

On-the-job Search in Italian Labour Markets: An Empirical Analysis

Michela Ponzo*

This paper analyses the determinants of on-the-job search activities of Italian workers. Using several waves of the Bank of Italy Survey on Household Income and Wealth (SHIW) we estimate with a Probit model how individual socio-demographic characteristics and economic variables affect the probability of on-the-job search. We find that the probability of being engaged in job-search activities is higher for low-wage earners, for workers with low tenure and higher levels of education, for males and for residents in large cities. Moreover, we find significant differences in the determinants of on-the-job search activities across sectors. Public sector employees show a considerably lower probability of on-the-job search compared to private sector workers; White collar workers and teachers search much less than Blue collar workers (both in private and public sectors). Results suggest that the attractiveness of jobs varies considerably, even controlling for wage levels.

Keywords: Job search, Labour mobility, Public sector.

JEL classifications: J62, J61, M51, J45.

1. Introduction

Labour turnover typically imposes very large costs on firms and organizations in terms of lost valuable human resources, disruption of ongoing activities, additional recruitment and training costs of new employees. On the other hand, labour turnover is the mechanism that labour markets use to correct job matching imperfections and might lead to a better and efficient allocation of human resources. Understanding the factors which determine worker-initiated turnover, is therefore an important economic topic, also relevant for decisions of firms and organizations.

At the theoretical level, Becker's human capital theory provides important elements for the analysis of determinants of worker turnover. One fundamental idea in the Beckerian framework is that an important part of skills that workers develop are learned on the job and are mainly useful in the current firm (firm-specific human

* Department of Economics and Statistics, University of Calabria, 87036 Arcavacata di Rende (CS), Italy. E-mail: michela.ponzo@unical.it. I would like to thank Vincenzo Scoppa and Maria De Paola for useful comments and suggestions. The usual disclaimers apply.

capital). Hence, both firms and workers invest in workers' skills in order to increase labour productivity and the longer an employee works for a given employer, the more specific capital he/she accumulates. For this reason, the lower the propensity of workers to move from the current firm is, the longer is the job tenure.

Labour turnover and the costs for the firms related to it have been extensively analyzed by the efficiency wage literature which considers the wage that the firm pays as an important instrument to reduce labour turnover costs (Stiglitz, 1974; Salop, 1979). From the labour turnover model of efficiency wages, we derive that firms with higher turnover costs tend to pay higher wages in order to discourage workers from turnover. The lack of suitable data on labour turnover does not allow us to study this issue directly. However, information about "on-the-job search" decisions can be used as an indicator of voluntary job turnover to partly overcome these data limitations. The activity of searching for a job that takes place while the worker is still employed in his or her current occupation, may be considered as preliminary for job turnover or separations. In fact, in most cases, successful job search is associated with workers decisions to quit their work with the purpose of improving upon the current employment relationship. According to the extensive literature on this topic, turnover intentions (or on-the-job search decisions) are supposed to be the immediate precursors to actual turnover and therefore these intentions are good at forecasting actual separations (Van Ours, 1990; Burgess, 1999; Sousa-Poza and Henneberger, 2004; Kristensen and Westergård-Nielsen, 2004)¹.

In theoretical models of job search, the on-the-job search decision is the outcome of an optimal choice of workers that engage in job search if the marginal return of searching (the difference between the utility derived from the current job and the expected utility from the alternative job) exceeds its marginal cost.

A strand of literature that uses direct measures of the job search process focuses on the determinants of employed search (Black, 1981, Van Ophen, 1991). Other studies investigate the various job search methods (formal and informal search channels) and search intensity pursued by job seekers (Addison and Portugal, 2002; Blau, 1992; Fuentes, 2002; Gregg and Wadsworth, 1996; Kahn and Low, 1982, 1984; Manning, 2003; Parsons 1991).

Some labour economists have investigated how individual characteristics and working conditions at the workplace measured, for example by industry injury rates or work attributes (harm, hazards, uncertainty, physically and mentally heavy work), affect

the employees' probability to quit (Viscusi, 1979; Bartel, 1982; Gronberg and Reed, 1994; García-Serrano 2004, Bockerman and Ilmakunnas, 2009). Empirical results show that adverse working conditions lead to an increase in quitting.

A number of studies have analyzed more general determinants of on-the-job search propensity. A major line of research regards the effect of wage level. Black (1981), using data from the United States, finds that one of the main determinants that encourages an individual's decision regarding whether or not to search for a new job is the potential wage gain he/she could obtain, estimated as the residual from a regression of the wage on human capital, demographic variables and local labour market conditions. Similarly, Hartog and Van Ophem (1994) model the probability of Dutch workers to search on-the-job as a function of a wage residual derived from a wage equation with years of education and labour market experience as explanatory variables. They find a significant negative effect of the wage residual on the job search decisions.

Although the wage level has received a lot of attention in the literature, there are other reasons, such as individual and non-wage job characteristics, driving employees' job search behavior. Employee characteristics such as gender, age, marital status and education are important determinants of on-the-job search. It has been shown that the probability of being engaged in job-search decisions is higher for males (Blau and Kahn, 1981), young workers (Campbell, 1997), better educated, and not married workers (Royalty, 1998; Holmlund, 1984). Empirical analyses also predict that workers with short job tenure and high qualifications are more likely to search. For instance, Pissarides and Wadsworth (1994) find that skilled workers search more than unskilled workers in Britain.

The economics literature also shows that workers' decisions to engage in on-the-job search are influenced by labour market conditions and institutional aspects such as employment protection legislation and/or union membership. In good markets with high growth rates and low regional unemployment rates, increasing the likelihood of finding good job offers, the probability of on-the-job search tends to rise. Regarding this evidence, some studies (Van Ours, 1990; Pissarides and Wadsworth, 1994), for example, include variables capturing labour market conditions, find that local unemployment has a negative effect on the propensity to search, especially for risk-averse workers. Considerable evidence also shows a negative correlation between union membership and voluntary turnover (Booth and Francesconi, 1999; Kidd, 1994;

Lucifora, 1998). Furthermore, higher levels of job security are associated with lower on-the-job search activities (Lazear, 1990).

A growing empirical literature on job satisfaction underlines the relevance of job satisfaction as a determinant of worker turnover decisions; there exists a strong negative relationship with both quit intentions (Schiels and Price, 2002; Delfgaauw 2007) and actual quits (Freeman 1978; Akerlof *et al.*, 1988; Clark *et al.*, 1998; Lévy-Garboua *et al.*, 2007).

In a cross-national analysis covering 25 countries, Sousa-Poza and Henneberger (2004) report strong negative relations between job satisfaction and turnover intention while Böckerman and Ilmakunnas (2009), using Finnish data, find the same link between job satisfaction and job search.

This paper analyses the determinants of on-the-job search activities of Italian workers. The aim of this study is to provide evidence about the impact of socio-demographic characteristics and economic conditions on the probability of on-the-job search. To the best of our knowledge, there are no other studies investigating the determinants of on-the-job search activity with regards to Italy.

