

*Oana Calavrezo*

*Laboratoire d'Economie  
d'Orléans (LEO) and Centre  
d'Etudes de l'Emploi (CEE).  
France*

## **The Effects of Fixed-term Employment Spells on the Integration of School-leavers on the Labour Market: Evidence from France**

**Abstract:** *In this paper, we investigate the impact of fixed-term employment spells (fixed-term contracts and temporary work) on the integration on the labour market (translated by the transition to a permanent contract) for French school-leavers. We study, at the same time, the impact of three categories of determinants on the school-leavers' integration on the labour market: individual's features, a first fixed-term employment spell and a later fixed-term employment episode. More precisely, by taking into account the fixed-term employment spell duration, we identify four possible trajectories and we examine if fixed-term employment is a "stepping-stone" to permanent employment. In order to control for possible endogeneity biases, trivariate probit models are implemented on a sample of 11 303 individuals obtained from the French "Génération 98" survey.*

**Keywords:** Fixed-term employment; Fixed-term contract; Temporary work; School-leavers; Quality of labour market integration; Trivariate probit models.

### **1. INTRODUCTION**

In this paper, we investigate the impact of fixed-term employment spells (fixed-term contracts and temporary work) on the integration on the labour market (translated by the transition to permanent employment) for French school-leavers. More precisely, by taking into account the spell duration, we examine if fixed-term employment is a stepping-stone to permanent employment for young people leaving the course study.

Nowadays, in order to face up the activity fluctuations, firms adjust themselves more intensely by their workforce. This coincides with the fragmentation of internal labour markets that favoured before long-term relationship between employers and employees (Doering and Piore, 1971). As a consequence, full-time permanent contracts are not anymore

the standard of employment. In the 90s, fixed-term employment rapidly grew all over Europe. In Spain, for example, this situation is extreme since a third of the total salaried employees are working in fixed-term employment arrangements (Dolado et al., 2002). In France, we observe the same situation. During the last two decades, fixed-term employment contracts have strongly developed (Méda and Minault, 2005; Givord, 2005). In 2002, approximately 900 000 French employees had a fixed-term contract against 320 000 employees in 1982. At the end of the 80s, the number of individuals on temporary-work has nearly doubled and it reached 600 000 employees in 2001.

In Continental Europe, the expansion of these non-standard forms of employment is in part a consequence of the relaxing of the

work contract legislation. Nowadays, in France, the temporary-work can not be used in order to occupy a permanent job in the firm. Moreover its recourse is restricted to special situations (facing a short-term upturn, replacing an employee on holiday, seasonal workers, etc.). The fixed-term contract recourse is also severely restricted. It is renewable only once and its duration can not exceed 18 months (or 9 or 24 months in very particular circumstances).

A rich empirical literature concerning the evolution of the recourse to fixed-term employment has developed. The expansion of fixed-term employment contracts questions about “closing” the individuals into insecure professional trajectories; this is the case for the most fragile populations such as young workers entering the labour market (see Cancé and Frechou, 2003). We can note two phenomena. First, unemployment is much higher among younger people (Göbel and Verhofstadt, 2007). Second, beside the fact that young people seem to have more problems of entering the labour market, they begin their careers more frequently through fixed-term employment spells (see Ryan, 2001; Martin-Houssart, 2001). Thereby, young people who are on the labour market are more acquainted with insecure situations. In the Europe of 15, the fraction of employees with temporary contracts is much higher for the younger people (39 %) than for the others (13 %) (see Göbel and Verhofstadt, 2007). Concerning the French case, in 2002, a third of the young workers is employed with a fixed-term contract (Givord, 2005).

This illustrates the central role of fixed-term employment in the transition from school to work. There are some previous studies which are analyzing the impact of fixed-term employment on the probability of having a permanent contract (Zijl et al. 2004; Hagen, 2003; Ichino and Mealli, 2005), but very few of them are focused on the school-leavers (Göbel and Verhofstadt, 2007). There is in general a scarce international literature analyzing this category of population (French CEREQ's studies; Scherer, 2004; McGinnity et al., 2005). Moreover, the consequences of the spread of these non-standard forms of employment concerning the school-leavers' integration on the labour market remain very debatable in the literature.

On the one hand, the economic theories may offer some arguments that fixed-term employment can increase the transition

rate into permanent employment. In the case of school-to-work transitions, fixed-term contracts and temporary-work can be considered as “stepping-stones” to employment (Cancé and Frechou, 2003) or to better paid jobs (Amuedo-Dorantes and Serrano-Padial, 2007). Using the ACEMO French survey, Bunel (2006) underlines that 34% of employers declare using fixed-term contracts as a preliminary trial period against 21% for the temporary-work. Bunel (2006) also accentuates that this practice is more and more used and accepted by the French employers. Fixed-term employment may increase the human capital through work experience. It can also enlarge the individual's network giving more opportunities to get a permanent job. Finally, fixed-term employment episodes can be seen as a signal of motivation to work (see Spence, 1973).

