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## **Interdependence between housing mode and job access: An empirical Analysis based on French Data<sup>1</sup>**

Saïd Hanchane<sup>2</sup>, Isabelle Recotillet<sup>3</sup>

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### **Abstract**

This work aims to study the interdependence between housing mode and situation on the labor market of the young people according to the gender. To this end, we use the Center for Studies and Research on Qualifications (the CEREQ ) data which relate to a sample of young people who have altogether terminated their studies in 1998 and who have been questioned on their professional course in 2001. We defined three modes of housing (with the parents, only and in couple) and distinguished between three situations from insertion on labor market (Fixed term contract, Unlimited duration contract and Unemployment). We deviate from the work completed in the fields insofar as we explicitly take into account the simultaneous character of the realization of a mode of housing and a mode of insertion in employment. We thus estimate simultaneous equations models between these two groups of variables. The results of estimate confirm and moderate the results establish by the literature. Our results show higher effects of the parental decohabitation on the situation on the labor market for the case of the girls compared to the boys, except for the life in couple which seems to affect, in close proportions, stability on the labor market. In addition, the housing modes of the girls are slightly sensitive as well to their own situation on the labor market as to that their parents, contrary to the boys. The latter more seem to profit from the familiar support to build a residential autonomy and to live alone.

**Kew word** : housing mode, job access, simultaneous equation model

**JEL Classification** : C33,C34,J13, J16

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## Introduction

In France as in most modern societies, education is the principal asset to the labor market access. This does not mean that the families' part in education and the access to the labor market should be neglected. Actually the education economists stress the importance of the family as to the access to education and the transmission of the intergenerational human capital.

The families go on playing an important role after their children have terminated their studies; thus, rendering the frontier between the children's end of studies and autonomy rather flexible. In France, the children's leaving their parents' home to get married has grown, statistics-wise, insignificant since the beginning of the sixties.

Due to the extension of the studies' duration, the children stay longer with their parents; in the same way, the transition from school to employment is characterized by a longer parental cohabitation.

Thus, the average age for leaving the parents' home has been rising in the last three decades, getting over 24 years old for boys, and reaching 22 years for girls (Courgeau, 2000).

Differences between girls and boys keep stable, revealing different gender behaviors in what concerns the passage to adulthood. At the same time, leaving one's parents entails a residential autonomy, but does not mean living as a couple.

Almost 30% of the boys aged from 25 to 29 are still living with their parents in 1999 against 15% of the girls (source : population census, Insee).

Between the last two population censuses, the proportion of young people living alone has almost doubled, rising from 9 to 16% (Insee, French Economy Tables), while the proportion of young people living as a couple has remained stable.

In comparison, European works point out differences in the young people's de-cohabitation pattern; namely, between Southern and Northern countries (Ianelli & Soro-Bonmati, 2001; Ianelli, 2002). Greater difficulties for the young people in the transition from school to employment in the European Southern countries render the families' role much more important, the young people having a tendency to stay longer with their parents, even when they have a job.

We have then a development in the parents' children relationships, in which the children have gained some autonomy while staying with their parents, and having managed to get a first job after terminating their studies. (Ianelli & Soro-Bonmati, 2001). There are, however, differences in the women's and men's behaviors according to the educational level reached and above all the job situation. Thus, (Liefbroer & Corijn, 1999) show that the educational level has a significant effect on the rate of couple formation, and a negative effect on parenthood for men and women alike, while an unemployment situation delays the couple formation for men and encourages parenthood for women.

However, the relationships' issue between the familial sphere and the labor market remains very often univocal in the extant works and a good number of the works in labor economy have tried to explain women's participation in the labor market according to familial characteristics.

Starting a couple's life and the arrival of a child in the couple are as many factors which render the price that women pay for the opportunity to access the labor market much higher. This price goes on rising with the educational level (Becker, 1993). The works on parental de-cohabitation in the transitional period from school to work have mainly emphasized conjunctural economic variables (Courgeau, 2000) together with variables relating to the young people's situation on the labor market (Galland, 1993 & 1997; Villeneuve-Gokalp, 2000), rendering the definition of the youth concept much more diffuse (Battagliola, 2001).

The objective of this article is to show the interaction between the young people's housing mode and their access to employment.

However, just as shown by Smyth (2002), the situation of the youths on the labor market in France requires to distinguish job access according to the job status. The French young people are much more often being given fixed term jobs than the young people living in the Northern European countries, rendering their situation on the labor market particularly fragile. In 2000, about 60% of the French graduated young people got temporary jobs (Labor Ministry, source : Labor Force Survey) . The young people's rate of unemployment revolves around 25% for those who quitted school less than a year ago. Therefore, it is highly likely that the situation on the labor market should influence the de-cohabitation and the family formation projects (living as a couple and parenthood) and that simultaneously the young people's housing mode (with the parents, alone or as a couple, with or without children) have an impact on the kinds of jobs held on the labor market.

In such conditions, leaving the parents' home and earning one's living are two facets, among others, of the same project at the threshold of adulthood. That these two events result from a simultaneous choice may be a valid hypothesis, worth examining.

Does access to an unlimited duration job encourage parental de-cohabitation? Inversely, does living outside the parental home allow for a highly probable access to a stable job? Do temporary jobs and unemployment, very common among the youths, constitute delaying factors in leaving the parents' home for girls as for boys?

And inversely, does the fact that the young people live with their parents and are supported financially by their families incite them to prefer an unemployment situation to precarious jobs?

And broadly speaking, what are the gender odds as to housing mode and integration situation on the labor market? In what way does the educational level modify these relationships, in a context in which the girls' keeps rising and is catching up with the boys'?

These are the issues we would like to shed light on in this article.

The econometric approach we are using may help us to understand the extent to which the realization of one of these two events (job access and de-cohabitation) impacts on the probability realization of the other one in so far as we are evaluating Bivariate Probit models, and above all simultaneous equation patterns on qualitative dependent variables (Maddala, 1983).

The proposed analysis calls for longitudinal data in which a given information would allow to set familial events against the situation on the labor market. To this end, we are using the Center for Studies and Research on Qualifications (the CEREQ ) data which relate to a sample of young people who have altogether terminated their studies in 1998 and who have been questioned on their professional course in 2001. These data provide the opportunity to describe minutely the situation on the labor market, just as a good number of socio-demographic characteristics; such as familial characteristics, the exact time of leaving the parents, and the housing mode.

We first give a description of the utilized inquiry, the data base we have worked out. We also put forward a few statistical description justifying the utilized econometric approach (1). We then call attention to our econometric specification and we comment on the estimation results (2). The conclusion will provide a synthesis to our approach and results.

## I. The data

In what follows, we briefly present the “generation 98” inquiry (a), the constituted data base (b) and provide a few arguments justifying the choice of the applied modelisation . (c).

### a. The “Generation 98” Inquiry

The data utilized come from the “Generation 98” inquiry, a retrospective longitudinal inquiry realized by the Cereq in March 2001. The inquiry concerns itself with a sample representing young people who have stopped their studies for the first time in the course of the 1997-1998 academic year. The Cereq has been a long time used to longitudinal inquiries and has been namely involved in projects undertaking international comparisons of the transition from school to work thanks to its rich and pertinent data (Catewe project, cf. Smyth (2002)). The “Generation 98” inquiry is the second one after a new generation of inquiries which aim to interrogate the young people three years after their initial education. The “Generation 98” inquiry data refer then to a sample of young people who have quitted school in the course of the academic year 1997-1998 and who are questioned on their professional progress in 2001. The data we have used are then retrospective, longitudinal and individual.

The Ministry of National Education estimates that about 740,000 young people have once for all quitted school and University in the course of the 1997-1998 academic year. For the first time in France, the Cereq has constituted a considerable sample of young people among this population and has thus interrogated a little bit over 55,000 of these on their situation vis-à-vis the labor market between June 1998 and March 2001<sup>4</sup>. The sample is at the same time representative of sex, educational level reached and education region. The constituted group has as a common point the fact of stopping studies in 1997-1998 and not age as is traditionally the case in other countries. All levels of education are therefore represented in the inquiry as shown in table 1.