The Italian labour market has several features making it worthwhile to analyze its effects on job-search activities. In comparison to other advanced countries, Italy is characterized by rather restrictive institutional features, with strong employment protection legislation and a highly centralized bargaining system implying a high degree of rigidity in regulating workers' mobility. This labour market rigidity is considered to be responsible for the very high unemployment among young individuals and low employment rates (Del Boca and Flinn, 2002, Bertola and Ichino, 1995). Furthermore, public and private sectors differ in several rules and conditions governing employment relationships (career prospects, work flexibility and job stability).

It is therefore interesting to investigate how these features affect on-the-job search behaviour of Italian workers.

We use the latest six waves of the Survey on Household Income and Wealth (hereafter indicated as SHIW), conducted by the Bank of Italy from 1995 to 2006. This data combines personal and family information with information on labour market behaviour of individuals. The Survey asks workers and unemployed if they have carried out some action to search for a new job opportunity in the past calendar year. We restrict the analysis to public and private employees. We define the dependent variable as *On-the-Job Search*, which is set equal to one if individuals have taken some action to

look for a new occupation. We estimate a number of pooled Probit models in order to verify empirically the relationship existing between on-the-job search activities and several socio-demographic and economic variables².

Briefly, our main findings include the following points. In accordance with the existing literature we find that the wage level considerably decreases the probability of searching for a new job, while a high educational level makes job search more likely. The probability of search is negatively related to worker's tenure. Individuals living in large cities are more willing to change jobs. Married women are less likely to be looking for an alternative employment and there is a very large effect of the presence of children on female job search. We find that public sector workers show a considerably lower probability of on-the-job search compared to private sector workers proving the high attractiveness of Italian public jobs beyond the anecdotal evidence of long queues in competition for public jobs. Results suggest that the attractiveness of jobs varies considerably, even controlling for wage levels.

However, the estimated effects should be considered with care since, with the data at hand, we cannot exclude the influence of omitted factors or that causality runs in the opposite direction.

The paper is organized as follows. The next section presents a very simple theoretical model which sets out possible motivations for on-the-job search behaviour. Section 3 describes the SHIW dataset we use and gives some descriptive statistics. Section 4 reports and discusses many different specifications explaining the probability of job search. Section 5 draws some conclusions.

2. A Simplified Model of On-the-Job Search

The model presented in this section is inspired by the job search model pioneered by Burdett (1978), the first to extend the classical job search model by allowing workers to search for better jobs even after a job has been found. Variations and extensions of this model have been used to study the link between wages, labour turnover and the duration of employment periods.³ We integrate the job-search model of Burdett (1978) with the theoretical considerations of Pencavel (1972), Anderson and Meyer (1994) and Clark (2001) on workers' propensity to quit.

The main prediction of the search model is that employed workers who decide to search on the job are usually motivated by the desire to find a better job, typically a job

with a higher wage. However, on-the-job search decision may be also affected by other relevant factors capturing information about individual characteristics on job quality such as: the appeal of the individual to employers, the state of the aggregate labour market; working hours; type of labour contract; the professional status of the worker; perceived job security; the level of tenure accumulated.

An individual will determine the intensity of his job search by calculating marginal benefits and costs of the search. Define q as a composite index representing the “quality of the job” where q is a function of a number of factors: $q = q(w, f, \phi, h, \dots)$: q is increasing in the wage w obtained in the current firm, but it is also increasing in the future career prospects, f ; in the degree of job security, ϕ ; while it is decreasing in the level of effort required, h , (measured, for example, by hours of work) and so on. Following the existing literature, we assume that workers are able to observe the job quality, q , of their current job as well as the quality of any job offer they might receive.

Let e represent the effort provided by an employee to search for a new job. The effort level positively affects the job offer arrival rate according to the function $\lambda(e)$. We suppose that λ is an increasing and concave function: $\lambda'(e) > 0$ and $\lambda''(e) < 0$. Search effort is costly for the individual: $c(e)$ represents the cost function that is characterized by the following standard properties: $c'(e) > 0$ and $c''(e) > 0$ (increasing and convex).

An employee will choose the search effort level e to maximize the value of being employed, $V(q)$:

$$[1] \quad rV(q) = u(q) + \lambda(e) \int [V(x) - V(q) - c_M] dF(x) - \delta_u (V(q) - V^u) - c(e)$$

where r denotes the worker’s discount rate, $u(q)$ is the instantaneous (net) utility obtained in the current job of quality q , $V(x)$ is the value of an external job with quality x , $F(x)$ is the distribution of quality of external jobs, c_M is the one-time cost of moving (which depends on individual characteristics), δ_u is the probability of becoming unemployed and V^u is the value of being unemployed.

Equation [1] shows that the value of being employed increases with the quality of the current job and that a worker will accept a job offer whenever this new job is of higher quality than his/her current job, net of any mobility costs.

Consider the choice of search intensity e by an employee which aims to maximize $V(q)$. The first-order condition for this maximization problem can be written as:

$$[2] \quad \frac{\partial \lambda(e)}{\partial e} \int_q [V(x) - V(q) - c_M] dF(x) = \frac{\partial c(e)}{\partial e}$$

The left-hand side of [2] represents the expected gain from an increase in search effort, while the right-hand side is the worker's marginal cost of search.

Under the standard assumptions we made on $\lambda(e)$ and $c(e)$, equation [2] shows that the intensity of job search depends negatively on factors increasing the “quality” of the current job q : a higher current wage, a higher predicted wage growth, the degree of job security, other non-wage benefits and so on. Therefore workers experiencing a lower job quality provide a greater effort in their search and, consequently, they will have a higher probability of finding a better occupation.

On the other hand, good external prospects, represented by the value of $V(x)$ will tend to increase the effort in on-the-job search: the value of worker's skills for potential employers, the state of the labour market, the extent of a network of social relationships favouring the transmission of information on job opportunities and so on.

Finally, equation [2] shows that the mobility costs which a worker incurs if he/she changes jobs will reduce search intensity: for example, the necessity to move to another city could represent a very high cost for married individuals or individuals with children.

The theoretical model we have presented analyzes the intensity of search by individuals. It would be interesting to empirically analyze the effort level provided by each individual in relation to the factors we have discussed. Unfortunately, in this dataset, there is no continuous measure of worker's search intensity but only a variable indicating if the worker has searched or not in the period under examination. However, under the assumption that the worker decides to search if the optimal level of effort is above a certain threshold, the factors affecting the continuous level of effort should have a similar impact on the probability of undertaking a job search. Thereby, in the following sections, we try to verify empirically some of the theoretical predictions of this model.

3. The Data

This section briefly describes the data and the construction of the sample. The data source we use for our empirical analysis is the *Survey of Household Income and Wealth* (SHIW) which is conducted every two years by the Bank of Italy on a representative sample of about 8,000 Italian households.⁴ The SHIW contains a rich set of information on demographic and social characteristics of all individuals within the households, such as age, gender, marital status, education, region of residence as well as information on individuals' working activity (earnings, employment status, type of occupation, industry, firm size, work experience and so on). We pool together SHIW data drawn from the six latest waves, conducted respectively in 1995, 1998, 2000, 2002, 2004 and 2006.