On the other hand, non-standard contracts could be seen as a step conducting to professional and personal exclusion (Lindbeck and Snower, 2002). These contracts may also increase the number of unemployment transitions. Nonetheless, workers in fixed-term work arrangements often endure lower job stability and lower wages than employees in regular, full-time permanent jobs (see for example Jimeno and Toharia, 1993).

Our work is situated at the heart of this debate and it has two main contributions. First, we are taking into account the duration of the fixed-term employment spells. Second, we are analyzing, at the same time, the impact of three categories of determinants on the quality of the school-leavers' integration on the labour market five years after quitting school: individual's features, a first fixed-term employment spell (the initial state of the trajectory) and a later fixed-term employment spell (a summary of the rest of the trajectory in terms of fixed-term employment).

The econometric difficulty lies principally on the methodological problem of the endogeneity bias. Entering the labour market directly with a fixed-term employment contract is the consequence of some specific individual characteristics. As well, having during the trajectory at least another fixed-term employment spell can be affected by the same characteristics as those that explain having a permanent contract five years after quitting school. The major problem is to identify the “pure effects” of the first fixed-term employment spell and of a later fixed-term

employment episode on the school-leaver's integration on the labour market. As to take into account the duration of these spells, the analysis becomes more complex since the duration of a fixed-term employment sequence can be endogenous to the permanent integration on the labour market. In the French literature, estimating the duration of fixed-term episodes is not very explored (see for more details Cerc, 2005). We choose to estimate simultaneously three equations. With the purpose of taking into consideration the nature and the duration of the fixed-term employment spells, we identify four possible trajectories and our econometric approach consists in estimating these four models. Finally, trivariate probit models are implemented on a sample of 11 303 individuals who left the education system in 1998. This sample is obtained from the French "Génération 98" survey. The rest of the paper is organized as follows. The second section presents the data and the model, the third section discusses the results and the fourth section provides conclusion.

## 2. EMPIRICAL APPROACH

### 2.1 Data

With the intention of studying the effects of different fixed-term employment episodes on the school-leavers' integration on the labour market, we use the "Génération 1998" database. This database was gathered by the CEREQ (National Centre for Research and Studies on Employment and Skills). This survey relates the integration trajectories on the labour market of more than 22 000 young school-leavers who quitted the education system in 1998 at all education levels. The individuals are followed during five years on the labour market (from 1998 till 2003). For each individual we know month per month his/her situation on the labour market (employment, inactivity or unemployment) between the time the individual left school and the time the survey was made. The individual's five-year career can also be divided in sequences. We choose to work with these trajectory measures. The type of the sequence corresponds to the individual's situation on the labour market: employment, unemployment, inactivity, training course, etc. If the school-leaver linked up two employment sequences

with different employers, the sequences are distinct. This is not the case for successive temporary work missions which are considered as a unique episode (they are merged together) or for two successive fixed-term contracts with the same employer<sup>1</sup>. We also have very rich information on the individual schooling characteristics: type of diploma, discipline, etc. Finally we have socio-demographic characteristics such as age, gender, number of children, region of origin, parents' occupation, etc.

Among the 22 000 school-leavers of the "Génération 1998" survey, in 1998, 21 % had a first unemployment sequence, 27 % a first sequence in inactivity, training course, military service or return to school. 12% of the school-leavers had directly a permanent contract and more than 1% of the individuals became directly state employees. Finally, 22% of the school-leavers had a first fixed-term employment sequence and the rest of the individuals had a first episode under other different forms of employment.

In order to implement the trivariate probit models, we retain three categories of variables: the stabilization in employment, having fixed-term employment sequences during the first five years on the labour market and individual characteristics. According to these variables, the initial "Génération 1998" database is restrained to 11 303 individuals. This database covers 51% of the initial sample. First, we excluded individuals who left the education system by preparing a diploma in training school or individuals who had directly a permanent job. We also excluded school-leavers who began their professional life by an "assisted" contract (government-sponsored work contract for the unemployed which includes professional training; short-term employment contract for 16-26 year olds with on-the-job training; and other specific contracts) or with a sequence related to other types of employment (state employee, independent worker, etc.). Second, we eliminated individuals with non-responses for the variables of interest. Finally, among the 11 303 individuals of our sample, 30% had a

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<sup>1</sup> The construction of job sequences can be seen as a limit of the database. For this reason we have quite high median fixed-term employment durations.

first sequence in fixed-term employment and respectively 70% began by an episode in unemployment, inactivity, training period, return to school or military service.

