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Duration of transition and access to the first job in Cameroon

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Abstract
This paper analyzes from the Survey on the Improvement of Employment Policies (EPAE) carried out in 2017 in Cameroon by the International Development Research Centre the comparative efficiency of job search strategies in terms of the duration of access to the first job. Using atwo-step econometric method .The first analyzes the procedures for choosing job search strategies using a trivariate probit model. In the second step, the modelling by concurrent risk duration models is estimated in order to account for the effect of prospecting strategies on the duration of access to the first job. Distinguishing three outcomes of unemployment: access to a traditional job in particular, a job of in definite duration, a job of definite duration and a job based on a simple verbal agreement. Two main conclusions emerge from these micro econometric applications. First, the decision to use a prospecting channel is endogenous. Second, these canvassing channels have discriminatory effects on the duration of unemployment according to the sector of activity (public or private) and according to the employment contract obtained.

JEL Classification: C35, C41, J64

Keywords: job-search strategies, unemployment duration, trivariate probit, concurrent outcome parametric duration model.

1. Introduction

In the analysis of transition periods and strategies for integrating young people into the labour market, two main approaches are distinguished, each with its own particular analysis. The first is the *full general equilibrium analysis*, which analyzes at the macroeconomic level the impact of tensions on the labour market and its effects on transition time, in particular, on the speed of matching supply and demand for employment (Mortensen and Pissarides, 1999a). On the other hand, *partial equilibrium analyses*, which analyse the job-seeking behaviour of one of the parties, particularly that of job seekers, and which draw on the *job search* theory, conclude that the influence of the individual's socio-demographic characteristics (Ugidos-Olazabal, 1995; Mortensen, 1986; Ahu et al, 1995) and public employment policies (Christophides and Mc Kenna, 1996; Bonal et al, 1997) on young people's transition times to the labour market.

Even though there is a great deal of work on this relationship, empirical evidence has remained confined to two types of trajectories of youth integration into the labour market. According to the work of Belzil (1996), these are job prospecting in the market and job prospecting within the job market. While several national surveys more specifically, the Employment and Informal Sector Surveys (INS, 2005 and 2010) in Cameroon and the 1994 INSEE Employment Survey question the postulate of duality in the labor market as well as the modes of access to the labor market by providing information on the heterogeneity of the job search channels used by job seekers (Lagrarenne and Marchal, 1995 , Njikam et al, 2005). This work identifies three main job search channels (Sabatier, 2002 and 2003; Lindeboom and VAN Ours, 1997; Njikam et al., 2005). Notably, market procedures (spontaneous applications and classified ads), institutional intermediaries (public and private services providing integration assistance) and the social network (recourse to personal and professional relationships). Also, these canvassing channels seem to have a discriminatory impact on the trajectory of young people's integration into the labour market, and in particular the length of time they spend in their first job (Sabatier, 2003; Osberg, 1993) .

Statistics from both developed and developing countriesshow that, despite youth employment services and in the face of uncertainty, lack of information about job opportunities, and the increasing duration of graduate unemployment, many organizations and governments are defining policies, taking action, and developing job search assistance programs toreduce the transition time of young people to the labor market. For example, the ILO (2010) recommends improving and expanding access to vocational training while stimulatingentrepreneurship, investing in labour market information systems to inform training policies, their implementation and monitoring the impact and effectiveness of education to inform ongoing policy development. The ILO also recommended the strengthening of employment services to reach out more to the job seeker and employer to improve their career counseling outcomes. These measures, which are the outcome of the Millennium Development Goals (MDGs) formulated in 2008 and improved in 2015 in the Sustainable Development Goals (SDGs) in its goal 8 recommend that states promote full employment and decent work for all.

Developing countries, like most developed countries, are committed to helping reduce the duration of youth unemployment worldwide. This resulted in the adoption in the Dakar

agreement reaffirmingthe commitment of participating countries, including Cameroon, to achieve the goals of education for all by 2015 at the latest (Dakar, Senegal, 2000). In this regard we can mention the World Conference on Higher Education (Paris, UNESCO, 1998), which recommends widening access to higher education and strengthening links with society, particularly with the world of workand the ILO's Decent Work Agenda for Africa 2007-2015 adopted by heads of state at the Ouagadougou summit in 2004 and finalized at the eleventh African youth meeting for sustainable development in May 2011. In addition, thirty-five government programs and projects for the creation of self-employment and self-employment, measures to improve the development of small and medium enterprises, and the creation of the Interministerial Employment Monitoring Committee (CISE) in April 2013 have been put in place.

As part of the implementation of the recommendations of the Heads of State of the African Union Ouagadougou in 2004, devoted to employment and the fight against poverty in Africa, Cameroon has taken the initiative to promote employment in general and youth employment in particular. It has in turn made employment one of the pillars of the new medium and long-term development frameworks (Vision 2035 and DSCE 2010-2020), developed a first national plan for youth employment (PANEJ) whose evaluation in 2013 recommended, in view of the mixed results, the reformulation of a second generation PANEJ for the period 2016-2020. In this regard, the improvement of the institutional environment for employment is mentioned, notably through the creation of a ministry (MINEFOP) specifically in charge of employment issues and other structures such as: the National Observatory of Employment and Vocational Training (ONEFOP), the National Labor Observatory (ONT), the Center for Social, University and Professional Orientation (COSUP) in addition to the National Employment Fund (FNE).

In addition, the special recruitment of 25,000 young people into the civil service in 2011 was not enough to reduce youth unemployment, which, despite its decline from 15.5% in 2010 to 8.9% in 2014, is still higher than that of the overall population (World Labor Report, 2014). Indeed,although the unemployment rate in Cameroon has decreased from 4.4% in 2005 to 3.8% in 2010 (Essi2 Report, 2010), the public employment services and the FNE in particular have recorded growth intheir activities as intermediaries for the integration of young people. In terms of statistics, between 2005 and 2015 the number of young people registered with the FNE and who have beenintegrated rose from 13.02% in 2005 to 28.32%in 2010 and 71.20% in 2015 (FNE Report, 2016). However, the change in the number of people employed in the informal sector , which rose from 50% of the employed in 1987 to 88.2% in 1993 and from 90.4% to 88.7%between 2005 and 2014, appears to be the main indicator that is increasingly contributing to the reduction of the unemployment rate in Cameroon (ILO, 2017). It may be thought that young people prospecting through the public employment services are increasingly inserted in the private or informal sector.

By removing the postulate of exogeneity of transition patterns, this paper aims to analyze the effect of job search patterns on the duration of transition to the first job. Indeed, while the microeconomics of job search underscores the existence of selection bias in the decision to use a single channel or to reconcile several channels Sabatier (2002, 2003), the selectivity of labour

market access strategies has received little attention. However, Giret et al. (1996) highlight the influence of individual characteristics on this choice, notably the effect of education.

To achieve this objective, a two-step estimation method is used to simultaneously analyze the endogeneity and interdependence of prospecting strategies. First, the decision to use a prospecting channel is estimated using a trivariate probit. The probabilities of the choice of each of the prospecting strategies, determined from the predictors of this estimation, are introduced as inputs for the production of information in order to correct possible selectivity biases in the choice of these modes. Then, the concurrent risk duration model is estimated by the maximum likelihood method.

The paper consists of three sections. The first section presents some empirical explanations for the differential effects of the survey modes on the duration of first job entry. In the second section, we present the methodology applied to analyze the effects of the modes of job search channels on the duration of access to the first job using data from the Survey on the Improvement of Employment Policies in Cameroon (EPAE) carried out in 2017 by the IDRC (International Development Research Centre) and the CERG (Center for Research in Economics and Management). Finally, we comment and present the results in the third section.

2. Some Empirical Results on the Effect of Job-Search Patterns on the Duration of Access to the First Job

Models dealing with the analysis of labour market entry trajectories reduce search activity to the sole variable of time spent on job search (Mortensen, 1986; Mac Call, 1970). While Rees (1966) established that, beyond the information available on the labour market and particularly on job offers, it is relevant to capitalize on this available information by taking into account the channels of insertion assistance. In his analyses, two types of integration modes or strategies emerge: *formal modes* composed solely of market procedures (voluntary applications and advertisements) and *informal modes* resulting from the accumulation of social relations. However, these modes of insertion may differ according to their nature.

