

**Education, Professional Choice and Labour Market Outcomes:
Influence of Preferences, Parental Background and Labour Market Tightness**

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Abstract:

Professional and educational choices, while largely determined by personal abilities, preferences, and family background, may also be sensitive to labour market conditions, both current and expected. This paper studies how youths' educational and professional choices are affected by parental background and labour market characteristics, as well as how they in turn influence labour market trajectories. Using a combination of survey and administrative data from France, we estimate a joint model of professional preferences, educational choices and labour market outcomes, i.e. professional choices, employment, wages. We find that professional preferences are primarily conditioned by parental occupations and their involvement in youths' education, and almost not affected by labour market characteristics. Furthermore, we identify to what extent professional preferences influence educational and occupational choices, employment and wages. Finally, we quantify how labour market tightness in professional categories reshapes both youths' professional choices upon entry into the labour market and their further labour market trajectories.

Key words: professional choice, labour market tightness, labour market trajectories.

Codes JEL: J24, J31, J62

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1. Introduction

The current study provides a close examination of the effects of youths' professional choices and family background on labour market outcomes in France. We also analyze the effects of fluctuations in the labour market, in turn, on the professional choices of youths, their switch to other professional categories, and further labour market trajectories.

We propose and estimate a joint model of professional preferences (professional choice declared at the end of high school), further educational choices and labour market outcomes in terms of characteristics of a first job, professional choice, education-occupation mismatch and wages. This model allows us to take into account the correlations between unobservable factors that simultaneously influence these choices and labour market outcomes. In other words, the proposed approach allows us to control for self-selection into professional categories based on both observable factors (such as professional preferences, education, parents' background, and labour market characteristics) and unobservable factors (workers' abilities and preferences).

We combine two datasets for our analysis. The first is panel data of the survey DEPP (Survey of high school pupils). The second is administrative data from Unemployment Agency records and DARES (Ministry of Labour, Employment, Education and Social Work).

The paper is organized as follows. Section 2 presents a literature overview and describes the contributions of the paper. Section 3 provides a description of the panel dataset. It also presents the results of a comparison of educational attainment, occupations and labour market tightness by region. Section 4 introduces the methodology of econometric analysis. Section 5 presents the results and Section 6 concludes.

2. Literature Overview

This paper contributes to three directions of economic research; more precisely, we link our study to the following literature:

- Occupational and professional choices: factors determining them and further labour market outcomes.
- The role of family background in forming professional and educational preferences and their effects on further labour market outcomes.
- Effects of labour market fluctuations (recessions, etc.) on individual outcomes in terms of professional and occupational choice, employment, and wages.

2.1. Occupational and professional choices

Recently many research papers have focused on choice of major and returns to majors, as well as on occupational choices and returns to occupations. Thus, *Arcidiacono (2004)* considers sequential models of college enrolment and major choices. He shows that even if there are significant differences in payments for majors on the labour markets, future earnings explain very little of ability sorting across majors. There is also a growing literature on the analysis of different factors affecting choice of major, such as expected earnings, peer choices, employment perspectives, professional preferences, etc. (see for example *Arcidiacono et al. (2012)*).

The self-selection problem in educational attainment has been widely analyzed (see *Belzil (2007)* for a comprehensive review). The question of self-selection into occupational categories has also attracted considerable attention. *Lee (1983)* proposes generalized econometric models with selectivity involving multiple choices and censored dependent variables. One of the principal empirical papers on occupational choices and returns to education is *Keane and Wolpin (1997)*, the first to extend the self-selection mechanism for schooling choices, employment and occupational decisions. The authors estimate the consequential choices of education and occupations, while distinguishing three groups of occupations – blue-collar workers, white-collar workers and military services. However, they do not analyze the influence of education-occupation mismatch on wages. *Heckman and Sedlacek (1990)*, while analyzing the industrial wage premium, incorporate the self-selection correction for the sector of employment choices.

In this study we analyze the choice of professions made by youths still at school and how this shapes further educational choices and labour market trajectories (in terms of employment, education-occupation/profession match and wages). Our model allows us to control for the endogeneity of preferences and educational choices, as well as for the self-selection of youths into professions (and occupations) in the labour market.

We focus mainly on the choice of professions and selection into professions for the following reasons:

- Professional choices largely determine the choice of education and majors as well as shape further labour market trajectories.
- In contrast to occupations, which largely depend on experience and tenure, preferences for professions are formed before entry into the labour market, and may be influenced not only by family background, but also by educational institutions (thus, policy implications of such analysis may be straightforward).
- Analysis of professional choices and further switches to other professions could shed a light on the effects of labour market fluctuations on workers' trajectories. This motivation is particularly important in regards to the recent recession in the USA, characterised by high rates of unemployment along with many unfilled vacancies. Interest is thus growing in the economic literature about the question of skills mismatch in the labour market.

2.2. Role of family background in professional and educational choices

There is considerable evidence of the effects of family background on educational attainment (see *Long (2007)* for a review). In this paper, we use a survey combining youth and their parent questionnaires to analyze the influence of parental involvement on professional choices of youths.,

2.3. Effects of labour market fluctuations on individual outcomes

Several studies show that entering the labour market during unfavourable periods could negatively affect employment probability and wages. Thus, *Oreopoulos et al. (2008)* analyze the effects of graduating in a recession on short- and long-term career outcomes of youths in Canada. They show that graduates who enter the labour market during recession periods suffer significant wage loss, which fades only after 8-10 working years. Similarly, *Gaini et al. (2012)* show for France that graduates who enter the labour market during periods of economic downturn experience a loss in employment and wages, though the long-term effects are insignificant.

The current paper focuses not just on the overall fluctuation of the economy and labour market, but also on the labour market fluctuations by professional categories. Thus, we use labour-market tightness characteristics by both professional categories and regions to examine their effects on employment, education-occupation match and wages. Our analysis also allows us to identify the effects on further wages and career development of switching to other professional categories (because of the unfavourable conditions in the chosen profession).

3. Data Description

3.1.1995 DEPP Panel

Data come from the “1995 pupil panel survey” (1995 DEPP Panel), conducted by the French National Institute for Statistics and Economic Studies (INSEE) and the French Ministry of Education. The initial sample consists of a cohort of youths, 17830 pupils, enrolled at the first level of high school in 1995 (thus, after 4-5 years of study in primary school). The majority of pupils are 11 years old in the first round. This panel survey then annually collects information for this cohort: on their schooling, family background, occupational preferences, and their post-secondary education attainment. The survey then extends from youths’ entry into working life and until 2010 with the information on employment, occupational choices, wages, and other labour market outcomes.

The Department of Statistical Studies of the Ministry of Education followed this cohort during their school years, at which point the equivalent department at the Ministry of Higher Education followed those who passed the baccalauréat (earning secondary education degree) during their post-secondary education years. Concurrently, for those who entered the labour market (after secondary school or post-secondary education), the INSEE has collected information since 2005 on labour market participation, occupations, professions and wages.

Therefore, information on the pupils was collected at different periods of time.

1995:

At the start of the 1995 school year, the following information on the sample pupils was collected through a six-part questionnaire sent to the head teachers.

- Information on the college: name, membership or not in an education action zone (ZEP), sector, type of contract, department, academy (regional education authority), urban unit.
- Identification of the pupil: gender, date and place of birth, nationality.
- School situation at the time of recruitment: class, special courses, languages, total number of pupils per class, counts of foreign pupils and number of held back pupils (repeating years(s) of study) in the division.
- Level of the pupil ability in the entrance to high school: grades in French and Mathematics, scores in the national evaluations.
- Reconstruction of the schooling to the primary school.
- Information on the family of the pupil: family size; rank of the pupil among siblings; nature of the persons in charge; professional activity, place of birth and nationality of parents.

Since the start of the 1996 schooling year, each pupil's school situation was annually updated continuing as long as the pupil remained in secondary or post-secondary education. On the one hand, when a high school used the informational system, this information was collected by cross-referencing files with the Academic Bases. On the other hand, when the informational system was not available, a paper questionnaire was sent to the head teacher of the previous year or to the family of the pupil. During these updates, two types of information were collected: the school situation of a pupil (class, number of pupils in the division, first language, etc.) and the characteristics of the establishment.

1998:

A good knowledge of the pupil's family environment involves direct questioning of his/her parents. Of course, the information within establishments about the pupil's family remains brief and is not always reliable. Besides, the behaviour of a pupil is in close relation with the way the family lives and invests in his/her schooling. A good knowledge of parental involvement in their children's education is thus essential.

Panel 1995 contains a family survey conducted from May to September 1998. The parents of 15 290 pupils, that is 86,5 % of the contacted families, agreed to participate in this survey.

A number of questions concern family characteristics (composition, schooling of siblings, parental education and migration status). In a second part, information on the primary schooling is collected. Finally, parental involvement concerning their children's schooling is observed: involvement in the study process, relations with the teachers, choice and image of the establishment, expectations regarding initial training and leisure activities of youths.

2002:

The last years of secondary schooling constitute an essential stage. Pupils' schooling and personality are developed enough so that they have a more precise perception of their future educational tracks and desired career perspectives. They have to choose a high school diploma track, then university and profession. It is thus particularly interesting to collect at this stage their plans for educational attainment and labour market trajectories. Participants in the sample were observed until this term (including when they had already left the educational system). This was also an opportunity to update the family situation: parental structure, sibling school level, death or incapacitation of a parent, and the parental labour market situation.

Thus, 16 701 youths were then questioned about these aspects, from May to September 2002. Of them, 13 120, that is 78.6 %, answered.

Year 2002 also marked the beginning of exit from high school: 4 783 obtained their high school diploma in 2002, without repeating any school years. At the start of the 2002 school year, they were questioned about their situation, education, orientation, motivations, lifestyle, difficulties experiences, professional projects, accommodation and resources. The attrition rate for this questionnaire was 10%.

From there, every year, all youths enrolled in higher education were followed up through a specific survey (SUP).

2005:

In 2005 (school year 2004-2005), the INSEE questioned youths who were no longer followed by the specific survey (SUP), using a survey protocol called "Entrance in the working life - EVA ". It concerns young people out of the educational system. The INSEE was able to find the address for approximately two thirds of these 6 894 persons and to survey them by mail and phone. . More than 70 % of the contacted young people answered the questionnaire.

This follow-up was then repeated every year: as the young people leave secondary education, the sample tips either towards the SUP or the EVA, according to the young person's pursuit of studies or entrance to active life. Further, the sample of the SUP tips towards the EVA according to the end of initial training. Currently, 6 survey waves are available: for 2004-2005, 2005-2006, 2006-2007, 2007-2008, 2008-2009, 2009-2010.

3.2.The jobs classification

The professional families (FAP) : an original tool for job classification

The professional families are a classification of jobs according to their closeness in terms of professional "gestures" or "movements". It consists of 22 "professional domains" encompassing 84 "professional families" (FAP). The FAP features ascending professional domains according to the level of qualification. For example, the professional domain "Electricity and Electronics" consists of the following FAPs: "unskilled workers in electricity and electronics", "skilled workers in electricity and electronics" and "technicians, supervisors of electricity and electronics".

A cross between the list of social categories (PCS) of the INSEE and the operational jobs directory (ROME) of the employment agency, the professional families (FAP) allows for study of employment and unemployment according to a common list. Employment in a particular professional category can then be related to labour market tightness, which measures the ratio of the number of offers to the number of demands for a job in that professional category.

Professional domains must not be confused with business sectors in spite of similar titles. These domains depend on an individual's occupation and not necessarily on a company's activity.

3.2.1. Professional preferences declared in 2002

In 2002, youths from 1995 DEPP Panel were asked about the professional family or domain they would like to access in the future. Professional preferences are reported in table 1.

Table 3.2.1.1: Professional preferences expressed at the high school's last year

FAP2002	Men		Women		Total	
	Freq.	%	Freq.	%	Freq.	%
A: Agriculture, marine industries	358	7.11	113	1.94	471	4.34
B: Building, public work	317	6.30	36	0.62	353	3.25
C: Electricity, electronic	307	6.10	5	0.09	312	2.88
D: Mechanics, metal working industries	424	8.43	9	0.15	433	3.99
E: Process manufacturing	28	0.56	22	0.38	50	0.46
F: Light and Graphic industries	98	1.95	21	0.36	119	1.10
G: Maintenance	148	2.94	4	0.07	152	1.40
H: Engineers, industry executives	229	4.55	61	1.05	290	2.67
J: Transport, logistics and tourism	133	2.64	158	2.72	291	2.68
K: Crafts industry	7	0.14	7	0.12	14	0.13
L: Management, administration	195	3.88	670	11.52	865	7.98
M: Computer and telecommunications	421	8.37	52	0.89	473	4.36
N: Studies and research	214	4.25	260	4.47	474	4.37
P: Public service, law	66	1.31	239	4.11	305	2.81
Q: Finance, insurance and banking	44	0.87	54	0.93	98	0.90
R: Trade	458	9.10	753	12.95	1,211	11.17
S: Accommodation and food services	276	5.48	145	2.49	421	3.88
T: Personal services	350	6.96	482	8.29	832	7.67
U: Communication, information, art and entertainment	338	6.72	620	10.66	958	8.83
V: Health, social, cultural and sports activities	347	6.90	1,526	26.25	1,873	17.27
W: Education, training	167	3.32	520	8.94	687	6.33
X : Politics, religions	14	0.28	29	0.50	43	0.40
Z : Unknown	93	1.85	28	0.48	121	1.12
Total	5,032	100.00	5,814	100.00	10,846	100.00

According to the low frequencies in certain domains and to the strong similarity of indicators between certain domains, we proceed to groupings. As, furthermore, men's professional domains differ significantly from those of women, we use a different decomposition for men and women. Grouped domains are as follows:

Table 3.2.1.2: Grouped professional domains for men

Codes	Title
B+C+D+G	Building, Electricity, Mechanics and Maintenance
E+F+H+M	Industries of process, engineers and computing
J+K+R	Transport, crafts and trade
L+N+P+Q+W	Public service, teaching and research, law, banks and insurances
S+T	Accommodation and food services, personal services
U+V	Health, social, communication and cultural and sports activities
A	Agriculture and marine activities

Table 3.2.1.3: Grouped professional domains for women

Codes	Title
B+C+D+E+F+G+H+M	Building, Industries and computing
J+K+R	Transport, crafts and trade
L+ P+Q	Public service, law, banks and insurances
N+W	Teaching, studies and research
S+T	Accommodation and food services, personal services
U+V	Health, social, communication and cultural and sports activities
A	Agriculture and marine activities

Table 3.2.1.4: Occupational preferences for men

Grouping FAP 2002	Freq.	Percent
Building, Electricity and Mechanics	1,196	24.22
Industries of process, engineers and computing	776	15.71
Transport, crafts and trade	598	12.11
Public service, teaching and research, law, banks and insurances	686	13.89
Accommodation and food services, personal services	626	12.67
Health, social, communication and cultural and sports activities	699	14.15
Agriculture and marine activities	358	7.25
Total	4,939	100.00

Table 3.2.1.5: Occupational preferences for women

Grouping FAP 2002	Freq.	Percent
Building and industries	210	3.63
Transport, crafts and trade	918	15.87
Public service, administration, law, banks and insurances	963	16.64
Teaching, studies and research	780	13.48
Accommodation and food services, personal services	627	10.84
Health, social, communication and cultural and sports activities	2,175	37.59
Agriculture and marine activities	113	1.95
Total	5,786	100.00

Building, electricity and mechanics are over-represented for young men whereas health and social activities are over-represented for women.

The 1995 DEPP Panel allows us to analyze the link between the diploma at the end of studies and desired professional domains in 2002 (*Tables 3.2.1.6 and 3.2.1.7*).