### 2.2 Variables

The stabilization in employment is defined

$$PC_i = \begin{cases} 1 & \text{if the individual has a permanent contract 5 years after leaving school} \\ 0 & \text{otherwise} \end{cases} \quad (1)$$

If  $FTE$  is the fixed-term employment notation, for the individual  $i$ , the variable that defines the first sequence on the labour market

$$FTE_{1i} = \begin{cases} 1 & \text{if the first sequence on the labour market is a FTE} \\ 0 & \text{otherwise} \end{cases} \quad (2)$$

In the “otherwise” category we find the following modalities: unemployment, inactivity, training course, return to school and military service. From the rest of the labour market trajectory, we created a counter which identifies the number of fixed-term

$$FTE_{2i} = \begin{cases} 1 & \text{if the individual has a later FTE sequence} \\ 0 & \text{otherwise} \end{cases} \quad (3)$$

For this variable, we decided to keep among the later fixed-term employment sequences, the episode with the maximal duration. Finally, from the  $FTE_{1i}$  and  $FTE_{2i}$  variables, we construct four dummy variables. They are calculated by using the median values of the first fixed-term employment (13 months), respectively the duration of the later fixed-term employment sequence (20 months). We agree that this type of calculation can induce threshold effects. The four variables are the following:  $FTE_{1inf i}$  (it is equal to 1 if the first sequence is a fixed-term employment with a duration inferior to the

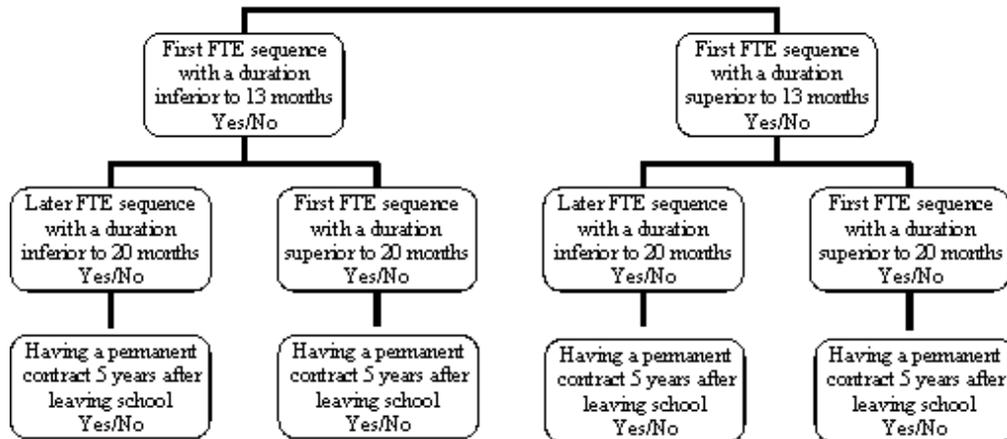
regarding to the nature of the contract held by the individual five years after leaving the schooling system: having a permanent contract.

For the individual  $i$  this indicator ( $PC_i$ ) is a dummy variable and it can be written as follows:

after leaving school is a dummy and it can be written as follows:

employment sequences. So, for an individual  $i$ , this variable of interest ( $FTE_{2i}$ ) is defined as having or not during the rest of the trajectory a fixed-term employment contract and it can be written in the following way:

median value and 0 otherwise);  $FTE_{1sup i}$  (it is equal to 1 if the first sequence is a fixed-term employment with a duration superior to the median value and 0 otherwise);  $FTE_{2inf i}$  (it is equal to 1 if the individual has a later sequence of fixed-term employment with a duration inferior to the median value and 0 otherwise) and  $FTE_{2sup i}$  (it is equal to 1 if the individual has a later sequence of fixed-term employment with a duration superior to the median value and 0 otherwise). These variables allow the construction of four possible trajectories (figure 1).



Note: FTE is the fixed-term employment notation. For example, model 1 analyzes in the same time the probability of having a first FTE sequence inferior to 13 months, the probability of having a later FTE episode inferior to 20 month and the probability of having a permanent contract five years after quitting the course study.