The Survey asks workers and unemployed if they have started searching for a new occupation/position or if they have carried out certain actions to look for a job opportunity during the reference year. We focus on employees, neglecting the unemployed.

Each employed individual was asked, with reference only to his or her current job, "Have you been looking for another job in this year?" We use the respondents' answer to this question to define the dichotomous dependent variable *On-the-job Search* that takes the value of one if the respondent reports that he has searched for a new job, and zero otherwise.

Table 1 presents descriptive statistics for the main variables used in the analysis. The mean value of *On-the-job Search* is 0.081 with a standard deviation of 0.27. The average value of individuals looking for an alternative job is similar to that found in a recent study of Souza-Poza and Henneberger (2004) equal to 0.076. The authors, analyzing job-turnover intentions from a survey covering 25 countries, point out that high turnover intentions can be observed in Canada (17.0%), the United States (14.3%), and Great Britain (14.3%). Low turnover intentions are encountered in Japan (1.8%), Spain (3.0%) and several Eastern European countries. Italy (7.6%) ranks in the middle. In general, it appears that countries characterized by a rather deregulated labour market and by a decentralized bargaining structure tend to have high on-the-job search rates. In contrast, in countries such as Italy where the labour market has more restrictive institutional features and rather strong employment protection legislation, the average on-the-job search activities is considerably lower.

Females make up 39% of the sample. Education levels are represented by the following dummy categories: Elementary School, Middle School, High School, College Degree and Postgraduate Degree. About 33% of workers in the sample have a Middle School Qualification whereas 13% of them have a College Degree. 66% of the sample are married people⁵. We define the hourly wage variable as the annual earnings divided by the product of weeks worked times average weekly hours. The average hourly wage rate is about 9.

Table 1 around here

21.6% of the sample are Public employees. *Experience* is obtained – as standard in the literature – by calculating age minus the number of years of education minus 6. *Tenure* is defined as the difference between the worker's age and the age in which he/she started to work in the current firm. The average levels of experience and tenure are 24 and 15 respectively. Residents in the North-West or North-East constitute 48%, 22% live in the Centre, and 30% live in the South or on the Islands.⁶ People living in very small towns (below 20,000 inhabitants), make up 29% of the sample; 8.6% live in very large cities with more than 500,000 inhabitants. Among private employees, individuals employed in small firms (with fewer than 20 employees) make up 44%, 28% work in medium-sized firms (20-99 employees) while 28% work in large firms (100 or more employees). The average *Number of job experiences* (including the present job) by a worker and the total hours worked per week are 1.96 and 38 respectively. The average *Regional Unemployment rate* is 9.1 percentage points.

In Table 2 we investigate the on-the-job search distribution by individual characteristics.

Table 2 around here

Table 2 shows that males search more (8.5%) than females (7.8%). On-the-job search tends to increase with educational levels: workers with a College Degree or more show a 10.8 probability of searching, while poorly educated individuals search significantly less. Public employees, search much less (3.6%) than private workers (8.7%). It is also interesting to note that employees with temporary contracts search much more (30%) than workers with permanent jobs (7%). Workers with a level of tenure above the mean

engage less in on-the-job search activity (6.2%) than those who have accumulated a low level of tenure. Looking at the professional qualifications of private and public employees, Blue collar workers show a 11.4% probability of searching, while that probability is equal to 7.1% for Teachers and Managers. Moreover, workers in small firms (fewer than 20 employees) exhibit a higher probability of looking for another job (13.2%) compared to those working in large firms (7.8%). According to geographical areas, the probability of job search is lower in the Centre (7.5%) and in the South (7.9%) compared to the North-West regions (8.7%). A more rigorous analysis of the on the job search activity is carried out through the econometric estimations in the next section.

4. An Empirical Analysis of On-the-Job Search Activities in Italy

In this Section, in order to analyze the determinants of on-the-job search activities, we estimate a number of specifications of a probit regression on pooled data. The dependent variable is the dummy *On-the-Job Search*. We restrict our sample to public and private employees, aged between 15 and 65 years.

The estimated coefficients from Probit regressions are based on the following equation:

$$(3) \quad \Pr(\text{Search} = 1 | X) = \Phi(\beta_0 + \beta_1 Z_i + \beta_2 E_i + \beta_3 C_i)$$

where Z_i is a vector of individual and socio-demographic characteristics (gender, age, marital status, residence, etc.), E_i describes a number of economic variables (employment status, labour income, type of job contracts, regional unemployment rate, years of experience, job tenure), C_i includes firm characteristics, Φ represents the standard normal cumulative distribution function. In order to estimate the coefficients of interest, we use a Maximum Likelihood Estimator.

It is worthwhile to notice that the estimated effects should be considered with care since, with the data at hand, we cannot exclude the influence of omitted factors or that causality runs in the opposite direction. In order to reduce biases deriving from omitted variables, in our estimations we control for several individual characteristics, job related variables, and labour market conditions which may determine on the job search activities. However, if unobservable individual characteristics, influencing the decision to search for another job, are correlated with the factors included in the

regression, then the estimated parameters might be biased. In particular, individual personality characteristics - which are not observed by the researcher - may have an influence on on-the-job search activities. For instance, since searching for a new job and moving to another employer is associated with costs and risks, risk-averse workers will not try to change their job and may end up in more protected jobs (such as public employment). Therefore, in some cases, our findings should be interpreted as correlation rather than as cause-and-effect.

The reported coefficients in Tables 3 and 4 represent the marginal effects, evaluated at the mean values of the explanatory variables in the sample. In all the equations sample weights provided in the SHIW dataset are used. In all the regressions we control for dummy year variables (not reported).

In order to analyse the potential differences in the determinants of on-the-job search activities of employed individuals, in columns (1-3) of Table 3 we report the estimated coefficients for the whole sample of public and private employees. Columns 4 and 5 replicate column 1's analysis separately for men and women.

Table 3 around here

Results of column (1) show, in accordance with the existing literature, that the probability of engaging in on-the-job search activities increases for workers having a College Degree or a Postgraduate Degree compared to those with a High School Diploma (omitted category). In our analysis having a college degree increases the probability of search on the job of about 1.6 percentage points while the effect is even stronger for workers with a Postgraduate Degree (9.6 percentage points). Results are almost the same in all specifications. On the contrary, low educated workers do not show any statistically difference from those having a high school Degree. A high level of education has a positive impact on actual job search probably because it is often associated with better labour market alternatives. Better educated workers may be more efficient in searching and are faced with more job opportunities. *Ceteris paribus*, they may have access to better job positions since the attainment of an educational qualification is able to signal their skills to external employers.

As regards gender, females turn out to be significantly less prone to search for a new job (about 1% less). One possible reason for the different search behaviour between men and women could be related to the costs of searching, including any opportunity costs. There is reason to suspect that the opportunity costs – including the cost of non-

wage time that is used to search rather than for other non-work activities – and the mobility costs incurred by individuals may be higher for women than for men.

Being married shows a negative significant effect on job search decisions since it is much more costly for a worker to move with a family (Holmlund, 1984; Zimmermann, 1998). The coefficient is statistically significant at the 10% level for the sample of employees.