**Table 1 – Educational level by gender, when leaving the educational system in 1998**

	French Classification	%	% Female	Mean Age in 1998
No diploma	VI	8%	41%	17
Courses in Vocational Studies Certificate (Bep) or Vocational Certificate (Cap) without obtaining certification	V bis	8%	36%	18
Courses in Vocational Studies Certificate (Bep) or Vocational Certificate (Cap) with diploma	V	17%	43%	19
Baccalaureate level without diploma	IV	4%	39%	21
Vocational or technological baccalaureate	IV	13%	51%	21
One or two years after the baccalaureate, without getting a diploma	IV+	13%	54%	22
Baccalaureate + 2 years	III	19%	55%	23
First stage of tertiary education: baccalaureate + 3 or 4 years	II	10%	63%	24
Second stage of tertiary education: baccalaureate +5 or more years	I	8%	43%	26
-	-	100%	49%	21

Source: CEREQ

<sup>4</sup> The preceding investigation of the same type, Génération 92, related to a little more than 25000 young people.

As compared with the Labour Force Surveys data, and namely with the ad hoc module realized in 2000 on the transition from school to work, the sample's size is quite bigger, which allows to come up with minute analyses for each diploma. Moreover, the data are really longitudinal, which allows there again to follow the individuals in the course of their first three years in active life<sup>5</sup>.

In the inquiry, each of the job episodes is minutely detailed (kind of contract, salary, kind of enterprise professional situation, activity sector...) and the information on the education characteristics (diploma held, discipline, apprenticeship or schooling, the forms attended, jobs during studies...) and socio-demographic (age, gender, reasons for leaving school, number of children...) are extremely rich. What is new and useful in this type of data is the follow-up in time of the young people's housing mode : with the parents, alone in an independent lodging, as a couple in an independent lodging, and so to measure up their residential autonomy at the beginning of active life. We can then work out the correspondence between the professional trajectory and the familial trajectory.

In many studies, the data allow only to draw a parallel between the familial situation at a given point time and the situation on the labor market (Iannelli & Soro-Bonmati, 2001; Smyth, 2002). On the whole, the inquiry provides an activity monthly calendar (job, unemployment, inactivity, education) and familial (with the parents, alone, as a couple) over 42 months. Having said this, the covered period varies and depends on how soon the youth finishes his/her studies in the course of the 1997-1998 academic year; however, the majority of the young people quit the educational system in June of the year under study.

The exhaustive exploitation of the entire calendar poses many problems and is not easy to carry out, namely as regards the patterns we have chosen to specify and evaluate. We have therefore focused on three points time-wise as we shall explain below.

## **b. The Constituted Data Base**

In order to test our hypotheses and implement our methodology, we have constituted a set of data which allow us to check off every twelve months the young man's situation on the labor market (fixed term contract (FTC); unlimited duration contract (UDC) and unemployment<sup>6</sup>) and his familial situation (with the parents, alone in an independent lodging, and as a couple in an independent lodging). Starting from our data source, providing information on each of the job episodes and on the monthly familial situation, we have built a flexible data base from an empirical angle, spotting three precise dates : March 1999, March 2000 and March 2001. Our empirical implementation relates to a three period balanced panel with 18342 women (55026 observations) and 23385 men (70155 observations).

For the three dates we have variables which vary with time; such as the job situation (FTC, UDC, unemployment) , the housing mode (with the parents, living alone, living as a couple), the number of children and the parents' situation of the inquired vis-à-vis the labor market (employment, unemployment, inactivity).

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<sup>5</sup> With obviously the risk which involves the errors of declaration, as in all the retrospective investigations.

<sup>6</sup> In the data, the individual is required to provide us with his/her monthly situation on the labor market since 1998 (employment, unemployment, inactivity, education). Unemployment is defined as the situation in which the youth doesn't have a job, but is seeking one. Inactivity corresponds to being without job and not seeking one; we have included the young people who claim to be on holiday, just as those who are undertaking the national service.. Thus, a youth can, for example change situations, from unemployed to being inactive the following month, and inversely. Having a monthly information allows to minutely identify the changes which characterize the young people's search for a job.

Next to these variables, we have others that are constant in time and which describe the diploma level reached, the education progress (job during studies, reasons for stopping studies ...) and provide as well information of a socio-demographic kind (parents' place of birth,...).

We can then determine, for each date, the number of young people who still live with their parents, those who do not live any more with their parents because they live alone in an independent lodging and those who live as a couple in an independent lodging. In the same way, we can identify for the same dates their situation vis-à-vis the labor market.

Before dealing with the econometric section, it would be interesting to examine and describe the possible relationships in terms of housing mode and situation vis-à-vis the labor market.

### c. A first statistical appreciation and a few questions raised about the relationship between the situation on the labor market and the young people's housing mode.

In order to clarify this description and show the spirit of our econometric modelisation, we have worked out two tables; in the first one (table 2), we try to assess the housing mode evolution both for men and women and for the three dates according to the diploma level. In order to better show the variability of the relationships between situation on the labor market and housing mode, we bring them together in a second table (table 3), operating a simple distinction between higher and secondary education levels.

The data indicate that there is a huge proportion of young men living still with their parents during the first year in which they entered the labor market but this proportion decreases rapidly with time (table 2). The pattern for young men is clearly different from that for young women since among the latter only half of them live with their parents in March 1999 (71% among males) as they leave more rapidly their parents' home to live as a couple. On the other hand the proportion of young people living alone is more or less the same for men and women. There is thus clearly an important difference in the behaviour of men and women as far as leaving the parental home is concerned, a result often underlined in the sociological literature (Battagliola, 2001).

**Table 2 – Educational level by gender, time and relationship with parents**

	Male										Female									
	March 1999			March 2000			March 2001			% Level	March 1999			March 2000			March 2001			% Level
	P*	A**	C***	P	A	C	P	A	C		P	A	C	P	A	C	P	A	C	
I,II	31%	38%	31%	22%	39%	39%	16%	41%	43%	17%	29%	30%	41%	20%	30%	50%	14%	31%	55%	22%
III	64%	21%	15%	53%	25%	22%	43%	28%	29%	16%	45%	21%	34%	30%	24%	46%	22%	25%	53%	20%
IV, IV+	76%	14%	10%	68%	17%	15%	59%	20%	21%	25%	59%	16%	25%	45%	19%	36%	35%	21%	44%	29%
V, Vbis, VI	85%	10%	5%	80%	11%	9%	75%	13%	12%	42%	72%	10%	18%	61%	12%	27%	52%	14%	34%	29%
	71%	17%	12%	63%	19%	18%	56%	22%	22%	100%	54%	18%	28%	41%	20%	39%	33%	22%	45%	100%

\*=Parents ; \*\* Live alone ; \*\*\* live as a couple

The transition from school to work and from youth to adulthood is often considered as endogenous by sociologists and economists. They often point out that the degree of success in the transition from school to work is related to the decision taken by young men to leave the

parental home, while women, in particular those that are less qualified, leave more quickly their parents to live with their spouse (Dormont and Dufour, 2000).

Actually, while closely examining table 2, we notice that the difference between girls and boys shows much more between educational levels I and II and the entire other educational levels. In fact, as regards levels I and II, the proportion of boys and girls who live with their parents at the three dates is very close (about 30% in March 1999 and 15% in March 2001), while for the other educational levels, we realise that the proportion of girls living with their parents is definitely inferior to that of boys, and for girls as for boys, clearly much higher than for levels I and II. Concerning the highest educational levels, leaving one's parents takes place much more during university studies, since it is the only educational level whose proportions of young people living alone or as a couple are superior to the proportion of youths living with their parents. Lastly, whatever the educational level, girls are systematically more numerous to live as a couple, but live alone in proportions similar to those of boys.