Figure 1. The four trajectories / the four tested models

Furthermore, for each school-leaver we retained the following information: gender, age at the time he or she left school (we work with age quartiles), the individual’s birth place (France against the rest), the French region where the individual left the education system (we retained the main 8 French geographical regions: Ile-de-France, the Central-North region, the Central-South region, the NPDC region, the East region, the North-East Atlantic region, the South-West region and the Midi-Mediterranean region), the individual’s level of education while leaving school (knowing that the French “A-level” is called the “Baccalauréat” (BAC) we distinguished six education categories going from the lowest to the highest degree of diploma and which describe the structure of the French education system: a category corresponding to levels inferior to the BAC, a category corresponding to the BAC, a category corresponding to the BAC+2 level but without obtaining a diploma, a category corresponding to the BAC+2 level, a category corresponding to and the BAC+3 and

BAC+4 level and a last category corresponding to levels equal at least to BAC+5), previous professional experiences (*training periods*: a training period of more than 3 months, a training period of less than 3 months, no training period; *regular employment*: yes/non; *part time student job*: often part time student jobs, sometimes part time student jobs, no part time student jobs; *holiday job*: often holiday job, sometimes holiday job, no holiday job), father’s birthplace (France against the rest), mother’s birthplace (France against the rest), parents’ professional situation in 1998 (seven categories: farmer; artisan, trader, entrepreneur; executive, engineer, professional, professor; technician, supervisor, travelling salesman, intermediate profession; white-collar worker; blue-collar worker; unemployed), individual’s situation at the time of the survey (living alone, living with his/her parents, living in couple with employed spouse, living in couple with unemployed spouse), having children in 2003 (yes/no) and the geographic mobility between the end of school and 2003 (yes/non).

### 2.2 The econometric model

The stabilization in employment ( $PC_i$ ), having a first fixed-term employment sequence

( $FTE_{1i}$ ) and having a later fixed-term employment episode ( $FTE_{2i}$ ) are the three

dependent variables. As we are analyzing simultaneously the appearance of these three phenomena, the resulting model is a model with three equations. This type of modelling is called a trivariate probit model and it is also known as a “causal model” because one of the dependent variables ( $PC_i$ ) is explained by the

$$FTE_{1j} = \begin{cases} 1 & \text{if } X'_{FTE_{1j}} b_1 + e_{FTE_{1j}} > 0 \\ 0 & \text{otherwise} \end{cases} \quad (4)$$

$$FTE_{2j} = \begin{cases} 1 & \text{if } X'_{FTE_{2j}} b_2 + e_{FTE_{2j}} > 0 \\ 0 & \text{otherwise} \end{cases} \quad (5)$$

$$PC = \begin{cases} 1 & \text{si } X'_{PC} b_3 + g_1 FTE_{1j} + g_2 FTE_{2j} + e_{PC} > 0 \\ 0 & \text{sinon} \end{cases}, \text{ where } j = \inf, \sup \quad (6)$$

This modelling permits estimating the effects of the explanatory variables and identifying if the residuals of the three equations are correlated or not. In order to identify in a consistent way the trivariate probit model, it is necessary that the  $FTE_{1i}$  and  $FTE_{2i}$  variables depend upon at least one additional variable which is not among the explanatory variables of  $PC_i$  (see Maddala, 1983). This type of variable is called an instrument and it guarantees the good identification of the model and it helps estimating the correlation coefficients. In order to validate the instruments, their coefficients do not have to be equals to zero. The “regular job during school” variable is one of the instruments we choose. We make the hypothesis that it does not explain the probability of having a permanent contract in 2003 but it explains the probability of having a first fixed-term employment sequence (and for certain trajectories it explains the probability of

other two variables ( $FTE_{1i}$  and  $FTE_{2i}$ ). In this way, the stabilization in employment is supposed to be affected by having a first fixed-term employment sequence and by having another fixed-term employment episode. Formally, the three equations can be modelled in the following way:

having a later fixed-term employment episode). The discussion on this instrument is made in terms of professional experience: at the entrance on the labour market a regular job during the course study is an indication of professional experience as the school-leaver is inexperienced, but later on, experience is translated by the effective work that the individual provided and so the regular job during school has no relevance anymore. Concerning the variables “individual’s birthplace”, “father’s birthplace” and “geographical mobility between leaving the education system and the survey date” we assume that they do not explain the probability of having a permanent contract in 2003 but that they explain for certain trajectories the probability of having later fixed-term employment sequences.

The residuals of the three equations are supposed to follow a standard normal distribution (with an average of 0 and a variance of 1). We get the following notation:

$$\begin{pmatrix} e_{FTE_{1i}} \\ e_{FTE_{2i}} \\ e_{PC} \end{pmatrix} \rightarrow N(0, \Sigma), \text{ where } \Sigma = \begin{pmatrix} 1 & r_{12} & r_{13} \\ r_{12} & 1 & r_{23} \\ r_{13} & r_{23} & 1 \end{pmatrix} \quad (7)$$

The estimation is made by maximum likelihood and we use the GHK (Geweke-Hajivassiliou-Keane) simulator (for the writing of the likelihood and of the GHK simulator see Green,

2003). We finally test four models by implementing the Stata programs developed by Terracol (2002).