The formal mode gives the right to an *extensive* job *search*, through a standardized mobilization of information on job offers (income, forms of employment contract...) on several types of jobs. Whereas, the informal modes give the right to an *intensive job* search, allowing access to quality information (notably, on the conditions of exercise, the tasks to be carried out, etc...) but on a very limited number of jobs. Prospectors' trade-offs between these modes or insertion strategies depend not only on the amount of information available on the market but also on the ability to reconcile the two modes or strategies of access to the labor market.

The inclusion in public policies of public services to assist integration and private employment services as intermediaries has led to the overcoming of these two modes of integration (Giret et al, 1996; Vincens, 1997; Sabatier, 2002; Steffen et al, 2017 ,Montgomery, 1991) . Thus, Steffen et al (2017) and Ornati and Tedeshi (1987) find that employment assistance services reduce prospecting costs by bearing a significant portion of the expenses related to the job search, which facilitates a rapid and quality match between the firm and the prospector. Public and private employment services absorb several labour market shortcomings through their

functions as intermediaries (Galiendo et al., 2015; McGee, 2015). Taking up this approach, Baudry (1994) and Steffen et al (2017) pose the problem of subcontractors in the industrial economy and the problem of employment agencies in the labour market. It emerges from this work that these placement agencies are in a situation of *quasi-integration* and, like intermediaries, hybrid forms of organization, which thrive between internalized and labour market prospecting.

From these neo-institutional analyses of employment agencies, it appears that public and private employment assistance services are an effective mode of prospecting when the skills required by the firm and owned by the prospector are moderately typical. In this context, these services have the advantage of being able to limit the costs associated with bureaucracy and the costs of opportunism (Lesueur, 1996). Proceeding in the same way, (Crépon et al, 2013, Liebman and Luttmer, 2015) establish that, while being assisted in prospecting also responds to a logic of subcontracting, a variety of interactions between principals (firms or unemployed) and intermediaries can be significant depending on the level of intervention of the mediator .

In this perspective, when the mediator is used as a filter of applications or offers to reduce the expenses related to research, this mediator follows the logic of a (quasi-oblique integration) it rather ensures an intensive prospecting when it contributes to the definition of the selection criteria of offers. Moreover, Granovetter's work in sociology (1973) allows us to define the role of social relations in integration trajectories. Which relations, divided into strong ties (personal relations), weak ties (professional) have the role not only of collecting information but also define an intermediary as a guarantor in the employment relationship. The latter, with a view to reducing the asymmetry of information on job offers, uses his personal reputation as a guarantee.

In total, job search methods (social network, public and private intermediaries, and market procedures) provide different information about positions of power. Thus Osberg (1993) finds a significant and positive effect of prospecting methods on the exit from unemployment. While Osberg (1993) finds a discriminating effect of job-search strategies on the probability of exiting unemployment, Jones (1989), using the English survey, does not find a significant effect on the probability of exiting unemployment. Admet (1987) highlights the differentiating effect of prospecting methods on the lowest unemployment rates. These differentiated effects of public employment agencies can be explained by two factors: firstly, using the employment aid channels would have a disincentive impact on personal search and secondly, allows access to lower quality jobs that would only be demanded by less qualified job seekers who have had difficulty entering the labour market.

Faced with these mixed results, (Pradel and Rofer, 1996; Saez, 2009; Abadi et al, 2017) analyze the speed of arrival of job offers no longer as a function of the job seeker's effort but also as a function of the probability of receiving information on job offers via the channel of the French public agency, the National Employment Agency (ANPE). However, the unemployed prospector has to arbitrate between individual *"active strategy"* job search, and prospecting by the ANPE, which is at no cost to the *"passive strategy* " job seeker . The relaxation of the hypothesis of a single-argument job-occurrence rate leads to ambiguous

equilibrium postulates regarding the effect of the ANPE on the transition period. However, this hypothesis is relaxed thanks to econometric analysis of the ANPE's follow-up surveys of the unemployed (1986-88), theoretical simulations of a constructed prospecting model. It then emerges that there is a positive and significant effect of the rate of arrival through the ANPE on the rate of exit from unemployment.

All these analyses of the channels of prospecting and exit from unemployment are based on the hypothesis that the choice of the path to integration is exogenous, whereas prospectors take into account their need for information and their ability to reconcile these different modes before deciding on their prospecting strategy (Rees, 1966). Thus, the prospecting strategy chosen cannot be random. Moreover, individual characteristics such as the number of years of study and experience increase the probability of choosing a distinct prospecting mode. Thus, the fact that a prospector has a high level of education increases the probability of using the market mode or his or her network of relations. This is because their high level of human capital is a signal that can be easily retranscribed by the market strategy (Bischop, 1993, Sabatier, 2002, Abadie et al, 2017).

Also, having a strong human capital has a positive impact on the channel of social relations (Marry, 1992). However, the probability of using social relations is higher when the prospector has a high level of human capital. However, less qualified job seekers seem to prefer prospecting through the public placement service mode, which offers them jobs that take their qualifications into account (Lizé, 2000). However, the level of education has a significant effect on transition time. The dual effect of these characteristics on job search and the choice of insertion trajectories have a greater probability of raising problems of endogeneity when econometrically analysing job search methods. A micro econometric analysis method that takes into account these possible simultaneity biases must be applied.

3. Data and Methodology

In order to specify the appropriate econometric model for the analysis of the effect of job-search behaviour on the duration of first job entry, we first describe the variables following the justification of the model and then present the components of the econometric model in detail.

3.1. Description of model variables

The data used in this study comes from a Cameroonian survey conducted in 2017 by CERDI and CEREG on 3,292 individuals and called the *Survey on the Improvement of Employment Policies in Cameroon (EAPE)* . It is a suitable data source for this study in that it provides information on the background of individuals between 2010 and 2017 and provides perfect information on the duration of transition to the first job[1], which is indeed not censored, and information on the channels or intermediaries mobilized by prospectors in their job [2] search process.

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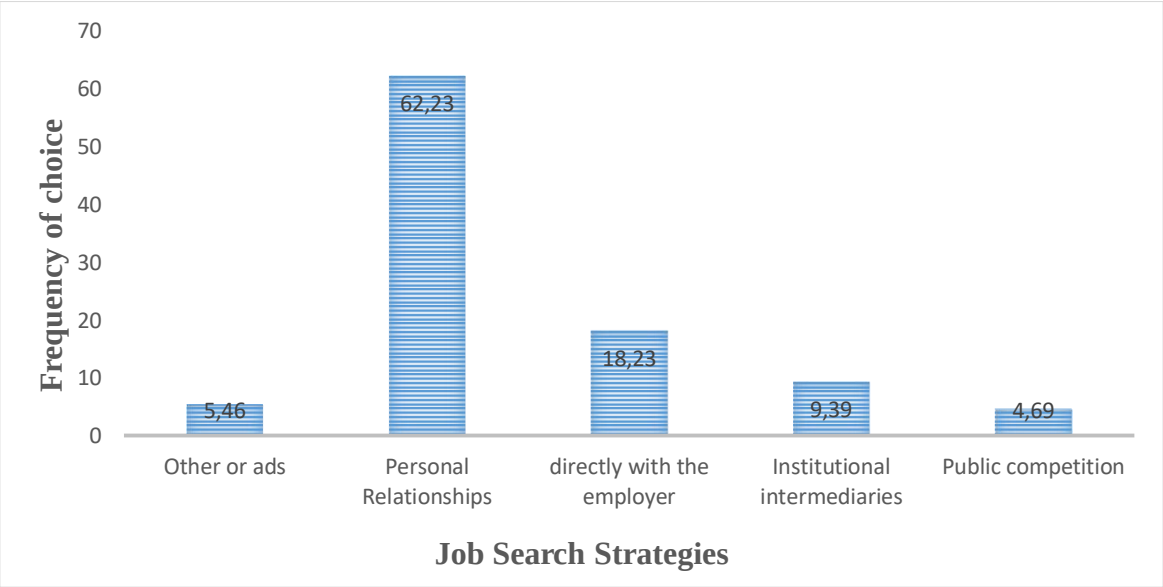
[1] *"Before finding this job, how long were you unemployed?* " and the question " How long before *you return to work or start working (first job)? »*

[2] *"What is the main method you used to get this job?*

As in Sabatier's work (2002 and 2003), the variable of interest in this study is captured by the search methods most frequently used by young people to access their first job (see Table 2.1 below). These variables are independent of each other because when asked the question *"What steps did you take*to *look for a job"* the respondent was able to provide information on more than one, two, or even three channels used to search for the job. This is an improvement over the ISES 1 and 2 surveys, which do not offer this possibility.With respect to the dependent variable, which is the duration of access to the first job.It is analyzed by distinguishing,on the one hand, three unemployment outcomes (employment on permanent contracts, on fixed-term contracts and on simple verbal agreement) and, on the other hand, in a structural model by distinguishing rather two unemployment outcomes according to the highest level of diploma (level of diploma lower than the BAC, level of diploma equal to the baccalaureate and level of diploma higher than the BAC).