Table 3.2.1.6: Occupational preferences and education for men

Grouping FAP2002	professional bac	technical and general bac	year 11 and year 12	CAP-BEP	secondary (<year 11)	total
Building, Electricity and Mechanics	38.30	9.26	13.77	41.63	40.00	24.22
Industries of process, engineers and computing	11.57	25.89	14.81	7.38	8.57	15.71
Transport, crafts and trade	8.23	11.54	16.24	10.81	17.14	12.11
Public service, teaching and research, law, banks and insurances	7.46	22.73	17.47	4.94	0.00	13.89
Accommodation and food services, personal services	13.62	5.16	11.30	20.58	17.14	12.67
Health, social, communication and cultural and sports activities	6.43	19.27	21.18	6.63	11.43	14.15
Agriculture and marine activities	14.40	6.15	5.22	8.02	5.71	7.25
Total	100.00	100.00	100.00	100.00	100.00	100.00

Table 3.2.1.7: Occupational preferences and education for women

Grouping FAP2002	professional bac	technical and general bac	year 11 and year 12	CAP-BEP	secondary (<year 11)	total
Building and industries	2.39	4.63	1.92	3.30	6.98	3.63
Transport, crafts and trade	21.48	12.27	16.16	20.69	30.23	15.87
Public service, administration, law, banks and insurances	30.31	16.22	13.01	16.88	0.00	16.64
Teaching, studies and research	1.67	21.03	13.80	2.08	0.00	13.48
Accommodation and food services, personal services	12.17	3.30	7.07	28.09	27.91	10.84
Health, social, communication and cultural and sports activities	28.64	40.98	46.20	26.80	25.58	37.59
Agriculture and marine activities	3.34	1.58	1.83	2.16	9.30	1.95
Total	100.00	100.00	100.00	100.00	100.00	100.00

The segregation between female and male occupational categories is partly due to their choices of very different training specialties (Rosenwald, 2006). Choices of vocational training specialties are little evolved: the girls turn more to the secretarial department, the boys towards more technical training, for example electricity-electronics. In higher education, scientific sectors remain predominantly male whereas literary sectors are more often chosen by females.

3.2.2. Occupations in 2008

Occupations in 2008 are expressed with the same classification as those of the occupational preferences declared in 2002, allowing us to compare the effective occupation with the desired one. Occupations in 2008 are reported in Tables 3.2.2.1 and 3.2.2.2.

Choices and preferences for men are not so far apart. Most of the young men work in building, electricity and mechanics' domains, as they had preferred. Even though they were numerous to prefer working in accommodation, food services, health and social activities, they are more likely to work in transport, crafts, trade and banking services.

Preferences and choices are a bit farther apart for women. Thus, a great majority of women had preferred to work in health and social activities, they are numerous to work in public services and administration.

References to Amossé et Chardon, 2002, Chardon, 2004 ; Rosenwald, 2006 ; Simonnet, Ulrich, 2009.

Table 3.2.2.1 : Men Occupations

Grouping FAP 2008	Freq.	Percent
Building, Electricity and Mechanics	904	29.13
Industries of process, engineers and computing	432	13.92
Transport, crafts and trade	642	20.69
Public service, teaching and research, law, banks and insurances	499	16.08
Accommodation and food services, personal services	265	8.54
Health, social, communication and cultural and sports activities	195	6.28
Agriculture and marine activities	166	5.35
Total	3,103	100.00

Table 3.2.2.2: Women Occupations

Grouping FAP 2008	Freq.	Percent
Building and industries	230	7.12
Transport, crafts and trade	706	21.86
Public service, administration, law, banks and insurances	905	28.02
Teaching, studies and research	157	4.86
Accommodation and food services, personal services	443	13.72
Health, social, communication and cultural and sports activities	759	23.50
Agriculture and marine activities	30	0.93
Total	3,23	100.00

Table 3.2.2.3: Occupation and education of young men

Grouping FAP2008	bac +3	bac+2	bac	cap-bep	year 10	no diploma
Building, Electricity and Mechanics	15.92	28.11	32.73	40.18	26.67	21.65
Industries of process, engineers and computing	25.00	12.44	11.55	9.56	10.48	12.37
Transport, crafts and trade	14.04	24.38	18.54	22.30	28.57	32.99
Public service, teaching and research, law, banks and insurances	29.79	17.54	13.03	8.14	11.43	3.09
Accommodation and food services, personal services	2.05	5.10	10.17	14.69	14.29	17.53
Health, social, communication and cultural and sports activities	10.62	6.84	6.04	1.42	5.71	5.15
Agriculture and marine activities	2.57	5.60	7.94	3.72	2.86	7.22
Total	100.00	100.00	100.00	100.00	100.00	100.00

Table 3.2.2.4: Occupation and education of young women

Grouping FAP2008	bac +3	bac+2	bac	cap-bep	year 10	no diploma
Building and industries	8.83	6.83	5.20	7.02	2.22	22.92
Transport, crafts and trade	13.39	24.88	27.21	21.91	34.44	22.92
Public service, administration, law occupations, banks and insurances	25.60	41.83	25.44	10.96	27.78	16.67
Teaching, studies and research	13.99	1.46	0.44	0.00	0.00	0.00
Accommodation and food services, personal services	2.68	5.98	22.46	35.67	24.44	29.17
Health, social, communication and cultural and sports activities	34.72	18.29	18.25	22.75	10.00	8.33
Agriculture and marine activities	0.79	0.73	1.00	1.69	1.11	0.00
Total	100.00	100.00	100.00	100.00	100.00	100.00

3.2.3. Tightness in the labour market

Indicators of tightness in the labour market were constructed from the data on job seekers and offers gathered for professional families and all regions by the employment agency (Pôle Emploi) and DARES. They cover three categories (A, B and C) of job seekers (unemployed or working at a reduced level) for each quarter of the years 1999-2010. Frequencies of job seekers and job offers are computed by 18 professional domains and 22 regions.

These data show the number of applicants and the number of job offers registered by employment agency for every professional domain, every quarter, and within every region. To correct seasonal variations, these indicators are adjusted using a moving average for the four following and three precedent quarters.

Having added the number of applications and the number of offers for every subset of the chosen 14 groups of professional domains (7 each for women and men), we calculate for every year, from 1999 until 2010, the indicator of tightness as measured by the ratio of "offers registered" (in March) to the "demands registered" (in March). This tightness means the following: the lower the ratio, the more difficult it is to find employment in this domain. Therefore, the higher this ratio, the higher the chances to work in the corresponding domain.

Tightness in the labour market

The DARES and the employment agency built an indicator of tightness in the labour market, providing information about regional labour demand and supply by professional families and regions. This indicator is the ratio between the flows of offers and the flows of job-seekers registered by the employment agency.

When the ratio is higher than 1 for a given job, the number of offers is superior to the number of demands, but this can have several meanings. It can indicate adjustment difficulties of the labour market (the job-seekers turn to other jobs), recruitment difficulties of companies, strong staff turnover (the proposed offers are short-lived and thus numerous), or another reluctance of the job-seekers to accept offers because of difficult working conditions. It is also possible that the job-seekers do not register certain jobs which they wish to pursue, which will give the impression that the demands are low for this job.

Figure 1: 2002 regional tightness indicators
Professional domains for women (without agriculture)

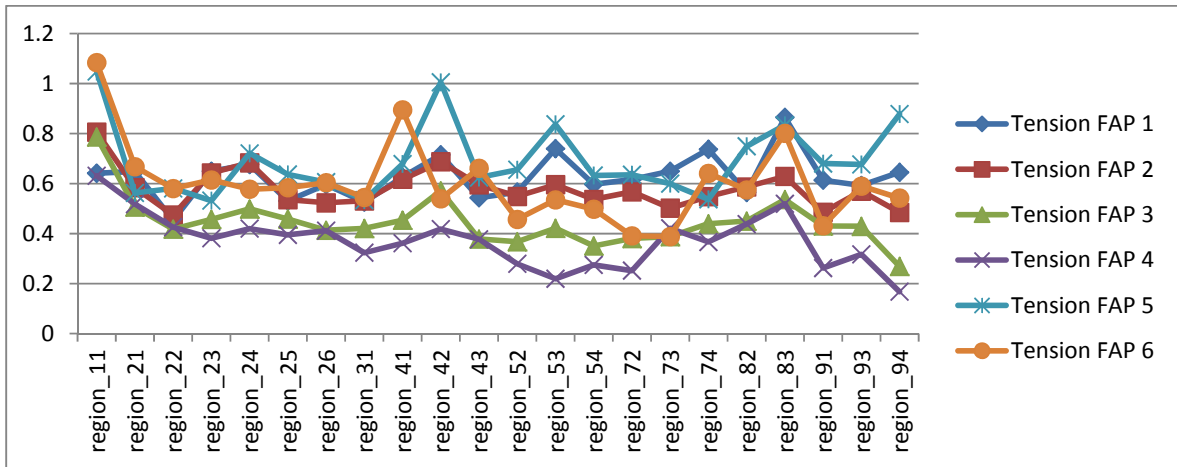


Figure 2: 2008 regional tightness indicators
Professional domains for women (without agriculture)

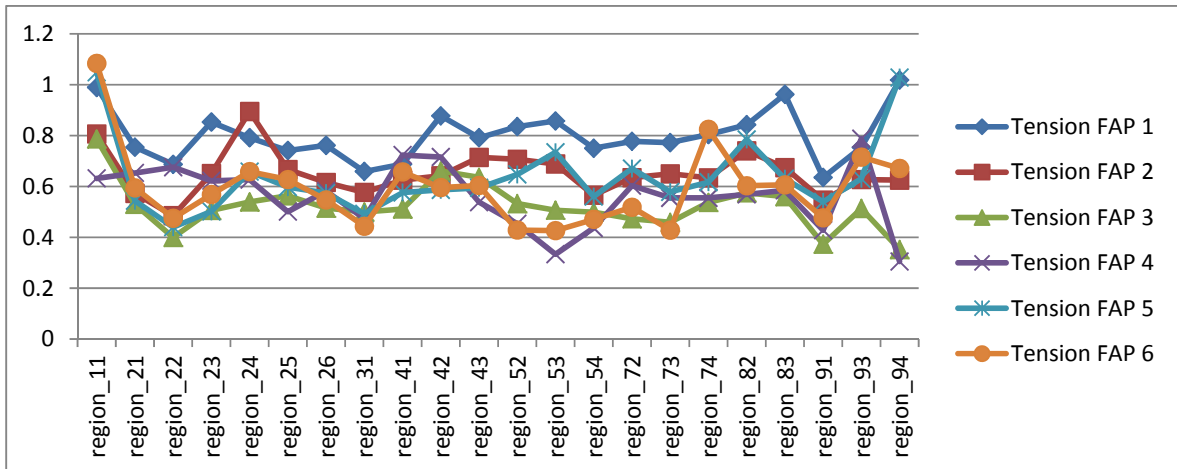


Figure 3: 2002 regional tightness indicators
Professional domains for men (without agriculture)

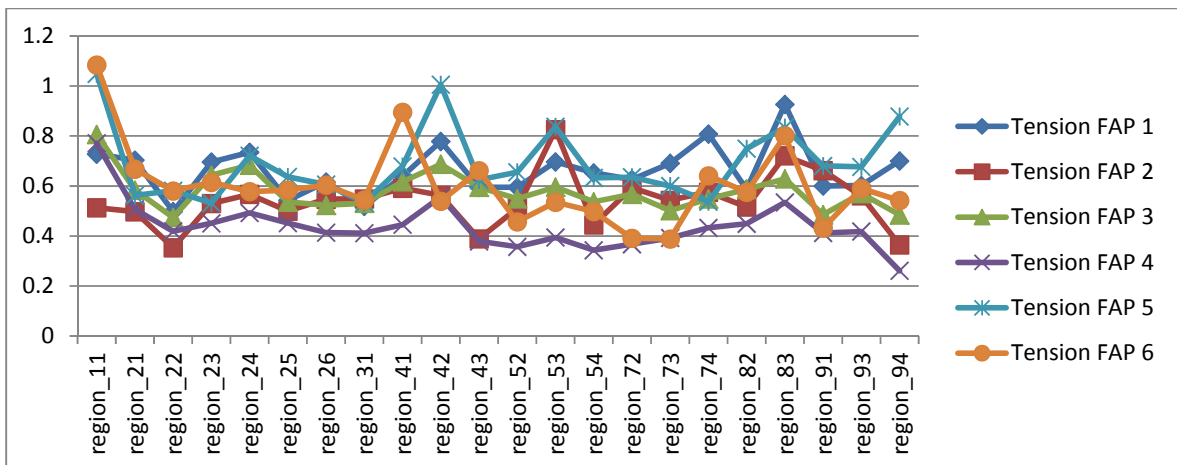
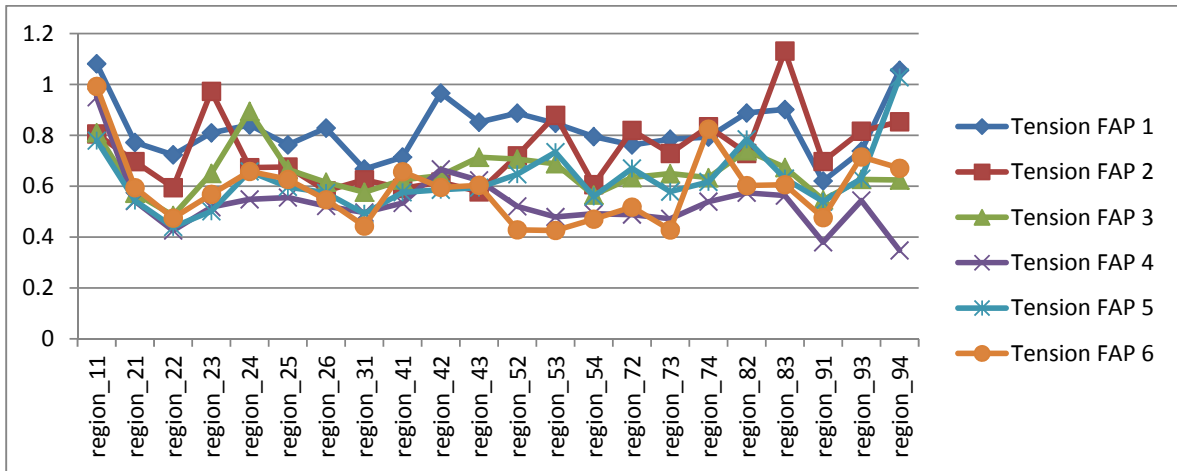


Figure 4: 2008 regional tightness indicators
Professional domains for men (without agriculture)



4. Model: Methodology and Estimation

In the current study, we estimate a joint model of professional preferences, educational attainment and further labour market outcomes. We use several measures of labour market outcomes, particularly:

- characteristics of entry at the labour market: employment, occupational level and wage,
- employment, professional choice and wages in the following years.

Therefore, below we describe two types of models we estimate for these labour market outcomes. Further, we describe the identification of these models.

4.1. Professional preferences, educational attainment and entry at the labour market.

The model consists of 5 sub-blocks, each of them contains one or more random terms, which we assume to be correlated (and we estimate those correlations).