### 3. EMPIRICAL RESULTS

Descriptively, we note that after five years on the labour market 26% of the school-leavers who started their work life with a fixed-term employment had a permanent contract. The part of young people who began their professional career by an episode of unemployment, inactivity, military service or training course and that at the time of the survey had a

permanent contract is slightly more important (28%). 20% of school-leavers with a later fixed-term employment sequence had a permanent contract in 2003 against 40% for the rest of the school-leavers.

Table 1: Synthesis of the impact of the first fixed-term employment sequence and of a later fixed-term employment episode on the stabilization in employment

$FTE_1$	$FTE_2$	PC	
$FTE_{1,inf}$	$FTE_{2,inf}$	+	0
$FTE_{1,inf}$	$FTE_{2,sup}$	0	-
$FTE_{1,sup}$	$FTE_{2,inf}$	+	0
$FTE_{1,sup}$	$FTE_{2,sup}$	+	-

Source: CEREQ's "Génération 1998" survey (the 2003 questioning).

Field: 11,303 school-leavers who had a first sequence on the labour market in fixed-term employment, unemployment, inactivity, military service, training course or return to school.

Note: FTE is the fixed-term employment notation and PC is the permanent contract notation

Table 1 summarizes the effects of the  $FTE_{1i}$  and  $FTE_{2i}$  variables on the probability of having a permanent contract five years after leaving school. The distribution of the explanatory variables of the stabilization in

employment is given in table 2 and the estimate of the impact of individual characteristics and of the two fixed-term employment sequences on the stabilization in employment is presented in detail in table 3.

Table 2: The distribution of explanatory variables regarding the stabilization in employment

Variables	Situation	
	PC=1	PC=0
$FTE_{1,inf}$	18.19	13.88
$FTE_{1,sup}$	11.70	8.08
$FTE_{2,inf}$	32.68	28.24
$FTE_{2,sup}$	9.70	38.07
<b>Gender (being a man)</b>	53.47	41.69
<b>Age</b>		
First quartile	15.94	25.59
Second quartile	26.90	28.17

Third quartile	29.47	23.62		
Forth quartile	27.70	22.62		
<b>Individual's level of education</b>				
BAC+5 or more level	18.32	6.47		
BAC+3 and BAC+4 level	12.76	12.72		
BAC+2 level	28.53	24.33		
BAC+2 level without obtaining a diploma	12.40	15.48		
BAC level	11.28	13.31		
Less than the BAC level	16.71	27.69		
<b>Region where the individual left the education system</b>				
Ile de France region	14.30	10.65		
Central-North region	21.85	22.28		
NPDC region	8.61	9.42		
East region	12.15	12.54		
North-East Atlantic region	14.88	15.38		
South-West region	10.70	11.21		
Central-South region	11.50	10.62		
Midi-Mediterranean region	6.01	7.90		
<b>Training period</b>				
More than 3 months	54.43	42.51		
Less than 3 months	28.53	32.23		
No training period	17.03	25.26		
<b>Regular employment</b>			8.97	8.73
<b>Holiday job</b>				
Often	41.16	34.78		
Sometimes	22.43	23.92		
No holiday job	36.41	41.30		
<b>Part time student job</b>				
Often	8.07	8.11		
Sometimes	12.21	13.67		
No part time student job	79.72	78.22		
<b>Father's professional situation</b>				
Farmer	5.14	5.04		
Artisan, trader, entrepreneur	11.02	10.10		
Executive, engineer, professional, professor	21.53	16.08		
Technician, supervisor, travelling salesman, intermediate profession	10.96	9.46		
White-collar worker	26.99	27.88		
Blue-collar worker	19.70	26.60		
Unemployed	4.66	4.83		
<b>Mother's professional situation</b>				
Farmer	3.18	2.94		
Artisan, trader, entrepreneur	3.92	3.93		
Executive, engineer, professional, professor	13.21	9.86		
Technician, supervisor, travelling salesman, intermediate profession	5.30	4.66		
White-collar worker	51.45	49.93		
Blue-collar worker	8.74	11.21		
Unemployed	14.20	17.46		
<b>Having children</b>			22.59	26.66
<b>Individual's situation at the time of the survey</b>				
Living alone	27.70	21.36		
Living with parents	19.34	29.24		
Living in couple with employed spouse	46.72	43.49		
Living in couple with unemployed spouse	6.11	5.57		
<b>Individual born in France</b>			96.37	96.26
<b>Individual's father born in France</b>			86.86	83.77
<b>Individual's mother born in France</b>			87.40	84.53
<b>Geographic mobility</b>			69.86	72.26
<b>No. Observations</b>			3112	8191

Source: CEREQ's "Génération 1998" survey (the 2003 questioning).

