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**Labour Market Segmentation:  
a Comparison between France and the UK  
From the Eighties to nowadays.**

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**Abstract**

Regarding changes in French and British labour market as in their educational system since the Eighties, one may address the evolution of their labour market segmentation. Is the predominance of Internal Labour Market in France and Occupational Labour Market in Great Britain (Eyraud, Marsden, Silvestre,1990) still relevant ? We propose a more complex segmentation of labour market with four segments based on tenure, labour mobility and their wage return to account for nowadays situation. Empirical investigations we carried out are based on national labour surveys (Enquête Emploi for France, LFS and GHS for Great Britain). In this paper we expose first investigations and explain which further methods we propose to use in order to characterise French and British labour market segmentation.

# 1. Introduction

Between 1980 and 2000, France and Great Britain experienced both large expansions of their education system and substantial transformations of their labour markets (Béduwé and Germe, 2003; Green, Mc Intoch, Vignoles, 2002; Béduwé and Planas, 2002). Many studies, by French or British authors (Amossé, 2002; Léné, 2002; Gregg and Wadsworth, 1996), bring to light a modification of the system of labour mobility. They detect a strengthening opposition between on one hand those employees with a very long length of service, whose position in their firm are very stable and on the other hand those individuals engaged in frequent transitions within the labour market (Fouquin and al, 2000; Dupray, 2000).

The motivation for a comparison between France and Great Britain comes from the fact that these two countries had both known changes in their educational system and substantial transformations of their labour market. But these two countries are not characterised by the same societal organisation of their labour market. If we follow Eyraud, Marsden, Silvestre (1990) study about the Eighties, the predominant structure was in France the Internal Labour Market (ILM) and in Great Britain it was Occupational Labour Market (OLM). It is then interesting to study the dynamic of their evolution, if similar ways of labour force organisation appear, if particular national “model” strengthen.

The objective of our research is to study labour market segmentation in France and Great Britain, understand the types of “occupational spaces” we find and to learn to characterise them. The notion of “occupational spaces” we adopt has already been used by Silvestre (1986), who chose this notion instead of the concept of market to emphasize the fact that these “occupational spaces” are characterised by their own rules and procedures, their own construction of qualifications and skills and their mobility system. Traditional economic variables as costs and prices are not the predominant way to organise the work relation. Silvestre focus on mobility because with this notion he can reveal rules, which organised the different “occupational spaces”.

A way to understand mobility is to analyse the ties between tenure and wages, which means the return to seniority. It is one of the reasons why we focus on the tenure or seniority. We also chose to focus on tenure because it is a structuring variable of labour market structure and organisation and because it knows significant changes between the Eighties and nowadays. We use to characterise each type of “occupational spaces”. The first statement we are going to establish is the existence of different labour force management organisation in each country. Then we could make hypothesis about the main types of segments we find on the labour market, in France and Great Britain, and their causes.

In the first part of the paper, we survey previous work in the economic literature pointed out the hypotheses of different group of workers in terms of tenure, employment stability. According to these leads we set down a theoretical framework to analyse labour market segmentation. Regarding the

question of returns to length of service, we draw on ideas presented in the works of Doeringer and Piore (1971) and Piore (1975) and also Silvestre (1986) and Marsden (1989), to propose four “occupational spaces”. An “Internal Labour Market” within which length of service has a positive and significant return. A “Secondary Internal Labour Market” within which length of service is long but without a significant wage return. An “Occupational Labour Market” within which mobility has a positive wage returns based on transferable and recognised occupational skills. A “Secondary External Labour Market” where length of service is short but labour mobility is not either jointed to wage progressions.

In a second part, we are going to present data and empirical investigations. Empirical investigations we carried out are based on national surveys. For France, we use INSEE *Enquête Emploi*, years 1982 and 2001. For Great Britain, we use General Household Survey (GHS) for the year 1983 and Labour force Survey (LFS) for years 2001. After presenting the first step of our econometric treatments, we will explain further investigations we plan.