- 1) The first equation describes professional choices made by youths at high school: choice between seven FAP categories.

$$FAP_{02,i} = k^* \text{ if } FAP_{02,i}^{k^*} \geq FAP_{02,i}^{l^*} \quad \forall l^* \neq k^*, \quad k^* = \overline{1 \dots 7}, l^* = \overline{1 \dots 7},$$

$$\text{where } FAP_{02,i}^{k^*} = X_{fap,i} \cdot \beta_{fap}^{k^*} + u_i^{k^*}; k^* = \overline{1 \dots 7}$$

$$\begin{pmatrix} u^1 \\ u^2 \\ u^3 \\ u^4 \\ u^5 \\ u^6 \\ u^7 \end{pmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \right\}$$

For identification, we conduct normalisation relative to the last (7th) professional category:

$$\varepsilon_{1,i} = u_i^1 - u_i^7, \quad \varepsilon_{2,i} = u_i^2 - u_i^7, \quad \varepsilon_{3,i} = u_i^3 - u_i^7, \quad \varepsilon_{4,i} = u_i^4 - u_i^7, \quad \varepsilon_{5,i} = u_i^5 - u_i^7, \quad \varepsilon_{6,i} = u_i^6 - u_i^7;$$

$$\beta_{fap}^1 = \beta_{fap}^{1*} - \beta_{fap}^{7*}, \quad \beta_{fap}^2 = \beta_{fap}^{2*} - \beta_{fap}^{7*}, \quad \beta_{fap}^3 = \beta_{fap}^{3*} - \beta_{fap}^{7*},$$

$$\beta_{fap}^4 = \beta_{fap}^{4*} - \beta_{fap}^{7*}, \quad \beta_{fap}^5 = \beta_{fap}^{5*} - \beta_{fap}^{7*}, \quad \beta_{fap}^6 = \beta_{fap}^{6*} - \beta_{fap}^{7*}.$$

Therefore,

$$FAP_{02,i} = k \text{ if } FAP_{02,i}^k \geq 0 \text{ \& } FAP_{02,i}^k \geq FAP_{02,i}^l \quad \forall l \neq k, \quad k = \overline{1 \dots 6}, l = \overline{1 \dots 6},$$

$$FAP_{02,i} = 7 \text{ if } FAP_{02,i}^k \leq 0 \quad \forall k = \overline{1 \dots 6},$$

$$\text{where } FAP_{02,i}^k = X_{fap,i} \cdot \beta_{fap}^k + \varepsilon_{k,i}; \quad k = \overline{1 \dots 6}$$

$$\begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \end{pmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma = \begin{pmatrix} 2 & 1 & 1 & 1 & 1 & 1 \\ 1 & 2 & 1 & 1 & 1 & 1 \\ 1 & 1 & 2 & 1 & 1 & 1 \\ 1 & 1 & 1 & 2 & 1 & 1 \\ 1 & 1 & 1 & 1 & 2 & 1 \\ 1 & 1 & 1 & 1 & 1 & 2 \end{pmatrix} \right\}$$

2) The second equation describes educational attainment:

- level 5 – higher education (BAC+3),
- level 4 – vocational education or some college (BAC+2),
- level 3 – secondary education (BAC),
- level 2 – CAP/BEP,
- level 1 – below secondary education levels (no diplom).

This equation is set as an ordered probit model (choice between 5 categories).

$$Educ_i = \begin{cases} 1, & \text{if } Educ_i^* < 0 \\ 2, & \text{if } 0 < Educ_i^* < \mu_1 \\ 3, & \text{if } \mu_1 < Educ_i^* < \mu_2 \\ 4, & \text{if } \mu_2 < Educ_i^* < \mu_3 \\ 5, & \text{if } \mu_3 < Educ_i^* \end{cases} ,$$

$$\text{where } Educ_i^* = X_{educ,i} \cdot \beta_{educ} + \varepsilon_{educ,i}$$

3) The third equation shows the employment status in the first year after entering the labour market.

$$Empl_i = I(Empl_i^* \geq 0),$$

$$\text{where } Empl_i^* = X_{em,i} \cdot \beta_{em,i} + \varepsilon_{em,i} .$$

4) The fourth equation describes the occupational level of the first job (in the case of employment).

Mprobit: choice between 3 categories (managers, professionals, workers).

$$PCS_i = k^* \text{ if } PCS_i^{k^*} \geq PCS_i^{l^*} \quad \forall l^* \neq k^*, \quad k^* = \overline{1,2,3} \text{ and } l^* = \overline{1,2,3},$$

$$\text{where } PCS_i^{k^*} = X_{pcs,i} \cdot \beta_{pcs}^{k^*} + u_i^{k^*}; \quad k^* = \overline{1,2,3}$$

$$\begin{pmatrix} u^1 \\ u^2 \\ u^3 \end{pmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \right\}$$

For identification, we conduct normalisation relative to the last (3rd) professional category:

$$\vartheta_{1,i} = u_i^1 - u_i^3, \quad \vartheta_{2,i} = u_i^2 - u_i^3; \quad \beta_{pcs}^1 = \beta_{pcs}^1 - \beta_{pcs}^3, \quad \beta_{pcs}^2 = \beta_{pcs}^2 - \beta_{pcs}^3.$$

Therefore,

$$PCS_i = k^* \text{ if } PCS_i^k \geq PCS_i^l \quad \forall l \neq k, \quad k = 1,2 \text{ and } l = 1,2,$$

$$PCS_i = 3 \text{ if } PCS_i^k \leq 0 \quad \forall k = 1,2,$$

$$\text{where } PCS_i^k = X_{pcs,i} \cdot \beta_{pcs}^k + \vartheta_{k,i}; \quad k = 1,2.$$

$$\begin{Bmatrix} \vartheta_1 \\ \vartheta_2 \end{Bmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \end{pmatrix}, \Sigma = \begin{pmatrix} 2 & 1 \\ 1 & 2 \end{pmatrix} \right\}$$

5) The fifth equation models wage at the first job (in the case of employment).

$$\ln(W_i) = X_{w,i} \cdot \beta_w + \varepsilon_{w,i}$$

6) Finally we assume that all random terms in the model are correlated:

$$\begin{Bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \\ \varepsilon_{educ} \\ \varepsilon_{em} \\ \vartheta_1 \\ \vartheta_2 \\ \varepsilon_w \end{Bmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma \right\},$$

$$\Sigma = \begin{pmatrix} 2 & 1 & 1 & 1 & 1 & 1 & \sigma_{\varepsilon_{ed},\varepsilon_1} & \sigma_{\varepsilon_{em},\varepsilon_1} & \sigma_{\vartheta_1,\varepsilon_1} & \sigma_{\vartheta_2,\varepsilon_1} & \sigma_{\varepsilon_w,\varepsilon_1} \\ 1 & 2 & 1 & 1 & 1 & 1 & \sigma_{\varepsilon_{ed},\varepsilon_2} & \sigma_{\varepsilon_{em},\varepsilon_2} & \sigma_{\vartheta_1,\varepsilon_2} & \sigma_{\vartheta_2,\varepsilon_2} & \sigma_{\varepsilon_w,\varepsilon_2} \\ 1 & 1 & 2 & 1 & 1 & 1 & \sigma_{\varepsilon_{ed},\varepsilon_3} & \sigma_{\varepsilon_{em},\varepsilon_3} & \sigma_{\vartheta_1,\varepsilon_3} & \sigma_{\vartheta_2,\varepsilon_3} & \sigma_{\varepsilon_w,\varepsilon_3} \\ 1 & 1 & 1 & 2 & 1 & 1 & \sigma_{\varepsilon_{ed},\varepsilon_4} & \sigma_{\varepsilon_{em},\varepsilon_4} & \sigma_{\vartheta_1,\varepsilon_4} & \sigma_{\vartheta_2,\varepsilon_4} & \sigma_{\varepsilon_w,\varepsilon_4} \\ 1 & 1 & 1 & 1 & 2 & 1 & \sigma_{\varepsilon_{ed},\varepsilon_5} & \sigma_{\varepsilon_{em},\varepsilon_5} & \sigma_{\vartheta_1,\varepsilon_5} & \sigma_{\vartheta_2,\varepsilon_5} & \sigma_{\varepsilon_w,\varepsilon_5} \\ 1 & 1 & 1 & 1 & 1 & 2 & \sigma_{\varepsilon_{ed},\varepsilon_6} & \sigma_{\varepsilon_{em},\varepsilon_6} & \sigma_{\vartheta_1,\varepsilon_6} & \sigma_{\vartheta_2,\varepsilon_6} & \sigma_{\varepsilon_w,\varepsilon_6} \\ \sigma_{\varepsilon_{ed},\varepsilon_1} & \sigma_{\varepsilon_{ed},\varepsilon_2} & \sigma_{\varepsilon_{ed},\varepsilon_3} & \sigma_{\varepsilon_{ed},\varepsilon_4} & \sigma_{\varepsilon_{ed},\varepsilon_5} & \sigma_{\varepsilon_{ed},\varepsilon_6} & 1 & \sigma_{\varepsilon_{ed},\varepsilon_{em}} & \sigma_{\varepsilon_{ed},\vartheta_1} & \sigma_{\varepsilon_{ed},\vartheta_2} & \sigma_{\varepsilon_{ed},\varepsilon_w} \\ \sigma_{\varepsilon_{em},\varepsilon_1} & \sigma_{\varepsilon_{em},\varepsilon_2} & \sigma_{\varepsilon_{em},\varepsilon_3} & \sigma_{\varepsilon_{em},\varepsilon_4} & \sigma_{\varepsilon_{em},\varepsilon_5} & \sigma_{\varepsilon_{em},\varepsilon_6} & \sigma_{\varepsilon_{ed},\varepsilon_{em}} & 1 & \sigma_{\varepsilon_{em},\vartheta_1} & \sigma_{\varepsilon_{em},\vartheta_2} & \sigma_{\varepsilon_{em},\varepsilon_w} \\ \sigma_{\vartheta_1,\varepsilon_1} & \sigma_{\vartheta_1,\varepsilon_2} & \sigma_{\vartheta_1,\varepsilon_3} & \sigma_{\vartheta_1,\varepsilon_4} & \sigma_{\vartheta_1,\varepsilon_5} & \sigma_{\vartheta_1,\varepsilon_6} & \sigma_{\varepsilon_{ed},\vartheta_1} & \sigma_{\varepsilon_{em},\vartheta_1} & 2 & 1 & \sigma_{\vartheta_1,\varepsilon_w} \\ \sigma_{\vartheta_2,\varepsilon_1} & \sigma_{\vartheta_2,\varepsilon_2} & \sigma_{\vartheta_2,\varepsilon_3} & \sigma_{\vartheta_2,\varepsilon_4} & \sigma_{\vartheta_2,\varepsilon_5} & \sigma_{\vartheta_2,\varepsilon_6} & \sigma_{\varepsilon_{ed},\vartheta_2} & \sigma_{\varepsilon_{em},\vartheta_2} & 1 & 2 & \sigma_{\vartheta_2,\varepsilon_w} \\ \sigma_{\varepsilon_w,\varepsilon_1} & \sigma_{\varepsilon_w,\varepsilon_2} & \sigma_{\varepsilon_w,\varepsilon_3} & \sigma_{\varepsilon_w,\varepsilon_4} & \sigma_{\varepsilon_w,\varepsilon_5} & \sigma_{\varepsilon_w,\varepsilon_6} & \sigma_{\varepsilon_{ed},\varepsilon_w} & \sigma_{\varepsilon_{em},\varepsilon_w} & \sigma_{\vartheta_1,\varepsilon_w} & \sigma_{\vartheta_2,\varepsilon_w} & \sigma_{\varepsilon_w}^2 \end{pmatrix}$$

We normalize $\sigma_{\varepsilon_{em}}^2 = 1$ and $\sigma_{\varepsilon_{ed}}^2 = 1$.

The model is estimated by the Simulated Maximum Likelihood, using GHK method for estimating joint probabilities of higher order than 2.

4.2. Professional preferences, educational attainment and further labour market outcomes.

- 1) The first equation describes professional choices made by youths at high school:
choice between seven FAP categories.

$$FAP_{02,i} = k^* \text{ if } FAP_{02,i}^{k^*} \geq FAP_{02,i}^{l^*} \quad \forall l^* \neq k^*, \quad k^* = \overline{1 \dots 7}, l^* = \overline{1 \dots 7},$$

$$\text{where } FAP_{02,i}^{k^*} = X_{fap,i} \cdot \beta_{fap}^{k^*} + u_i^{k^*}; k^* = \overline{1 \dots 7}$$

$$\begin{pmatrix} u^1 \\ u^2 \\ u^3 \\ u^4 \\ u^5 \\ u^6 \\ u^7 \end{pmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \right\}$$

For identification, we conduct normalisation relative to the last (7th) professional category:

$$\varepsilon_{1,i} = u_i^1 - u_i^7, \quad \varepsilon_{2,i} = u_i^2 - u_i^7, \quad \varepsilon_{3,i} = u_i^3 - u_i^7, \quad \varepsilon_{4,i} = u_i^4 - u_i^7, \quad \varepsilon_{5,i} = u_i^5 - u_i^7, \quad \varepsilon_{6,i} = u_i^6 - u_i^7;$$

$$\beta_{fap}^1 = \beta_{fap}^{1^*} - \beta_{fap}^{7^*}, \quad \beta_{fap}^2 = \beta_{fap}^{2^*} - \beta_{fap}^{7^*}, \quad \beta_{fap}^3 = \beta_{fap}^{3^*} - \beta_{fap}^{7^*},$$

$$\beta_{fap}^4 = \beta_{fap}^{4^*} - \beta_{fap}^{7^*}, \quad \beta_{fap}^5 = \beta_{fap}^{5^*} - \beta_{fap}^{7^*}, \quad \beta_{fap}^6 = \beta_{fap}^{6^*} - \beta_{fap}^{7^*}.$$

Therefore,

$$FAP_{02,i} = k \text{ if } FAP_{02,i}^k \geq 0 \text{ \& } FAP_{02,i}^k \geq FAP_{02,i}^l \quad \forall l \neq k, \quad k = \overline{1 \dots 6}, l = \overline{1 \dots 6},$$

$$FAP_{02,i} = 7 \text{ if } FAP_{02,i}^k \leq 0 \quad \forall k = \overline{1 \dots 6},$$

$$\text{where } FAP_{02,i}^k = X_{fap,i} \cdot \beta_{fap}^k + \varepsilon_{k,i}; \quad k = \overline{1 \dots 6}$$

$$\begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \end{pmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma = \begin{pmatrix} 2 & 1 & 1 & 1 & 1 & 1 \\ 1 & 2 & 1 & 1 & 1 & 1 \\ 1 & 1 & 2 & 1 & 1 & 1 \\ 1 & 1 & 1 & 2 & 1 & 1 \\ 1 & 1 & 1 & 1 & 2 & 1 \\ 1 & 1 & 1 & 1 & 1 & 2 \end{pmatrix} \right\}$$

- 2) The second equation describes educational attainment:
level 5 – higher education (BAC+3),
level 4 – vocational education or some college (BAC+2),
level 3 – secondary education (BAC),
level 2 – CAP/BEP,
level 1 – below secondary education levels (no diplom).