Focusing our analysis on first-time job seekers in the labour market, it is useful to specify that the individuals surveyed have, to search for their first job, gone through five types of channels. In terms of proportions, a little more than half of them, i.e. 62.23%, have mobilized their past personal relationships through their personal initiative and carried out searches on the Internet. Others either 18.23% went directly to the employer, some prospectors in particular or 5.46% of them prospected through advertisements or other means (radio, newspapers, posters, etc.), those who went through intermediaries FNE/HIMO/USEP/PIAASI/PAJER-U/FONIJ, etc.) are 9.39% and those who went through public competitions (competitions, personal initiatives and other) are 4.69%. Kiefer's work (1993) recommends using the number of modes mobilized as an approximation of job search speed. Thus, an analysis of the number of strategies as well as the type of modes can be studied. The frequencies of recourse to competing prospection strategies are quite heterogeneous as can be seen from the histogram below (see Fig. 1).

Figure 1 : Use of Different Job Search Methods (%)



Source: Author based on EAPE 2017

Figure 1 shows that the prospectors surveyedfavoured three main modes of job search: their personal relationships, going directly to the employer, and going through institutional intermediaries. However, prospecting methods incorporating public competitions, advertisements and other means are the least solicited. These stylized facts can be explained by the fact that modes of access to the job market through competitions or advertisements often offer very few places for a type of diploma or training specialty. Their mode of prospecting is then reduced to their personal relationships, thus reducing the opportunities for using other modes. In addition to these job search methods, the survey provides information on the impact of the prospecting method on the transition period or the time needed to find a first job.

Statistical analysis of the duration of unemployment according to the employment contract and the mode of prospecting used (see Table 2.1 below) reveals that there are differences in the trajectories of youth integration into the labor market in Cameroon. Thus, the channel corresponding to the fastest average duration is the ad-based prospecting strategy (newspapers, radio, posters, etc.) with an average duration of 13.67 months and 22.38 months to access an open-ended and fixed-term contract respectively. In contrast, the public competition channel and the channel of institutional intermediaries seem to be the slowest channels with an average duration of 30.06 months and 27.66 months to access work on permanent and fixed-term contracts respectively for young people prospecting through institutional intermediaries, while those prospecting through public competitions take an average of 29.45 months to access a permanent contract and 34 months on average to access a fixed-term contract. Furthermore, it appears that, on average, young people are more likely to become unemployed after accepting a job with a simple verbal agreement andsometimes without even having signed an agreement. The highest rates are observed among young people using the public competitive examination channel, with an average unemployment duration of 78 months (6.5 years) and 86.62 months (7 years) to access a job with a simple verbal agreement and without an agreement respectively. This last result could be explained by the fact that not all civil service competitive examinations lead to direct integration after training, on the one hand, because these young people hope to be integrated into the firm in the near future, on the other hand.

Table 2.1: Transition Time

Prospecting mode	Other ads	Personal Relationships	Directly to the employer	Institutional intermediaries	Public competition
Has a contract					
CDI	13,67 (32,51)	26,72 (41,29)	26,72 (41,29)	30,06 (43,31)	29,45 (44,241)
CDD	22,38 (36,12)	26,32 (41,16)	26,32 (41,16)	27,66 (40,56)	34 (48,087)
Verbal agreement	18,42 (36,18)	21,67 (37,95)	21,67 (37,95)	41,94 (49,25)	78 (42)
Nothing at all	74,25 (49,5)	37,60 (46,75)	37,60 (605)	/	86,62(35,001)

Source : Author, based on EAPE in Cameroon . Values in parentheses are standard deviations.

3.2 Econometric model

In order to simultaneously analyse the endogeneity and interdependence of the choices of research modes, we proceed with a two-step micro econometric analysis. First, the decision to use one or more search channels is estimate dusing a trivariate probit model. Thus, the probabilities of choice of each channel, calculated from the predictors of the trivariate probit,

are introduced as inputs to the information production function to correct for possible selectivity biases in the choice of these channels. Second, the effect of the prospecting channel on the duration of access to the first job is estimated by a concurrent risk duration model. Thus, the segmentation of the Cameroonian labor market leads to take into account access to employment on fixed-term contracts, permanent contracts and simple verbal agreements in the formal sector on the one hand and in the informal sector on the other.

3.2.1. Highlighting the choice of job prospecting channel

In addition to the intensity or effort provided by job seekers, they must also arbitrate the channel of access to the first job among all the available channels, i.e. personal relationships, institutional intermediaries and directly with the employer. However, some work has shown that this technique for analyzing channels of access to the first job is not random Sabatier (2002) but is highly dependent on certain individual characteristics. As a result, given the decreasing endogeneity of the choices of job search channels, it is possible that the postulate of independence of the most frequently applied irrelevant alternatives is violated because of the possibility of reconciling several job search channels.

To take into account these two problems, as Sabatier (2003, 2002) does, we use an estimation method using the trivariate probit Greene (1997). This modeling allows us to jointly estimate the choices of the selected job prospecting channels by calculating the probabilities of choice of each prospecting channel from the *predictors of* this estimation. Then, for each job seeker there are j job search channels (j =1 if the job seeker prospects through personal relationships, j =2 if he prospects by going directly to the employer and j =3 if he prospects through institutional intermediaries) . Consequently, there is for each prospecting channel j with (j =1,2,3) an unobserved latent variable y_i^* and a vector of X_i explanatory variables such as :

$$y_i^*(j) = \beta_i(j)' X_i(j) + \varepsilon_i(j) \qquad (3.1)$$

With $E(\varepsilon_i) = 0$ $\qquad Var(\varepsilon_i) = 1$ $\qquad Cov(\varepsilon_{(j)}, \varepsilon_{(k)}) = \rho_{ik}$

The error terms of the three equations are therefore jointly distributed and no longer independently distributed as in binary probit models. The coefficients ρ_{ik} express the between white noise (error terms) of the three job search equations.

3.2.2. Highlighting the effects of the chosen integration strategies on

To evaluate the effectiveness of the predictions of the trivariate probit of job search patterns, considered endogenous, on the duration of access to the first job, it is advisable to use a *Competing*[3] Risks duration model (Allison, 1982) that takes into account the heterogeneity of outcomes. The database provides us with three outcomes. Thus, the individual can be employed on a fixed-term contract (CDD), an open-ended contract (CDI) or a simple verbal agreement

[3] The concept of *" competing risk "* was then introduced: an event that occurs during the course of the follow-up that prevents the event of interest from being observed or modifies its probability or chances of occurrence (Goley et al., 1999; Kalbfleisch and Prentice, 2002) .

(AV). Assuming that there is only one outcome to unemployment: employment. The hazard rate or probability of exiting unemployment at the date t is given by the function:

$$h(t/x) = \lim_{\Delta \to 0} \frac{\Pr(t \le T \le t + \Delta / T \ge t}{\Delta} = \frac{f(t/x_1)}{1 - F(t/x_i)} \qquad (2.6)$$

Where $f(.)$ is the density function of $t\, 1 - f(.)$ is the survival function, and a vector of the socio-demographic characteristics of individuals (in particular, individual characteristics and labour market integration strategies). x_i

To specify it, it makes sense to decompose the hazard rate into two parts: a base hazard $h_0(t)$ and an individual component $\lambda(\beta' x_i)$, with β a parameter vector reflecting the impact of x_i.