The latter fact remains valid even when we pay attention separately to the proportions of youths who still live with their parents, alone or as a couple according to the status of the job held in March 1999, March 2000 and March 2001 (table 3). In table 2, we have been able to show, following our data, that girls live more often as a couple than boys. Table 3 allows us to add that young women are much more numerous to be employed with a fixed term contract (FTC) and that they live, despite the precariousness of this job status, more often as a couple. The differences remain valid, even after checking the educational level impact (the latter checks at the same time the age impact). In March 2001, 38% of the young men are employed with an unlimited duration contract. Among these, 42% still live with their parents. But 60% of them live with their parents if their level is inferior to the baccalauréat and only 21% if they have done higher studies. The women are slightly fewer with unlimited duration jobs, since the proportion is equal to 32% in 2001 for example. Among them, 24% live with their parents and they become 38% if they have a secondary educational level and hardly 13% if they have a higher educational level. Whether their educational level be secondary or higher, the young women are fewer in number to live with their parents, and live as a couple when they have an unlimited duration job. Concerning the fixed term jobs, we notice greater gaps between the levels of education. As regards the secondary level girls, the curve of those living as a couple is of the same height as that of those living with their parents while it was superior for the UDC girls.

Taking these descriptive and preliminary analysis elements into consideration, we can put forward a minimal hypothesis according to which correlation complex mechanisms underlie the relationships between housing mode and integration into the labor market. How can we, for instance, explain that the women live much more as a couple while having a fixed term contract? In the same way, how can we explain that men who live with their parents are much more numerous, as compared with women, and this even when they have an unlimited duration job? What mechanisms are behind women's and men's behavior as to the correlation between the access to residential autonomy and job access?

Lastly, the whole issue consists, now, in determining if it is the housing mode which impacts on the integration into the labor market or if it is the inverse and what meaning does this relationship carry for men and women.

It is thanks to Bivariate Probit model and simultaneous equation model on qualitative variables that we shall try to give a partial answer to this complex question, starting from our data base.

**Table 3 – Job status by gender, relationship with parents and time**

	March 1999				March 2000				March 2001			
	P	A	C	% FTC	P	A	C	% FTC	P	A	C	% FTC
<b>Male</b>												
						Table						
<b>FTC*</b>												
Higher Education	44%	31%	25%	5%	40%	31%	29%	6%	35%	31%	34%	6%
Secondary Education	80%	12%	8%	11%	74%	14%	12%	13%	67%	15%	18%	14%
	70%	17%	13%	16%	63%	19%	18%	19%	57%	20%	23%	20%
	P	A	C	% UDC	P	A	C	% UDC	P	A	C	% UDC
<b>UDC</b>												
Higher Education	30%	35%	35%	10%	26%	36%	38%	17%	21%	38%	41%	18%
Secondary Education	72%	15%	13%	14%	66%	17%	17%	16%	60%	19%	21%	20%
	54%	24%	22%	24%	47%	26%	27%	33%	42%	28%	30%	38%
<b>Female</b>												
<b>FTC*</b>												
Higher Education	40%	25%	35%	12%	25%	26%	49%	12%	19%	27%	54%	11%
Secondary Education	62%	13%	25%	12%	51%	15%	34%	13%	42%	17%	41%	14%
	50%	20%	30%	24%	38%	21%	41%	25%	32%	21%	47%	25%
<b>UDC</b>												
Higher Education	26%	30%	44%	13%	18%	30%	52%	16%	13%	30%	57%	18%
Secondary Education	55%	17%	28%	11%	45%	17%	38%	13%	38%	18%	44%	14%
	39%	24%	37%	24%	29%	25%	46%	29%	24%	25%	51%	32%

\* :FTC: Fixed term contract \*\* : UDC: Unlimited duration contract

## II Estimation, Results and Interpretations

The econometric patterns that we have estimated are simultaneous equation patterns, two equation patterns, between the situation on the labor market (unemployment, FTC, UDC) and the housing mode (with the parents, alone, as a couple).

Identifying the causality sense or simply taking into consideration the simultaneity of the situation on the labor market and the housing mode is a delicate enterprise; a problem rarely addressed from the econometric angle. The difficulty is often accounted for by the fact that the variables that depend on the simultaneous equations pattern, that should be specified, are dichotomic; the only observation to be made is about the type of job contract that an individual has or does not have, whether he/she lives alone or with the parents, etc. Thus the simultaneous equation model' usual techniques on continuous dependent and observed variables for all the people in the sample cannot be applied (Keshk 2003, Wooldridge 2002).

In order to be able to clarify the interdependence between housing mode and situation on the labor market, we refer to the Maddala typology (1983), and choose to specify and evaluate pattern 6 (pp.246). This model suits us perfectly in so far as it is a simultaneous equation system, in which the two dependent variables are qualitative; it allows us to apprehend, both ways, the relationship between housing mode and situation on the labor market.

However, before assessing this pattern we have tried to globally evaluate the correlation between the two sets of variables along the Bivariate Probit estimation (cf. Greene, 2000) for a detailed description of the model) whose parameter (Rho) indicates the correlation sense of the heterogeneity terms non observed for the two equations.

We first analyze the values of these parameters in the different Bivariate Probit before exposing the results of the simultaneous equation models. The models are actually assessed separately for men and women on the one hand; on the other hand, separately for each of the situations on the labor market (FTC, UDC, unemployment) and of the housing mode (with the parents, alone or as a couple). Thus, we get nine evaluations of 'Rho' for men and as much for women<sup>7</sup>.

#### **a. Initial evaluation of the interdependence between housing mode and situation on the labor market**

The associations allowed by the (Rho) values show how the unobserved factors which account for each of the situations on the labor market are correlated with those which account for the housing modes.

Starting from the (Rho) parameter values, young women and young men do not seem to have very different behaviors, at least within the correlations' sign, as shown by table 4.

However, two extreme cases seem to stand out and provide distinct profiles to the relationship between housing mode and situation on the labor market, with slight differences between men and women.

The first extreme case concerns the parameter (Rho) value between unemployment and housing mode.

Unemployment seems to be positively associated with cohabitation with the parents. The positive correlation is slightly higher for women (0.212) than for men (0.199).

Being unemployed and living alone seem to be negatively associated, with a far higher negative correlation (in absolute value) for women.

More particularly, unemployment seems to dissuade the formation of a couple less for women ( $p=-0.122$ ) than for men ( $p=-0.19$ ). This can be accounted for by a continuous division of labor between men and women, even for the young generations (Oppenheimer, 1994; 1997), but also by the least opportunities that women have to find a job. All considered, this brings them to disconnect somewhat more than men the building up of a couple's life and job getting<sup>8</sup>.

The second extreme case refers to the association between having a UDC and the cohabitation mode with the parents. Actually, the UDC seems to agree with a de-cohabitation with the parents. A stable integration into the labor market agrees with a distancing from the familial parental cell, to live alone or as a couple. However, the constitution of a couple seems to be much more associated with a stable situation on the labor market for men (Rho=0.219) than for women (Rho=0.144).

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<sup>7</sup> To reduce the presentation of the results, we give here only the values of the Rho parameter in the 18 estimated models.

<sup>8</sup> Ström (2003) mentions the weakest unemployment impact on women's well being, as compared with men. For Hammer (1996), unemployment reinforces the gender role in the youths' transition to adulthood. On the Norwegian labor market, for example, the women already unemployed are more likely to remain jobless; but unemployed women leave their parents quite early despite their unemployment situation, while men will probably stay with their parents.

The intermediary case is that which sets a relationship between temporary employment (FTC) and the housing mode. We notice that the correlations are rather slight. One has the impression that the non observed characteristics which account for the access to a temporary job (FTC) and those which account for the housing mode are either disconnected or take opposite directions, which would account for the weak value of (Rho). The simultaneous equation patterns will allow us to better examine the validity of this result.