In column (1) we consider, as a determinant of on-the-job search activity the log of *Hourly Wage*. As we have seen in Section 2, a very clear prediction from turnover models is that the intensity of search decreases in relation to wages because the higher the wage level is, the less the potential gains from a job search are, as there are fewer higher wage jobs to find. This factor has received a lot of attention in the literature: search theory predicts that, other things being equal, a worker will have a greater probability of quitting if their wage is low. Efficiency wages theories have shown the interest of firms in paying a higher wage in order to discourage worker turnover and avoid bearing the related turnover costs. Our analysis strongly confirms this prediction: estimations show an inverse relation between hourly wage and the probability of job search (the effect of hourly wage is highly significant across all specifications). *Ceteris paribus*, a 1 standard deviation increase in the log hourly wage leads to a reduction of about 1 percentage point in the probability of searching for a new job for the whole sample of public and private employees.

It is worthwhile to notice that a convex relationship exists between on-the-job search behaviour and hourly wages: at high levels of hourly wages, a further increase of wage has a small decreasing effect on the probability of on-the-job search while the effect is greater when the wage is lower. We obtain very similar results if – instead of the log of wage – we insert the *Hourly Wage Rate* in linear and squared terms (divided by 1000) (column 2). To clarify this point, in Figure 1 we represent graphically the relationship between the probability of on-the-job search and the hourly wage rate (we restrict the plotted line only to the 25°-75° percentile region).

Figure 1 around here

Most important for the purposes of the analysis, in column (1) we look for differences in job-search activities across type of occupations (public employees versus private workers). *Ceteris paribus*, estimates show that being employed in the public sector

reduces the probability of searching for a new job by about 3.4 percentage points compared to private employees (the coefficient is significant at the 1 percent level). This remarkable difference – obtained controlling for wage levels – is probably due to a number of advantages enjoyed by public sector employees, such as a higher degree of protection against the risk of losing their job, lower pressure by managers and supervisors to provide effort on the job, or a more relaxed work environment. This is an important result which proves, on the one hand, the attractiveness of Italian public jobs (on this point, see also Scoppa, 2009), beyond the anecdotal evidence of long queues in competitions for public jobs. However, the coefficient might be upward biased if there is a tendency for risk-averse workers to be employed in the public sector, since public jobs are perceived to be less risky than those in the private sector (Clark and Postel-Vinay, 2003). In this case, public employees might be less prone to engage in on-the-job-search activities because of their risk aversion.

Following the existing literature, in all specifications we include among the explanatory variables the levels of experience and tenure of workers and their squared terms.

The coefficient of *Experience* turns out to be positive and statistically different from zero: people with higher levels of working experience and hence with greater general human capital accumulated tend to search more for another job. As regards the *Tenure* coefficient, it turns out to be negative and highly significant in all specifications. Probably, the longer is the tenure, the higher is the accumulation of firm specific human capital and, therefore, the higher is the productivity in the current firm and the workers' wage. Holding the wage constant, the additional negative effect of tenure on the probability of on-the-job search may probably reflect good relations with colleagues, the development of trust and social cohesion, promotion opportunities at the workplace and so on. Furthermore, a high level of tenure implies a good match between the worker and the employer.

The *Tenure Squared* coefficient turns out to be positive, implying that the marginal effects of tenure are decreasing. Accordingly to our estimations, the relationship between on the job search and tenure is therefore convex, similar to the relationship with the wage rate.

In our regressions we also consider the *Number of Job Experiences* previously held by the worker as a factor that may affect the probability of on-the-job search. Results show that one more job experience in the past increases the probability of being

engaged in job search activities by 0.6% (statistically significant at the 1 percent level). This is probably due to a larger network of acquaintances acquired on previous jobs which may help to find a new job or to a greater individual propensity to move from one job to another.

In column (1) we include as explanatory variable the *Fixed Term Contract* status to verify the effects of a non permanent position of the worker on the probability to search for a new job. As expected, results show an increase of 12.3 percentage points in the probability of engaging of on-the-job-search activity in the case of temporary labour contracts. The strong statistical significance and the magnitude of the coefficient imply that temporary jobs are much less desirable than permanent ones. Finally, workers holding a temporary contract may be less integrated in the firm or may suffer worse working conditions than workers holding a permanent contract (Garcia-Serrano, 2004). In column (1) we also include an interaction between job tenure and fixed term contract. The coefficient turns out to be positive and statistically different from zero implying that there are non-linear effects, that is, an intensification of search as the contract nears the end, since the workers may have a high expectation of leaving their current firm.

In all specifications we control for geographical dummy variables to capture both the effects of different regional labour market conditions and the average quality of jobs. Moreover, we also consider the unemployment rate at the regional level. Regional unemployment rates are taken from the Labor Force Survey conducted by ISTAT (the National Statistic Institute). It is plausible to think that the propensity to search for another job depends on the state of the regional labour market. According to the existing literature, workers search less in regional labour markets with high unemployment rates. In fact, workers will have a higher probability to search for a different job when it is relatively easy for them to obtain a better job quickly. Thus, when jobs are more plentiful relative to job seekers, one would expect the search rate to be higher than when few jobs are available and many workers are being laid off.

Italy is characterized by huge regional differences, favouring the North-East and North-West regions, in terms of employment perspectives, quality of jobs and unemployment rates.

These discrepancies across Italy are partly confirmed in our findings. According to the geographical analysis, results in column (1) show that, the probability of search on-the-job is lower in the Centre and in the South by 1 and 1.9 percentage points respectively than the North-Western regions, the reference category.

In contrast to theoretical predictions, in our specification the *Unemployment* coefficient is not significant. This result can probably be explained by the fact that regions with high levels of unemployment also tend to provide worse jobs, that is, less stable and with worse working conditions (unobservable characteristics in the data) and therefore there is the tendency for employees to search for better jobs in these markets, offsetting the effects of looking at job opportunities. Moreover, in high unemployment regions workers might fear losing their jobs and thus find it optimal to invest in search activities as a way to insure against job loss.

Note that since the unemployment rate is defined at a regional level, the standard errors reported in Tables 3 and 4 are corrected for the potential clustering of the residual at the regional level.

In regression (1) we also control for the city size dummies. Results show that job search activity appears to increase with the size of the town where individuals live: workers search 2 percentage points more in very large cities compared to the reference category (towns with fewer than 20,000 inhabitants). This finding is probably due to the fact that large cities are characterized by thicker labour markets, in which search activities are more productive in terms of probability of job matching.

Finally, since information on income disaggregated by source is available in the SHIW dataset (we are able to distinguish labour income from property income and pensions and other transfers), in column (3) of Table (3) we add a new specification in which we consider the impact of non-labour income (property income and income from transfers at household level) on on-the-job search activities. However, results show that the coefficient on non-labour income turns out to be not statistically different from zero. In a different specification (not reported), we have also considered the two different types of income separately. Similarly, we find that property income as well as transfers from government are both not statistically different from zero.