The hazard function is defined as follows:

$$h(t/x_i) = h_0(t)\lambda(\beta' x_i)$$

The hazard function thus defined is called proportional hazard (Cox, 1972). Thus Lancaster (1990) illustrates a specification of $h_0(t)$ assuming that the basic randomness is constant per piece. His specification is as follows:

$$h_0(t) = \begin{cases} \gamma_1 \;\; si\, 0 \le t \le c_1 \\ \gamma_2 \;\; si\, c_1 \prec t \le c_2 \\ \vdots \qquad\qquad \vdots \\ \gamma_k \;\; si\, c_{k+1} \prec t \prec \infty \end{cases}$$

γ_k With the parameters to be estimated and the c_k. Time $(0 \prec c_1 \prec c_2 \prec \cdots \prec c_{k-1} \prec \infty)$ point. The time variable is coded in intervals of four months to $t = 28$, with, as the last interval $]28, 46]$[4]. Finally the duration is coded in eight intervals.

Assuming that $\gamma_k = \exp(\eta_k)$ and $\lambda(\beta' x_i) = exp(\beta' x_i)$, the exit rates from unemployment are written as below :

$$h(t/x_i) = \exp(b_k \eta_k + \beta' x_i)$$

With $b_k = 1\; si\; t \in [c_k, c_{k+1}]\; et\; b_k = 0$ otherwise.

Since the socio-demographic characteristics of individuals are constant over time, the integrated hazard is given by:

$$\Delta(t/x_i) = \lambda(\beta' x_i)\left[a_l \gamma_1 + (t - c_k)\gamma_{k+1}\right] \qquad (2.7)$$

Where; $a_1 = c_1 - c_{l+1}$ and $c_k \prec t \le c_{k+1}$ $k = 0, 1 \cdots k-1$

The contribution to the likelihood of the prospector i is given by:

$$L_i^1 = h_i(t/x_i)\exp(-\Delta(t : x_i)) \qquad (2.8)$$

Under the assumption that J unemployed outcomes can be distinguished as permanent, fixed-term, verbal agreement or without agreement (J=3). The probability of exiting the unemployment spell is equal to the sum of the different hazard rates and the observed duration

[4] These intervals are chosen to have a homogeneous population at risk. Tests have been performed defining the two-month intervals without affecting the results.

is that which minimizes the durations of exit into the three states, such that: $t = \min(t_1, t_2, t_3)$. Thus, the contribution to each prospector's likelihood i is given by the relationship:

$$L_i^2 = \prod_{j=1}^{J} \left\{ h_i^j (t / x_i)^{d_{ij}} \exp\left[-\Delta(t / x_i \right] \right\} \qquad (2.9)$$

With d_{ij} i exits with the exit j $(j = 1, 2, 3)$ and taking the value 0 otherwise.

Given that the prospector can access his or her first job under these three supposedly independent outcomes, the econometric analysis of these three durations can be carried out separately. This method is problematic when the explanatory variables do x_i not capture all of the individual heterogeneity. Otherwise, the estimation of unemployment exit rates would by biased. To take into account this unobservable individual heterogeneity, it is wise to specify the hazard rate as below:

$$h_i^j(\nu_j) = h_i^j(t / x_i)\nu_j$$

With ν_j a random variable set to $\mathbb{R}^+$, is considered independent of the x_i with for distribution function $H(\nu_i)$.

In this framework, exit rates are independent of each other but only conditionally in terms of unobservable heterogeneity, ν_j and which is jointly distributed according to a law H .

This hypothesis then makes it possible to go beyond the hypothesis of strict independence of hazard rates and to consider dependent competing risks (Lancaster, 1990).

i The contribution to the prospector's likelihood of exiting unemployment j is given by :

$$L_i^j = \int_{R^+} (h_i^j(t / x_i)\nu_j)^{d_{ij}} \exp\left[-\Delta_i^j(t / x_i)\nu_j \right] dH(\nu_j) \qquad (2.10)$$

As regards the choice of the distribution function for unobservable heterogeneity terms $H(\nu_i)$, the difficulty of its choice has been discussed several times in the literature. One of the ways of specifying it is to hypothesize that they ν_j follow a gamma law. For Heckman and Singer (1984), taking into account the parametric form, they recommend the use of a more flexible distribution law. $H(\nu_i)$ perhaps defined in a discrete way in practice by applying the definition of support points. Nevertheless, this method can be as ambiguous as the choice of a gamma law. The work of Abbring and Van den Berg (2001) through an ex-post analysis of the gamma law provides some clarification.Indeed, when the distribution H $\sigma^2 = \alpha^{-1}$ such as :

$$H(\nu_i) = \frac{\alpha}{\Gamma(\alpha)} e^{-\alpha\nu_j} (\alpha\nu_j)^{\alpha-1} \qquad \text{with}\, \Gamma(\alpha) = \int_0^\infty x^{\alpha-1} e^{-x} dx$$

The likelihood function (2.8) is examined in order to obtain the effect of supposedly endogenous job-search patterns on the duration of access to the first job.

Table 2.2 ranks the variables used in the analysis. It shows that in order to access their first job, most young people went through their personal relationship channel. Several of them, 27.10% of them, got their first job simply by verbal agreement, 19.66% got a permanent contract and only 13.46% got a fixed-term contract. Those who have obtained a permanent and a fixed-term contract are on average 30 years old and those who have entered on a simple verbal agreement are on average 29 years old. The proportion of boys who signed up is always higher than that

of girls, regardless of the type of contract they signed up for the first time. More specifically, 25.09% of boys signed up for permanent contracts versus 16.82% of girls, 12.57% of boys signed up for fixed-term contracts versus only 9.86% of girls, and a greater proportion of boys (19.95%) signed up by simple verbal agreement versus 15.70% of girls. The proportion of young people joining the public sector is much lower than in the private sector. And among young people who obtained their first job on a permanent contract, only 9.62% are in the public sector, compared to 32% in the private sector. Among young people who obtained a fixed-term contract, only 4.31% dropped out in the public sector, compared to 18.12% in the private sector at the end of the contract.

Regarding the desired institutional sector, the channel through personal relationships remains the dominant strategy, about 34.91% want a job in the public sector against 37% who want a job in the private sector.

Table 2.2: Descriptive Statistics on the Types of Contracts Taken by Youths

Explanatory variables	Contract for an indefinite period of time	Fixed-term contract	Simple verbal agreement
How to find a job			
Personal Relationships	19,66 (0,839)	13,46 (0,785)	27,10 (0,549)
With the employer	10,80 0,839)	4,78 (0,785)	6,85 (0,549)
Institutional intermediaries	11,45 0,839)	4,19 (0,785)	1,71 (0,549)
Age	30,859 (4,461)	30,002 (4,294)	29,773 (5,869)
Sex			
Female	16,82 (0,490)	9,86 (0,560)	15,70 (0,496)
Male	25,09 (0,490)	12,57 (0,560)	19,95 (0,496)
Marital status			
Single	25,74 (0,836)	16,12 (0,719)	25,80 (0,719)
Free Union	6,49 (0,836)	3,25 (0,719)	4,96 (0,719)
Married	9,68 (0,836)	3,07 (0,719)	4,90 (0,719)
Is a victim of a disability			
Yes	37,71 (0,300)	20,39 (0,289)	32,74 (0,273)
No	4,20 (0,300)	2,07 (0,289)	2,90 (0,273)
Level of education/training and career path			
Level of education			
Primary	0,000 (0,189)	0,000 (0,222)	0,060 (0,338)
General Secondary	0,24 (0,189)	0,24 (0,222)	0,71 (0,338)
Technical secondary	0,59 (0,189)	0,18 (0,222)	0,89 (0,338)
Superior	41,06 (0,189)	22,02 (0,222)	34,00 (0,338)
Type of training taken after the bachelor's degree			
Education and general programs	2,18 (1,206)	1,12 (1,135)	3,36 (1,317)
Social Sciences	25,97 (1,206)	14,94 (1,135)	20,78 (1,317)
Engineering	11,16 (1,206)	5,43 (1,135)	9,09 (1,317)
Agriculture and other	2,60 (1,206)	0,94 (1,135)	2,42 (1,317)
Intentional desired sector of the job seeker			
Public	9,62 (0,420)	4,31 (0,394)	3,78 (0,308)
Private	32,29 (0,420)	18,12 (0,394)	31,88 (0,308)
Socio-professionalcategory of the parent			
Apprentices and others	2,24 (1,199)	0,85 (1,135)	1,54 (1,201)
Upper frame	10,02 (1,199)	5,32 (1,135)	7,32 (1,201)
Middle Manager	7,86 (1,199)	4,93 (1,135)	6,25 (1,201)
Worker	12,80 (1,199)	8,02 (1,135)	11,18 (1,201)
Own account	8,02 (1,199)	4,39 (1,135)	9,25 (1,201)
Parent's sector of activity			

Agriculture/Livestock/Fishing	4,70 (1,047)	2,39 (1,055)	4,09 (1,056)
Industry	3,62 (1,047)	3,16 (1,055)	3,47 (1,056)
Commerce	4,93 (1,047)	1,39 (1,055)	3,86 (1,056)
Services	27,68 (1,047)	16,58 (1,055)	24,13 (1,056)
Number of observations	710	380	605

Source : Author, based onEAPE in Cameroon. Values in parentheses are standard deviations.