Let us however point out that these first results provide a clarification as compared with the extant works in this field, in so far as very often job situations do not show whether the job is temporary or not (except in Smyth's (2002) ).

Within the framework of a Bivariate Probit, Greene (1998) makes it possible to consider a recursive model when one can make the assumption that the realization of a variable conditions the realization of the other. We are not in this case and even when we tried to estimate this model (with the situation on the labour market like "conditioning" variable or alternatively the housing mode) convergence could not be obtained.

This is due certainly to a bad specification which justifies the passage to another model more general : the simultaneous equations model.

In order to carry out a much further analysis of the interdependence between housing mode and situation on the labor market, we should not limit ourselves to the Bivariate Probit patterns' evaluation results. We then assess a simultaneous equations pattern following the instrumental variable approach suggested by Maddala (1983).

Table 4 – Correlation Evaluations through Bivariate Probit between the youths' situation on the labor market and housing mode

Men	Women
R(Unemployment, live with parents)= 0.199	R(Unemployment, live with parents) = 0.212
R(Unemployment, live alone) =-0.109	R(Unemployment, live alone) = -0.133
R(Unemployment, live as a couple) =- 0.1904	R(Unemployment, live as a couple) = - 0.122
R(FTC, live with parents)= -0.027	R(FTC, live with parents) =-0.025
R(FTC, live alone) = 0.009 (ns)	R(FTC, live alone) = -0.019
R(FTC, live as a couple) = 0.033	R(FTC, live as a couple) = 0.043
R(UDC, live with parents) = -0.26	R(UDC, live with parents) = -0.208
R(UDC, live alone) = 0.135	R(UDC, live alone) = 0.075
R(UDC, live as a couple) = 0.219	R(UDC, live as a couple) = 0.144

## **b. Interdependence between the situation on the labor market and parental de-cohabitation within the framework of a simultaneous equations pattern : Specification, evaluation and results**

### **1. Model Specification**

Several phenomena in social sciences cannot be observed that in a dichotomic way like are our variables of interest: to have a UDC, to have a FTC, to live with his/her parents, to live alone, etc.

Research has advanced in a decisive way in the case of these variables within the framework of models to only one equation, whether the data are cross- section or longitudinal.

However as soon as it is necessary to correct of a skew of endogeneity, for example, within the framework of a dichotomic model (and even on cross-section data) the problem of estimate quickly becomes very complicated and sometimes insoluble (cf Wooldridge, 2002, pp 477-478).

If it is supposed that the studied phenomena concern a process of simultaneous determination, the problem becomes complicated more.

And in this case, one can propose only solutions partial with the help of some more or less strong assumptions on coherence even of the specification of the simultaneous equations model (cf Lewbel, 2000, Dagenais, 1997).

We refer here to the typology of Maddala on the simultaneous equations models and propose to estimate model 6 (pp 246) on Pooled Data.

In spite of its restrictions, this model continuous with being the reference since one wishes to estimate a system at two equations or the two explained variables are dichotomic.

We are located within the framework of a model where  $y_1$  (UDC, FTC or unemployment) and  $y_2$  (to live with his/her parents, only or in couple) are observed in the following way:

$$\begin{aligned} Y_{i1}^* &= \gamma_1 Y_{i2}^* + X_{i1} \beta_1 + \varepsilon_{i1}, Y_{i1} = \mathbf{1} (Y_{i1}^* > 0), \\ Y_{i2}^* &= \gamma_2 Y_{i1}^* + X_{i2} \beta_2 + \varepsilon_{i2}, Y_{i2} = \mathbf{1} (Y_{i2}^* > 0). \end{aligned} \quad (1)$$

Estimation can be done using a two step strategy estimation. But First of all, we write te reduced form of this system as :

$$\begin{aligned} Y_{i1}^* &= \Pi_1 X + v_1, Y_{i1} = \mathbf{1} (Y_{i1}^* > 0), \\ Y_{i2}^* &= \Pi_2 X + v_2, Y_{i2} = \mathbf{1} (Y_{i2}^* > 0). \end{aligned} \quad (2)$$

The estimable structural functions are :

$$\begin{aligned} Y_{i1}^* / \sigma_1 &= \gamma_1 (Y_{i2}^* / \sigma_1) + (X_{i1} / \sigma_1) \beta_1 + \varepsilon_{i1} / \sigma_1, \\ Y_{i2}^* / \sigma_2 &= \gamma_2 (Y_{i1}^* / \sigma_2) + (X_{i2} / \sigma_2) \beta_2 + \varepsilon_{i2} / \sigma_2, \end{aligned} \quad (3)$$

We first estimate the reduced form (1) by Probit Maximum Likelihood (ML). Then we substitute the predicted value of  $Y_{i1}^*$  and  $Y_{i2}^*$  and estimate the structural equations (3) by the Probit ML. The estimable parameters in this model are [  $(\gamma_1 / \sigma_1)$ ,  $(\gamma_2 / \sigma_2)$ ,  $(\beta_1 / \sigma_1)$  and  $(\beta_2 / \sigma_2)$ ].

But note that observed data contain no information on scaling of the latent variables, so we assume  $\sigma_1$  and  $\sigma_2 = 1$  at the outset, with no loss of generality and  $\text{cov}(\varepsilon_{i1}, \varepsilon_{i2}) = \rho$ .

This estimation gives wrong standards errors and need to be corrected. We calculate and program the robust matrix covariance parameters (RV) proposed by Maddala (pp 247).

For marginal effect of (3), we use this matrix (VR) to compute their standard errors by Delta method as we do it in a general way .

We interpret only the marginal effects and to simplify the presentation of the results, we give in the appendix only the marginal effects of the model (3) and their corrected standard deviations. [see tables 1,2,3 and 4]<sup>9</sup>.

## 2. Results Interpretation

<sup>9</sup> Let us underline finally that we estimated random effect models on each equation of model (3) and we calculated the marginal effects. If these marginal effects are consistent and appear very close to those which we obtained for the model (3) on pooled data, it remains that their matrix of variance is not robust. It is even more complicated than matrix VR because we must also take into account the the variance of the random effect. Consequently, one chose not to present the version of the model (3) which controls for unobserved heterogeneity.

The simultaneous equations model we have estimated allows to identify the impact of a housing mode on a situation on the labor market and vice-versa. We have then evaluated nine simultaneous equation patterns for women and another nine for men (the detailed tables are given in annexe).

In order to clarify our commentary, we rely on the marginal effects relating to the housing mode variable modalities and those of the situation on the labor market variable (table 5).

These results indicate the now and again significant differences of the interaction between housing mode and integration situation on the labor market, according to gender.

**Table 5 : Marginal Effects of the housing modes and situation on the labor market Variables**

- Female

<b>Housing Mode <math>\bar{P}</math> situation on the Labor Market</b>			
	Live with the parents	Live alone	Live as a couple
UDC	-0.30	0.67	0.38
FTC	-0.14	0.23	0.18
Unemployment	0.13	-0.26	-0.17
<b>Situation on the Labor Market <math>\bar{P}</math> Housing Mode</b>			
Stable job UDC	-0.036	0.035	NS
Temporary job FTC	0.24	0.12	-0.36
Unemployment	0.046	-0.03	NS

- Male

<b>Housing Mode <math>\bar{P}</math> situation on the Labor Market</b>			
	Live with the parents	Live alone	Live as a couple
UDC	-0.22	0.20	0.35
FTC	-0.04	0.028	0.082
Unemployment	0.074	-0.07	-0.12
<b>Situation on the Labor Market <math>\bar{P}</math> Housing Mode</b>			
UDC	-0.20	-0.02	0.19
FTC	-0.39	0.04	0.31
Unemployment	0.24	0.019	-0.23

*Nb : In both tables, the results of the first three lines are patterns in which the dependent variables represent the situation on the labor market, the other three lines result from patterns in which the housing mode itself becomes the dependent variable.*

#### **i) The housing mode impact on the situation on the labor market**

Since living with parents impacts indeed negatively on job access, whether temporary or stable (FTC or UDC), and positively on unemployment, we deem it important to point out that these effects are much more felt by women than men.