In order to check the relative importance of determinant factors on search activities among men and women, columns 4 and 5 of Table 3 replicate column 1. The estimated coefficients on explanatory variables are quite similar: the results show that men and women do not exhibit significant differences in their on-the-job search behaviour. The only relevant differences concern the following aspects: other things being equal, married women are more strongly discouraged to search for another job (-1.7%) compared to married men (-1.0%) (but in both cases the *Married* dummy is significant at the 1% level). At the same time, having children does not seem to affect

job search propensity of men while there is a large negative effect from the presence of children for females (the effect is significant at the 1% level): having a child reduces the probability to look for alternative employment by 2.1%.

4.1. On-the-Job Search Differences between Public and Private Employees

In order to evaluate potential differences in the determinants of on-the-job search decisions between public and private employees, in Table 4, columns 1 and 2, respectively, we separately report the estimated coefficients for the two categories of workers. This potential divergence in on-the-job search activity between public and private employees might arise for many reasons related to the characteristics of the employment relationships.

Italian public employees enjoy several favourable working conditions such as a very high degree of job security (public employees are assured of employment until retirement), lower pressure by managers and supervisors to provide effort on the job (“low powered incentives” since it is particularly difficult to measure both individual and aggregated performance), more relaxed work environment and better social climate. These aspects make public sector employment particularly attractive for workers, explaining individuals’ willingness to queue for public jobs, although the wage premium is not very high. The negative coefficient attracted by Public employees in Table 3 partly confirms these aspects. As said above, an alternative explanation could be potential selection based on personal traits like risk aversion discouraging public employees in engaging in on-the-job search activities.

Table 4 around here

Results in Table 4 (columns 1 and 2) show that the probability of looking for another job is negatively related to the wage level across type of occupations but the effect is much stronger in the private sector. This finding might suggest that public employees are interested in other non-wage aspects of their job (job security, workplace environment).

The probability of engaging in on-the-job search activities increases for both private and public employees having a College Degree or a Postgraduate Degree, even if the effect is stronger for the sub-sample of private workers. *Experience* significantly

increases the probability of on-the-job search for private employees (0.4%) whereas the coefficient turns out to be not statistically different from zero for public employees.

Another relevant difference emerging between the two categories of workers concerns the average *Number of Hours Worked* (per week). Results show that the number of work hours has a positive impact on the probability of search for another job for private employees, while it has no effect for public workers.

Women with children working in the private sector are less likely to be looking for an alternative employment.

For private employees (column 2) we also consider firm size dummies: *Medium Firm* (20-99 employees) and *Large Firm* (100 or more employees).⁷ Our results show that the size of the firm in which employees work does not have a significant impact on the probability of a job search. This finding is likely due to the fact that we are controlling for workers' wage level. Even if large firms tend to have substantial firm-specific and screening investments in their workers, they pay higher wages to discourage worker turnover. In fact, if we do not control for individual wages, we obtain the traditional effect showing a drastic decrease in the job search as the firm size increases.

In columns 1 and 2 we also control for the professional qualifications of private and public employees. White collar workers and Teachers (both in private and public sector) search significantly less compared to the Blue collar workers (the reference category).

5. Concluding Remarks

This study has explored on-the-job search activities of workers in Italian labour markets. Due to a lack of available data that would allow matching workers' and employers' characteristics with voluntary turnover decisions, we have used the probability to engage in on-the-job search as a proxy of workers' initiated turnover. To the best of our knowledge, there are no other studies investigating the determinants of on-the-job search activity with regards to Italy.

We argued that the Italian labour market has several particular features - such as strong Employment Protection Legislation, highly centralized wage bargaining system, wages that are not reactive to labour market conditions, and particularly attractive public sector employment – that might affect workers' behaviour.

On the basis of these aspects, by investigating empirically the differences in the determinants of on-the-job search activities between public and private employees, we have shown that the public sector employees have a considerable lower probability of on-the-job search, compared to private sector workers, even controlling for wage levels. This indirectly may suggest the high attractiveness of public sector employment in Italy.

In accordance with findings in other countries, we have found that the probability of being engaged in job-search activities is much lower when the wage is higher. On-the-job search is higher for males, for workers with low tenure and higher levels of education, for workers with thick networks of informal relationships built in previous work experiences and for residents in large cities. Married women are less likely to be looking for an alternative employment and there is a very large negative effect from the presence of children on female job search.

Moreover, the evidence we gathered suggests that jobs not differ only in terms of the wage paid, but there are a number of characteristics that workers consider in their job choice.

As this study is based on household survey data, it was possible to include firm characteristics only by introducing firm size and professional qualifications as control variables. Further research into this topic should link employer-employee data providing much more detailed firm-individual level information not available in this phase of the analysis. In addition, it would be interesting to verify whether workers searching in a certain period for a job effectively quit in subsequent periods, but this kind of study requires panel data rather than cross-section data.

References

- Addison, J. and Portugal, P. (2002) Job search methods and outcomes, *Oxford Economic Papers*, 54, pp. 505-533.
- Akerlof, G., Rose, A. and Yellen, J. (1988) Job switching and job satisfaction in the U.S. labor market, *Brookings Papers on Economic Activity*, 2, pp. 495-582.
- Anderson, P. and Meyer, B. (1994) The extent and consequences of job turnover, *Brookings Papers on Economic Activity, Microeconomics*, pp. 177-248.
- Bartel, A. (1982) Wages, nonwage job characteristics, and labor mobility, *Industrial and Labor Relations Review*, 35, pp. 578-589.
- Becker, G. (1962) Investment in human capital: a theoretical analysis, *Journal of Political Economy*, 70(Supplement), pp.9-49.
- Bertola, G. and Ichino, A. (1995) Crossing the river: A Comparative Perspective on Italian Employment Dynamics, *Economic Policy*, 10(2): 361-420.
- Black, M. (1981) An empirical test of the theory of on-the-job search, *Journal of Human Resources*, 16, pp. 141-151.