Nevertheless, the proportion test recorded in Table 2.3 shows that regardless of the channel, most young people prospecting through institutional intermediaries seek employment in the private sector. Even if the P-value is not significant for the personal relations and direct employer channels, it can be observed that the majority of job seekers through the personal relations channel look for a job in the public service, while those who go directly to the employer mostly look for a job in the private sector.

Table 2.3: Testing the Proportion of the Desired Intentional Sector Variable

Variables	Personal Relationships	Directly to the employer	Institutional intermediaries
Desired integration company			
Public	0,631(0,482)	0,178(0,383)	0,0789(0,269)
Private	0,616(0,486)	0,184(0,388)	0,1035(0,305)
Student Statistics	0,7274	-0,3758	-1,9437
P-value	0,4670	0,7071	0,052

Source: Author, from EAPE database

Taking into account the level of education, it emerges that among the young people who have dropped out of a permanent contract, 0.24% have a general secondary education and a general secondary course, compared to 0.59% who have a technical secondary education and a technical secondary course. Furthermore, among the young people who have taken out a fixed-term contract, 0.24% have a general secondary education and academic background, compared to 0.18% who have a technical secondary education and academic background. Among young people with a higher level of education, 41% have their first job on a permanent contract, compared to 22.02% on a fixed-term contract and 34% on a simple verbal agreement. Among them, 2.18% of those who completed their training after the baccalaureate in education and general programs obtained a permanent contract, compared to 1.12% and 3.36% who obtained a fixed-term contract and a contract based on a simple verbal agreement respectively. Those with a background in the social sciences were 25.97% to have obtained a permanent contract, compared to 14.94% and 20.78% to have obtained a fixed-term contract and a contract based on a simple verbal agreement respectively. Those with a background in engineering after the baccalaureate are 11.16% who have obtained an open-ended contract, compared to 5.43% and 9.09% who have obtained a fixed-term contract and a contract based on a simple verbal agreement, respectively. And among young people with a background after the baccalaureate in agriculture and others, only 2.60% have obtained a permanent contract against 0.94% and 2.42% who have obtained a fixed-term contract and contract by simple verbal agreement respectively.

4. Econometric analysis of the effect of prospecting methods on the duration of access to the first job

This subsection presents the effects of job-search patterns on the duration of the transition to the first job. We use a two-stage estimation procedure to simultaneously analyze the endogeneity and interdependence of the decision to use one or more job-search channels. In the first step, we calculate the probabilities of the choice of each prospecting channel from the predictors of the trivariate probit estimation. These are introduced as inputs into the concurrent risk duration equation estimated in the second step in order to correct possible selectivity biases in the decision to use one or more exploration channels. In the second step, the efficiency of the prospecting channels on the transition time to the first job is estimated by a concurrent risk duration model. In this stage, the existence of a segmentation of the labor market in Cameroon leads to a distinction between the entire labor market, the public sector and the private sector.

4.1. Calculation of the probabilities of choice of the prospecting channel from trivariate probit predictors

From the econometric estimate in Table 2.6 two conclusions can be drawn. First, it reveals the influence of the significant effect of socio-demographic characteristics on job-search behaviour. Thus, age squared appears to have an effect on the mode of job search. Indeed, the older the age increases, the more the personal relations channel is solicited to prospect, this effect being positive and significant at the 10% threshold. Conversely, the older the age increases, the less the channel of institutional intermediaries is solicited by prospectors; this effect is negative and significant at the 10% threshold. With regard to gender, compared to women, men seem to favour the channel of personal relationships to the detriment of prospecting by going directly to the employer. The fact of having at least one child reduces the probability of resorting to the channel of institutional intermediaries, whereas being single increases the probability of prospecting through personal relations.

In addition, residing with one's parents and having a source of family income increases the probability of looking for work through personal relationships by 5% and 1% respectively, but negatively influences the probability of looking for work through institutional intermediaries by 5% and 1%. Prospectors with such characteristics have almost no family responsibilities, and can benefit from family assistance in the prospecting process but, above all, can make use of the relationships of their parents Sabatier (2002). More specifically, the network of personal relationships is more extensive and extensive when employed, compared to parents who are unemployed or inactive (Gegenne and Forsé, 1994). Thus, having an active father reduces the probability of prospecting through institutional intermediaries to the 1% threshold and increases the probability of prospecting through personal relationships to the 10% threshold. However, having a working father reduces the probability of prospecting through personal relationships and the probability of using institutional intermediaries, but reduces the probability of prospecting by going directly to the employer.

In addition, the results reveal the effect of the level of the diploma and the training course. Using less educated prospectors, particularly those with less than a bachelor's degree, as a benchmark, Table 2.6 reveals that those with at least one bachelor's degree shift from the

personal relations channel to the other two channels of job search. These institutional intermediaries, notably public and private employment services, provide them with free job offers and job search assistance Adnett (1987). Since these prospectors are excluded from the other search methods, recourse to institutional intermediaries seems to be their last resort. This result runs counter to the finding by Lizé (1997) that institutional intermediaries are less adapted to the needs of graduates because they plunge them into underemployment by offering them low-skilled jobs. Therefore, Table 2.6 shows that as the level of education increases, the likelihood of using institutional intermediaries and going directly to the employer increases at the expense of the personal relations channel.

The second conclusion from Table 2.6 is that the correlation coefficients of the error terms in the probit trivariate regression are statistically significant and different from zero. The postulate of irrelevant alternatives is thus removed, meaning that the decision to use exploration channels is not only dependent on the attributes of these decisions but also on the existence of other alternatives. The estimation of the decisions of the prospecting channels thus concludes to their endogeneity and interdependence. To take these biases into account we estimate in the second step a concurrent risk duration model. The probabilities calculated from the predictors of the trivariate estimation are saved and then introduced into the duration model.

Table 2.6: Analysis of Determinants of Choice of Job-Search Patterns

Dependent variable	Explanatory variables	Coefficients	T of Student
Personal Relationships	Age2/100	0,0168 (0,0095)	1,760*
	Male gender	0,1413 (0,6935)	2,040**
	Has at least one child	0,0881 (0,0769)	1,150
	To be single	0,0910 (0,0797)	2,320**
	Residing with your parents	0,1828 (0,0779)	2,350**
	Sources of family income	0,3448 (0,0807)	4,270***
	Has followed professional or other training	0,0285 (0,0224)	1,270
	Having an active father	0,8329 (0,495)	1,680*
	Having an active mother	0,0039 (0,067)	0,060
	Technical secondary course	0,1102 (0,2284)	0,0224
	Bachelor's level	-0,1622 (0,0799)	-2,030**
	Has a Master's degree and more	-0,5153 (0,0911)	-5,660***
	To a father executive	-0,1341 (0,093)	-1,430
	Worker father	-0,2267 (0,1206)	-2,210**
	Father working on his own account	-0,1449 (0,0901)	-1,610
	Course in Science Maths and Computer Science	0,0656 (0,345)	1,88*
	Constant	-0,7448 (0,5309)	0,161
Directly to the employer	Age2/100	-0,0005 (0,0110)	-0,050
	Male gender	-0,1460 (0,075)	-1,940*
	Has at least one child	-0,803 (0,0862)	-0,960
	To be single	-0,1183 (0,8628)	-1,370
	Residing with your parents	-0,0993 (0,0854)	-1,16
	Sources of family income	-0,1163 (0,0871)	-1,340
	Has followed professional or other training	-0,0369 (0,0250)	-1,48
	Having an active father	-0,1979 (0,4614)	-0,040
	Having an active mother	0,0515 (0,0739)	0,700
	Technical secondary course	-0,2335 (0,3296)	-0,710
	Bachelor's level	0,1159 (0,874)	1,330
	Has a Master's degree and more	0,3551 (0,9774)	3,630***
	To a father executive	0,1023 (0,104)	0,970