Living alone seems to affect much more the situation vis-à-vis employment for a woman than for a man. More particularly, this housing mode increases slightly the probability of getting a job (UDC or FTC) for young women.

On the other hand, living as a couple increases the probability of escaping unemployment and getting a job contract, namely a stable job, whatever the gender.

On the whole, and this corroborate the results found in the literature (Ianelli, 2002; Ianelli and Soro-Bonmati, 2001; Lielbroerer and Corijn, 1999; Battagliola, 2001), we notice higher de-cohabitation effects on the situation on the labor market for young women as compared with young men, except for couple life, which seems to affect in close proportions, stability on the labor market.

We deem it important to point out the higher impact of living alone on the access to a UDC. Actually, the impression is that the fact of quitting the parental home for young women is definitely (and simultaneously) coterminous with professional success (measured here by the access to a stable job).

Lastly, let us point out that the feeble impact that the housing mode has on the situation on the labor market can result in what Ianelli and Soro-Bonmati (2001) call the relationships' new forms, which have emerged within families. The young generations and mainly the young men in our case, will have to negotiate much more than women, new forms of cohabitation with their parents, in which they may have more autonomy and independence.

## **ii) How the situation on the labor market impacts on the housing mode**

While we generally claim that having a job is concomitant with a positive effect on the parental de-cohabitation, whether living alone or as a couple (Ianelli and Soro-Bonmati, 2001; Oppenheimer, 1994; 1997), we remark here a distinguished effect according to the type of job held and gender.

The young women's employment situation has much less effect on the housing mode than it has for men. With the exception of FTCs and contrarily to what precedes, we observe here the feeble impact of the situation vis-à-vis the labor market on the housing mode among women. The labor market seems to interfere less in the housing mode for the latter, namely to live as a couple. On the contrary, stability on the labor market results in living as a couple for men.

More particularly, for women a stable job (UDC) has very feeble effects on all housing modes (and sometimes no effects, on living as a couple for example), while for men a UDC acts negatively on the parental cohabitation prolongation and positively on living as a couple, but only slightly and negatively on living alone.

If getting a temporary job (FTC) for a man greatly improves the chances to start living as a couple, this type of job contract seems inversely to dissuade somewhat women from engaging in living as a couple project. Having a temporary job carries a preventive effect on leaving the parents' home for women, not for men, for whom a temporary job (FTC) does not prevent them from being autonomous as to the housing mode, nor from engaging into couple formation.

The young unemployed men have better chances to go on living with their parents than the young women. Unemployment is more of a restriction to the men's residential autonomy projects, obliging them to postpone their de-cohabitation. The unemployment situation seems to reduce the individuals' well being as well as their projects, with however much less marked effects for women than for men, as pointed out by Ström (2003), Liefbroer and Corijn (1999) and Oppenheimer, 2003 and Hammer (1996).

## **iii) Education effects on job access and housing mode**

The educational level contributes to liberating the youths from living with the parents.

On the whole, the more the youths' educational levels are higher, the less their stay with the parents is prolonged at the end of their studies.

The economic works linking the educational level, the labor market and the familial sphere are greatly inspired from the beckerian family theory (1993). For Becker, a rise in the educational level increases the hope of gain, thus increasing the participation in the labor market, namely for women. However, the youths with the highest educational levels are also those who are the most attractive on the marriage market. It is Becker's income effect : there is a positive effect of education on the familial sphere (living as a couple, birth of children...). However, the opportunity costs are much higher as the educational level rises, and in this case, we expect the educational level to impact negatively on the familial sphere : it is Becker's price effect. Here, these effects are less pointed. Actually, we notice, as regards women and much more men, that the educational levels higher or equal to the baccalauréat entail a negative probability to go on living with the parents at the end of studies, but act positively on de-cohabitation so as to live alone or as a couple; this is valid whatever the simultaneous equations pattern considered (cf. marginal effects, tables 5 & 6 in the annex). Simultaneously, a higher educational level allows women and slightly more men to access a stable situation on the labor market (cf. marginal effects, tables 3 & 4 in the annex). Among women, and on the whole, the educational level does not spare them temporary jobs, as opposed to men. On the contrary, they are much more protected from unemployment as the diploma level gets higher.

#### **iv.) How the parents' situation impacts on the situation on the labor market and on the housing mode**

Numerous studies have shown the parents' situation impact on the youths' integration. Generally speaking, the father's situation, if he is employed, has a positive effect on the children's integration, while the mother's situation generally affects only their daughters' access to employment. According to our data, having an employed father, for women as for men, reduces the unemployment probability, while if the father is unemployed, we have an inverse effect (cf. tables 3 & 4 in the annex). The mother's employment situation contributes to decreasing, but very slightly, the daughter's unemployment probability, and improving the chances of accessing a temporary job; it remains non significant for the access to a stable job.

On the contrary, the parents' professional situation seems to act very feebly, often in a non significant manner, on the housing mode with the parents for girls as for boys. Independence vis-à-vis the parents' situation seems to be much more marked for girls than for boys. For the latter, the father's and mother's employment situation, even their inactivity's, tend to improve the probability to live alone and contribute to decreasing the probability to live as a couple<sup>10</sup>.

The girls' housing mode projects are thus very slightly sensitive to their own situation on the labor market, just as to that of the parents, in contrast to the boys'. The latter seem to take more advantage of the family support to achieve residential autonomy and live alone.

This might contribute to reducing and postponing, in an automatic manner, living as a couple.

#### **v) The other checking variables' effects**

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<sup>10</sup>More specific information on the parents' inactivity reasons (retirement, dismissal from the labor market, ...) are worth checking in order to better clarify a part of this result. We do not have this kind of information

The young people descended from parents born abroad (father or mother) stay much longer with their parents (Courgeau, 2000), a result that is reinforced by our own evaluations. The young women, whose father or mother was born abroad, are likely to be less autonomous in their housing mode, whether living alone or as a couple. For the boys, it is only the fact that the mother was born abroad which increases the probability to go on living with the parents at the end of studies, and which therefore delays de-cohabitation.

In other respects, being active during one's studies is less common in France than in the Anglo-Saxon countries. Nevertheless, numerous studies have shown that the young people who work during their studies exploit this experience on the labor market (Béduwé & Giret, 2003). Being active during one's studies plays also a role in the de-cohabitation process since the young people who have had temporary jobs, during that period, are less likely to live with their parents and much more as a couple. It is mainly the regular jobs marginal effects during one's studies which have the highest values, whatever the gender (cf. tables 5 & 6 in the annex).

Things happen as if the job experience during one's studies developed in the young people a far greater desire for autonomy, even if this experience slows down their access to stable jobs, for example.

The last result, rather classical, relates to the number of children variables, which are not part of the equations that refer to the situation on the labor market. The number of children generally reduces the chances to get a job much more for women than for men.

## **Conclusion**

In order to study the interdependence between the young people's housing modes and job access, we have used a data base resulting from the 98 Generation Inquiry realized by the CEREQ.

The advantage of this inquiry is that it allows to get particular information about the evolution of these two dimensions, along the classical variables relating to the professional integration problematic.

An initial examination of the constituted data base has led us to try and see if it is the housing mode which acts on the integration into the labor market, or if it is the inverse, and what meaning does this relationship carry for men and women.

It is the analysis of the simultaneity relationships between housing modes and integration modality into the labor market which motivated our econometric approach.

We have defined three housing modes (with the parents, alone and as a couple) and distinguished between three integration situations into the labor market (UDC, FTC, and unemployment). Taking that into consideration, we have estimated two models generations.