- Blau, D. (1992) An empirical analysis of employed and unemployed job search behaviour, *Industrial and Labor Relations Review*, 45, pp. 738-752.
- Blau, F. and Kahn, L. (1981) Race and sex differences in quits by young workers, *Industrial and Labor Relations Review*, 34, pp. 563-577.
- Böckermann, P. and Ilmakunnas P. (2009), Job disamenities, job satisfaction, quit intentions, and actual separations: putting the pieces together, *Industrial Relations*, 48 (1), pp.73-96.
- Booth, A. and Francesconi, M. (1999), Job mobility in 1990s Britain: does gender matter?, *Mimeo*.
- Burdett, K. (1978) A theory of employee job search and quit rates, *The American Economic Review*, 68(1), pp. 212-220.
- Burgess, S. (1999) Reallocation of labour: an international comparison using job tenure data, *CEPR, LSE*, London.
- Campbell, C. (1997) The determinants of dismissals, quits and layoffs: a multinomial logit approach, *Southern Economic Journal*, 63, pp. 1066-1073.
- Clark, A. (2001) What really matters in a job? hedonic measurement using quit data, *Labour Economics*, 8, pp. 223–242.
- Clark, A., Georgellis, Y., and Sanfey, P. (1998) Job satisfaction, wage changes, and quits: evidence from Germany, *Research in Labor Economics*, 17, pp. 95–121.
- Clark, A., and Postel-Vinay, F. (2003) Job security and job protection. *CEPR Discussion Paper*, No. 4927.
- Del Boca, D. and Flinn, C. (2002) The Impact of the Labor Market Environment on Household Labor Supply, *Mimeo*.
- Delfgaauw, J. (2007) The effect of job satisfaction on job search: not just whether, but also where, *Labour Economics*, 14, pp. 299–317.
- Eckstein, z. and van den Berg, G (2007) Empirical labor search: a survey, *Journal of Econometrics*, 136, pp. 531–564
- Freeman, R. (1978) Job satisfaction as an economic variable, *American Economic Review* (Papers and Proceedings), 68(2), pp. 135-141.
- Fuentes, A. (2002) The determinants of on-the-job search: an empirical explanation, *IMF Working Paper* 156.
- García-Serrano, C. (2004) Temporary employment, working conditions and expected exits from firms, *Review of Labor Economics and Industrial Relations*, 18, pp. 293-316.
- Gregg, P. and Wadsworth, J. (1996) How effective are state employment agencies? job centre use and job matching in Britain, *Oxford Bulletin of Economics and Statistics*, 58 (3), pp. 443-467.
- Gronberg, T. and Reed, W. (1994), Estimating workers' marginal willingness to pay for job attributes using duration data, *Journal of Human Resources*, 29, pp. 911-931.
- Hartog, J., Mekkelholt E. and Van Ophem, H. (1988), Testing the relevance of job search for job mobility, *Economics Letters*, 27, pp. 299-303.
- Hartog, J. and Van Ophem, H. (1994) On-the-job search and the cyclical sensitivity of job mobility, *European Economic Review*, 38(3-4), pp. 802-808.
- Hartog, J. and Van Ophem, H. (1996) On-the-job search, mobility and wages in the Netherlands: what do we know?, in R. Schettkat (ed.), *The Flow Analysis of Labour Markets*, pp. 229-255 (London Routledge).
- Holmlund, B. (1984) Income prospects and job mobility: the case of Sweden, *European Economic Review*, 24 (3), pp. 383-400.
- Kahn, L. and Low, S. (1982) The relative effects of employed and unemployed job search, *Review of Economics and Statistics*, 64 (2), pp. 234-41.
- Kahn, L. and Low, S. (1984) An empirical model of employed search, unemployed search, and nonsearch, *Journal of Human Resources*, 19 (1), pp. 104-17.
- Kidd, M. (1994), Some Canadian Evidence on the Quit/Lay-off Distinction, *Canadian Journal of Economics*, 27, pp. 709-733.
- Kristensen, N. and Westergård-Nielsen, N. (2004), Does low job satisfaction lead to job mobility? *IZA Discussion Paper*, 1026.

- Lazear, E. (1990) Job security and employment, *Quarterly Journal of Economics*, 105, pp. 699-726.
- Lévy-Garboua, L., Montmarquette, C., and Simonnet, V. (2007) Job satisfaction and quits, *Labour Economics*, 14, pp. 251-268.
- Lucifora, C. (1998) The impact of unions on labour turnover in Italy: evidence from establishment level data”, *International Journal of Industrial Organisation*, 16, pp. 353-376.
- Manning, A. (2003) Monopsony in motion, Princeton, in: Princeton University Press (Eds).
- Parsons, D. (1991) The job search behavior of employed youth, *Review of Economics and Statistics*, 73 (4), pp. 597-604.
- Pencavel, J. (1972) Wages, specific training, and labor turnover in us manufacturing industries, *International Economic Review*, 13 (1), pp. 53-64.
- Pissarides, C., and Wadsworth, J. (1994) On-the-job search: some empirical evidence from Britain, *European Economic Review*, 38 (2), pp. 385-402.
- Royalty, A. (1998) Job-to-job and job-to-non employment turnover by gender and education level, *Journal of Labor Economics*, 16, pp. 392-443.
- Salop, S. (1979) Wage differentials in a dynamic theory of the firm, *Journal of Economic Theory*, 6, pp. 321-44.
- Scoppa, V. (2009) Intergenerational transfers of public sector jobs: a shred of evidence on nepotism, *Public Choice*, 141, pp. 167–188.
- Shields, M. and Price, S. (2002) Racial harassment, job satisfaction and intentions to quit: evidence from the British nursing profession, *Economica*, 69, pp. 295–326.
- Sousa-Poza, A. and Henneberger, F. (2004) Analyzing job mobility with job turnover intentions: an international comparative study, *Journal of Economic Issue*, 38(1), pp. 113-137.
- Stiglitz, J. (1974) Incentives and risk sharing in sharecropping, *Review of Economic Studies*, 41, pp. 219-255.
- Van Ophem, H. (1991) Wages, nonwage job characteristics and the search behavior, *Review of Economics and Statistics* 73, pp. 145–51.
- Van Ours, J. (1990) An international comparative study on job mobility, *Labour* 4, pp. 33- 55.
- Viscusi, W. (1979) Job hazards and worker quit rates: an analysis of adaptive worker behavior, *International Economic Review*, Department of Economics, University of Pennsylvania and Osaka University Institute of Social and Economic Research Association, 20 (1), pp. 29-58.
- Zimmermann, K. (1998), “German Job Mobility and Wages,” in: I. Ohashi and T. Tachibanaki (eds.), *International Labour Markets, Incentives and Employment*, Houndmills, Macmillan Press, pp. 300–332.

Table 1. Descriptive statistics

<i>Variables</i>	Mean	St. Dev.	Min	Max	Obs.
<i>On-the-Job Search</i>	0.081	0.273	0	1	44721
<i>Female</i>	0.387	0.487	0	1	44721
<i>Elementary School</i>	0.109	0.311	0	1	44721
<i>Middle School</i>	0.322	0.467	0	1	44721
<i>High School</i>	0.442	0.497	0	1	44721
<i>College Degree</i>	0.126	0.331	0	1	44721
<i>Postgraduate Degree</i>	0.002	0.049	0	1	44721
<i>Married</i>	0.657	0.475	0	1	44721
<i>Number of Children</i>	0.457	0.733	0	5	44721
<i>Hourly Wage</i>	9.083	4.329	2.5	28.754	41207
<i>Hourly Wage Squared</i>	101.253	120.189	6.25	826.827	41207
<i>Non Labour Income/1000</i>	10.961	13.685	-70.910	508.943	41207
<i>Public Employee</i>	0.216	0.411	0	1	44721
<i>Experience (in years)</i>	23.610	12.013	0	59	44210
<i>Experience Squared/1000</i>	0.702	0.609	0	3.481	44210
<i>Tenure (in years)</i>	15.185	11.395	0	57	44263