This equation is set as an ordered probit model (choice between 5 categories).

$$Educ_i = \begin{cases} 1, & \text{if } Educ_i^* < 0 \\ 2, & \text{if } 0 < Educ_i^* < \mu_1 \\ 3, & \text{if } \mu_1 < Educ_i^* < \mu_2 \\ 4, & \text{if } \mu_2 < Educ_i^* < \mu_3 \\ 5, & \text{if } \mu_3 < Educ_i^* \end{cases},$$

$$\text{where } Educ_i^* = X_{educ,i} \cdot \beta_{educ} + \varepsilon_{educ,i}$$

3) The third equation shows the employment status in the first year after entering the labour market.

$$Empl_i = I(Empl_i^* \geq 0),$$

$$\text{where } Empl_i^* = X_{em,i} \cdot \beta_{em,i} + \varepsilon_{em,i}.$$

4) The fourth equation describes the profession in 2008, thus, professional choice of youths made in the labour market (in the case of employment).

$$FAP_{08,i} = k^* \text{ if } FAP_{08,i}^{k^*} \geq FAP_{08,i}^{l^*} \quad \forall l^* \neq k^*, \quad k^* = \overline{1 \dots 7}, l^* = \overline{1 \dots 7},$$

$$\text{where } FAP_{08,i}^{k^*} = X_{fap08,i} \cdot \beta_{fap08}^{k^*} + u_i^{k^*}; k^* = \overline{1 \dots 7}$$

$$\begin{pmatrix} u^1 \\ u^2 \\ u^3 \\ u^4 \\ u^5 \\ u^6 \\ u^7 \end{pmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \right\}$$

For identification, we conduct normalisation relative to the last (7th) professional category:

$$\eta_{1,i} = u_i^1 - u_i^7, \eta_{2,i} = u_i^2 - u_i^7, \eta_{3,i} = u_i^3 - u_i^7, \eta_{4,i} = u_i^4 - u_i^7, \eta_{5,i} = u_i^5 - u_i^7, \eta_{6,i} = u_i^6 - u_i^7;$$

$$\beta_{fap08}^1 = \beta_{fap08}^{1^*} - \beta_{fap08}^{7^*}, \beta_{fap08}^2 = \beta_{fap08}^{2^*} - \beta_{fap08}^{7^*}, \beta_{fap08}^3 = \beta_{fap08}^{3^*} - \beta_{fap08}^{7^*},$$

$$\beta_{fap08}^4 = \beta_{fap08}^{4^*} - \beta_{fap08}^{7^*}, \beta_{fap08}^5 = \beta_{fap08}^{5^*} - \beta_{fap08}^{7^*}, \beta_{fap08}^6 = \beta_{fap08}^{6^*} - \beta_{fap08}^{7^*}.$$

Therefore,

$$FAP_{08,i} = k \text{ if } FAP_{08,i}^k \geq 0 \ \& \ FAP_{08,i}^k \geq FAP_{08,i}^l \quad \forall l \neq k, \quad k = \overline{1 \dots 6}, l = \overline{1 \dots 6},$$

$$FAP_{08,i} = 7 \text{ if } FAP_{08,i}^k \leq 0 \quad \forall k = \overline{1 \dots 6},$$

$$\text{where } FAP_{08,i}^k = X_{fap08,i} \cdot \beta_{fap08}^k + \eta_{k,i}; k = \overline{1 \dots 6}$$

$$\begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \\ \eta_4 \\ \eta_5 \\ \eta_6 \end{pmatrix} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma = \begin{pmatrix} 2 & 1 & 1 & 1 & 1 & 1 \\ 1 & 2 & 1 & 1 & 1 & 1 \\ 1 & 1 & 2 & 1 & 1 & 1 \\ 1 & 1 & 1 & 2 & 1 & 1 \\ 1 & 1 & 1 & 1 & 2 & 1 \\ 1 & 1 & 1 & 1 & 1 & 2 \end{pmatrix} \right\}$$

5) The fifth equation models wage at the first job (in the case of employment).

$$\ln(W_i) = X_{w,i} \cdot \beta_w + \varepsilon_{w,i}$$

6) Finally we assume that all random terms in the model are correlated:

$$\left\{ \begin{array}{c} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \\ \varepsilon_{educ} \\ \varepsilon_{em} \\ \vartheta_1 \\ \vartheta_2 \\ \varepsilon_w \end{array} \right\} \rightsquigarrow N \left\{ E = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \Sigma \right\},$$

$$\Sigma = \begin{pmatrix} 2 & 1 & \dots & 1 & \sigma_{\varepsilon_{ed},\varepsilon_1} & \sigma_{\varepsilon_{em},\varepsilon_1} & \sigma_{\vartheta_1,\varepsilon_1} & \sigma_{\vartheta_2,\varepsilon_1} & \dots & \sigma_{\vartheta_6,\varepsilon_1} & \sigma_{\varepsilon_w,\varepsilon_1} \\ 1 & 2 & \dots & 1 & \sigma_{\varepsilon_{ed},\varepsilon_2} & \sigma_{\varepsilon_{em},\varepsilon_2} & \sigma_{\vartheta_1,\varepsilon_2} & \sigma_{\vartheta_2,\varepsilon_2} & \dots & \sigma_{\vartheta_6,\varepsilon_2} & \sigma_{\varepsilon_w,\varepsilon_2} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ 1 & 1 & \dots & 2 & \sigma_{\varepsilon_{ed},\varepsilon_6} & \sigma_{\varepsilon_{em},\varepsilon_6} & \sigma_{\vartheta_1,\varepsilon_6} & \sigma_{\vartheta_2,\varepsilon_6} & \dots & \sigma_{\vartheta_6,\varepsilon_6} & \sigma_{\varepsilon_w,\varepsilon_6} \\ \sigma_{\varepsilon_{ed},\varepsilon_1} & \sigma_{\varepsilon_{ed},\varepsilon_2} & \dots & \sigma_{\varepsilon_{ed},\varepsilon_6} & 1 & \sigma_{\varepsilon_{ed},\varepsilon_{em}} & \sigma_{\varepsilon_{ed},\vartheta_1} & \sigma_{\varepsilon_{ed},\vartheta_2} & \dots & \sigma_{\varepsilon_{ed},\vartheta_6} & \sigma_{\varepsilon_{ed},\varepsilon_w} \\ \sigma_{\varepsilon_{em},\varepsilon_1} & \sigma_{\varepsilon_{em},\varepsilon_2} & \dots & \sigma_{\varepsilon_{em},\varepsilon_6} & \sigma_{\varepsilon_{ed},\varepsilon_{em}} & 1 & \sigma_{\varepsilon_{em},\vartheta_1} & \sigma_{\varepsilon_{em},\vartheta_2} & \dots & \sigma_{\varepsilon_{em},\vartheta_6} & \sigma_{\varepsilon_{em},\varepsilon_w} \\ \sigma_{\vartheta_1,\varepsilon_1} & \sigma_{\vartheta_1,\varepsilon_2} & \dots & \sigma_{\vartheta_1,\varepsilon_6} & \sigma_{\varepsilon_{ed},\vartheta_1} & \sigma_{\varepsilon_{em},\vartheta_1} & 2 & 1 & \dots & 1 & \sigma_{\vartheta_1,\varepsilon_w} \\ \sigma_{\vartheta_2,\varepsilon_1} & \sigma_{\vartheta_2,\varepsilon_2} & \dots & \sigma_{\vartheta_2,\varepsilon_6} & \sigma_{\varepsilon_{ed},\vartheta_2} & \sigma_{\varepsilon_{em},\vartheta_2} & 1 & 2 & \dots & 1 & \sigma_{\vartheta_2,\varepsilon_w} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ \sigma_{\vartheta_6,\varepsilon_1} & \sigma_{\vartheta_6,\varepsilon_2} & \dots & \sigma_{\vartheta_6,\varepsilon_6} & \sigma_{\varepsilon_{ed},\vartheta_6} & \sigma_{\varepsilon_{em},\vartheta_6} & 1 & 1 & \dots & 2 & \sigma_{\vartheta_6,\varepsilon_w} \\ \sigma_{\varepsilon_w,\varepsilon_1} & \sigma_{\varepsilon_w,\varepsilon_2} & \dots & \sigma_{\varepsilon_w,\varepsilon_6} & \sigma_{\varepsilon_{ed},\varepsilon_w} & \sigma_{\varepsilon_{em},\varepsilon_w} & \sigma_{\vartheta_1,\varepsilon_w} & \sigma_{\vartheta_2,\varepsilon_w} & \dots & \sigma_{\vartheta_6,\varepsilon_w} & \sigma_{\varepsilon_w}^2 \end{pmatrix}$$

We also normalize $\sigma_{\varepsilon_{em}}^2 = 1$ and $\sigma_{\varepsilon_{ed}}^2 = 1$.

The model is estimated by the Simulated Maximum Likelihood, using GHK method for estimating joint probabilities of higher order than 2.

4.3. Identification of the Models: Exclusion Variables.

The identification strategy relies on the exclusion restrictions. Thus, for the professional preferences equation we use labour market characteristics in 2002 (tightness by professions and regions), parents' involvement, their education and occupation. For the educational attainment, we use the set of variables, describing youths' living conditions and family shocks after finishing high school. For the employment equation, we use regional labour market tightness and family composition characteristics (having kids, marital status). Finally, for the professional choice equation, we use regional labour market tightness indicators by professional groups.

5. Results of Estimation

Results are preliminary, more will be added soon.

5.1. Professional Preferences

In this section, we present the estimation results for the professional preferences expressed in 2002 for male and female youths.

Tables 5.1.1 and *5.1.2* present estimation results for professional preferences in 2002 (among 7 categories for male and female), conditional on family background and labour market tensions (tightness) measured in and 2002.

First results show that professional preferences depend a lot on the educational level obtained at this stage and on the parents' occupations. The father's occupation plays an important role in the constitution of the boys' preferences while it is the mother's occupation that plays an important role in the constitution of the girls' preferences. Moreover, the discussions with the parents concerning the future seem to influence the preferences of both girls and boys. On the contrary, the labour market situation measured by the regional tightness in each occupation doesn't seem to have an impact on their preferences (except for the FAP 3 for men – transport, craft and trade).

Table 5.1.1. Estimation results of professional preferences in 2002 (among 7 categories for male), conditional on the year-2001-2002 labour market tensions.

FAP 2002 (FAP 1 in reference)	Men					
	2	3	4	5	6	7
Educational level (bac+3 in reference)						
Bac+2	1.953*** (0.20)	1.632*** (0.23)	2.404*** (0.23)	0.307 (0.22)	2.158*** (0.25)	0.419 (0.23)
Bac	1.017*** (0.21)	1.509*** (0.23)	1.684*** (0.24)	0.744*** (0.21)	1.821*** (0.25)	0.018 (0.25)
CAP-BEP	-0.535** (0.20)	0.172 (0.22)	-0.539* (0.24)	0.322 (0.18)	-0.101 (0.24)	-0.547** (0.20)
No diploma	-0.206 (0.49)	0.758 (0.41)	-14.810 (667.86)	0.301 (0.39)	0.520 (0.47)	-0.409 (0.57)
Discussion with parents about the professional future (no in reference)						
Rarely	0.166 (0.20)	0.087 (0.20)	0.150 (0.21)	-0.266 (0.21)	0.067 (0.21)	-0.055 (0.30)
Often	0.063 (0.18)	-0.196 (0.18)	0.012 (0.19)	-0.011 (0.18)	0.098 (0.19)	0.303 (0.26)
Very often	0.090 (0.21)	-0.032 (0.21)	-0.055 (0.22)	0.412* (0.20)	0.379 (0.21)	0.752** (0.28)
Optimism (optimistic in reference)						
Neither optimistic nor worry	-0.124 (0.18)	-0.086 (0.18)	-0.262 (0.17)	-0.034 (0.19)	-0.423* (0.17)	-0.599** (0.21)
Worry	-0.034 (0.15)	-0.037 (0.16)	-0.358* (0.15)	0.287 (0.16)	-0.513*** (0.15)	-0.625*** (0.18)
Tension 2002 FAP 1	0.140 (1.53)	-1.129 (1.66)	1.062 (1.53)	-1.923 (1.54)	-0.111 (1.57)	3.074 (1.76)
Tension 2002 FAP 2	0.384 (1.52)	2.330 (1.68)	-2.581 (1.78)	0.674 (1.64)	0.960 (1.59)	1.209 (1.65)
Tension 2002 FAP 3	-6.092** (2.14)	-2.537 (2.18)	-0.266 (2.32)	-2.511 (2.16)	-2.558 (2.14)	-3.965 (2.40)
Tension 2002 FAP 4	6.514 (3.54)	3.859 (3.95)	1.405 (3.28)	2.750 (3.38)	4.686 (3.69)	-4.140 (3.72)
Tension 2002 FAP 5	0.049 (1.53)	-1.351 (1.74)	2.690 (1.56)	1.781 (1.55)	-0.140 (1.61)	1.615 (1.58)
Tension 2002 FAP 6	-1.138 (1.42)	-2.467 (1.64)	2.301 (1.55)	2.640 (1.43)	-0.418 (1.49)	-0.098 (1.64)
Tension 2002 FAP 7	-0.225 (0.18)	-0.120 (0.19)	-0.236 (0.19)	0.040 (0.18)	-0.181 (0.18)	-0.171 (0.20)
Father's occupation (agriculture in reference)						
Craftsman, storekeeper	-0.054 (0.33)	0.834 (0.44)	0.105 (0.36)	-0.037 (0.36)	0.825 (0.47)	-2.110*** (0.31)
Executive	0.490 (0.34)	1.131* (0.45)	0.345 (0.37)	0.410 (0.38)	1.650*** (0.47)	-1.873*** (0.33)
Intermediate profession	0.047 (0.33)	0.620 (0.44)	0.047 (0.36)	0.324 (0.36)	1.057* (0.46)	-1.902*** (0.29)
Employee	0.075 (0.35)	0.693 (0.46)	0.237 (0.38)	0.581 (0.37)	1.075* (0.48)	-2.239*** (0.34)
Qualified worker	-0.168 (0.33)	0.711 (0.43)	-0.011 (0.35)	0.066 (0.35)	0.776 (0.46)	-2.121*** (0.28)
Unqualified worker	-0.319 (0.37)	0.553 (0.46)	0.101 (0.39)	-0.319 (0.38)	0.641 (0.49)	-2.431*** (0.36)
Without profession	0.008 (0.42)	0.935 (0.49)	0.865* (0.41)	-0.146 (0.43)	1.394** (0.51)	-2.185*** (0.45)
Mother's occupation (agriculture in reference)						
Executive	0.198 (0.31)	-0.139 (0.34)	0.106 (0.33)	-0.116 (0.37)	0.264 (0.33)	-0.227 (0.40)
Intermediate profession	0.439 (0.27)	0.285 (0.28)	0.546 (0.28)	0.148 (0.29)	0.634* (0.29)	0.252 (0.29)
Employee (public sector)	-0.138 (0.28)	-0.097 (0.29)	0.010 (0.29)	-0.208 (0.29)	0.164 (0.30)	-0.303 (0.30)
Employee (private sector)	-0.077 (0.26)	-0.008 (0.27)	0.116 (0.28)	0.152 (0.27)	0.059 (0.29)	-0.110 (0.28)
Staff of services	0.119 (0.28)	0.039 (0.29)	-0.115 (0.31)	-0.008 (0.29)	0.023 (0.31)	-0.229 (0.32)
Worker	-0.106 (0.28)	-0.397 (0.30)	0.114 (0.30)	0.073 (0.28)	-0.118 (0.31)	-0.214 (0.30)
Without profession	-0.332 (0.28)	-0.116 (0.28)	0.030 (0.29)	0.015 (0.28)	-0.123 (0.30)	-0.962** (0.33)
Constant	-0.283 (1.36)	-0.994 (1.55)	-3.634* (1.63)	-2.817 (1.44)	-3.196* (1.49)	1.844 (1.52)
Observations	4866					
AIC	16890.149					
BIC	18447.756					
ll	-8205.074					
r2_p	0.109					

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
Controls: region

Table 5.1.2. Estimation results of professional preferences in 2002 (among 7 categories for female), conditional on the year-2001-2002 labour market tensions.