In the first place, Bivariate Probits between each housing mode and each integration situation. This estimation has allowed us to globally appreciate the correlation between the two variable sets thanks to the (Rho) parameter, which specifies the correlation sense of the non observed heterogeneity terms.

In order to further analyze the interdependence between housing mode and situation on the labor market, we have estimated two equation simultaneous model, applied to each housing mode and each integration situation, following the instrumental variables approach suggested by Maddala, 1983.

On the whole, the results show much higher effects of de-cohabitation on the situation vis-à-vis the labor market for young women as compared with young men, except for living as a couple, which seems to affect, in close proportions, stability on the labor market.

Starting from our data, we then corroborate and bring nuances to results found in the literature (Ianelli, 2002; Ianelli & Soro-Bonmati, 2001; Liefbroerer & Corijn, 1999; Battagliola, 2001).

On the other hand, contrarily to other works' stating that to be employed is concomitant with a positive effect on the parental de-cohabitation, whether for living alone or as a couple (Ianelli & Soro-Bonmati, 2001; Oppenheimer, 1994; 1997), our evaluations show that the employment situation of young women has much less effect on the housing mode than it has for men, except for FTCs, about which we notice, however, feeble effects.

The unemployment situation seems to curtail much more the men's well-being together with their projects as compared with women. Starting from other data and other methodological approaches, certain works come up with close results (Ström, 2003; Liefbroerer & Corijn, 1999; Oppenheimer, 2003; and Hammer, 1996).

Broadly speaking, our results allow us to state that the projects relating to women's housing modes are only slightly sensitive to their own situation on the labor market, just as to that of their parents, in contrast to men.

The latter seem to take more advantage of the familial support to build up a residential autonomy and live alone.

This kind of problematic deserves to be taken further, in the future, towards an econometric extension, which will examine much more deeply the interactions' dynamic between housing modes and integration trajectory into the labor market.

To this end, we should manage to work out estimation methods that are feasible and realistic of qualitative variable dynamics simultaneous equation models to be applied to panel data <sup>11</sup>. We hope we will be able to contribute to advancing research, in this framework, in a further study.

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<sup>11</sup> Kan (2000) specifies for example a model of this style but imposes a specification for random effect to control the unobserved heterogeneity. This assumption is too strong in the context which we study without forgetting that the method of estimate imposes very strong restriction on the data so that it is feasible

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## Results of simultaneous equations model

Tableau 1: The marginal effects of First equations for female (N=18342 femmes, NT=55026 ).

	Probability of being employed with a unlimited duration contract						Probability of being employed with a fixed term contract						Probability to be employed with a unlimited duration contract						
	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	
Live with his parents	-0,304	0,0102	---	---	---	---	-0,136	0,01	---	---	---	---	0,131	0,008	---	---	---	---	
Live alone	---	---	0,67	0,029	---	---	---	---	0,227	0,026	---	---	---	---	-0,26	0,020	---	---	
Live with his spouse	---	---	---	---	0,39	0,0031	---	---	---	---	0,181	0,012	---	---	---	---	-0,167	0,009	
Constant	---	---			---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Educational level (Educational level V is the reference)																			
Educational level I_II	0,17	0,007	0,187	0,007	0,17	0,007	-0,012	0,006	-0,002	0,006*	-0,132	0,006	-0,055	0,004	-0,061	0,004	-0,055	0,004	
Educational level III	0,085	0,007	0,101	0,007	0,084	0,007	0,092	0,007	0,104	0,007	0,090	0,007	-0,103	0,003	-0,108	0,003	-0,102	0,004	
Educational level IV SUP	0,041	0,008	0,036	0,007	0,04	0,008	0,008	0,007*	0,005	0,008	-0,008	0,007*	-0,064	0,003	-0,063	0,004	-0,065	0,004	
Educational level IV	0,045	0,007	0,052	0,007	0,044	0,007	0,057	0,007	0,061	0,007	0,056	0,006	-0,063	0,003	-0,066	0,003	-0,064	0,004	
Educational level VB	-0,6	0,01	-0,067	0,009	-0,058	0,010	-0,077	0,008	-0,080	0,008	-0,076	0,008	0,037	0,007	0,041	0,007	0,036	0,007	
Educational level VI	-0,165	0,01	-0,168	0,01	-0,165	0,01	-0,121	0,01	-0,124	0,010	-0,121	0,01	0,069	0,010	0,073	0,010	0,069	0,010	
Professional experience while studying (Training courses while studying is the reference) <sup>1</sup>																			
Casual job	-0,045	0,005	-0,06	0,005	-0,35	0,005	-0,011	0,005	-0,011	0,005	-0,007	0,005*	0,069	0,004	0,019	0,019*	0,012	0,004	
Regular job	-0,163	0,007	-0,01	0,007	0,0002	0,007*	-0,03	0,006	-0,02	0,007	-0,024	0,006	-0,006	0,006*	-0,012	0,006	-0,012	0,006	
Summer Job	-0,121	0,005	-0,12	0,006	-0,11	0,005	0,002	0,005	0,0129	0,005*	0,006	0,005*	0,001	0,004*	-0,002	0,004*	-0,003	0,004*	
Situation of the father and the mother with respect to the labour market (reference is unemployment)																			
Father employed	0,014	0,114* <sup>2</sup>	0,07	0,011*	0,019	0,011*	-0,025	0,0109	-0,024	0,011	-0,023	0,011	-0,015	0,008	-0,012	0,008*	-0,016	0,008	
Father out of labour force	-0,016	0,012*	-0,07	0,012*	0,0172	0,012*	-0,045	0,010	-0,06	0,011	-0,032	0,011	0,028	0,009	0,053	0,010	0,013	0,009*	
Mother employed	-0,004	0,012*	0,008	0,01* <sup>1</sup>	-0,007	0,012*	0,023	0,012	0,032	0,011	0,022	0,012	-0,017	0,009	-0,024	0,009	-0,016	0,008	
Mother out of labour force	-0,009	0,012*	-0,002	0,01*	-0,011	0,012*	0,044	0,012	0,047	0,012	0,043	0,012	0,004	0,008	0,001	0,009*	0,005	0,008*	

<sup>1</sup> Let us stress that the episodes of employment on which the young people are questioned when they leave the education system have nothing to do with employment which they occupied during their studies.

<sup>2</sup> \* : nonsignificant neither to 1%, neither to 5% nor with 10%.

Birthplace of the parents																			
Father born abroad	0,082	0,008	0,061	0,008	0,091	0,008	0,013	0,007	-0,003	0,007*	0,019	0,008	-0,028	0,005	-0,018	0,005	-0,032	0,005	
Mother born abroad	0,078	0,008	0,134	0,010	0,05	0,008	0,018	0,008	0,027	0,009	0,007	0,007*	-0,02	0,005	-0,036	0,006	-0,01	0,005	
Number of Children (the reference is no child)																			
One child	-0,244	0,006	0,30	0,016	-0,312	0,006	-0,147	0,008	-0,065	0,0137	-0,197	0,009	0,186	0,013	0,804	0,007	0,29	0,019	
Two children	-0,275	0,003	-0,29	0,023	-0,287	0,002	-0,200	0,007	-0,023	0,020*	-0,223	0,005	0,30	0,026	0,095	0,006	0,42	0,032	
Three or more	-0,261	0,004	-0,63	0,02	-0,27	0,002	-0,020	0,010	-0,159	0,049	-0,221	0,006	0,008	0,047*	0,142	0,002	0,118	0,069	
-log -likelihood	30951		31112		30931		29769		29830		29755		22204		22257		22198		

Tableau 2 : Marginal effects of the First equations for male (N=23385 and NT=70155)