	Worker father	0,2617 (0,1121)	2,330**
	Father working on his own account	0,1386 (0,1005)	1,380
	Course in Science Maths and Computer Science	-1,0198 (0,0378)	-0,530
	Constant	-0,8344 (0,501)	-1,660*
Institutional intermediaries	Age2/100	-0,3117(0,0186)	-1,680*
	Male gender	-0,1199 (0,0892)	-1,34
	Has at least one child	-0,2243 (0,106)	-2,11**
	To be single	-0,0413 (0,105)	-0,390
	Residing with your parents	-0,2158 (0,105)	-2,050**
	Sources of family income	-0,3406 (0,1125)	-3,030***
	Has followed professional or other training	0,2164 (0,0296)	0,730
	Having an active father	-1,3912 (0,477)	-2,910***
	Having an active mother	-0,0157 (0,088)	-0,180
	Technical secondary course	0,2964 (0,325)	0,910
	Bachelor's level	0,3385 (0,107)	3,140***
	Has a Master's degree and more	0,3404 (0,1232)	2,760***
	To a father executive	0,1133 (0,1317)	0,860
	Worker father	0,3434 (0,1369)	2,510**
	Father working on his own account	0,2027 (0,125)	1,620
	Course in Science Maths and Computer Science	-0,0419 (0,0452)	-0,930
	Constant	0,2684 (0,5379)	0,500
	Rho21	-0,7893 (0,0237)	-33,250***
	Rho31	-0,5817 (0,0406)	-14,320***
	Rho32	0,1189 (0,0539)	2,200**
	Log of likelihood: 1935,204 Number of observations: 1686		

Source: Author, based on the Improvement of Employment Policies (EPAE) carried out in 2017 by CEREG and CERDI. *** significance at 1%; ** significance at 5%; * significance at 10%.

4.2. Econometric Analysis of the Effect of Job-Search Patterns onTransition Time to First Job

Table 2.7 below presents the results of the evaluation of the effect of job-search patterns on the duration of access to the first job using a concurrent risk-exposure duration model for the entire Cameroonian labour market. It shows that the factors explaining the duration of transition to the first job are highly heterogeneous and depend on the type of contract obtained on the labour market. Given that the instrumental variable method applied here allowed correcting for selection bias in the decision to use a prospecting mode so that the estimated effects can be assumed without bias, which would reflect the impact of prospecting modes on durations. However, these impacts are heterogeneous depending on the contract obtained.

So, by focusing our attention on the modes of access to the labor market, we can observe that, to enter the job market on permanent or fixed-term contracts or on simple verbal agreement, not all the job search channels are always efficient. Thus, the personal relations channel has a positive influence on the duration of access to a permanent contract at the 10% threshold, but also reduces the duration of access to a fixed-term contract at the 10% threshold and has no effect on the duration of access to a job with a simple verbal agreement. On the other hand, prospecting by going directly to the employer reduces the duration of access to a job on a permanent contract to the threshold of 10% and 5%, respectively, and has no effect on the duration of access to a job by simple verbal agreement. However, looking for a job using the channel of intentional intermediaries has a positive influence of 10% on the duration of access

to a first job on a permanent contract and a simple verbal agreement. However, the most effective strategy is those combining institutional intermediaries and the network of personal relations. In fact, mobilizing these two prospecting strategies reduces the duration of access to an open-ended contract to the 5% threshold, but increases the duration of access to a job with a simple verbal agreement to the 1% threshold. This result can be explained by the complementarity of these two search modes, which allows the unemployed person to carry out an intensive and extensive search and consequently to mobilize more information on job offers and positions of power Sabatier (2002).

While reconciling certain job search methods seems to provide positive externalities, combining other strategies is less effective. Indeed, reconciling the channel of public competitions and going directly to the employer to prospect only reduces the duration of access to a fixed-term job to the 10% threshold, but has no effect on the duration of access to a job on a permanent contract and on a simple verbal agreement.

As far as individual attributes are concerned, a gender effect is highlighted and ceteris paribus, men, compared to women, have quicker access to a permanent job by simple verbal agreement. Furthermore, the fact of having at least one child increases the duration of access to a job with a verbal agreement to 5%, but has no effect on access to a job on a fixed-term or permanent contract. However, being single reduces the duration of access to a permanent contract to the 5% threshold, but also increases the duration of access to a fixed-term job to the 5% threshold. Residing with one's parents and receiving financial assistance from parents increases the duration of access to a job with a simple verbal agreement. Also observes that, young people who have followed a vocational training course after the Baccalaureate and those with at least the Baccalaureate have faster access to a first job on a permanent contract and by simple verbal agreement, yet those with a Master's degree take longer to access a job on a permanent contract. This result can be explained by the fact that most young people after graduation in Cameroon often accept jobs, sometimes with a simple verbal agreement, in order to build a CV and then apply for permanent or fixed-term jobs. Also, by the fact that young people with a master's degree would take more time to look for a job in order to valorize their diploma.

Table 2.7 : Estimation of the Competitive Risk Duration Model

Duration of access to a	Contract for an indefinite period of time		Fixed-term contract		Verbal agreement	
	Haz. Ratio	t of student	Haz. Ratio	t of student	Haz. Ratio	t of student
Constants						
γ_1 less than 5 months	Ref	Ref	Ref	Ref	Ref	Ref
γ_2 between 5 and 10 months	0,652 (0,402)	-0,69	0,676 (0,470)	-0,560	1,601 (0,768)	0,980
γ_3 between 10 and 15 months	2,066 (2,41)	0,62	4,334 (5,998)	1,060	67,186 (68,96)	4,100 ***
γ_4 between 15 and 20 months	26,54 (47,26)	1,84 *	52,63 (119,4)	1,750 *	443184 (1106)	5,210 ***
γ_5 between 20 and 25 months	0,001 (3,100)	-0,010	87063,6 (291)	3,400 ***	443184 (1106)	5,21 ***
γ_6 between 25 and 30 months	0,001 (3,100)	-0,000	838575,1 (32)	3,550 ***	10800 (31300)	5,600 ***

γ_7 between 30 and 48 months	356526 (138)	3,290***	0,0004 (2430)	3,640 ***	144000 (5240)	6,45 ***
Duration of unemployment	5088 (0,076)	-4,470 ***	0,359 (0,072)	-5,070 ***	0,338 (0,048)	-7,580 ***
Probability of choice of insertion strategy						
Personal Relationships	2517 (11938)	1,650 *	0,0001 (0,001)	-1,880 *	1,796 (6,553)	0,160
Directly to the employer	0,006 (0,001)	-1,760 *	3,128 (10,495)	0,340	0,0001 (0,001)	-2,06 **
Institutional intermediaries	0,001 (0,001)	1,890 *	0,013 (0,039)	-1,430	1204204 (924)	1,820 *
Institutional intermediary and personal relations	0,468 (0,168)	-2,110 **	0,926 (0,361)	-0,200	2,066 (0,575)	2,610 ***
Public competitions and personal relations	0,755 (0,266)	-0,0800	2,231 (1,143)	1,570	1,560 (0,548)	1,270
Public and employer competitions	1,641 (0,624)	1,300	0,268 (0,211)	-1,670 *	1,235 (0,379)	0,690
Social Demographic Characteristics						
Age of prospector	1,540 (0,597)	1,110	/	/	0,939 (0,144)	-0,400
Age2/100 of the prospector	0,845 (0,557)	-0,250	/	/	1,630 (0,512)	1,560
Sex						
Female	Ref	Ref	Ref	Ref	Ref	Ref
Male	0,169 (0,159)	-1,890 *	0,879 (0,490)	-0,230	0,271 (0,197)	-1,800 *
Has at least one child						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	5,724 (6,641)	1,500	0,610 (0,375)	-0,800	8,233 (7,586)	2,290 **
Marital status						
Married	Ref	Ref	Ref	Ref	Ref	Ref
Is single	0,072 (0,092)	-2,050 **	4,056 (2,729)	2,08 **	0,218 (0,208)	-1,590
Resides with his parents						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	1,750 (1,290)	0,760	1,823 (0,982)	1,110	4,450 (2,574)	2,580 **
Source of family income						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	1,244 (1,711)	0,160	3,690 (3,353)	1,440	25,82 (29,65)	2,830 ***
Completed professional training after obtaining the Bachelor's Degree						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0,225 (0,162)	-2,060 **	1,358 (0,335)	1,240	0,397 (0,214)	-1,710 *
To an active father						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0,008 (0,0009)	1,640	650174,7 (13)	0,010	64700 (2100)	0,010
Has an active mother						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	4,056 (3,202)	1,770	0,641 (0,258)	-1,100	2,168 (1,393)	1,200
Highest level of education						
Less than high school	Ref	Ref	Ref	Ref	Ref	Ref
Less than or equal to the Baccalaureate	0,008 (0,0000)	-1,930*	0,815 (0,302)	-0,550	0,0001 (0,002)	-2,08 **
License	0,054 (0,092)	-1,700	1,967 (1,360)	0,980	0,071 (0,095)	-1,980 **
Master and more	183,6 (453,1)	2,110 **	0,133 (0,204)	-1,320	7,413 (13,384)	1,110
The father followed a professional training						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0,865 (0,286)	0,490	/	/	2,652 (0,850)	3,040 **
Unemployment rate at school exit	1,170 (0,375)	0,490	1,522 (0,913)	0,700	0,657 (0,139)	-1,98 **
Ln_P	1,196 (0,120)	9,940 ***	1,715 (0,731)	13,03 ***	1,410 (0,095)	17,780***