## 2. Analytical framework, four “occupational spaces”

### 2.1 French and British Labour Market, towards a destabilisation of traditional segmentation

If we follow Eyraud, Marsden and Silvestre (1990) the ILM organisation was the predominant labour force organisation in France in the Eighties and OLM the one in Great Britain. French labour market, with an ILM structure, was characterised by internal work force allocation mechanism, internal mobility, and gradual skill acquisition largely linked with on-the-job training and seniority as well. The main labour market organisation in Great Britain was qualified as OLM. This model is characterised by skill acquisition at the beginning of working life, in a structured occupational training system such as apprenticeship. Training is mostly transferable and recognised by firm of the industry. Mobility is mostly external, between firms.

The Eighties, both in France and Great Britain, correspond to a period of transformation of their employment system, which questioned these traditional models.

Gautié (2002), for France, deals with a logical destabilisation of labour market functioning. It is linked on one hand with economical slow down and rise of unemployment, which reduce the need for firm to stabilise their work force. On another hand, competition and organisational changes push firms to research flexibility and incentive earning system (Lemistre, 2002). Studying the first part of the Eighties, Béret (1992) shows, in France, a decrease in the return to seniority, so the decrease of one of the main characteristics of ILM. But in the same time he puts in light that the part of workers with long length of service is increasing. Between 1985 and 1990, spells of unemployment have been more present for every qualification level and occupational categories. All these transformations of the mobility system (diversification in the way of recruitment for upper job categories, reduction of return to seniority, increase in unemployment spells etc.) can be considered as indicators of ILM perturbation (Lefresne, 2001; Monchatre and Pottier, 2003).

Gregg and Wadsworth (1996) in a study on the 1972-1993 period notice that “while tenure and security have changed only marginally for the majority, entry positions available to those currently not in employment have become increasingly unstable and low paid” (p 73). The tendency is a development of part-time and temporary jobs and a scarcity of full-time permanent posts. Job tenure has decreased between 1975 and 1989 before stabilising between 1989 and 1993 but on the whole period, job tenure is reducing. Labour turnover is less important for better-paid and qualified workers. The increase in labour turnover is largely linked with the development of part-time or self-employment in which job tenure is shorter. Gregg and Wadsworth (1996) explain that job mobility does not seem to have a positive return on wage. Controlling different variables they find that “continuing job still paid 75 per cent more than entry jobs and 20 per cent more than job-to-job moves” (p 83). They have pointed out a fall in median job tenure, a rise of labour turnover essentially for older or less skilled workers and a development of unstable forms of employment (part-time, temporary and self-employment). All these indicators put in light a rise in inequality in terms of job stability on the British labour market.

All the changes, we pointed out above, express the idea of a more complex labour market organisation than the one of the Eighties both in France and in Great Britain. To try to formulate hypothesis about this segmentation we construct a fourfold division of labour market based on criteria of seniority and return to length of service.

## 2.2 A Fourfold Division of Labour Market

The basic hypothesis of labour market segmentation is that of Doeringer and Piore (1971) based on a dualistic segmentation. They distinguish a primary and a secondary sector. The first one is characterised by high wages, good working conditions, and chances of advancement, equity and due process. But above all its hallmark is employment stability. In the second segment, the secondary, jobs are low-paid, working conditions are poorer; there are little chances of advancement, instability in jobs and high turnover.

Next to these two segments one can find others spaces constituted by jobs with characteristics borrowed from primary and secondary segments. Piore (1975) adopts a broader view of the labour market that is linked with the heterogeneity of the primary sector. Piore (1975) adds a third sector because he distinguishes within primary segment the upper and the lower tier.

The upper tier corresponds to professional and managerial jobs with high pay and status, great promotion opportunities. Within the upper tier, mobility and turnover pattern more closely resemble those of the secondary sector but they are associated with advancement. The organisation of this upper tier is governed by internalised code of behaviour, less formal than rules and procedures of the lower tier but different from secondary segment organisation. Barriers of entry in the upper tier are based on formal education as a requisite for employment. Next to the upper tier there is the lower tier, which has the characteristics of the primary sector explained above (high wages, good working conditions, and chances of advancement, equity and due process).