	Probability of being employed with a unlimited duration contract						Probability of being employed with a fixed term contract						Probability to be employed with a unlimited duration contract.						
	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	
Live with his parents	-0,217	0,009	---	---	---	---	-0,0434	0,0078	---	---	---	---	0,0737	0,0059	---	---	---	---	
Live alone	---	---	0,205	0,0143	---	---	---	---	0,0280	0,0118	---	---	---	---	-0,0703	0,087	---	---	
Live with his spouse	---	---	---	---	0,3546	0,0119	---	---	---	---	0,0822	0,0097	---	---	---	---	0,1195	0,0071	
Constant	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Educational level (Educational level V is the reference)																			
Educational level I_II	0,219	0,006	0,2321	0,0063	0,2146	0,0062	-0,0708	0,0041	-0,0675	0,0041	-0,0727	0,0039	-0,0014	0,0036*	-0,0055	0,0035*	0,0006	0,0035*	
Educational level III	0,065	0,005	0,0736	0,0060	0,0611	0,0059	-0,0127	0,0045	-0,0099	0,0046	-0,145	0,0045	-0,0305	0,0031	-0,0329	0,0031	-0,0291	0,0031	
Educational level IV SUP	-0,023	0,007	-0,0269	0,0066	-0,0171	0,0067	-0,0319	0,0050	-0,0327	0,0049	-0,0306	0,0050	-0,0061	0,0038*	-0,0047	0,0039*	-0,0079	0,0038	
Educational level IV	0,019	0,005	0,0220	0,0057	0,0175	0,0056	-0,0082	0,0044	-0,0071	0,0044	-0,0089	0,0044	-0,0362	0,0028	-0,0370	0,0028	-0,0356	0,0028	
Educational level VB	-0,103	0,007	-0,1067	0,0068	-0,0994	0,0069	-0,041	0,0055	-0,0428	0,0054	-0,0407	0,0055	0,0678	0,0054	0,0699	0,0054	0,0654	0,0054	
Educational level VI	-0,178	0,009	-0,1817	0,0087	-0,1733	0,0090	-0,0761	0,0073	-0,0772	0,0072	-0,0747	0,0073	0,1369	0,0096	0,1404	0,0096	0,1327	0,0095	
Professional experience while studying (Training courses while studying is the reference) <sup>1</sup>																			
Casual job	-0,003	0,004 <sup>2*</sup>	-0,0005	0,0046*	-0,0027	0,0045*	-0,0048	0,0037*	-0,0033	0,0038*	-0,0046	0,0037*	0,0057	0,0029	0,0048	0,0029*	0,0047	0,0029*	
Regular job	-0,04	0,007	0,0034	0,0074*	-0,0769	0,0071	0,0027	0,0065*	0,0135	0,0063	-0,0088	0,0064*	-0,0008	0,0052*	-0,0149	0,0044	0,0136	0,0058	
Summer Job	-0,097	0,005	-0,0630	0,0044	-0,1389	0,0052	0,0021	0,0039	0,0106	0,0036	-0,0095	0,0042	-0,0091	0,0029	-0,0201	0,0027	0,0051	0,0032*	
Situation of the father and the mother with respect to the labour market (reference is unemployment)																			
Father employed	0,012	0,0109*	0,0051	0,0112*	0,0347	0,01059	-0,0020	0,0088*	-0,0010	0,0089*	0,0026	0,0086*	-0,0281	0,0064	-0,0256	0,0066	-0,0374	0,0066	
Father out of labour force	-0,049	0,0113	-0,0556	0,0118	-0,0051	0,01159*	-0,0134	0,0092*	-0,0107	0,0098	-0,0049	0,0091*	0,0163	0,0067	0,0193	0,0073	0,0002	0,0059*	
Mother employed	0,006	0,012*	0,0064	0,0119*	0,0218	0,0116*	-0,0187	0,0093	-0,0161	0,0094*	-0,0164	0,0092	-0,0089	0,0065	-0,0090	0,0067*	-0,0142	0,0065	

<sup>1</sup> Let us stress that the episodes of employment on which the young people are questioned when they leave the education system have nothing to do with employment which they occupied during their studies.

<sup>2</sup> nonsignificant neither to 1%, neither to 5% nor with 10%.

Mother out of labour force	0,0028	0,0118*	-0,0051	0,0119*	0,0296	0,0119	-0,0235	0,0090	-0,0231	0,0092	-0,0183	0,0090	0,0049	0,0065	0,0077	0,0066*	-0,0040	0,0063*	
Birthplace of the parents																			
Father born abroad	0,0446	0,0072	0,0275	0,0071	0,0647	0,0074	-0,0072	0,0056	-0,0121	0,0056	-0,0014	0,0057*	-0,0024	0,0039*	0,0032	0,0041*	-0,0086	0,0038	
Mother born abroad	0,0313	0,0076	0,0117	0,0075	0,0475	0,0076	0,0095	0,0062	0,0031	0,0061	0,01507	0,0062*	-0,0112	0,0039	-0,0052	0,0042*	-0,0159	0,0038	
Number of Children (the reference is no child)																			
One child	-0,1499	0,0101	-0,2522	0,0140	-0,3035	0,0052	-0,0376	0,0102	0,0334	0,0114	-0,1022	0,0109	0,0751	0,0132	-0,0572	0,0042	0,2960	0,0304	
Two children	-0,2135	0,0111	0,3259	0,0236	-0,3073	0,0025	-0,0453	0,0156	0,0573	0,0215	-0,1169	0,0124	0,0962	0,0259	-0,0731	0,0042	0,4040	0,0489	
Three or more	-0,2400	0,0133	-0,2413	0,0414	-0,3038	0,0022	-0,0438	0,0251*	0,055	0,0363*	-0,1148	0,049	0,0490	0,0378*	-0,0784	0,0051	0,3314	0,0734	
-Log likelihood	41373		41521		41175		33099		33111		33078		21384		21429		21322		

:Tableau 3 : The marginal effects of the second equations for female (N=18342 femmes, NT=55026 ).