Source: Author, based on the database on the Improvement of Employment Policies (EPAE) carried out in 2017 byCEREG and IDRC. *** significance at 1%; ** significance at 5%; * significance at 10%. N= 1623.

In addition to individual characteristics, we mention the influence of macroeconomic characteristics on transitions to the labour market. Indeed, in a context characterized by low unemployment rates of 3.8% in Cameroon, which has no effect on access to jobs on permanent or open-ended contracts but reduces the duration of access to a job to the threshold of 5% by simple verbal agreement. This confirms the cyclical nature of hiring as well as the employment contracts offered. It seems interesting to analyze the modes of job search according to whether the young person is prospecting in the public or private sector.

4.2. Analysis of the effects of prospecting methods on the duration ofaccess to first employment in the Cameroonian public and private sector

Table 2.8 below presents the results of the effect of job-search patterns on the duration of access to the first public sector job. It shows that, with the exception of the channels of reconciling open competitions and personal relationships and reconciling open competitions and going directly to the employer, all other search modes have an effect on access to a public sector job. Thus, prospecting through the channel of personal relations increases to the threshold of 10% the duration of access to a permanent contract in the public sector. Similarly, using the channel of institutional intermediaries increases the duration of access to a job on a permanent contract and on simple verbal agreement in the public sector. This result can be explained by the fact that it is after several failed attempts to access a job on a permanent contract that they accept the offers that come to them by simple verbal agreement as a springboard and sometimes for the search for work experience. Moreover, it appears that prospecting by going directly to the employer reduces the duration of access to an open-ended contract to 10% and the duration of access to a job with a simple verbal agreement in the public sector to 5%.

The conciliation of several channels is also interesting to access a job in the public sector. As an illustration, we can read that associating the channel of institutional intermediaries to the channel of public relations reduces the duration of access to a permanent contract to the threshold of 5% but increases to the threshold of 1% the duration of access to employment by simple verbal agreement in the public sector. In other words, young people who associate the channel of institutional intermediaries with the channel of personal relations have quicker access to a job on a fixed-term contract but take longer to access a job by simple verbal agreement.

As far as individual characteristics are concerned, compared to women, men have faster access to jobs with permanent contracts and simple verbal agreement. Young people with at least one child are more likely to be unemployed before accessing a job with a simple verbal agreement in the public sector. Being married reduces the duration of access to a permanent job in the same public sector to the 5% threshold, while living at home and having a source of family income reduces the duration of access to a job in the civil service to the 5% and 1% thresholds, but has no effect on the duration of access to a permanent job. Likewise, as previously found, the fact that a young person who has completed vocational training after his baccalaureate, or who holds at least a baccalaureate or a license, reduces the duration of access to a permanent contract on the one hand and the duration of access to a job by simple verbal agreement on the other hand. Whereas having a master's degree at most increases the duration of access to a permanent contract in the public sector. As found above, low unemployment rates reduce the

transition period to a job with a simple verbal agreement to the 5% threshold and has no effect on the transition period to a permanent job.

Table 2.8: Estimation of Competing Risk Duration Model in the Public Sector

Duration of access to a	Contract for an indefinite period of time		Verbal agreement	
	Haz. Ratio	t of student	Haz. Ratio	t of student
Constants				
γ_1 less than 5 months	Ref	Ref	Ref	Ref
γ_2 between 5 and 10 months	0,652 (0,402)	-0,690	1,601 (0,768)	0,980
γ_3 between 10 and 15 months	2,066 (2,416)	0,620	67,186 (68,966)	4,100 ***
γ_4 between 15 and 20 months	26,545 (47,268)	1,84 *	1234,9 (2066,75)	4,25 ***
γ_5 between 20 and 25 months	0,0001 (0,129)	-0,010	443184 (110649)	5,21 ***
γ_6 between 25 and 30 months	0,001 (3,100)	-0,000	108000 (313000)	5,600 ***
γ_7 between 30 and 48 months	356526 (138355)	3,29 ***	144000 (524000)	6,45 ***
Duration of unemployment	0,508 (0,076)	-4,470 ***	0,338 (0,048)	-7,580 ***
Probability of choice of insertion strategy				
Personal Relationships	2517 (11938)	1,650 *	1,796 (6,553)	0,160
With the employer	0,0001 (0,00001)	-1,760 *	0,0001 (0,00001)	-2,060 **
Institutional intermediaries	183000 (193000)	1,890 *	1204204 (92467)	1,82 *
Institutional intermediary and personal relations	4682099 (16848)	-2,110 **	2,066 (0,575)	2,610 ***
Public competitions and personal relations	0,755 (0,266)	-0,800	1,560 (0,548)	1,270
Public and employer competitions	1,641 (0,624)	1,300	1,235 (0,379)	0,690
Social Demographic Characteristics				
Age of prospector	1,540 (0,597)	1,110	0,939 (0,144)	-0,40
Age2/100 of the prospector	0,845 (0,557)	-0,250	1,630 (0,512)	1,560
Sex				
Female	Ref	Ref	Ref	Ref
Male	0,169 (0,159)	-1,890 *	0,271 (0,197)	-1,800 *
Has at least one child				
No	Ref	Ref	Ref	Ref
Yes	5,724 (6,641)	1,500	8,233 (7,586)	2,290 **
Marital status				
Married	Ref	Ref	Ref	Ref
Is single	0,072 (0,092)	-2,050 **	0,218 (0,208)	-1,590
Resides with his parents				
No	Ref	Ref	Ref	Ref
Yes	1,750 (1,290)	0,760	4,450 (2,574)	2,580 **
Source of family income				
No	Ref	Ref	Ref	Ref
Yes	1,244 (1,711)	0,160	25,820 (29,659)	2,830 ***
Completed professional training after obtaining the Bachelor's Degree				
No	Ref	Ref	Ref	Ref
Yes	0,225(0,162)	-2,060 **	0,397 (0,214)	-1,71 *
To an active father				
No	Ref	Ref	Ref	Ref
Yes	842000 (939000)	1,640	6470000 (21000)	0,010
Has an active mother				
No	Ref	Ref	Ref	Ref
Yes	4,056 (3,202)	1,770 *	2,168 (1,393)	1,200
Highest level of education				
Less than or equal to the Baccalaureate	0,00008 (0,0001)	-1,93 *	0,0001 (0,0002)	-2,080 **

License	0,0541 (0,092)	-1,70 *	0,071 (0,095)	-1,980 **
Master and more	183,6 (453,140)	2,110 **	7,413 (13,384)	1,110
The father followed a professional training				
No	Ref	Ref	Ref	Ref
Yes	0,865 (0,286)	-0,44	2,652 (0,850)	3,040 ***
Unemployment rate at school exit	1,170 (0,375)	0,490	0,657 (0,139)	-1,980 **
Ln_P	1,196 (0,120)	9,940 ***	1,410 (0,095)	14,780 ***

Source: Author, based on the database on the Improvement of Employment Policies (EPAE) carried out in 2017 byCEREG and IDRC. *** significance at 1%; ** significance at 5%; * significance at 10%. N= 1623.