If we compare the Piore (1975) Labour Market division with Eyraud, Marsden and Silvestre (1990) distinction between ILM and OLM, we can bring together the upper tier and the OLM. In these two types of labour market, education has a very important role, but not really based on the same conception. In Piore upper tier, formal education appears as a proof that people shared a code of

behaviour, had a certain level of ability. In Eyraud, Marsden and Silvestre OLM, education is more linked with skill acquisition, with a specific content certificated and recognised by employers.

The threefold division of labour market proposed by Piore (1975) is not really satisfactory. This triple segmentation does not take into account jobs in which employment is stable; length of service is long and working conditions not too bad but where there is little or no chance of advancement and promotion. This sort of job has the stability, which characterised primary sector but little chance of advancement and promotion like in the secondary one.

To get round this limit, we propose a fourfold division of labour market based upon two criteria: the presence of long length of service and the presence of a positive return to length of service or its contrary job mobility.

We can explain this fourfold division in the following table:

Table 1: Labour Market Segmentation

|   | <b>Long length of service</b>    | <b>Short length of service</b>   |
|---|----------------------------------|----------------------------------|
| <b>Positive return to length of service / or job mobility</b>       | Internal Labour Market           | Occupational Labour Market       |
| <b>No significant return to length of service / or job mobility</b> | Secondary Internal Labour Market | Secondary External Labour Market |

Piore (1975) develops the concept of mobility chains to explain the fact that movement in our society occurs in more or less regular channels. The fact that people have job in a segment or another is not a random situation. Sequences of promotion and the way in which jobs are internally filled or not are structured differently in the four spaces pointed above. Piore (1975) explains that mobility chains defined as a sequence of different stations including jobs and “others points of social and economical significance” (p 128) can be taken in a narrow or a larger way. The three segments he proposed (primary upper and lower tier and secondary sector) may be redefined as a “board typology of mobility chains” (p 129).

In the way we adopt the problem of labour market segmentation, the four segments we propose may correspond to four type of labour force organisation.

Our typology explains that the way in which workers extract a positive wage return from their tenure is not the same in each segments. We make the hypothesis, following Lemistre (2002) that this difference in return to tenure is linked both to individuals and employment characteristics. In that way, empirical investigation we carried out use both individual variables (age, education attainment, sex etc.) and employment characteristics (size of the working place, industry and occupational classification etc.)

### 3. Data and evidence

This part of the paper presents data we used and the first empirical investigations we carried out. After these two first points we explain future work we are going to set up.

#### 3.1 Data

As we explained in the introduction we use national labour force surveys for France and Great Britain. We have constructed the same variables or regrouping in each survey as far as possible. Variables we are going to present for France, 1982 and 2001, come from *INSEE Enquête Emploi* and for Great Britain, 1983 data come from GHS and 2001 data from LFS.

The population we focus on, in each national survey, is constituted with men (16-65 years old) and women (16-55 years old) in employment (employed or self-employed), for whom we know monthly wage. It corresponds, in France, to 51.338 individuals for 1982 and 61.533 for 2001; and for Great Britain, to 8.280 for 1983 and 15.676 individuals for 2001<sup>1</sup>.

As one can see in appendix 1, age structure of each national sample is comparable for each year. The tendency between, 1982-3 and 2001, is in the two countries a shift from the youngest age group (16-29) to the two older (30-44 and 45-65). Regarding to industry classification, distributions in each country, for each year, are really close and in accordance with OECD statistics. We have distinguished four industry classes: agriculture, manufacturing, construction and services industries. Regarding the distinction between public and private sector, figures coming from national surveys seem to over-estimate public employment. Using OECD figures we find that in 1985 public sector is in the two countries around 21% of total employment and in 2001 around 25% in France but less than 15% in Great-Britain. Concerning educational variables, we constructed an eight-class list based both on level and type (general or occupational) of qualification (see appendix 2). According to educational expansion that occurred in the two countries since the Eighties (Béduwé and Planas, 2002; Murray and Steedman, 1998), we find a large decrease in the share of people without any qualification or with elementary qualification. Both in France and Great Britain, the number of people leaving school at higher education level had known a significant increase. In 2001, they correspond to more than 22% of employed population in France and around 29% in Great Britain against 11 and 17% twenty years before (see appendix 1).