FAP 2002 (FAP 6 in reference)	Female					
	1	2	3	4	5	7
Educational level (bac+3 in reference)						
Bac+2	0.161 (0.35)	-0.639*** (0.16)	-0.702*** (0.15)	2.158*** (0.39)	-1.582*** (0.21)	-0.957** (0.35)
Bac	-0.813* (0.40)	-0.568*** (0.17)	-1.132*** (0.16)	1.615*** (0.40)	-0.891*** (0.21)	-1.036** (0.39)
CAP-BEP	0.400 (0.37)	0.069 (0.16)	-0.495** (0.16)	0.325 (0.44)	0.962*** (0.19)	-0.146 (0.36)
No diploma	1.204 (0.75)	0.400 (0.46)	-15.231 (617.57)	-12.655 (703.78)	1.017* (0.47)	1.408* (0.69)
Discussion with parents about the professional future (no in reference)						
Rarely	0.896** (0.34)	0.500** (0.16)	0.113 (0.16)	0.577** (0.20)	0.031 (0.21)	-0.638 (0.36)
Often	0.594 (0.31)	0.039 (0.14)	0.041 (0.14)	0.414* (0.18)	0.125 (0.18)	-0.734** (0.28)
Very often	0.128 (0.33)	-0.194 (0.16)	-0.345* (0.15)	0.256 (0.19)	0.343 (0.18)	-0.933** (0.32)
Optimism (optimistic in reference)						
Neither optimistic nor worry	0.660** (0.22)	0.296* (0.12)	0.245* (0.11)	0.119 (0.12)	0.150 (0.15)	0.331 (0.28)
Worry	0.427* (0.20)	0.483*** (0.10)	0.249* (0.10)	0.190 (0.11)	0.507*** (0.12)	0.092 (0.25)
Tension 2002 FAP 1	4.785 (2.65)	-0.641 (1.54)	0.413 (1.46)	0.689 (1.58)	1.510 (1.70)	-0.108 (3.41)
Tension 2002 FAP 2	-0.823 (3.61)	4.007 (2.09)	-2.027 (1.95)	-0.951 (2.11)	1.082 (2.25)	-3.146 (4.45)
Tension 2002 FAP 3	-2.395 (5.09)	-1.224 (2.82)	-0.109 (2.43)	-0.086 (2.87)	-1.535 (3.17)	8.243 (7.21)
Tension 2002 FAP 4	1.533 (2.30)	1.811 (1.43)	-1.336 (1.38)	1.588 (1.38)	-0.866 (1.59)	3.321 (2.70)
Tension 2002 FAP 5	-3.060 (2.09)	0.158 (1.24)	-0.418 (1.10)	-1.089 (1.26)	-2.251 (1.35)	-2.197 (3.00)
Tension 2002 FAP 6	-1.740 (1.82)	0.137 (1.12)	-0.686 (1.06)	-1.418 (1.18)	-0.923 (1.24)	-4.175 (2.50)
Tension 2002 FAP 7	0.060 (0.21)	0.167 (0.11)	0.081 (0.11)	-0.055 (0.12)	0.127 (0.13)	-0.212 (0.27)
Father's occupation (agriculture in reference)						
Craftsman, storekeeper	-0.682 (0.47)	0.163 (0.28)	-0.400 (0.26)	-0.412 (0.28)	0.185 (0.32)	-0.800 (0.43)
Executive	-0.080 (0.45)	0.279 (0.29)	-0.278 (0.26)	-0.192 (0.28)	0.109 (0.34)	-0.891 (0.47)
Intermediate profession	-0.037 (0.44)	0.132 (0.28)	-0.386 (0.25)	-0.162 (0.27)	0.166 (0.32)	-1.177** (0.45)
Employee	-0.250 (0.47)	0.244 (0.29)	-0.232 (0.26)	-0.286 (0.29)	0.393 (0.33)	-1.025* (0.48)
Qualified worker	-0.300 (0.44)	0.379 (0.27)	-0.095 (0.24)	-0.177 (0.32)	0.364 (0.30)	-1.283** (0.43)
Unqualified worker	-0.390 (0.50)	0.526 (0.29)	0.018 (0.27)	-0.335 (0.32)	0.334 (0.33)	-1.413** (0.54)
Without profession	-0.252 (0.55)	0.459 (0.32)	-0.121 (0.30)	-0.216 (0.34)	0.283 (0.37)	-1.967* (0.81)
Mother's occupation (agriculture in reference)						
Executive	-0.098 (0.43)	-0.492 (0.27)	-0.765** (0.27)	-0.190 (0.25)	-0.506 (0.35)	-1.026 (0.64)
Intermediate profession	-0.223 (0.39)	-0.728** (0.23)	-0.676** (0.22)	-0.195 (0.22)	-0.681* (0.27)	-0.387 (0.43)
Employee (public sector)	-0.762 (0.43)	-0.301 (0.23)	-0.206 (0.22)	-0.192 (0.24)	-0.651* (0.27)	-0.374 (0.45)
Employee (private sector)	-0.184 (0.39)	-0.103 (0.22)	-0.164 (0.21)	-0.109 (0.23)	-0.381 (0.25)	-0.328 (0.43)
Staff of services	-0.251 (0.42)	-0.169 (0.23)	-0.019 (0.22)	-0.163 (0.25)	-0.510 (0.27)	-0.821 (0.51)
Worker	-0.250 (0.43)	-0.094 (0.23)	0.165 (0.22)	-0.140 (0.26)	-0.401 (0.27)	-0.466 (0.47)
Without profession	-0.140 (0.41)	0.163 (0.22)	0.053 (0.22)	-0.248 (0.25)	-0.448 (0.26)	-0.499 (0.46)
Constant	-1.973 (2.06)	-3.174* (1.28)	1.946 (1.16)	-1.422 (1.31)	0.372 (1.37)	0.237 (2.61)
Observations	5700					
AIC	17894.478					
BIC	19490.051					
ll	-8707.239					
r2_p	0.083					

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
Controls: region

5.2. Educational Attainment

In this section, we present the estimation results for the educational level obtained by youth at the end of their schooling.

Tables 5.2.1 and *5.2.2* present estimation results for the educational attainment (among 5 categories for male and female), conditional on family background.

First results show that educational attainment depends a lot on the initial scores in French and Maths (scores obtained at the beginning of the high school) and on the number of years in advance in school. It also depends on education level on parents (especially that of father for young men and that of mother for young women). Family resources seem to influence a lot the highest diploma obtained.

Table 5.2.1. Estimation results of educational attainment (among 5 categories for young men), conditional on family background

Educational level (<year 10 in reference)	Bac + 3	Bac + 2	Bac	CAP-BEP
Years in advance	1.400*** (0.16)	0.969*** (0.15)	0.793*** (0.12)	-0.038 (0.11)
score in French	0.068*** (0.01)	0.030** (0.01)	0.017* (0.01)	-0.011 (0.01)
score in Maths	0.099*** (0.01)	0.073*** (0.01)	0.044*** (0.01)	0.010 (0.01)
Family structure (with 2 parents)				
With only mother or father	-0.930* (0.39)	-0.470 (0.38)	-0.318 (0.34)	-0.039 (0.36)
With parents in law	-1.014 (0.54)	-0.437 (0.49)	-0.166 (0.42)	-0.820 (0.49)
Number of brothers and sisters	-0.116 (0.07)	-0.170* (0.07)	-0.098 (0.06)	0.002 (0.07)
Accident of a parent	0.086 (0.22)	0.084 (0.21)	-0.039 (0.19)	-0.081 (0.20)
Divorce of the parents	-0.076 (0.30)	-0.105 (0.30)	0.269 (0.27)	0.086 (0.29)
Discussion with parents about school subject				
sometimes	0.336 (0.35)	0.158 (0.34)	0.065 (0.28)	0.078 (0.27)
regularly	0.768* (0.35)	0.537 (0.34)	0.414 (0.29)	0.202 (0.28)
Discussion with parents about schooling				
sometimes	0.358 (0.27)	0.468 (0.27)	0.378 (0.23)	0.323 (0.23)
regularly	0.177 (0.27)	0.272 (0.27)	0.289 (0.23)	0.541* (0.23)
Mother's education				
Level 1	-0.216 (0.32)	0.045 (0.31)	-0.418 (0.25)	0.062 (0.25)
Level 2	-0.272 (0.34)	-0.071 (0.33)	-0.315 (0.27)	0.001 (0.27)
Level 3	0.500 (0.34)	0.664* (0.33)	0.257 (0.28)	0.086 (0.29)
Level 4	0.367 (0.32)	0.497 (0.32)	0.091 (0.27)	0.330 (0.28)
Level 5	0.354 (0.34)	0.600 (0.34)	0.117 (0.29)	0.058 (0.31)
Level 6	0.700 (0.39)	0.725 (0.39)	0.083 (0.35)	-0.197 (0.39)
Level 7	1.413** (0.47)	1.301** (0.47)	0.670 (0.44)	0.463 (0.47)
Level 8	1.084** (0.38)	0.782* (0.38)	0.149 (0.34)	-0.446 (0.40)
Level 9	1.607** (0.57)	1.347* (0.57)	0.943 (0.54)	0.436 (0.63)
Father's education				
Level 1	-0.524 (0.34)	0.013 (0.33)	-0.048 (0.28)	0.095 (0.28)
Level 2	-0.376 (0.35)	0.058 (0.35)	-0.005 (0.30)	0.107 (0.30)
Level 3	-0.248 (0.36)	0.123 (0.36)	-0.124 (0.31)	-0.155 (0.33)
Level 4	-0.124 (0.31)	0.495 (0.31)	0.316 (0.27)	0.302 (0.28)
Level 5	0.254 (0.36)	0.873* (0.36)	0.419 (0.32)	0.128 (0.34)
Level 6	0.294 (0.46)	0.218 (0.47)	0.387 (0.43)	0.103 (0.47)
Level 7	0.182 (0.38)	0.339 (0.39)	0.221 (0.35)	-0.844* (0.41)
Level 8	0.595 (0.43)	0.690 (0.44)	0.367 (0.40)	-0.725 (0.49)
Level 9	0.846 (0.45)	0.751 (0.46)	0.460 (0.43)	-0.647 (0.53)
Matching between resources and projects (very insufficient)				
insufficient	0.661** (0.21)	0.267 (0.19)	0.343* (0.17)	0.224 (0.17)
Juste sufficient	0.795*** (0.20)	0.519** (0.19)	0.357* (0.17)	0.347* (0.17)
sufficient	0.720** (0.25)	0.444 (0.25)	0.209 (0.23)	0.137 (0.24)
No answer	0.789* (0.38)	0.591 (0.36)	0.279 (0.32)	0.170 (0.32)
Father's nationality (France)				
Europe	-0.536	-0.799	-0.593	-0.455

	(0.55)	(0.56)	(0.49)	(0.53)
Africa and Turkey	0.492	0.655	0.497	-0.591
	(0.64)	(0.61)	(0.53)	(0.57)
Other	-1.219	-0.732	-0.774	-1.879
	(1.27)	(1.25)	(1.16)	(1.88)
Mother's nationality (France)				
Europe	1.314*	0.651	0.826	0.268
	(0.60)	(0.61)	(0.54)	(0.58)
Africa and Turkey	0.808	-0.147	-0.187	-0.276
	(0.66)	(0.64)	(0.54)	(0.57)
Other	2.546	1.772	1.217	1.524
	(1.46)	(1.46)	(1.37)	(1.97)
Constant	-8.292***	-4.760***	-1.811***	0.068
	(0.68)	(0.65)	(0.55)	(0.54)
Observations		5051		
AIC	12939.348			
BIC	14244.816			
ll	-6269.674			
r2_p	0.185			

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
Controls: region

Table 5.2.2. Estimation results of educational attainment (among 5 categories for young women), conditional on family background

Educational level (<year 10 in reference)	Bac + 3	Bac + 2	Bac	CAP-BEP
Years in advance	1.529***	1.312***	0.773***	0.164
	(0.17)	(0.17)	(0.14)	(0.15)
score in French	0.087***	0.053***	0.035***	0.005
	(0.01)	(0.01)	(0.01)	(0.01)
score in Maths	0.077***	0.045***	0.025**	-0.016
	(0.01)	(0.01)	(0.01)	(0.01)
Family structure (with 2 parents)				
With only mother or father	0.016	-0.408	0.249	-0.692
	(0.43)	(0.44)	(0.40)	(0.50)
With parents in law	0.118	-0.026	0.637	-0.070
	(0.60)	(0.61)	(0.54)	(0.61)
Number of brothers and sisters	-0.156*	-0.091	-0.079	-0.012
	(0.08)	(0.08)	(0.07)	(0.08)
Accident of a parent	0.091	0.155	0.259	0.204
	(0.23)	(0.23)	(0.22)	(0.24)
Divorce of the parents	-0.738**	-0.402	-0.304	-0.214
	(0.28)	(0.28)	(0.26)	(0.30)
Discussion with parents about school subject				
sometimes	-0.029	0.613	0.057	0.394
	(0.34)	(0.36)	(0.31)	(0.34)
regularly	0.161	0.670	0.146	0.242
	(0.35)	(0.36)	(0.32)	(0.34)
Discussion with parents about schooling				
sometimes	-0.302	-0.248	-0.272	-0.264
	(0.34)	(0.34)	(0.32)	(0.34)
regularly	-0.498	-0.387	-0.299	-0.258
	(0.34)	(0.34)	(0.32)	(0.34)
Mother's education				
Level 1	-0.071	0.346	0.031	0.176
	(0.32)	(0.32)	(0.28)	(0.30)
Level 2	0.464	0.363	0.325	0.367
	(0.36)	(0.36)	(0.33)	(0.35)
Level 3	0.513	0.556	0.471	0.118
	(0.36)	(0.36)	(0.33)	(0.36)
Level 4	0.525	0.453	0.426	0.183
	(0.34)	(0.34)	(0.31)	(0.33)
Level 5	0.931*	0.835*	0.598	0.549
	(0.38)	(0.39)	(0.36)	(0.39)
Level 6	1.329*	1.318*	0.886	0.619
	(0.52)	(0.52)	(0.50)	(0.56)
Level 7	1.056*	1.073*	0.504	0.360
	(0.50)	(0.50)	(0.48)	(0.54)
Level 8	1.255**	0.848	0.601	-0.514
	(0.45)	(0.46)	(0.43)	(0.54)
Level 9	2.785**	2.265*	2.050	0.310
	(1.08)	(1.08)	(1.07)	(1.28)
Father's education				
Level 1	-0.526	-0.596	-0.592	-0.792*
	(0.37)	(0.37)	(0.34)	(0.36)

Level 2	-0.388	-0.032	-0.239	-0.338
	(0.41)	(0.41)	(0.38)	(0.40)
Level 3	-0.190	-0.379	-0.325	-0.698
	(0.42)	(0.42)	(0.40)	(0.43)
Level 4	-0.357	-0.435	-0.379	-0.542
	(0.36)	(0.36)	(0.33)	(0.35)
Level 5	0.124	-0.070	-0.063	-0.981*
	(0.44)	(0.44)	(0.41)	(0.46)
Level 6	0.370	-0.057	-0.112	-0.788
	(0.58)	(0.59)	(0.57)	(0.64)
Level 7	0.225	-0.216	-0.198	-0.900
	(0.49)	(0.50)	(0.48)	(0.54)
Level 8	0.080	-0.240	-0.647	-0.921
	(0.52)	(0.52)	(0.51)	(0.59)
Level 9	0.656	-0.001	-0.072	-0.924
	(0.61)	(0.61)	(0.59)	(0.70)
Matching between resources and projects (very insufficient)				
insufficient	0.207	0.081	-0.001	-0.162
	(0.22)	(0.22)	(0.20)	(0.22)
Juste sufficient	0.407	0.231	0.104	-0.040
	(0.22)	(0.22)	(0.20)	(0.22)
sufficient	0.933**	0.880*	0.636	0.307
	(0.35)	(0.35)	(0.33)	(0.37)
No answer	-0.129	-0.108	-0.101	-0.105
	(0.37)	(0.36)	(0.33)	(0.35)
Father's nationality (France)				
Europe	0.316	-0.081	0.130	-0.019
	(0.71)	(0.71)	(0.68)	(0.72)
Africa and Turkey	0.383	-0.443	-0.145	-0.828
	(0.71)	(0.75)	(0.65)	(0.77)
Other	-0.408	-0.198	-0.075	2.296
	(3.73)	(3.76)	(3.73)	(3.89)
Mother's nationality (France)				
Europe	0.477	1.010	0.208	0.239
	(0.72)	(0.72)	(0.69)	(0.73)
Africa and Turkey	1.108	1.489	1.059	0.349
	(0.74)	(0.77)	(0.68)	(0.80)
Other	1.833	1.693	1.886	-2.652
	(3.73)	(3.77)	(3.73)	(4.02)
Constant	-5.930***	-3.366***	-0.346	1.696**
	(0.71)	(0.70)	(0.62)	(0.66)
Observations		5176		
AIC	12588.481			
BIC	13898.839			
ll	-6094.241			
r2_p	0.169			

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
Controls: region

5.3. Occupation & Wages of the First Job

In this section, we present the estimation results for the labour market outcomes at the entry of the working life : occupational choice and wages.