Table 2.9 below presents the results of the analysis of the effects of job-search patterns on the duration of the transition to the first public sector job. These analyses reveal that only the modes of prospecting personal relationships, associating institutional intermediaries and personal relationship networks, and combining public competition and prospecting directly with the employer are effective in gaining access to employment in the Cameroonian private sector. Thus, prospecting using personal relations networks reduces the duration of access to employment on fixed-term contracts in the private sector to the 5% threshold. However, associating institutional intermediary prospecting methods with personal relationship networks reduces the duration of access to employment on permanent contracts to the 5% threshold, but increases the duration of access to employment on a simple verbal agreement in the private sector to the 5% threshold. Conversely, competitive examinations and canvassing directly with the employer increases the duration of access to a permanent contract and reduces the duration of access to a fixed-term contract in the private sector.

With respect to the individual characteristics of job seekers, age, gender, and having a child have no effect on the length of transition time to formal employment. While being single increases the duration of transition to a fixed-term job in the private sector. The fact that a job seeker resides with his or her parents increases the length of time a job seeker has to make the transition to a job based on a verbal agreement. However, prospectors with family financial assistance are more likely to move more quickly to a permanent job in the private sector and more slowly to a job with a verbal agreement in the same sector. This effect is significant at the 5% and 10% threshold respectively. The fact of having completed vocational training after the BAC increases the duration of employment on a fixed-term contract to the 10% threshold. And the fact of holding a master's degree reduces to the 5% threshold the duration of access to a job on a fixed-term contract in the private sector.

In the end, low unemployment rates increase the duration of access to an open-ended contract in and reduce the duration of access to a job with a simple verbal agreement. This result confirms, like those found above on the macroeconomic variables influencing the transition period, the cyclical nature of hiring and especially of the contracts offered. Also, the variance of the weibull that is significantly different from zero confirms the unobservable heterogeneity of permanent and fixed-term jobs, and of jobs based on simple verbal agreement.

Table 2.9: Estimation of the Private SectorCompeting Risk Duration Model

Duration of access to a	Contract for an indefinite period of time		Fixed-term contract		Verbal agreement	
	Haz. Ratio	t of student	Haz. Ratio	t of student	Haz. Ratio	t of student

Constants						
γ_1 less than 5 months	Ref	Ref	Ref	Ref	Ref	Ref
γ_2 between 5 and 10 months	0,280 (0,193)	-1,85 ***	0,448 (0,34)	-1,050	1,554 (0,823)	0,830
γ_3 between 10 and 15 months	0,267 (0,342)	-1,030	1,181 (1,78)	0,110	37,536 (42,709	3,190 ***
γ_4 between 15 and 20 months	1,555 (2,830)	0,240	9,99 (24,27)	0,950	371,29 (729,02)	3,010 ***
γ_5 between 20 and 25 months	0,0004 (0,003)	-0,010	3745,8 (1311)	2,35 **	181782,8 (5097)	4,320 ***
γ_6 between 25 and 30 months	0,0004 (0,074)	-0,010	0,001 (4,244)	-0,000	3071814 (9774)	4,690 ***
γ_7 between 30 and 48 months	501,01 (1967)	1,580	195963,6 (97)	2,460 **	768000 (30700)	5,210***
Duration of unemployment	0,649 (0,095)	-2,950***	0,455 (0,092)	-3,890***	0,368 (0,058)	-6,320***
Probability of choice of insertion strategy						
Personal Relationships	46,225 (208,1)	0,850	0,0005(0,003)	-2,300 **	0,063 (0,229)	-0,760
With the employer	0,316 (1,381)	-0,260	18600 (3600)	1,180	2,269 (7,227)	-0,760
Institutional intermediaries	3,025 (12,397)	0,270	0,0002(0,003)	-1,590	0,333 (0,994)	-0,370
Institutional intermediary and personal relations	0,430 (0,170)	-2,130 **	0,957 (0,441)	-0,09	1,960 (0,596)	2,210 **
Public competitions and personal relations	0,843 (0,344)	-0,420	1,907 (1,098)	1,120	1,575 (0,612)	1,170
Public and employer competitions	2,738 (1,206)	2,290 **	0,119 (0,129)	-1,960 *	1,480 (0,470)	1,230
Social Demographic Characteristics						
Age of prospector	1,350 (0,847)	0,740	1,34 (6,696)	0,58	1,030 (0,291)	0,100
Age2/100 of the prospector	0,657 (0,416)		0,363 (0,336)	-1,09	0,921 (0,416)	-0,180
Sex						
Female	Ref	Ref	Ref	Ref	Ref	Ref
Male	0,707 (0,422)	-0,580	3,897 (4,612)	1,15	1,087 (0,498)	0,180
Has at least one child						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0,718 (0,439)	-0,540	0,092 (0,138)	-1,590	1,926 (0,946)	1,330
Marital status						
Married	Ref	Ref	Ref	Ref	Ref	Ref
Is single	0,594 (0,431)	-0,720	13,27 (20,43)	1,680 *	1,568 (0,878)	0,800
Resides with his parents						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0,606 (0,344)	-0,880	1,008 (0,886)	0,010	2,474 (1,109)	2,02 **
Source of family income						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0,129 (0,115)	-2,300 **	0,588 (1,012)	-0,310	3,691 (2,584)	1,870 *
Completed professional training after obtaining the Bachelor's Degree						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0,804 (0,249)	-0,700	4,306 (3,789)	1,66 *	1,215 (0,272)	0,870
Has an active mother						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	1,042 (0,461)	0,09	0,256 (0,248)	1,660	0,638 (0,239)	-1,190
Highest level of education						
Less than or equal to the Baccalaureate	0,373 (0,914)	-0,400	0,001 (8,819)	-0,000	0,423 (0,821)	-0,440
License	1,399 (1,096)	0,430	21,568 (48,30)	1,370	0,752 (0,444)	-4,480
Master and more	12,331 (21,506)	1,440	0,002 (0,006)	-2,080 **	0,142 (0190)	-1,460
The father followed a professional training						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	0,737 (0,266)	-0,840	0,870 (0,391)	-0,310	2,747 (1,005)	2,760 ***
Unemployment rate at school exit	4,173 (3,074)	1,940 *	1,925 (1,526)	0,830	0,617 (0,138)	-2,150 **
Ln_P	1,143 (0,132)	8,600 ***	1,613 (0,149)	10,760***	1,357 (0,106)	12,720***

Source: Author, based on the database on the Improvement of Employment Policies (EPAE) carried out in 2017 byCEREG and IDRC. *** significance at 1%; ** significance at 5%; * significance at 10%. N= 1623.

5. Conclusion

The objective of this paper was toanalyze the effect of job search patterns on thetransition period of young people to their first job in Cameroon. A review of the literature revealed that all job search strategies have effects on the duration of youths' transition to their first job. Thus, the analysis of the comparative effectiveness of job search methods using a concurrent risk duration model reveals the discriminating effect of the job search methods used by the prospector on the duration of transition to the first job. Also, the estimation technique applied in this paper allows us to take into account the selection problem in the arbitration of young people to use a search channel before evaluating its effects on the duration of transition to the first job.This paper can therefore be concluded at two levels .

First, the estimation of the trivariate probit model tested the exogeneity assumption of the job-search channel selection rule. This postulate is rejected and the significant influence of socio-demographic characteristics such as individual characteristics, degree level, and certain parental characteristics such as CSP on the use of a job search channel and search intensity is highlighted.

And secondly, taking into account the endogeneity of the choices of transition strategies using the instrumental variable technique to estimate the plurality of integration outcomes (permanent contracts, fixed-term contracts and verbal agreements), the endogeneity of the choices of transition strategies by the concurrent risk duration model concludes that the discriminating impact of job search channels on the duration of transition to the first job is not only heterogeneous according to the type of contract obtained and the sector of activity (public or private). Therefore, on the labour market as a whole, the most effective strategies in the duration of access to the first job are the search by going directly to the employer and the public competition channel, because they reduce the transition period to a job on a permanent contract to the threshold of 10% and 5% respectively. Also, the conciliation of intensive prospecting through personal relations and extensive prospecting through institutional intermediaries allows a quicker access to a job on a permanent contract not only in the whole labor market but also in the public and private sectors. This effect is significant at the 5% threshold. However, institutional intermediaries alone are not effectivein obtaininga job on a permanent contract, in that this channel increases the transition time to a permanent contract to the threshold of 10%. This could to some extent reflect the specialization of PES in informal sector employment, particularly in self-employment.

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