Field: 11,303 school-leavers who had a first sequence on the labour market in fixed-term employment, unemployment, inactivity, military service, training course or return to school.

Note: FTE is the fixed-term employment notation and PC is the permanent contract notation.

We note that results are different according to the type of trajectory (see table 3). For the models 1, 3 and 4 we remark the presence of unobservable characteristics that explain the stabilization in employment. They are negatively correlated to the unobserved features of the first fixed-term employment sequence and respectively, they are positively correlated to the unobserved characteristics of a later fixed-term employment episode. On the other hand, the unobserved variables explaining the probability of having a first fixed-term sequence and the unobserved characteristics specifying the transit through a fixed-term employment episode are not correlated for the models 1 and 3, but they are negatively correlated for the fourth model. Concerning the second model, there is a positive correlation only between the residuals of the equations explaining the two fixed-term employment sequences. The presence of these different correlations between the residuals of the three equations underlines the relevance of the implementation of the trivariate probit models.

First, we note that the determinants of the probabilities of having fixed-term employment sequences are different. Being a man increases the probability of having a first fixed-term employment sequence but it does not have any effect on the probability of having a later fixed-term employment episode. Concerning the age quartiles (where the fourth quartile is taken as the reference) the situation is even more complex. Younger school-leavers are (individuals corresponding to the second and third quartile), more the probability of having a first fixed-term employment sequence inferior to 13 months is important. On the contrary, age does not have an effect on the probability of having a first fixed-term employment episode with a duration superior to 13 months. Concerning the probability of having a later fixed-term employment sequence inferior to 20 months it increases with the youth and for trajectories with long later fixed-term employment episodes this relationship is opposite. All-in-all, regarding the education level, a school-leaver with a BAC+3 or BAC+4 level has less opportunities of having a first fixed-term employment sequence in reference to having at least a BAC+5 level. On the other hand, if the individual has an education level inferior or equal to the BAC, there are more chances that he or she will have a later fixed-

term employment sequence in comparison to a school-leaver with an education level of at least BAC+5. In addition, the young people having finished their course of study in the North-West Atlantic region have more chances (in comparison to a school-leaver from Ile-de-France) of having a first fixed-term employment or a later fixed-term employment sequence with a length superior to 20 months. Finally, having a regular employment during school increases the probability of having a first fixed-term employment sequence and diminishes the probability of having a later sequence of fixed-term employment longer than 20 months.

Second, concerning the effects of the fixed-term employment sequences on the stabilization in employment, we note that the impacts are different in accordance to the position of this type of sequence in the individual's trajectory and on its duration. A first fixed-term employment sequence of less than 13 months does not have a clear impact on the stabilization in employment because it is depended of the duration of the later fixed-term employment episode (for a short sequence there is no impact, but for a long episode there is a negative effect). On the other hand, a first fixed-term employment episode of more than 13 months increases the probability of being stabilized in employment. In addition, later sequences in fixed-term employment inferior to 20 months do not affect the probability of being stabilized in employment, but on the contrary, for long durations (more than 20 months) this decreases the probability of having a permanent contract five years after leaving school.

Third, we analyze how the other specifiers affect the probability of having a permanent contract after five years on the labour market. First, being a man increases the chances of having a permanent contract in 2003. Concerning the education level, we find a "traditional" result: the probability of having a permanent contract is more important as the level of education is higher. If the individual did not finish his/her course study in the Ile-de-France region, he has less chances of having a permanent contract in 2003. Age points to the fact that younger the individual is more chances he has of stabilizing in employment. Concerning the previous job experience, more the school-leaver had long training periods, more the probability of having a permanent

contract is important. Having a child or living with his/her parents at the time of the survey

have a negative impact on the stabilization in employment.