Tables 5.3.1 and *5.3.2* present the estimation results for the choice of occupational category for the first job for female and male population correspondingly. Such specification allows us to analyze who switch and to which professional groups. We find that education level and professional preferences play an important role in the first occupational choice. If the parents' occupation influences the occupational choice of the men (especially the father's occupation), it has no additional impact on the occupational choice of women. We find similar patterns in the results as for the previous models. The most vulnerable category for both men and women is # 3. Nevertheless, the trajectories of transition between professional categories are different for men and women (as it is listed by the cross-coefficients for tensions outside of the principal diagonal in the matrix for estimated coefficients).

Finally, *Table 5.3.3* lists the estimation results for the wage equation. These results show no return to professional choices, but some effects of the regional labour-market tensions on wages, especially for some professional groups.

Table 5.3.1. Estimation results of first job occupation (among 6 categories for male), conditional on professional preferences

First job occupation	Males				
	Craftsman, storekeeper	Executive	Intermediate profession	Employee	Qualified worker
Unqualified worker (reference)					
Years in advance	-0.310 (0.32)	-0.237 (0.23)	-0.167 (0.20)	-0.127 (0.17)	-0.339* (0.14)
Educational level (bac+3 in reference)					
Bac + 2	-1.875* (0.81)	-2.819*** (0.64)	-1.235 (0.64)	-1.253 (0.68)	-0.098 (0.79)
Bac	-2.254** (0.77)	-4.354*** (0.63)	-2.964*** (0.62)	-1.436* (0.64)	0.141 (0.75)
CAP-BEP	-3.055*** (0.81)	-5.952*** (0.68)	-4.410*** (0.65)	-2.066** (0.65)	-0.026 (0.75)
Less than year 10	-2.757** (0.89)	-6.188*** (0.81)	-3.841*** (0.68)	-1.944** (0.67)	-0.785 (0.78)
Father's occupation (farmer in reference)					
Craftsman, storekeeper	1.236* (0.61)	1.087 (0.58)	0.650 (0.54)	0.706 (0.55)	1.137* (0.45)
Executive	-1.260 (1.23)	1.809** (0.66)	1.302* (0.63)	1.276* (0.64)	1.253* (0.59)
Intermediate profession	-0.385 (0.72)	0.510 (0.57)	0.478 (0.53)	0.568 (0.54)	0.559 (0.46)
Employee	0.342 (0.76)	0.361 (0.63)	0.707 (0.56)	1.005 (0.56)	0.749 (0.48)
Qualified worker	-0.447 (0.67)	0.016 (0.57)	0.092 (0.52)	0.480 (0.52)	0.765 (0.43)
Unqualified worker	0.078 (0.81)	-0.282 (0.70)	0.279 (0.59)	0.462 (0.57)	0.996* (0.47)
Without profession	0.186 (0.96)	0.744 (0.74)	0.062 (0.70)	0.478 (0.65)	0.397 (0.55)
Mother's occupation (farmer in reference)					
Executive	0.862 (0.81)	1.043 (0.66)	0.324 (0.65)	0.955 (0.66)	-0.809 (0.67)
Intermediate profession	-0.167 (0.65)	1.103* (0.52)	0.511 (0.50)	1.241* (0.51)	0.122 (0.44)
Employee (public sector)	-0.323 (0.64)	0.419 (0.53)	0.461 (0.49)	0.563 (0.50)	-0.280 (0.40)
Employee (private sector)	-1.508 (0.78)	0.244 (0.52)	0.557 (0.47)	0.651 (0.49)	-0.173 (0.39)
Staff of services	-0.733 (0.70)	-0.398 (0.59)	0.154 (0.49)	0.382 (0.50)	-0.403 (0.40)
Worker	-1.033 (0.72)	0.074 (0.56)	0.104 (0.49)	0.716 (0.49)	-0.109 (0.38)
Without profession	-0.722 (0.68)	0.089 (0.54)	-0.240 (0.49)	0.215 (0.49)	-0.647 (0.39)
FAP chosen in 2002 (1 in reference)					
FAP 2	0.406 (0.63)	0.931** (0.35)	-0.211 (0.32)	0.372 (0.34)	-0.414 (0.27)
FAP 3	1.273* (0.61)	1.539*** (0.38)	0.733* (0.34)	1.771*** (0.32)	-0.064 (0.30)
FAP 4	1.348* (0.62)	1.067** (0.41)	0.471 (0.37)	1.349*** (0.37)	-0.370 (0.36)
FAP 5	0.294 (0.72)	0.627 (0.41)	0.227 (0.33)	2.211*** (0.28)	0.532* (0.24)
FAP 6	0.633 (0.75)	1.522*** (0.40)	0.879* (0.36)	1.648*** (0.36)	-0.081 (0.34)
FAP 7	1.098* (0.50)	-0.728 (0.43)	-1.254*** (0.36)	-0.508 (0.36)	-1.142*** (0.26)
Constant	0.457 (0.93)	2.367** (0.80)	2.193** (0.76)	-0.293 (0.80)	0.247 (0.82)
Observations	1904				
AIC	4986.236				
BIC	5707.959				
ll	-2363.118				
r2_p	0.252				

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
Controls: region

Table 5.3.2. Estimation results of first job occupation (among 6 categories for female), conditional on professional preferences

First job occupation	<i>Female</i>				
	Executive	Intermediate profession	Employee (public sector)	Employee (private sector)	Staff of services
worker (reference)					
Years in advance	0.690** (0.26)	0.658** (0.23)	0.047 (0.20)	0.214 (0.19)	0.042 (0.21)
Educational level (bac+3 in reference)					
Bac + 2	-1.644** (0.56)	-0.542 (0.56)	0.605 (0.65)	0.071 (0.57)	0.131 (0.72)
Bac	-3.800*** (0.50)	-2.735*** (0.49)	-0.047 (0.57)	-1.013* (0.49)	0.351 (0.61)
CAP-BEP	-5.267*** (0.59)	-3.616*** (0.52)	0.094 (0.57)	-1.735*** (0.50)	-0.123 (0.62)
Less than year 10	-5.030*** (0.71)	-3.424*** (0.59)	-0.302 (0.62)	-1.773** (0.55)	-0.185 (0.67)
Father's occupation (agricult in reference)					
Craftsman, storekeeper	0.410 (0.68)	0.551 (0.62)	0.047 (0.61)	0.425 (0.58)	-0.773 (0.63)
Executive	1.423 (0.77)	0.826 (0.74)	0.651 (0.75)	0.925 (0.71)	0.476 (0.74)
Intermediate profession	1.002 (0.68)	0.672 (0.63)	0.366 (0.61)	0.482 (0.59)	-0.216 (0.62)
Employee	1.195 (0.72)	0.979 (0.68)	1.186 (0.65)	0.915 (0.63)	0.439 (0.65)
Qualified worker	0.947 (0.65)	0.612 (0.61)	0.784 (0.58)	0.775 (0.56)	0.101 (0.57)
Unqualified worker	0.066 (0.72)	0.203 (0.65)	0.189 (0.62)	0.358 (0.59)	-0.173 (0.61)
Without profession	0.384 (0.80)	0.191 (0.74)	0.305 (0.70)	0.240 (0.67)	-0.307 (0.71)
Mother's occupation (agricult in reference)					
Executive	1.462 (1.18)	0.991 (1.17)	0.537 (1.22)	0.585 (1.18)	0.289 (1.26)
Intermediate profession	0.344 (0.65)	0.493 (0.63)	-0.276 (0.65)	0.269 (0.62)	0.190 (0.66)
Employee (public sector)	-0.120 (0.61)	-0.037 (0.59)	-0.394 (0.58)	-0.109 (0.56)	-0.326 (0.60)
Employee (private sector)	-0.005 (0.59)	0.087 (0.56)	-0.648 (0.57)	0.161 (0.54)	-0.577 (0.58)
Staff of services	-0.374 (0.61)	-0.555 (0.58)	-0.627 (0.57)	-0.212 (0.55)	-0.510 (0.59)
Worker	-0.782 (0.61)	-0.785 (0.57)	-1.065 (0.56)	-0.361 (0.53)	-0.932 (0.57)
Without profession	-0.344 (0.59)	-0.163 (0.56)	-0.593 (0.55)	0.124 (0.56)	-0.305 (0.56)
FAP chosen in 2002 (6 in reference)					
FAP 1	-1.250* (0.52)	-2.087*** (0.54)	-2.483*** (0.62)	-1.130* (0.46)	-1.727** (0.62)
FAP 2	-0.264 (0.34)	-0.593 (0.32)	-1.842*** (0.37)	0.443 (0.29)	-0.801* (0.36)
FAP 3	0.511 (0.38)	-0.207 (0.38)	-0.314 (0.37)	0.978** (0.35)	-0.283 (0.42)
FAP 4	-0.516 (0.45)	-0.194 (0.44)	-0.847 (0.48)	-0.908 (0.47)	-0.280 (0.51)
FAP 5	-0.755 (0.39)	-1.005** (0.34)	-0.660* (0.28)	-0.548 (0.29)	0.734* (0.29)
FAP 7	-2.321*** (0.63)	-2.531*** (0.58)	-2.640*** (0.61)	-2.199*** (0.56)	-15.086 (382.40)
Constant	3.387*** (0.73)	3.287*** (0.70)	1.323 (0.74)	1.824** (0.69)	0.929 (0.78)
Observations	2089				
AIC	5811.383				
BIC	6545.160				
ll	-2775.692				
r2_p	0.226				

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
Controls: region

Table 5.3.3. Estimation results for the first job wages.

	Male		Female
lnmwagefj		lnmwagefj	
Years in advance	0.040 (0.03)	Years in advance	0.069** (0.02)
Educational level (bac+3 in reference)		Educational level (bac+3 in reference)	
Bac + 2	-0.095*** (0.03)	Bac + 2	-0.080** (0.03)
Bac	-0.225*** (0.03)	Bac	-0.188*** (0.03)
CAP-BEP	-0.042 (0.05)	CAP-BEP	0.003 (0.16)
Less than year 10		Less than year 10	-0.426*** (0.07)
Tension FAP 1 first job year	-0.687* (0.34)	Tension FAP 1 first job year	-0.208 (0.23)
Tension FAP 2 first job year	-0.044 (0.16)	Tension FAP 2 first job year	-0.252 (0.21)
Tension FAP 3 first job year	-0.242 (0.24)	Tension FAP 3 first job year	0.104 (0.31)
Tension FAP 4 first job year	1.445*** (0.30)	Tension FAP 4 first job year	0.473*** (0.11)
Tension FAP 5 first job year	0.272 (0.29)	Tension FAP 5 first job year	0.189 (0.27)
Tension FAP 6 first job year	-0.080 (0.28)	Tension FAP 6 first job year	-0.030 (0.24)
Tension FAP 7 first job year	0.003 (0.04)	Tension FAP 7 first job year	0.006 (0.03)
FAP chosen in 2002 (1 in reference)		FAP chosen in 2002 (6 in reference)	
FAP 2	0.047 (0.03)	FAP 1	0.072 (0.04)
FAP 3	0.048 (0.04)	FAP 2	-0.042 (0.03)
FAP 4	-0.006 (0.04)	FAP 3	-0.018 (0.03)
FAP 5	-0.043 (0.07)	FAP 4	-0.026 (0.03)
FAP 6	-0.048 (0.04)	FAP 5	-0.055 (0.05)
FAP 7	0.000 (0.05)	FAP 7	0.162 (0.14)
Constant	7.101*** (0.24)	Constant	6.995*** (0.37)
Observations	604	Observations	925
R-squared	0.463	R-squared	0.465
Adjusted R-squared	0.432	Adjusted R-squared	0.445
AIC	226.256	AIC	355.365
BIC	367.171	BIC	519.578

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Controls: region, working time and firm size

5.4. Professional Choice, Employment and Wages in 2008

In this section, we present the estimation results for the labour market outcomes in 2008: professional choice (match or change of profession) and wages.

Table 5.4.1 lists summary statistics for the correspondence of FAP chosen in 2002 and actual profession in the labour market (FAP 2008). We observe that the largest share in each FAP 2002 is continuing in the labour market in the same profession; however, some youths switch to other professional categories. Men most likely switch from professions # 4, 5, and 6 to professional categories # 1 and 3. Women most likely switch from professions # 4 and 7 to professional categories # 1 and 3. We also observe that different professional groups (according to the choices made in 2002) have large variation in unemployment rates from 11% up to 36%. The most unemployed professional categories for men are # 4 and 6, for women – # 3, 4, 6.

Tables 5.4.2 and *5.4.3* show the estimation results for the probability of switching profession in 2008 relative to the 2002 choice. For the first estimations (*Table 5.4.2*) we use labour market tightness indicators in the year, when the individual entry the labour market. For the second set of estimations (*Table 5.4.3*) we use labour market tightness of the year 2008. We also interact the labour market tightness with the choice of FAP made 2002, thus we identify the effects of labour market fluctuations in professional categories for those who wanted to go to a particular category and those who chose different professional groups. Men with desired professional categories # 4 and 6 are most likely to switch to other professions, men with desired professions # 1 and 2 are less likely to switch. Women with desired professional categories # 2, 3 and 6 are less likely to switch their professional occupation. Labour market tightness significantly affects the probability of switching to other professional categories. Thus, professional groups # 3, 4 and 6 for men are most vulnerable to the labour market fluctuations. The most affected by the labour market tightness female professional groups are # 3, 4 and 5.

Tables 5.4.4 and *5.4.5* present the estimation results for the choice of professional category in 2008 for female and male population correspondingly. Such specification allows us to analyze who switch and to which professional groups. We also account for the intra-professional tightness in the labour market, as well as the tightness of chosen in 2002 professions. We find similar patterns in the results as for the previous models. The most vulnerable category for both men and women is # 3. Nevertheless, the trajectories of transition between professional categories are different for men and women (as it is listed by the cross-coefficients for labour market tightness outside of the principal diagonal in the matrix for marginal effects).

Finally, *Table 5.4.6* lists the estimation results for the wage equation. These results show different returns to professional choices, as well as significant effects of the regional labour-market tightness on wages, especially for some professional groups.

Table 5.4.1
Descriptive statistics: professions in 2008 and professional preferences in 2002.