<i>Tenure Squared/1000</i>	0.360	0.440	0	3.249	44263
<i>North-West</i>	0.252	0.434	0	1	44263
<i>North-East</i>	0.232	0.422	0	1	44721
<i>Centre</i>	0.217	0.412	0	1	44721
<i>South</i>	0.201	0.400	0	1	44721
<i>Islands</i>	0.098	0.298	0	1	44721
<i>Very Small City (<20 inhabitants)</i>	0.285	.452	0	1	44721
<i>Small City (20-40)</i>	0.204	0.403	0	1	44721
<i>Medium City (40-500)</i>	0.424	0.494	0	1	44721
<i>Large City (>500)</i>	0.086	0.281	0	1	44721
<i>Small Firm (<20 employees)</i>	0.441	0.496	0	1	25335
<i>Medium Firm (20-99)</i>	0.277	0.447	0	1	25335
<i>Large Firm (>100)</i>	0.278	0.448	0	1	25335
<i>White Collar</i>	0.283	0.450	0	1	44721
<i>Teacher</i>	0.068	0.251	0	1	44721
<i>Junior Manager</i>	0.048	0.215	0	1	44721
<i>Manager</i>	0.019	0.138	0	1	44721
<i>Fixed Term Contract</i>	0.055	0.228	0	1	44721
<i>Number of Jobs Experiences</i>	1.959	1.679	0	82	44685
<i>Hours worked per week</i>	37.742	8.506	2	60	35084
<i>Regional Unemployment Rate</i>	9.211	5.934	3.342	22.533	44721

Data source: SHIW 1995-2006. Sample: employed (private and public employees).

Table 2. On-the-job search distribution by individual characteristics.

<i>Variables</i>	<i>Mean</i>	<i>St. Dev.</i>
<i>Female</i>	0.078	0.269
<i>Male</i>	0.085	0.278
<i>Elementary School</i>	0.065	0.246
<i>Middle School</i>	0.083	0.276
<i>High School</i>	0.081	0.273
<i>College Degree</i>	0.105	0.307
<i>Postgraduate Degree</i>	0.108	0.312
<i>Public Employee</i>	0.036	0.186
<i>Private Employee</i>	0.087	0.282
<i>Permanent Contract</i>	0.068	0.252
<i>Fixed Term Contract</i>	0.301	0.459
<i>Tenure below the mean</i>	0.080	0.271
<i>Tenure above the mean</i>	0.062	0.242
<i>Blue Collar</i>	0.114	0.317
<i>White Collar</i>	0.071	0.256
<i>Teacher</i>	0.038	0.191
<i>Junior Manager</i>	0.071	0.258
<i>Manager</i>	0.038	0.191
<i>Small Firm (<20 employees)</i>	0.132	0.339
<i>Medium Firm (20-99)</i>	0.097	0.296
<i>Large Firm (>100)</i>	0.078	0.268
<i>North-West</i>	0.087	0.271
<i>North-East</i>	0.081	0.274
<i>Centre</i>	0.075	0.263
<i>South</i>	0.079	0.269
<i>Islands</i>	0.098	0.297

Data source: SHIW 1995-2006.

Sample: private and public employees.

Table 3. Determinants of *On-the-Job Search*. Probit estimates (Marginal Effects). Dependent Variable: *On-the-Job Search*. Sample: Private and Public Employees (1-3).

<i>Variables</i>	Whole Sample (1)	Whole Sample (2)	Whole Sample (3)	Men (4)	Women (5)
<i>Female</i>	-0.008** (0.004)	-0.006** (0.003)	-0.006** (0.003)		
<i>Elementary School</i>	0.007 (0.008)	0.007 (0.008)	0.007 (0.008)	0.014 (0.009)	-0.003 (0.010)
<i>Middle School</i>	-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.004)	-0.004 (0.006)	0.004 (0.005)
<i>College Degree</i>	0.016** (0.007)	0.015** (0.006)	0.016** (0.006)	0.028*** (0.009)	0.018** (0.009)
<i>Postgraduate Degree</i>	0.096*** (0.028)	0.082*** (0.022)	0.095*** (0.028)	0.110*** (0.016)	0.126*** (0.038)
<i>Married</i>	-0.005* (0.003)	-0.005* (0.003)	-0.006* (0.003)	-0.017*** (0.004)	-0.017*** (0.004)
<i>Number of Children</i>	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)	0.000 (0.002)	-0.021*** (0.002)
<i>(Female)*(Number of Children)</i>	-0.006** (0.003)	-0.005** (0.003)	-0.005* (0.003)	-0.004* (0.002)	
<i>Hourly Wage (in log)</i>	-0.025*** (0.004)		-0.025*** (0.005)	-0.026*** (0.004)	-0.030*** (0.007)
<i>Hourly Wage</i>		-0.008*** (0.001)			
<i>Hourly Wage Squared/1000</i>		0.255*** (0.040)			
<i>Public Employee</i>	-0.034*** (0.003)	-0.032*** (0.003)	-0.034*** (0.003)	-0.036*** (0.003)	-0.025*** (0.005)
<i>Experience (years)</i>	0.003*** (0.001)	0.002*** (0.001)	0.003*** (0.001)	0.004*** (0.001)	0.001* (0.001)
<i>Experience Squared/1000</i>	-0.074*** (0.013)	-0.072*** (0.012)	-0.074*** (0.013)	-0.093*** (0.017)	-0.057*** (0.015)
<i>Tenure</i>	-0.010*** (0.001)	-0.010*** (0.001)	-0.010*** (0.001)	-0.010*** (0.001)	-0.010*** (0.001)
<i>Tenure Squared/1000</i>	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
<i>Number of Jobs Experiences</i>	0.006*** (0.001)	0.006*** (0.001)	0.006*** (0.001)	0.006*** (0.001)	0.006*** (0.001)
<i>Fixed Term Contract</i>	0.123*** (0.013)	0.128*** (0.013)	0.123*** (0.013)	0.144*** (0.023)	0.101*** (0.012)
<i>(Tenure)*(Fixed Term Contract)</i>	0.001** (0.000)	0.001** (0.000)	0.001** (0.000)	0.001* (0.001)	0.001 (0.001)
<i>Hours Worked per Week</i>	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.000* (0.000)	0.001*** (0.000)
<i>North-East</i>	-0.004 (0.007)	-0.004 (0.006)	-0.004 (0.007)	-0.003 (0.006)	-0.006 (0.007)
<i>Centre</i>	-0.010* (0.005)	-0.007 (0.005)	-0.007 (0.005)	-0.011* (0.006)	-0.006 (0.007)
<i>South</i>	-0.019** (0.008)	-0.018** (0.008)	-0.019** (0.009)	-0.020* (0.011)	-0.018* (0.010)
<i>Islands</i>	-0.018* (0.010)	-0.017* (0.010)	-0.018* (0.010)	-0.021* (0.013)	-0.012 (0.012)
<i>Small City (20-40)</i>	0.008* (0.004)	0.008* (0.004)	0.008* (0.004)	0.007 (0.007)	0.009** (0.004)
<i>Medium City (40-500)</i>	0.012** (0.005)	0.012* (0.005)	0.011* (0.006)	0.008** (0.004)	0.010** (0.004)
<i>Large City (>500)</i>	0.020** (0.009)	0.005* (0.003)	0.008** (0.004)	0.025* (0.014)	-0.011* (0.005)
<i>Regional Unemployment Rate</i>	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.001 (0.001)	0.001 (0.001)

Non Labour Income/1000

-0.000
(0.000)

<i>Observations</i>	33544	33544	33544	19641	13903
<i>Pseudo R-squared</i>	0.203	0.204	0.204	0.192	0.232
<i>Log-likelihood</i>	-7690	-7682	-7689	-4515	-3119

Notes: Pooled Probit estimates. The dependent variable is *On-the-Job Search*. The coefficients represent the marginal effects. Standard errors (robust to heteroskedasticity) are reported in parentheses. The standard errors are corrected for the potential clustering of the residual at the regional level. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level. Sample weights are used. Year dummy variables are included in all the regressions (not reported). Data source: SHIW 1995-2006.