Table 3: Trivariate probit estimates

Probability of having a permanent contract 5 years after leaving the course study				
Variables	Trajectory type			
	$FTE_{1,inf}$ and $FTE_{2,inf}$ (Model 1)	$FTE_{1,inf}$ and $FTE_{2,sup}$ (Model 2)	$FTE_{1,sup}$ and $FTE_{2,inf}$ (Model 3)	$FTE_{1,sup}$ and $FTE_{2,sup}$ (Model 4)
<b>Intercept</b>	-0.31 ***	-0.10 ns	-0.28 ***	-0.09 ns
$FTE_1$	0.52 ***	0.16 ns	0.79 ***	0.73 ***
$FTE_2$	-0.15 ns	-1.07 ***	-0.13 ns	-1.31 ***
<b>Being a man</b>	0.29 ***	0.30 ***	0.29 ***	0.28 ***
<b>Age</b>				
First quartile	0.22 ***	0.15 **	0.22 ***	0.12 *
Second quartile	0.21 ***	0.17 ***	0.21 ***	0.16 ***
Third quartile	0.16 ***	0.15 ***	0.17 ***	0.15 ***
Fourth quartile	Ref.	Ref.	Ref.	Ref.
<b>Individual's level of education</b>				
BAC+5 or more level	Ref.	Ref.	Ref.	Ref.
BAC+3 and BAC+4 level	-0.44 ***	-0.47 ***	-0.44 ***	-0.44 ***
BAC+2 level	-0.59 ***	-0.49 ***	-0.56 ***	-0.41 ***
BAC+2 level without obtaining a diploma	-0.78 ***	-0.72 ***	-0.79 ***	-0.65 ***
BAC level	-0.69 ***	-0.68 ***	-0.68 ***	-0.62 ***
Less than the BAC level	-0.90 ***	-0.88 ***	-0.93 ***	-0.81 ***
<b>Region where the individual left the education system</b>				
Ile de France region	Ref.	Ref.	Ref.	Ref.
Central-North region	-0.15 ***	-0.13 ***	-0.16 ***	-0.13 ***
NPDC region	-0.19 ***	-0.17 ***	-0.19 ***	-0.15 ***
East region	-0.16 ***	-0.14 ***	-0.16 ***	-0.13 **
North-East Atlantic region	-0.21 ***	-0.19 ***	-0.22 ***	-0.18 ***
South-West region	-0.21 ***	-0.21 ***	-0.22 ***	-0.21 ***
Central-South region	-0.15 ***	-0.12 **	-0.15 ***	-0.11 **
Midi-Mediterranean region	-0.30 ***	-0.34 ***	-0.30 ***	-0.34 ***
<b>Training period</b>				
More than 3 months	0.30 ***	0.39 ***	0.31 ***	0.38 ***
Less than 3 months	0.22 ***	0.30 ***	0.22 ***	0.30 ***
No training period	Ref.	Ref.	Ref.	Ref.
<b>Holiday job</b>				
Often	0.04 ns	0.07 *	0.05 ns	0.05 ns
Sometimes	Ref.	Ref.	Ref.	Ref.
No holiday job	0.78 **	0.04 ns	0.06 **	0.05 ns
<b>Part time student job</b>				
Often	-0.08 *	-0.07 ns	-0.08 *	-0.08 *
Sometimes	-0.12 ***	-0.11 ***	-0.11 ***	-0.12 ***
No part time student job	Ref.	Ref.	Ref.	Ref.
<b>Having children</b>	-0.15 ***	-0.20 ***	-0.15 ***	-0.19 ***
<b>Individual's situation at the time of the survey</b>				
Living alone	0.03 ns	-0.02 ns	0.03 ns	-0.02 ns
Living with parents	-0.24 ***	-0.30 ***	-0.25 ***	-0.30 ***
Living in couple with employed spouse	0.03 ns	-0.00 ns	0.03 ns	-0.00 ns
Living in couple with	Ref.	Ref.	Ref.	Ref.

