.332	[-7]
Others (ref)						
Age (ref: 15 – 24 years)						
Age 25- 34 years	0.0926*** (0.0319)	0.004	[10]	0.100* (0.0565)	0.075	[11]
Age 35 – 44 years	0.124** (0.0519)	0.017	[13]	0.119 (0.0902)	0.188	[13]
Educational Attainment (ref: university)						
No certificate	-0.258*** (0.0882)	0.003	[-23]	-0.0663 (0.222)	0.765	[-6]
Primary	-0.210*** (0.0526)	0.000	[-19]	-0.208* (0.112)	0.064	[-19]
Less than secondary	-0.167*** (0.0466)	0.000	[-15]	-0.216*** (0.0749)	0.004	[-19]
Secondary	-0.164*** (0.0494)	0.001	[-15]	-0.186*** (0.0653)	0.004	[-17]
Vocational training						
Yes (ref)						
No	-0.0963*** (0.0327)	0.003	[-9]	-0.0217 (0.0557)	0.696	[-2]
Experience						
Unemployed who have already worked (ref)						
Unemployed who have never worked	0.00173 (0.0319)	0.957	[0]	2.19e-05 (0.0553)	1.000	[0]
Search duration (unemployed)						
Search duration (unemployed) square	0.00374** (0.00164)	0.023	[0]	0.00318 (0.00311)	0.306	[0]
Search duration (unemployed) square	-3.65e-05** (1.71e-05)	0.032	[0]	-1.76e-05 (3.42e-05)	0.606	[0]
Household Characteristics						
Children under 5 years in the household	-0.000302 (0.0205)	0.988	[0]	0.00325 (0.0393)	0.934	[0]
Number of people 5 – 14 years in the household	-0.00601 (0.0127)	0.637	[-1]	-0.0530** (0.0268)	0.048	[-5]
Number of people 15 – 64 years in the household	-0.00368 (0.00774)	0.634	[0]	0.0186 (0.0154)	0.227	[2]
Number of people 65 years and more in the household	-0.00584 (0.0203)	0.774	[-1]	-0.0137 (0.0369)	0.710	[-1]
Number of unemployed in the household	0.0153 (0.0180)	0.395	[2]	-0.0169 (0.0336)	0.615	[-2]
Number of employers in the household	0.0137 (0.0689)	0.842	[1]	-0.0747 (0.110)	0.495	[-7]
Number of Independents in the household	-0.00674 (0.0256)	0.792	[-1]	-0.0244 (0.0478)	0.610	[-2]
Number of employees in public sector	0.0209 (0.0186)	0.261	[2]	0.00803 (0.0314)	0.798	[1]
Number of employees in private sector	-0.0227 (0.0207)	0.273	[-2]	-0.0256 (0.0380)	0.499	[-3]
Characteristics of area Region (Ref: North)						
Middle	-0.0929** (0.0446)	0.037	[-9]	-0.101 (0.0805)	0.209	[-10]
South	-0.246*** (0.0755)	0.001	[-22]	-0.166 (0.128)	0.196	[-15]
Great South	-0.154 (0.127)	0.225	[-14]	-0.00191 (0.224)	0.993	[0]
Unemployment rate at district level	-0.842*** (0.181)	0.000	[-57]	-0.387 (0.341)	0.256	[-32]
Stratum						
Urban (ref)						
Rural	0.0416 (0.0371)	0.263	[4]	-0.0426 (0.0711)	0.549	[-4]
Informal rate in the district level	-0.459 (0.324)	0.157	[-37]	-0.491 (0.564)	0.384	[-39]
Industry Rate in the district level	0.675** (0.275)	0.014	[96]	-0.0687 (0.472)	0.884	[-7]
Construction rate in the district level	0.345 (0.223)	0.122	[41]	-0.0723 (0.465)	0.876	[-7]
Trade rate in the district level	0.623*** (0.221)	0.005	[86]	0.419 (0.371)	0.258	[52]
Services Rates in the district level	0.627*** (0.188)	0.001	[87]	-0.0497 (0.366)	0.892	[-5]
Non-salary rate in the district level	0.401* (0.236)	0.089	[49]	-0.218 (0.472)	0.644	[-20]
Lalpha	-63.21 (0)			-34.26 (0)		
Constant	0.730*** (0.231)	0.002		1.315*** (0.434)	0.002	
Sample size	2536	2536	2536	739	739	739

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

Source: Computed by author from labour force survey 2007.

Intensité et stratégie de recherche d'emploi en Algérie : Y a-t-il une différence par sexe ?

Résumé - Cet article étudie les déterminants des stratégies de recherche d'emploi en Algérie. Nous adoptons différentes techniques d'estimation (modèles de choix discrets, modèles de régression de comptage) pour analyser les stratégies et l'intensité de recherche d'emploi. Il ressort des résultats que l'âge, le sexe, l'état matrimonial, le niveau d'instruction, les caractéristiques du ménage et les caractéristiques de la zone d'habitation influencent particulièrement les stratégies mais aussi l'intensité de recherche d'emploi. Nos résultats montrent aussi des spécificités de genre dans les modes de recherche d'emploi. Les femmes explorent non seulement plus de canaux possibles d'insertion, mais consacrent également plus de temps comparativement aux hommes à leur recherche d'emploi. Cette tendance s'est accentuée au cours des dernières années.

Mots-Clés

Méthodes de recherche d'emploi
Intensité de la recherche
Marché du travail
Modèles de choix discrets
Modèle de comptage
Algérie