The average tenure is higher in France in 1982-3 as in 2001. During the period, there is an increase in mean tenure in France and stability in Great Britain. Nevertheless in the two countries one

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<sup>1</sup> For some estimations we just take people working in private sector. In that case, samples contain for France, 32690 individuals in 1982 and 43115 in 2001. For Great Britain, there is 4223 individuals in private sector in 1983 and 11060 in 2001.

can note a quite similar tendency: a development of extreme tenure classes (less than five years and more than twenty years) and a decrease in the share of the middle tenure classes (from five to twenty years, see appendix 1). It is convergent with the literature we mentioned at the beginning of the paper (Fouquin and al, 2000; Dupray, 2000). We face the idea of a polarisation of tenure and a further interesting point will be to know whether this is linked to return to job tenure for these different groups of workers. Regarding labour market experience, national means are very stable during the period and very close one to the other, at around 21 years old. If we make more aggregate labour market experience classes (less than 10 years, from 10 to 30 years and more than 30 years) one can notice in a first time that proportion are comparable in each country and in a second time a tendency of a shift, of around 5%, in population from the first class to the second one. If we study together tenure and labour market experience we notice specific differences between France and Great Britain. In 2001, among workers with more than thirteen years of labour market experience, about 50 per cent have more than twenty years of seniority in France but the same figure is just 20 per cent for British workers. In this population (more than thirteen years on the labour market) one to four British workers have between one and five years of seniority whereas it is the case just for 13 per cent of the French workers in this situation.

Average wages<sup>2</sup>, in France and in Great Britain, have largely increased between 1982-3 and 2001, they have doubled in France and there are quite twice higher in Great Britain. More over, if in 1982-3 the French mean wage is higher, in 2001 the situation is the contrary and the difference is larger in aid of Great Britain. Appendix 1 also shows a rise of wage's standard deviation in each country that is to say more wage inequality between workers; the situation seems more acute in Great Britain. The proportion of workers with less than one years in their firm is close in the two countries in 2001: around 18 per cent, but in Great Britain 34 per cent of them earn monthly more than 1524 euros and in France this is just around 15 per cent. It seems then that in Great Britain, low seniority and high wage is more likely linked than they are in France.

In France, long labour market experience is more likely linked with long tenure than it is in Great Britain. So job mobility seems to be higher in Great Britain. But we have to study if it is a voluntary mobility, which corresponds to a promotion in the workers career, or if it is more linked with instability and job precariousness so if it is an involuntary mobility. These two cases refer to different "occupational spaces" mentioned in the first part of the paper: Occupational Labour Market and Secondary External Labour Market. After this short presentation of data we used, first econometric model and evidence are going to be exposed.

### 3.2 Econometrical estimation and evidence

In this section, we are going to present first a traditional Mincer-type earnings function to have an estimation of return to tenure and labour market experience in the two countries both in 1982-83 and in 2001. After pointing limits of such a method in a labour market segmentation analysis, we turn to more relevant econometrical approach.

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<sup>2</sup> Wage variable we used in their treatments are monthly wage. For France, we taken directly this figure in data and for Great Britain we have constructed it from weekly earnings.

### *Return to tenure and labour market experience*

In the econometric model we estimate, we keep only the private sector. Reasons of this choice come from on one hand the fact that in surveys we used public employment seems to be over estimated. On the other hand, including public sector when we estimate return to tenure will be biased and over estimate the results because of the particular employment relationship in this sector.

The model we used assumes that earnings of individual are given by :

$$w = k + b1 ten + b2 ten^2 + b3 exp + b4 exp^2 + b5 X + residual \quad (1)$$

where  $w$  denotes natural logarithm of monthly wage,  $ten$  tenure of individuals in their firm, expressed in years.  $Exp$  denotes the labour market experience variable, expressed in years on the labour market by difference between the age left school and the age at the survey.  $X$  denotes a set of observable individual and employment characteristics (education, gender, occupational category, industry classification, size of the workplace, type of job: temporary, part-time etc.). The table below shows the main results of this estimation (coefficients of all variables are mentioned in appendix 3).