unemployed spouse				
Probability of having a first fixed-term employment sequence				
<b>Intercept</b>	-1.35 ***	-1.34 ***	-1.58 ***	-1.58 ***
<b>Being a man</b>	0.14 ***	0.14 ***	0.15 ***	0.15 ***
<b>Age</b>				
First quartile	-0.11 ns	-0.11 ns	-0.01 ns	-0.01 ns
Second quartile	0.08 *	0.08 *	0.08 ns	0.08 ns
Third quartile	0.08 *	0.07 *	0.01 ns	0.01 ns
Fourth quartile	Ref.	Ref.	Ref.	Ref.
<b>Individual's level of education</b>				
BAC+5 or more level	Ref.	Ref.	Ref.	Ref.
BAC+3 and BAC+4 level	-0.24 ***	-0.25 ***	-0.25 ***	-0.24 ***
BAC+2 level	0.22 ***	0.21 ***	-0.06 ns	-0.07 ns
BAC+2 level without obtaining a diploma	0.04 ns	0.04 ns	0.02 ns	0.03 ns
BAC level	0.03 ns	0.03 ns	-0.07 ns	-0.07 ns
Less than the BAC level	-0.11 ns	-0.11 ns	-0.05 ns	-0.04 ns
<b>Region where the individual left the education system</b>				
Ile de France region	Ref.	Ref.	Ref.	Ref.
Central-North region	0.12 **	0.13 **	0.12 *	0.12 *
NPDC region	-0.00 ns	-0.00 ns	-0.07 ns	-0.08 ns
East region	0.20 ***	0.20 ***	0.13 *	0.13 *
North-East Atlantic region	0.15 **	0.15 ***	0.19 ***	0.19 ***
South-West region	0.13 **	0.13 **	0.15 **	0.14 **
Central-South region	0.16 **	0.17 ***	0.14 **	0.13 *
Midi-Mediterranean region	0.13 *	0.14 **	0.12 ns	0.11 ns
<b>Regular employment</b>	0.18 ***	0.19 ***	0.33 ***	0.33 ***
<b>Holiday job</b>				
Often	0.22 ***	0.21 ***	0.19 ***	0.19 ***
Sometimes	Ref.	Ref.	Ref.	Ref.
No holiday job	-0.19 ***	-0.19 ***	-0.08 *	-0.08 *
<b>Part time student job</b>				
Often	0.10 **	0.09 *	0.09 ns	0.08 ns
Sometimes	0.17 ***	0.17 ***	0.09 *	0.09 *
No part time student job	Ref.	Ref.	Ref.	Ref.
Probability of having a later fixed-term employment sequence				
<b>Intercept</b>	-0.72 ***	-0.89 ***	-0.72 ***	-0.89 ***
<b>Being a man</b>	0.00 ns	-0.00 ns	0.01 ns	-0.01 ns
<b>Age</b>				
First quartile	0.27 ***	-0.23 ***	0.27 ***	-0.22 ***
Second quartile	0.21 ***	-0.10 **	0.21 ***	-0.10 **
Third quartile	0.05 ns	-0.05 ns	0.05 ns	-0.05 ns
Fourth quartile	Ref.	Ref.	Ref.	Ref.
<b>Individual's level of education</b>				
BAC+5 or more level	Ref.	Ref.	Ref.	Ref.
BAC+3 and BAC+4 level	0.05 ns	0.08 ns	0.05 ns	0.07 ns
BAC+2 level	-0.00 ns	0.50 ***	-0.00 ns	0.49 ***
BAC+2 level without obtaining a diploma	0.22 ***	0.51 ***	0.22 ***	0.50 ***
BAC level	0.25 ***	0.27 ***	0.25 ***	0.26 ***
Less than the BAC level	0.18 ***	0.46 ***	0.18 **	0.46 ***
<b>Region where the individual left the education system</b>				

Ile de France region	Ref.	Ref.	Ref.	Ref.
Central-North region	0.01 ns	0.06 ns	0.01 ns	0.06 ns
NPDC region	-0.04 ns	0.07 ns	-0.04 ns	0.07 ns
East region	-0.06 ns	0.08 *	-0.06 ns	0.09 *
North-East Atlantic region	0.07 ns	0.13 ***	0.07 ns	0.13 ***
South-West region	0.01 ns	0.03 ns	0.01 ns	0.03 ns
Central-South region	0.04 ns	0.11 **	0.04 ns	0.11 **
Midi-Mediterranean region	0.01 ns	-0.09 ns	0.01 ns	-0.09 ns
Regular employment	0.04 ns	-0.09 **	0.04 ns	-0.08 *
Individual born in France	0.13 *	-0.02 ns	0.12 *	-0.02 ns
Individual's father born in France	-0.08 *	0.02 ns	-0.08 *	0.02 ns
Geographic mobility	-0.14 ***	0.03 ns	-0.14 ***	0.03 ns
<b>Correlation coefficients</b>				
$corr(e_{FTE_1}, e_{FTE_2})$	-0.00 ns	0.18 ***	-0.01 ns	-0.13 ***
$corr(e_{FTE_1}, e_{PC})$	-0.21 ***	0.05 ns	-0.29 ***	-0.31 ***
$corr(e_{FTE_2}, e_{PC})$	0.21 ***	0.01 ns	0.20 **	0.20 ***
Log likelihood	-17473.388	-17029.207	-16267.651	-15880.664
No. Observations	11,303	11,303	11,303	11,303

Source: CEREQ's "Génération 1998" survey (the 2003 questioning).

Field: 11,303 school-leavers who had a first sequence on the labour market in fixed-term employment, unemployment, inactivity, military service, training course or return to school.

Note: FTE is the fixed-term employment notation and PC is the permanent contract notation. \* indicates significance at 10%, \*\* indicates significance at 5%, \*\*\* indicates significance at 1% and ns indicates non-significance at 10%.

#### 4. CONCLUSION

Excepting the second model, it seems that a first fixed-term sequence increases the probability of having a permanent contract at the time of the survey. So, we can consider that our analysis provides evidence about the "stepping-stone" nature of a first fixed-term employment episode on the integration on the labour market. In addition, the results regarding

the impact of a later fixed-term employment episode are mixed. A later fixed-term employment sequence with a duration inferior to 20 months does not impact the stabilization in employment in 2003. On the other hand, the fact of having a later fixed-term employment episode superior to 20 months diminishes the school-leaver's probability of having a permanent contract after five years on the labour market.

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