MALE		FAP 2002							Total
FAP 2008	1	2	3	4	5	6	7		
0	66 11.8%	72 18.8%	58 22.4%	112 36.3%	42 15.4%	105 35.0%	30 16.5%	485 21.4%	
1	306 54.6%	74 19.3%	25 9.7%	28 9.1%	28 10.3%	25 8.3%	30 16.5%	516 22.8%	
2	61 10.9%	124 32.3%	16 6.2%	30 9.7%	16 5.9%	18 6.0%	19 10.4%	284 12.5%	
3	62 11.1%	45 11.7%	102 39.4%	38 12.3%	31 11.4%	39 13.0%	34 18.7%	351 15.5%	
4	31 5.5%	51 13.3%	41 15.8%	79 25.6%	63 23.2%	42 14.0%	11 6.0%	318 14.0%	
5	18 3.2%	6 1.6%	8 3.1%	6 1.9%	79 29.0%	14 4.7%	1 0.6%	132 5.8%	
6	8 1.4%	10 2.6%	8 3.1%	11 3.6%	11 4.0%	54 18.0%	1 0.6%	103 4.6%	
7	8 1.4%	2 0.5%	1 0.4%	5 1.6%	2 0.7%	3 1.0%	56 30.8%	77 3.4%	
Total	560 100.0%	384 100.0%	259 100.0%	309 100.0%	272 100.0%	300 100.0%	182 100.0%	2266 100.0%	

FEMALE		FAP 2002							Total
FAP 2008	1	2	3	4	5	6	7		
0	25 23.6%	99 21.5%	132 25.6%	112 28.0%	63 22.1%	287 26.1%	12 17.7%	730 24.9%	
1	34 32.1%	20 4.4%	10 1.9%	43 10.8%	10 3.5%	31 2.8%	16 23.5%	164 5.6%	
2	15 14.2%	161 35.0%	85 16.5%	35 8.8%	39 13.7%	95 8.6%	15 22.1%	445 15.2%	
3	12 11.3%	104 22.6%	244 47.4%	56 14.0%	49 17.2%	153 13.9%	7 10.3%	625 21.3%	
4	6 5.7%	2 0.4%	2 0.4%	84 21.0%	2 0.7%	33 3.0%	1 1.5%	130 4.4%	
5	5 4.7%	39 8.5%	29 5.6%	21 5.3%	96 33.7%	74 6.7%	2 2.9%	266 9.1%	
6	7 6.6%	31 6.7%	13 2.5%	49 12.3%	25 8.8%	424 38.6%	6 8.8%	555 18.9%	
7	2 1.9%	4 0.9%	0 0.0%	0 0.0%	1 0.4%	3 0.3%	9 13.2%	19 0.7%	
Total	106 100.0%	460 100.0%	515 100.0%	400 100.0%	285 100.0%	1100 100.0%	68 100.0%	2934 100.0%	

Table 5.4.2

Estimation results for the probability to change profession, conditional on the year-1st-entry labour market tensions.

PROBIT: Change of profession 2008 vs 2002	Change of Profession 2008 vs 2002		Change of Profession 2008 vs 2002	
	Female		Male	
	<i>coefficient</i>	<i>marginal effect</i>	<i>coefficient</i>	<i>marginal effect</i>
FAP Chosen in 2002 = 1	-0.270 (1.084)	-0.107 (0.425)	-0.205 (0.482)	-0.081 (0.191)
FAP Chosen in 2002 = 2	-2.061*** (0.751)	-0.608*** (0.109)	0.560 (0.496)	0.210 (0.171)
FAP Chosen in 2002 = 3	-0.528 (0.637)	-0.207 (0.240)	0.123 (0.671)	0.048 (0.260)
FAP Chosen in 2002 = 4	-0.260 (0.547)	-0.103 (0.216)	1.226*** (0.442)	0.389*** (0.093)
FAP Chosen in 2002 = 5	-0.118 (0.822)	-0.047 (0.328)	0.657 (0.714)	0.240 (0.229)
FAP Chosen in 2002 = 6	-1.030* (0.582)	-0.393* (0.201)	1.363*** (0.472)	0.416*** (0.088)
(Tension in FAP 1, Year-1st-Entry) · (FAP2002=1)*	-1.044 (1.255)	-0.416 (0.500)	-0.604 (0.547)	-0.239 (0.216)
(Tension in FAP 2, Year-1st-Entry) · (FAP2002=2)*	1.254 (0.835)	0.499 (0.333)	-0.962 (0.652)	-0.380 (0.258)
(Tension in FAP 3, Year-1st-Entry) · (FAP2002=3)*	-2.551*** (0.714)	-1.016*** (0.284)	-0.849 (0.972)	-0.335 (0.384)
(Tension in FAP 4, Year-1st-Entry) · (FAP2002=4)*	-0.504** (0.252)	-0.201** (0.100)	-2.490*** (0.666)	-0.984*** (0.263)
(Tension in FAP 5, Year-1st-Entry) · (FAP2002=5)*	-1.998* (1.029)	-0.795* (0.410)	-0.929 (1.052)	-0.367 (0.416)
(Tension in FAP 6, Year-1st-Entry) · (FAP2002=6)*	-0.568 (0.441)	-0.226 (0.176)	-1.891*** (0.633)	-0.747*** (0.250)
(Tension in FAP 7, Year-1st-Entry) · (FAP2002=7)*	-0.200 (0.305)	-0.080 (0.121)	0.043 (0.157)	0.017 (0.062)
Tension in FAP 1, Year-1st-Entry	0.418 (0.520)	0.166 (0.207)	0.268 (0.584)	0.106 (0.231)
Tension in FAP 2, Year-1st-Entry	0.275 (0.505)	0.109 (0.201)	0.331 (0.382)	0.131 (0.151)
Tension in FAP 3, Year-1st-Entry	1.256* (0.739)	0.500* (0.294)	-1.001* (0.564)	-0.395* (0.223)
Tension in FAP 4, Year-1st-Entry	-0.445 (0.272)	-0.177 (0.108)	0.453 (0.579)	0.179 (0.229)
Tension in FAP 5, Year-1st-Entry	-0.621 (0.528)	-0.247 (0.210)	1.086* (0.562)	0.429* (0.222)
Tension in FAP 6, Year-1st-Entry	0.533 (0.405)	0.212 (0.161)	-0.035 (0.397)	-0.014 (0.157)
Tension in FAP 7, Year-1st-Entry	-0.107** (0.045)	-0.042** (0.018)	-0.043 (0.052)	-0.017 (0.021)
Dummy Variables for the Years-of-1st-Entry	X	X	X	X
Observations	2,204	2,204	1,781	1,781

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Controls: parents' occupational background, educational level, age, dummy for growing up with parents, dummy variables for the year of 1st entry.

Table 5.4.3

Estimation results for the probability to change profession, conditional on the current year labour market tensions.

PROBIT: Change of profession 2008 vs 2002	Change of Profession 2008 vs 2002		Change of Profession 2008 vs 2002	
	Female		Male	
	<i>coefficient</i>	<i>marginal effect</i>	<i>coefficient</i>	<i>marginal effect</i>
FAP Chosen in 2002 = 1	-0.168 (1.317)	-0.067 (0.523)	-1.007* (0.606)	-0.384* (0.209)
FAP Chosen in 2002 = 2	-1.577** (0.789)	-0.522*** (0.170)	-1.011 (0.653)	-0.380* (0.212)
FAP Chosen in 2002 = 3	-0.947 (0.600)	-0.355* (0.194)	0.249 (0.876)	0.096 (0.330)
FAP Chosen in 2002 = 4	-0.470 (0.508)	-0.185 (0.193)	0.575 (0.455)	0.212 (0.151)
FAP Chosen in 2002 = 5	0.012 (0.744)	0.005 (0.296)	0.455 (0.651)	0.172 (0.229)
FAP Chosen in 2002 = 6	-1.161** (0.545)	-0.437** (0.183)	1.013** (0.490)	0.340*** (0.123)
(Tension 2008 in FAP 1) · (FAP2002=1)*	-1.291 (1.745)	-0.514 (0.695)	0.446 (0.773)	0.176 (0.306)
(Tension 2008 in FAP 2) · (FAP2002=2)*	0.427 (0.978)	0.170 (0.389)	1.436 (0.892)	0.567 (0.353)
(Tension 2008 in FAP 3) · (FAP2002=3)*	-1.650** (0.682)	-0.657** (0.271)	-1.014 (1.311)	-0.401 (0.518)
(Tension 2008 in FAP 4) · (FAP2002=4)*	-0.195 (0.249)	-0.077 (0.099)	-1.151* (0.659)	-0.455* (0.260)
(Tension 2008 in FAP 5) · (FAP2002=5)*	-2.260** (0.917)	-0.899** (0.365)	-0.694 (0.943)	-0.274 (0.373)
(Tension 2008 in FAP 6) · (FAP2002=6)*	-0.383 (0.449)	-0.153 (0.179)	-1.200* (0.643)	-0.474* (0.254)
(Tension 2008 in FAP 7) · (FAP2002=7)*	-0.256 (0.296)	-0.102 (0.118)	0.010 (0.172)	0.004 (0.068)
Tension 2008 in FAP 1	0.849 (0.725)	0.338 (0.289)	0.321 (0.818)	0.127 (0.323)
Tension 2008 in FAP 2	0.316 (0.555)	0.126 (0.221)	-0.116 (0.395)	-0.046 (0.156)
Tension 2008 in FAP 3	-0.018 (0.732)	-0.007 (0.291)	-1.243** (0.567)	-0.491** (0.224)
Tension 2008 in FAP 4	-0.293 (0.232)	-0.117 (0.093)	0.118 (0.771)	0.046 (0.305)
Tension 2008 in FAP 5	-0.381 (0.495)	-0.152 (0.197)	0.481 (0.539)	0.190 (0.213)
Tension 2008 in FAP 6	0.771 (0.497)	0.307 (0.198)	-0.104 (0.494)	-0.041 (0.195)
Tension 2008 in FAP 7	-0.099** (0.050)	-0.039** (0.020)	-0.040 (0.057)	-0.016 (0.022)
Observations	2,204	2,204	1,781	1,781

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Controls: parents' occupational background, educational level, age, dummy for growing up with parents

Table 5.4.4. Estimation results for the professional choice in 2008 (among 6 categories for female), conditional on the year-1st-entry labour market tensions.

VARIABLES	Female										
	coefficients					marginal effects					
	1	2	3	4	5	for FAP 1	for FAP 2	for FAP 3	for FAP 4	for FAP 5	for FAP 6
FAP Chosen in 2002 = 1	-2.393 (1.994)	-4.115** (2.053)	-0.413 (2.113)	1.396 (3.904)	-2.979 (2.557)	-0.075*** (0.013)	-0.267*** (0.019)	0.017 (0.621)	0.250 (0.900)	-0.104*** (0.017)	0.178 (0.692)
FAP Chosen in 2002 = 2	1.200 (1.496)	0.829 (1.267)	-0.061 (1.316)	1.799 (3.860)	0.584 (1.630)	0.122 (0.251)	0.119 (0.299)	-0.203 (0.239)	0.085 (0.446)	0.012 (0.208)	-0.135 (0.211)
FAP Chosen in 2002 = 3	0.085 (1.493)	0.089 (1.172)	0.579 (1.190)	0.820 (3.564)	0.540 (1.517)	-0.026 (0.115)	-0.068 (0.181)	0.127 (0.274)	0.019 (0.166)	0.040 (0.208)	-0.092 (0.225)
FAP Chosen in 2002 = 4	-0.551 (0.835)	-0.839 (0.828)	-0.020 (0.875)	4.238 (3.048)	0.484 (1.201)	-0.075*** (0.023)	-0.254*** (0.059)	-0.252 (0.253)	0.798 (0.582)	-0.043 (0.145)	-0.175 (0.174)
FAP Chosen in 2002 = 5	-1.486 (1.786)	-1.281 (1.495)	-1.170 (1.510)	3.649 (4.225)	-0.831 (1.653)	-0.080*** (0.027)	-0.236*** (0.091)	-0.329** (0.166)	0.825 (0.735)	-0.086 (0.065)	-0.095 (0.480)
FAP Chosen in 2002 = 6	-2.153** (0.983)	-2.491*** (0.914)	-0.670 (0.953)	3.021 (3.129)	-1.270 (1.237)	-0.116** (0.057)	-0.396*** (0.105)	-0.004 (0.297)	0.396 (0.590)	-0.063 (0.102)	0.183 (0.319)
Tension in FAP 1, Year-1st-Entry	0.222 (0.930)	0.716 (0.752)	0.439 (0.725)	-5.224*** (1.231)	0.494 (0.810)	-0.006 (0.092)	0.142 (0.147)	0.066 (0.168)	-0.142*** (0.044)	0.035 (0.092)	-0.095 (0.157)
Tension in FAP 2, Year-1st-Entry	2.034* (1.067)	-0.315 (0.938)	0.652 (0.865)	1.916 (1.345)	1.240 (1.033)	0.195* (0.106)	-0.265 (0.193)	0.075 (0.208)	0.036 (0.033)	0.119 (0.125)	-0.161 (0.184)
Tension in FAP 3, Year-1st-Entry	-2.551* (1.499)	0.181 (1.231)	-2.648** (1.160)	-1.505 (1.765)	-3.438** (1.445)	-0.142 (0.151)	0.532** (0.249)	-0.541* (0.279)	-0.001 (0.042)	-0.321* (0.176)	0.473* (0.248)
Tension in FAP 4, Year-1st-Entry	-0.222 (0.522)	-0.826** (0.421)	0.289 (0.395)	1.404** (0.657)	-0.269 (0.512)	-0.012 (0.053)	-0.231*** (0.086)	0.184* (0.095)	0.040** (0.018)	-0.023 (0.063)	0.042 (0.085)
Tension in FAP 5, Year-1st-Entry	0.539 (1.001)	1.110 (0.825)	1.229 (0.792)	4.322*** (1.198)	1.606* (0.937)	-0.054 (0.099)	0.053 (0.163)	0.124 (0.186)	0.087** (0.034)	0.104 (0.110)	-0.314* (0.170)
Tension in FAP 6, Year-1st-Entry	1.588* (0.863)	0.254 (0.742)	0.478 (0.730)	-2.146* (1.292)	0.728 (0.833)	0.152* (0.081)	-0.046 (0.135)	0.037 (0.158)	-0.066** (0.034)	0.053 (0.092)	-0.130 (0.161)
Tension in FAP 7, Year-1st-Entry	-0.120 (0.100)	-0.180** (0.082)	-0.114 (0.078)	-0.023 (0.126)	-0.146 (0.091)	-0.002 (0.010)	-0.025 (0.016)	-0.004 (0.019)	0.002 (0.003)	-0.007 (0.011)	0.035** (0.017)
(Tension in FAP 1, Year-1st-Entry) · (FAP2002=1)*	4.072 (2.537)	5.708** (2.617)	1.178 (2.714)	3.437 (3.314)	4.267 (3.263)	0.183 (0.193)	1.024** (0.465)	-0.629 (0.594)	0.020 (0.069)	0.263 (0.376)	-0.861 (0.586)
(Tension in FAP 2, Year-1st-Entry) · (FAP2002=2)*	-3.419* (1.997)	-0.472 (1.552)	1.261 (1.559)	1.297 (3.448)	-0.556 (1.895)	-0.425** (0.192)	-0.136 (0.281)	0.581* (0.342)	0.037 (0.082)	-0.077 (0.218)	0.020 (0.345)
(Tension in FAP 3, Year-1st-Entry) · (FAP2002=3)*	-1.977 (2.642)	0.758 (1.754)	2.687 (1.675)	3.930 (3.209)	-0.256 (2.138)	-0.362 (0.252)	-0.042 (0.275)	0.795*** (0.308)	0.081 (0.072)	-0.180 (0.229)	-0.292 (0.404)
(Tension in FAP 4, Year-1st-Entry) · (FAP2002=4)*	-0.049 (0.497)	0.372 (0.471)	0.290 (0.432)	0.205 (0.611)	-0.812 (0.839)	-0.016 (0.048)	0.095 (0.097)	0.090 (0.105)	0.003 (0.014)	-0.143 (0.110)	-0.028 (0.098)
(Tension in FAP 5, Year-1st-Entry) · (FAP2002=5)*	0.534 (2.670)	1.371 (2.144)	2.777 (2.095)	-1.158 (5.126)	2.609 (2.066)	-0.123 (0.255)	-0.046 (0.392)	0.559 (0.453)	-0.068 (0.124)	0.178 (0.200)	-0.499 (0.462)
(Tension in FAP 6, Year-1st-Entry) · (FAP2002=6)*	-0.366 (0.975)	1.336 (0.814)	-0.169 (0.775)	-1.192 (1.363)	0.281 (0.946)	-0.076 (0.097)	0.363** (0.163)	-0.180 (0.183)	-0.037 (0.033)	0.008 (0.113)	-0.078 (0.167)
(Tension in FAP 7, Year-1st-Entry) · (FAP2002=7)*	0.102 (0.464)	0.043 (0.468)	0.067 (0.516)	1.671 (1.367)	-0.317 (0.718)	0.008 (0.040)	0.003 (0.092)	0.015 (0.126)	0.042 (0.034)	-0.057 (0.092)	-0.011 (0.105)
Observations	2,185	2,185	2,185	2,185	2,185	2,185	2,185	2,185	2,185	2,185	2,185

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. Excluding FAP2008 = 7 for females
 Controls: parents' occupational background, educational level, age, dummy for growing up with parents

Table 5.4.5. Estimation results for the professional choice in 2008 (among 6 categories for male), conditional on the year-1st-entry labour market tensions.