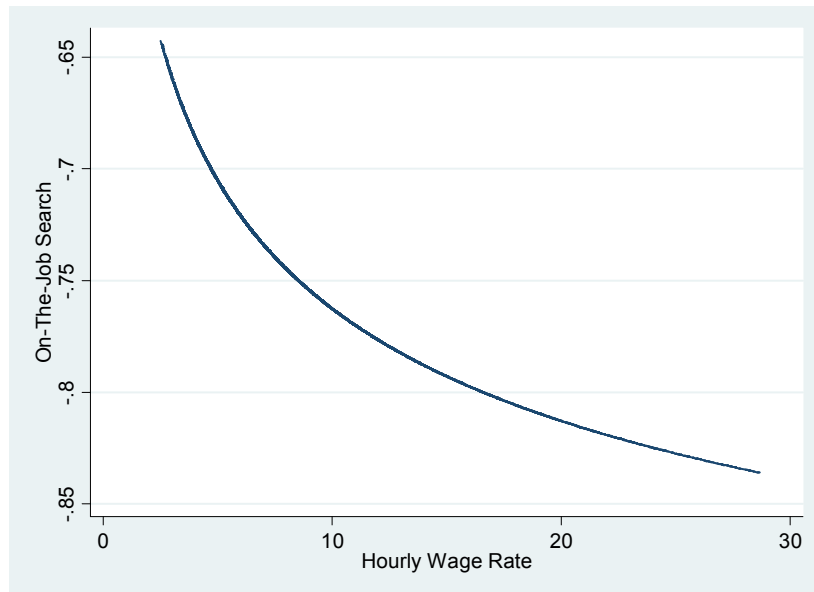


Figure 1. The relationship between on-the-job search decision and Hourly Wage.

Table 4. On-the-Job Search Differences between Public and Private Employees. Probit estimates (Marginal Effects). Dependent Variable: On-the-Job Search.

<i>Variables</i>	Public Employees (1)	Private Employees (2)
<i>Female</i>	-0.008** (0.004)	-0.006 (0.005)
<i>Elementary School</i>	0.005 (0.008)	-0.002 (0.007)
<i>Middle School</i>	0.003 (0.004)	-0.011*** (0.004)
<i>College Degree</i>	0.008* (0.004)	0.023*** (0.008)
<i>Postgraduate Degree</i>	0.005* (0.003)	0.191** (0.096)
<i>Married</i>	-0.003 (0.003)	-0.006 (0.004)
<i>Number of Children</i>	-0.001 (0.001)	0.003** (0.001)
<i>(Female)*(Number of Children)</i>	0.004 (0.004)	-0.010* (0.005)
<i>Hourly Wage (in log)</i>	-0.011*** (0.004)	-0.030*** (0.005)
<i>Experience (years)</i>	-0.000 (0.000)	0.004*** (0.001)
<i>Experience Squared/1000</i>	-0.009 (0.010)	-0.107*** (0.014)
<i>Tenure</i>	-0.003*** (0.000)	-0.013*** (0.001)
<i>Tenure Squared/1000</i>	0.001*** (0.000)	0.003*** (0.000)
<i>Number of Job Experiences</i>	0.002*** (0.001)	0.008*** (0.002)
<i>Fixed Term Contract</i>	0.052*** (0.016)	0.150*** (0.012)
<i>(Tenure)*(Fixed Term Contract)</i>	0.001 (0.000)	0.001** (0.000)
<i>Hours Worked per Week</i>	-0.000 (0.000)	0.001*** (0.000)
<i>North-East</i>	-0.005* (0.003)	-0.004 (0.004)
<i>Centre</i>	-0.006** (0.003)	-0.009** (0.004)
<i>South</i>	-0.006 (0.005)	-0.027*** (0.007)
<i>Islands</i>	-0.005 (0.006)	-0.025*** (0.008)
<i>Small City (20-40)</i>	-0.003 (0.003)	0.015*** (0.005)
<i>Medium City (40-500)</i>	0.002 (0.003)	0.011*** (0.004)
<i>Large City (>500)</i>	-0.003 (0.004)	0.019** (0.008)
<i>Regional Unemployment Rate</i>	0.002 (0.006)	0.003 (0.006)
<i>Medium Firm</i>		-0.006 (0.004)
<i>Large Firm</i>		0.002 (0.004)

<i>White Collar</i>	-0.009*** (0.003)	-0.013*** (0.004)
<i>Teacher</i>	-0.010*** (0.004)	-0.036*** (0.009)
<i>Junior Manager</i>	-0.008** (0.004)	0.025** (0.010)
<i>Manager</i>	0.007 (0.009)	-0.018 (0.012)
<i>Observations</i>	9292	24252
<i>Pseudo R-squared</i>	0.224	0.183
<i>Log-likelihood</i>	-1070	-6566

Notes: Pooled Probit estimates. The dependent variable is *On-the-Job Search*. The coefficients represent the marginal effects. Standard errors (robust to heteroskedasticity) are reported in parentheses. The standard errors are corrected for the potential clustering of the residual at the regional level. The symbols ***, **, * indicate that coefficients are statistically significant, respectively, at the 1, 5, and 10 percent level. Sample weights are used. Year dummy variables are included in all the regressions (not reported). Data source: SHIW 1995-2006.

¹ The relationship between job search, job offers and mobility is analyzed in Hartog et al. (1988), Hartog and Van Ophem (1996) for Dutch employees during the Eighties.

² Unfortunately, the dataset we use does not allow us to describe the supposed correlation or the cause-and-effect existing between on-the-job search and actual turnover. We do not have a panel data to verify whether workers searching in a period for a job effectively quit in the subsequent periods.

³ Eckstein and van den Berg, 2007, provide a review of the literature that uses the model as the basis for parameter estimation.

⁴ SHIW data are freely available at www.bancaditalia.it.

⁵ We set *Married* equal to zero if the individual has never got married, is widowed, separated or divorced.

⁶ North-West includes the following regions: Piedmont, Valle d'Aosta, Lombardy, Liguria; North-East includes Veneto, Trentino Alto Adige, Friuli Venezia Giulia, Emilia Romagna; Centre includes Tuscany, Lazio, Marche, Umbria; South includes Abruzzi, Campania, Apulia, Molise, Basilicata, Calabria; Islands include Sicily and Sardinia.

⁷ We have six categories for firm size and we tried to use all of them but the results are very similar.