Table 2: Return to tenure and labour market experience,  
France and Great Britain, 1982-3 and 2001

|  | France    |            | Great Britain |          |
|--|-----------|------------|---------------|----------|
|  | 1982      | 2001       | 1983          | 2001     |
| <b>Tenure</b>                          | 0.0115*   | 0.020*     | 0.006**       | 0.0061*  |
| <b>Tenure square</b>                   | -0.00017* | -0.00035*  | n.s.          | n.s.     |
| <b>Labour market experience</b>        | 0.02*     | 0.0044*    | 0.032*        | 0.035*   |
| <b>Labour market experience square</b> | -0.00039* | -0.00004** | -0.00057*     | -0.0007* |
| n                                      | 32690     | 43115      | 4723          | 11060    |
| R <sup>2</sup>                         | 65.2%     | 62.5%      | 66.6%         | 70%      |

Notes : \*, \*\*, \*\*\*: significant at the 1 per cent, 5 per cent and 10 per cent level, respectively., n.s. non significant.

Return to tenure is higher in France than in Great Britain, whatever the year and conversely, return to experience is higher in Great Britain than in France. Our first results, for 1982-3, are close to those of Eyraud, Marsden and Silvestre (1990), that is to say that in France ILM which, is characterised by a positive return to tenure, are predominant and in Great Britain OLM, where job mobility within an occupational space is the main way of promotion, are predominant. But in the same time if we look at the results for France in 1982, labour market experience seems to have a higher return than tenure that is rather astonishing result.



Between 1982-3 and 2001, French return to tenure increased, there are no significant changes in Great Britain (Gregg and Wadsworth, 1996). The return to labour market experience decreases in France and seems to be more important in Great Britain.

Using Mincer wage equation, we obtain the marginal return of one supplementary year of tenure and labour market experience. Regarding our theoretical framework and the fact that we expect segmented labour market, we cannot stop at this stage. We make the hypothesis of an heterogeneity (by a decomposition of the tenure coefficient) of the return to tenure and labour market experience among workers and jobs. So we have now to use methods that could help us to bring to light this heterogeneity and then the segmentation of the labour market of France and Great Britain.

When a standard Mincer-type earnings structure is used as a test of labour market segmentation, the segmentationist hypothesis puts on the foreground is the differentiation of earnings criteria between primary and secondary segments. Different problems about the formulation of the test of dualism or in terms of the relation between education and wage occurred (Hanchane, 1998). When studies make the hypothesis of two segments and make OLS on two sub-samples before testing the equality of the two earning functions in order to accept duality, several contradictions appears (Heckman and Hotz, 1986). If segments are defined a priori, the test of segmentation seems, in fact, to be more a test of the validity of the delimitation proposed by the author than one of the segmentation hypothesis (Petit, 2002).

### *Logistic regression*

We choose to use another approach that will permit to characterise people who have more chances to be in a particular group (they are define latter) . We used a logistic regression.

Our starting point is a standard Mincer-type earnings structure done for 2001 in each country. The basic estimating equation in each country is as follows:

$$w = k + \mathbf{b1} \text{ ten} + \mathbf{b2} \text{ ten}^2 + \mathbf{b3} \text{ exp} + \mathbf{b4} \text{ exp}^2 + \text{residual} \quad (2)$$

where the following notation has been adopted:  $w$  is the natural logarithm of monthly earnings;  $ten$  is the tenure variable, expressed in years;  $exp$  is the labour market experience variable, expressed in years; and  $\beta_1, \beta_2, \beta_3, \beta_4$  are the coefficients to be estimated, as is  $k$ , the constant.

We put these four variables only in the model of the first step and in the second step we include the individual and employment characteristics. Based on estimated wages of the first step, we create a continuous variable that, indicate the difference between estimated and real earnings of each individual. In the second step, we study two classes making from the quantile analysis: the 25 per cent of the population with the most favourable difference of earnings (so a positive one) and the 25 per cent with the less favourable difference of earnings (so a negative difference).

The second empirical investigation is the estimation of two logistic regression models: one on the dummy variable *Sup* that takes the value 0 when people are in the 25 per cent with the most favourable difference and 1 otherwise. In the second model, the dependant variable *Inf* that takes the value 0 when people are in the 25 per cent with the less favourable difference and the value 1 otherwise.