VARIABLES	Male												
	coefficients						marginal effects						
	1	2	3	4	5	6	for FAP 1	for FAP 2	for FAP 3	for FAP 4	for FAP 5	for FAP 6	for FAP 7
FAP Chosen in 2002 = 1	1.423 (1.356)	0.105 (1.409)	0.679 (1.383)	-1.616 (1.477)	-0.129 (2.213)	0.573 (2.181)	0.413** (0.194)	-0.081 (0.122)	0.054 (0.174)	-0.348*** (0.088)	-0.032 (0.077)	0.005 (0.094)	-0.011 (0.025)
FAP Chosen in 2002 = 2	4.924** (2.149)	5.339** (2.144)	4.972** (2.170)	4.197* (2.187)	3.325 (2.865)	6.363** (2.707)	-0.015 (0.213)	0.107 (0.198)	0.003 (0.195)	-0.145 (0.100)	-0.058 (0.037)	0.181 (0.342)	-0.073* (0.040)
FAP Chosen in 2002 = 3	3.386 (2.987)	2.882 (3.023)	3.434 (2.917)	0.738 (2.985)	1.031 (3.511)	5.579 (3.468)	-0.028 (0.364)	-0.102 (0.158)	-0.008 (0.281)	-0.248*** (0.041)	-0.055*** (0.021)	0.468 (0.585)	-0.028 (0.019)
FAP Chosen in 2002 = 4	1.552 (1.153)	1.582 (1.164)	2.395** (1.124)	0.955 (1.147)	1.197 (2.129)	4.873*** (1.825)	-0.235* (0.139)	-0.137 (0.085)	-0.016 (0.242)	-0.192*** (0.044)	-0.041 (0.027)	0.644 (0.407)	-0.022*** (0.009)
FAP Chosen in 2002 = 5	1.338 (2.651)	-1.842 (2.748)	1.850 (2.641)	0.405 (2.626)	1.816 (3.089)	2.594 (3.132)	0.016 (0.337)	-0.278*** (0.050)	0.209 (0.367)	-0.148 (0.101)	0.050 (0.226)	0.167 (0.388)	-0.017 (0.018)
FAP Chosen in 2002 = 6	2.663* (1.359)	0.831 (1.383)	2.436* (1.319)	1.676 (1.361)	1.733 (2.121)	4.948*** (1.882)	-0.026 (0.273)	-0.209*** (0.036)	-0.077 (0.174)	-0.161** (0.068)	-0.037 (0.032)	0.535 (0.414)	-0.024** (0.010)
Tension in FAP 1, Year-1st-Entry	1.463 (1.502)	-0.597 (1.537)	1.292 (1.507)	-0.813 (1.531)	1.519 (1.740)	-1.062 (1.716)	0.401* (0.207)	-0.287* (0.160)	0.268 (0.178)	-0.355** (0.155)	0.081 (0.078)	-0.093 (0.060)	-0.015 (0.046)
Tension in FAP 2, Year-1st-Entry	-0.519 (0.925)	0.087 (0.964)	0.234 (0.927)	0.392 (0.962)	-1.346 (1.083)	-0.174 (1.137)	-0.181 (0.137)	0.045 (0.116)	0.105 (0.123)	0.130 (0.112)	-0.098* (0.053)	-0.005 (0.045)	0.003 (0.028)
Tension in FAP 3, Year-1st-Entry	-0.420 (1.752)	0.053 (1.774)	-0.652 (1.771)	-2.359 (1.823)	0.155 (2.019)	0.512 (1.967)	0.105 (0.228)	0.192 (0.176)	0.007 (0.208)	-0.461** (0.195)	0.063 (0.089)	0.071 (0.066)	0.022 (0.054)
Tension in FAP 4, Year-1st-Entry	-1.293 (1.553)	0.715 (1.589)	0.214 (1.560)	1.732 (1.586)	0.021 (1.781)	3.254* (1.810)	-0.643*** (0.211)	0.117 (0.168)	-0.019 (0.186)	0.398** (0.166)	-0.022 (0.079)	0.180** (0.070)	-0.011 (0.047)
Tension in FAP 5, Year-1st-Entry	-1.001 (1.492)	-1.298 (1.539)	-1.429 (1.515)	0.938 (1.546)	-0.331 (1.792)	-0.413 (1.765)	-0.120 (0.203)	-0.157 (0.166)	-0.240 (0.189)	0.449*** (0.170)	0.028 (0.085)	0.017 (0.066)	0.023 (0.046)
Tension in FAP 6, Year-1st-Entry	0.882 (1.128)	0.372 (1.157)	0.482 (1.138)	-0.354 (1.169)	0.000 (1.327)	-0.229 (1.374)	0.217 (0.155)	0.005 (0.125)	0.043 (0.141)	-0.193 (0.128)	-0.026 (0.062)	-0.035 (0.053)	-0.011 (0.034)
Tension in FAP 7, Year-1st-Entry	0.207 (0.197)	0.243 (0.201)	0.148 (0.199)	0.253 (0.200)	0.181 (0.214)	0.341 (0.219)	-0.001 (0.021)	0.009 (0.017)	-0.020 (0.019)	0.012 (0.017)	-0.002 (0.008)	0.008 (0.007)	-0.007 (0.006)
(Tension in FAP 1, Year-1st-Entry) · (FAP2002=1)*	1.530 (1.796)	1.674 (1.847)	1.130 (1.834)	2.926 (1.906)	1.180 (2.094)	2.816 (2.230)	-0.081 (0.216)	-0.014 (0.183)	-0.198 (0.211)	0.327 (0.207)	-0.043 (0.093)	0.066 (0.085)	-0.058 (0.056)
(Tension in FAP 2, Year-1st-Entry) · (FAP2002=2)*	-3.779 (2.729)	-3.957 (2.698)	-4.187 (2.769)	-4.052 (2.746)	-3.026 (3.212)	-4.553 (3.133)	0.036 (0.266)	-0.025 (0.190)	-0.107 (0.255)	-0.052 (0.211)	0.064 (0.137)	-0.043 (0.102)	0.128 (0.081)
(Tension in FAP 3, Year-1st-Entry) · (FAP2002=3)*	-2.540 (4.545)	-2.060 (4.588)	-0.671 (4.419)	1.423 (4.491)	0.545 (4.753)	-3.190 (4.844)	-0.598 (0.480)	-0.259 (0.380)	0.139 (0.331)	0.685** (0.335)	0.125 (0.157)	-0.129 (0.135)	0.035 (0.141)
(Tension in FAP 4, Year-1st-Entry) · (FAP2002=4)*	-0.641 (1.953)	-0.870 (1.934)	-1.536 (1.895)	0.624 (1.816)	-1.091 (2.557)	-3.521 (2.198)	0.056 (0.328)	-0.024 (0.240)	-0.252 (0.265)	0.383* (0.197)	-0.023 (0.145)	-0.166* (0.090)	0.026 (0.056)
(Tension in FAP 5, Year-1st-Entry) · (FAP2002=5)*	0.584 (4.266)	5.217 (4.373)	0.126 (4.253)	2.434 (4.190)	1.264 (4.267)	1.985 (4.548)	-0.481 (0.496)	0.919** (0.414)	-0.540 (0.428)	0.186 (0.320)	-0.039 (0.119)	0.013 (0.132)	-0.059 (0.131)
(Tension in FAP 6, Year-1st-Entry) · (FAP2002=6)*	-2.288 (2.069)	0.400 (2.033)	-1.061 (1.973)	-0.893 (1.973)	-0.874 (2.141)	-1.206 (2.024)	-0.495 (0.320)	0.393* (0.227)	0.008 (0.236)	0.052 (0.200)	0.015 (0.088)	-0.009 (0.057)	0.035 (0.061)
(Tension in FAP 7, Year-1st-Entry) · (FAP2002=7)*	-0.203 (0.311)	-0.327 (0.337)	-0.014 (0.305)	-0.969** (0.432)	-1.668 (1.850)	0.149 (0.715)	0.074 (0.078)	0.015 (0.062)	0.123* (0.066)	-0.160* (0.084)	-0.099 (0.121)	0.033 (0.040)	0.013 (0.010)
Observations	1,781	1,781	1,781	1,781	1,781	1,781	1,781	1,781	1,781	1,781	1,781	1,781	1,781

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Controls: parents' occupational background, educational level, age, dummy for growing up with parents

Table 5.4.6. Estimation results for the wages in 2008.

Wage Equation, 2008	MALE			FEMALE		
	ln(wage)	ln(wage)	ln(wage)	ln(wage)	ln(wage)	ln(wage)
FAP Chosen in 2002 = 1	0.091 (0.152)	0.142 (0.145)	0.149*** (0.031)	0.259 (0.341)	0.120 (0.320)	0.366*** (0.085)
FAP Chosen in 2002 = 2	0.190 (0.164)	0.244 (0.157)	0.184*** (0.033)	0.075 (0.287)	0.038 (0.268)	0.236*** (0.084)
FAP Chosen in 2002 = 3	0.004 (0.170)	0.053 (0.162)	0.104*** (0.032)	0.165 (0.252)	0.087 (0.243)	0.290*** (0.085)
FAP Chosen in 2002 = 4	0.114 (0.120)	0.124 (0.120)	0.114*** (0.033)	0.058 (0.248)	0.027 (0.245)	0.171** (0.086)
FAP Chosen in 2002 = 5	0.355* (0.196)	0.410** (0.192)	0.061 (0.039)	-0.000 (0.278)	-0.067 (0.268)	0.132 (0.085)
FAP Chosen in 2002 = 7 for Male / / FAP Chosen in 2002 = 6 for Female	-0.011 (0.134)	0.030 (0.125)	-0.070 (0.047)	0.144 (0.251)	0.064 (0.243)	0.281*** (0.084)
Tension 2008 in chosen in 2002 FAP			0.064* (0.039)			0.186*** (0.044)
(Tension 2008 in FAP 1) · (FAP2002=1)*	0.197 (0.180)	0.155 (0.141)		0.055 (0.343)	0.278 (0.305)	
(Tension 2008 in FAP 2) · (FAP2002=2)*	0.108 (0.196)	0.059 (0.176)		0.126 (0.247)	0.210 (0.196)	
(Tension 2008 in FAP 3) · (FAP2002=3)*	0.280 (0.234)	0.236 (0.195)		0.049 (0.145)	0.224** (0.095)	
(Tension 2008 in FAP 4) · (FAP2002=4)*	0.126 (0.122)	0.147 (0.096)		0.073 (0.083)	0.135* (0.076)	
(Tension 2008 in FAP 5) · (FAP2002=5)*	-0.342 (0.269)	-0.392 (0.248)		0.088 (0.218)	0.213 (0.195)	
(Tension 2008 in FAP 6) · (FAP2002=6)*	0.114 (0.166)	0.150 (0.150)		0.086 (0.121)	0.242*** (0.086)	
(Tension 2008 in FAP 7) · (FAP2002=7)*	0.046 (0.052)	0.027 (0.050)		0.053 (0.157)	0.060 (0.156)	
Tension 2008 in FAP 1	-0.036 (0.176)			-0.025 (0.181)		
Tension 2008 in FAP 2	-0.094 (0.088)			-0.288** (0.135)		
Tension 2008 in FAP 3	-0.067 (0.126)			-0.021 (0.186)		
Tension 2008 in FAP 4	-0.106 (0.168)			0.042 (0.058)		
Tension 2008 in FAP 5	0.016 (0.116)			0.192 (0.123)		
Tension 2008 in FAP 6	0.159 (0.107)			0.114 (0.122)		
Tension 2008 in FAP 7	-0.023* (0.012)			0.011 (0.012)		
Observations	1,781	1,781	1,781	2,204	2,204	2,204
R-squared	0.140	0.136	0.132	0.191	0.186	0.178

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Controls: parents' occupational background, educational level, age, dummy for growing up with parents,

6. Conclusion

coming soon

7. Bibliography

Altonji, J. and Dunn, T. (1996). The effects of family characteristics on the return to education. *The Review of Economics and Statistics* 4, pp. 692–704.

Arcidiacono P. (2004). “Ability Sorting and the Returns to College Major”, *Journal of Econometrics*, Vol. 121, Nos. 1-2 (August, 2004), 343-375.

Arcidiacono P., Hotz J., Kang S. (2004). “Modeling College Major Choice using Elicited Measures of Expectations and Counterfactuals, *Journal of Econometrics*, Vol. 166, No. 1 (January 2012), 3-16

Belzil, C. (2007). “The return to schooling in structural dynamic models: a survey”, *European Economic Review*, 2007, (51).

Gaini M., Leduc A., Vicard A. (2012). “A scarred generation? French evidence on young people entering into tough labour market”, *mimeo*.

Heckman J.J., Sedlacek G.L. (1990). “Self-Selection and the Distribution of Hourly Wage,” *Journal of Labor Economics*, 1990, 8 (1, Part 2: Essays in Honor of Albert Rees (Jan., 1990)), S329-S363.

Keane, Michael P & Wolpin, Kenneth I. (1997). “The Career Decisions of Young Men”, *Journal of Political Economy*, University of Chicago Press, vol. 105(3) pp.473-522.

Lee, L.-F. (1983). “Generalized Econometric Models with Selectivity”, *Econometrica*, 1983, 51(2 (Mar.)), 507-512.

Long, B.T. (2007), “The Contributions of Economics to the Study of College Access and Success,” *Teachers College Record*, 2007, 109 (10), 2367-2443.

Miller, Robert A. (1984). “Job Matching and Occupational Choice”, *Journal of Political Economy* 92(6), December; 1086-1120.

Oreopoulos P., von Wachter T., Heisz A. (2008). “The Short- and Long-Term Career Effects of Graduating in a Recession: Hysteresis and Heterogeneity in the Market for College Graduates”, *IZA DP No. 3578*.