	Probability of living with his parents.						Probability of living alone						Probability of living in couple						
	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	
UDC	-0,0360	0,0084	---	---	---	---	0,0351	0,0066	---	---	---	---	-	0,0081*	---	---	---	---	
FTC	---	---	0,2469	0,0142	---	---	---	---	0,1202	0,0110	---	---	---	---	-0,3607	0,0136	---	---	
Unempl	---	---	---	---	0,046	0,0084	---	---	---	---	0,0309	0,0064	---	---	---	---	-0,0094	0,0079*	
Constant	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Educational level (Educational level V is the reference)																			
Educational level I_II	-0,3284	0,0053	-0,3455	0,0051	-0,3294	0,0052	0,1838	0,0069	0,1798	0,0068	0,1871	0,0068	0,1844	0,0069	0,2119	0,0069	0,1829	0,0069	
Educational level III	-0,7231	0,0060	-0,2496	0,0058	-0,2240	0,0059	0,1123	0,0068	0,1061	0,0067	0,1155	0,0067	0,1488	0,0072	0,1868	0,0072	0,1468	0,0071	
Educational level IV SUP	-0,1251	0,0069	-0,1221	0,0070	-0,1251	0,0069	0,1182	0,0076	0,1183	0,0076	0,1176	0,0076	0,0389	0,0078	0,0366	0,0078	0,0392	0,0078	
Educational level IV	-0,0942	0,0067	-0,1044	0,0066	-0,0944	0,0067	0,0362	0,0065	0,034	0,0065	0,0369	0,0065	0,0767	0,0073	0,0904	0,0073	0,0759	0,0073	
Educational level VB	0,0756	0,0107* <sup>1</sup>	0,0308	0,0108	0,0156	0,0107*	0,0002	0,0095*	0,0048	0,0096	-0,0005	0,0095*	-	0,0106	-0,0385	0,0105	-0,0201	0,0106	
Educational level VI	0,1656	0,0148	0,1797	0,0148	0,1654	0,0148	-0,0335	0,0118	-	0,0118	-0,0342	0,0117	-	0,0125	-0,1646	0,0122	-0,1523	0,0126	
Professional experience while studying (Training courses while studying is the reference) <sup>2</sup>																			
Casual job	-0,0292	0,0054	-0,0298	0,0054	-0,0287	0,0054	0,0126	0,0042	0,0111	0,0042	-0,01202	0,0042	0,0139	0,0052	0,0161	0,0052	0,0140	0,0052	
Regular job	-0,0597	0,0078	-0,0711	0,0075	-0,0581	0,0078	-0,0087	0,0058	0,0003	0,0057*	-0,0069	0,0058*	0,0633	0,0077	0,0635	0,0074	0,0598	0,0076	
Summer Job	-0,0149	0,0048	-0,0621	0,0055	-0,0018	0,0054	0,0052	0,0037*	-0,042	0,0043	-0,0032	0,0042*	0,0101	0,0046	0,0773	0,0052	0,0072	0,0051*	
Situation of the father and the mother with respect to the labour market (reference is unemployment)																			
Father employed	0,0178	0,0123*	0,0130	0,0122*	0,0188	0,0123*	-0,0004	0,0102*	0,0071	0,0099*	0,0009	0,0101*	-	0,0122*	-0,0174	0,0121*	-0,0166	0,0124*	
Father out of labour force	-0,0064	0,0130*	0,0013	0,0130*	0,0113	0,0129*	0,0151	0,0108*	0,0297	0,0113*	0,0205	0,0110	-	0,0127*	-0,0284	0,0125	-0,0076	0,0126*	
Mother employed	-0,0051	0,0131*	-0,0488	0,0133	-0,0009	0,0132*	-0,0039	0,0104*	-	0,0106*	-0,0050	0,0105*	0,0098	0,0127*	0,0661	0,0128	0,0073	0,00128*	
Mother out of labour force	0,0134	0,0132*	-0,0262	0,0133	-0,0129	0,0132*	-0,0091	0,0104*	-	0,0104*	-0,0083	0,0104*	-	0,0128*	0,0529	0,0132	-0,0043	0,0128*	
Birthplace of the parents																			
Father born abroad	0,0820	0,0081	0,1092	0,0082	0,0807	0,008*	-0,0144	0,0061	-	0,0063*	-0,0142	0,0061	-	0,0074	-0,1034	0,0073	-0,0686	0,0074	
Mother born abroad	0,0807	0,0083	0,1028	0,0084	0,078	0,0083	-0,0431	0,0059	-	0,0060	-0,042	0,0059	-	0,0077	-0,0656	0,0076	-0,0368	0,0078	

<sup>1</sup> : nonsignificant neither to 1%, neither to 5% nor with 10%.

<sup>2</sup> Let us stress that the episodes of employment on which the young people are questioned when they leave the education system have nothing to do with employment which they occupied during their studies.

-Loglikelihood	34253		34110		34247		26679		26634		26682		35216		34860		35217		
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:Tableau 3 : The marginal effects of the second equations for female (N=18342 femmes, NT=55026 ).

	Probability of living with his parents.						Probability of living alone						Probability of living in couple						
	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	Coef	S-error	
UDC	-0,0360	0,0084	---	---	---	---	0,0351	0,0066	---	---	---	---	-	0,0081*	---	---	---	---	
FTC	---	---	0,2469	0,0142	---	---	---	---	0,1202	0,0110	---	---	---	---	-0,3607	0,0136	---	---	
Unempl	---	---	---	---	0,046	0,0084	---	---	---	---	0,0309	0,0064	---	---	---	---	-0,0094	0,0079*	
Constant	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Educational level (Educational level V is the reference)																			
Educational level I_II	-0,3284	0,0053	-0,3455	0,0051	-0,3294	0,0052	0,1838	0,0069	0,1798	0,0068	0,1871	0,0068	0,1844	0,0069	0,2119	0,0069	0,1829	0,0069	
Educational level III	-0,7231	0,0060	-0,2496	0,0058	-0,2240	0,0059	0,1123	0,0068	0,1061	0,0067	0,1155	0,0067	0,1488	0,0072	0,1868	0,0072	0,1468	0,0071	
Educational level IV SUP	-0,1251	0,0069	-0,1221	0,0070	-0,1251	0,0069	0,1182	0,0076	0,1183	0,0076	0,1176	0,0076	0,0389	0,0078	0,0366	0,0078	0,0392	0,0078	
Educational level IV	-0,0942	0,0067	-0,1044	0,0066	-0,0944	0,0067	0,0362	0,0065	0,034	0,0065	0,0369	0,0065	0,0767	0,0073	0,0904	0,0073	0,0759	0,0073	
Educational level VB	0,0756	0,0107* <sup>1</sup>	0,0308	0,0108	0,0156	0,0107*	0,0002	0,0095*	0,0048	0,0096	-0,0005	0,0095*	-	0,0106	-0,0385	0,0105	-0,0201	0,0106	
Educational level VI	0,1656	0,0148	0,1797	0,0148	0,1654	0,0148	-0,0335	0,0118	-	0,0118	-0,0342	0,0117	-	0,0125	-0,1646	0,0122	-0,1523	0,0126	
Professional experience while studying (Training courses while studying is the reference) <sup>2</sup>																			
Casual job	-0,0292	0,0054	-0,0298	0,0054	-0,0287	0,0054	0,0126	0,0042	0,0111	0,0042	-0,01202	0,0042	0,0139	0,0052	0,0161	0,0052	0,0140	0,0052	
Regular job	-0,0597	0,0078	-0,0711	0,0075	-0,0581	0,0078	-0,0087	0,0058	0,0003	0,0057*	-0,0069	0,0058*	0,0633	0,0077	0,0635	0,0074	0,0598	0,0076	
Summer Job	-0,0149	0,0048	-0,0621	0,0055	-0,0018	0,0054	0,0052	0,0037*	-0,042	0,0043	-0,0032	0,0042*	0,0101	0,0046	0,0773	0,0052	0,0072	0,0051*	
Situation of the father and the mother with respect to the labour market (reference is unemployment)																			
Father employed	0,0178	0,0123*	0,0130	0,0122*	0,0188	0,0123*	-0,0004	0,0102*	0,0071	0,0099*	0,0009	0,0101*	-	0,0122*	-0,0174	0,0121*	-0,0166	0,0124*	
Father out of labour force	-0,0064	0,0130*	0,0013	0,0130*	0,0113	0,0129*	0,0151	0,0108*	0,0297	0,0113*	0,0205	0,0110	-	0,0127*	-0,0284	0,0125	-0,0076	0,0126*	
Mother employed	-0,0051	0,0131*	-0,0488	0,0133	-0,0009	0,0132*	-0,0039	0,0104*	-	0,0106*	-0,0050	0,0105*	0,0098	0,0127*	0,0661	0,0128	0,0073	0,00128*	
Mother out of labour force	0,0134	0,0132*	-0,0262	0,0133	-0,0129	0,0132*	-0,0091	0,0104*	-	0,0104*	-0,0083	0,0104*	-	0,0128*	0,0529	0,0132	-0,0043	0,0128*	
Birthplace of the parents																			
Father born abroad	0,0820	0,0081	0,1092	0,0082	0,0807	0,008*	-0,0144	0,0061	-	0,0063*	-0,0142	0,0061	-	0,0074	-0,1034	0,0073	-0,0686	0,0074	
Mother born abroad	0,0807	0,0083	0,1028	0,0084	0,078	0,0083	-0,0431	0,0059	-	0,0060	-0,042	0,0059	-	0,0077	-0,0656	0,0076	-0,0368	0,0078	

<sup>1</sup> : nonsignificant neither to 1%, neither to 5% nor with 10%.

<sup>2</sup> Let us stress that the episodes of employment on which the young people are questioned when they leave the education system have nothing to do with employment which they occupied during their studies.

-Loglikelihood	34253		34110		34247		26679		26634		26682		35216		34860		35217		
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