The objective of the estimation of logistic regressions is to estimate, in each country, the probabilities to belong to the *Sup* group or the *Inf* group. To characterise workers belonging to one or the other group we use the following list of variables: level and type of qualification obtained, gender, industry classes, to be in public or private sector, occupational classes, size of the work place, to be in temporary or permanent job, to be in full or part time job, age group, tenure and labour market experience classes.

Results of the logistic regression (see appendix 5) are close in the two countries. For Great Britain and France as well, in 2001, having no qualification diminishes by 34 per cent the chances to be in *Sup* group. From a secondary superior general qualification (See appendix 2) and higher, chances are rising with the level of education. In France, all qualifications from the inferior secondary level increase chances to belong to *Sup* group than reference population. People with a high school diploma (general or occupational more than the equivalent of two years after 'A' level) have in Great Britain four times as many chances than people with an occupational qualification of the inferior secondary level, and in France three times as many chances than the reference population to be in *Sup* group. Being a woman reduce the probability to be in *Sup* group by around 65 per cent in Great Britain and around 55 per cent in France. Being employed in the public sector reduces it by 28 per cent in Great Britain and 20 per cent in France. The size of the firm plays in the sense that the more the firm is little the less the probability to be in *Sup* group is high in each country. As expected, being skilled manual, having intermediate or professional occupation increase the probability to belong to *Sup* group. Professional and managers have 7.5 times as many chances to be in that group than the reference population in Great Britain. In France this figure is higher. Logically, being in a temporary or a part-time job (less than 20 hours a week in Great Britain and less than 30 hours a week in France) reduced the chances to be in *Sup* group, respectively by 30 and 80 per cent in Great Britain and by 67 and 76 per cent in France. The youngest (16-29 years old) are more likely not in the *Sup* group, they have 42 per cent fewer chances to belong to that group than the 30-45 age group in Great Britain. In France their situation is worst because they have 67 per cent fewer chances to belong to *Sup* group. It is linked with the fact that in general French young people stay longer at school so those who leave school early have large difficulties on the labour market. Secondly in a large unemployment context, French labour market gives the priority to the employment of middle age group.

Next to these waited results others are more surprising. In France as in Great Britain, having longer seniority reduces chances to belong to the *Sup* group. More over those with less than one year in their firm seems to have 30 per cent more chance in France and 20 per cent more chance in Great Britain to be in the *Sup* group, than those with 1 to 5 five years of seniority. For labour market experience the situation is not similar in the two countries. In France, the longer the experience is, the higher the probability to belong to *Sup* group is. In Great Britain the situation is less clear. Having less than 20-30 years of labour market experience (the reference) or more increase chances to belong to *Sup* group.

If we try to make profile of workers who have the most important chance to be in *Sup* group we find quite the same profile in France and in Great Britain. Those with the larger probability to belong to *Sup* group are men, with higher educational level, working in firm with more than 500 employees, in the private building sector, with a permanent and full-time manager or professional occupation and with less

than one year of tenure but more than 30 years on the labour market. The only difference between the two countries is about age group. In France the larger probability is for people between 45 and 65 years old, and in Great Britain it is for people up to 30. If we look at the most important coefficients, the three most important in Great Britain are respectively those of full-time job, manager and professional occupations and high school level. In France they are those of manager and professional occupations, intermediate occupations and full-time job. These results emphasize the role of occupational classifications in the wage determination (Lemistre, 2002).

On the contrary, people with the largest chance to belong to *Inf* group are in the two countries women without qualifications, working as non-skilled manuals in little firms (less than 10 employees) of private services industries, with temporary part-time contract; with more than 20 years of tenure and between 20 to 30 years of labour market experience. In France we can add that chances to belong to *Inf* group are higher for young women (16 to 29 age group) but in Great Britain this variable do not appears as significant. In France, the three largest impacts come from respectively part time work (less than 30 hours a week), tenure higher than 20 years and the fact to have less than 30 years old. In Great Britain, these variables are the same for the first two : part time work (less than 20 hours a week), tenure higher than 20 years. The third is to be a woman.

Evidences shows as in the descriptive and the econometric analysis above can be linked with the theoretical framework of the first part of the paper. The fact that extreme tenure classes, the shorter and the larger, are increasing between 1982-3 and 2001 seems to enforce the idea of the role plays by tenure to distinguish different groups of workers.

The fact that low seniority and high wage are more often linked in Great Britain than in France express that labour mobility seems to be more favourable in Great Britain and tenure more favourable in France. Results from the first Mincer equation (equation 1) shows as well that in 1982-3, the total return of tenure and labour market experience is quite the same in the two countries. But this figure is due to labour market experience for a large part in Great Britain and for France, it results more to both tenure and experience. Return to tenure is greater in France in the two years and the one of labour market experience is higher in Great Britain, so we find again a ILM logic predominant in France and an OLM logic accurate in Great Britain (Eyraud, Marsden, Silvestre, 1990).

The logistic regression shows the presence, we can say the importance, in 2001 of the Secondary Internal Labour Market in the two countries by the linked between a long tenure and the very low probability to belong to *Sup* group. We show that people with the largest probability to belong to *Sup* group have the shorter tenure. The first profile pointed out refers to people belonging to the Occupational Labour Market, they are well paid but do not have a long tenure. The second profile corresponds to those in Secondary Internal Labour Market : they have long tenure but low wage. This group is largely constitute with women, without qualification, in non skilled job.

### 3.3 Toward others methods

Empirical investigations of the previous sections are just the first step of our research program and our econometric work.

The debate around methods which had to be used to test segmentation hypothesis is old but not closed. Next to the problem of the use of standard Mincer-type earnings structure as a test of labour

market segmentation, another problem comes from the choice of a segmentation criteria and its arbitrary character when the choice is made a priori. In fact, these types of studies are more a test of the validity of the boundaries setting down than a test of the segmentation hypothesis itself. To solve this problem, Dickens and Lang (1985) chose to estimate a switching model with unknown regime. They explicitly endogeneize segmental choice between sectors and treat segments as unknown a priori. The limit of their method and the fact that we have to go further is linked with the dualistic hypothesis. In our research we want to study a more complex segmentation with more than two segments.

Sousa-Poza (2004) exposes two other basic methods that have not this limitation to study Swiss labour market segmentation. He uses a hierarchical cluster analysis and an analysis of low-wage mobility with a bivariate probit model with endogenous selection. We plan to study these methods on the French and British labour market and to study which other test may be used to test our segmentation hypothesis.

A debate about the relevance of econometric test of the segmentation hypothesis exists. For different authors like Piore, we cannot refuse the segmentation hypothesis if this one appears valid from statistical analysis and empirical results (Petit, 2002). Petit (2002) explain why one have to use exploratory analysis in order to determine the structure of the labour market. This methods avoids an a priori definition of the boundaries of segments and also the number of segments. She puts the place of the econometric analysis latter in the study, for testing hypothesis on the causes and consequences of this variety of segments on the labour market. We can conclude with Petit (2002) to the complementarity nature of explanatory and econometric methods. The descriptive analysis have to put in light the different ways of employment management in a defined period without theoretical presuppositions and econometric treatments are more useful to evaluate the reasons of the segmentation.

## 4. Conclusion

Between the Eighties and nowadays, France and Great Britain live through a period of large changes and evolutions of labour, employment, production standards and norms. Our objective is to study this change in the labour market field. We chose to enter in the labour market study by the analysis of its structuring and segmentation, using notions as tenure, labour market experience and return to tenure or mobility.

This work belongs to the segmentation approach of the labour market. We lean on both classical approaches developed by Doeringer and Piore (1971), Piore (1975) and works belonging to the societal approach (Eyraud, Marsden, Silvestre, 1990) Marsden (1989,1990) to construct our theoretical framework. We propose more complex segmentation of the labour market than the dualistic approach, this is linked with labour market transformations and educational changes known by industrialised countries since the Eighties.

Statistical and econometric treatments, based on national labour force surveys, will help us to determine the different segments that construct French and British labour markets and on a second step to find explanations of each national segmentation.

In this paper we put in light two profiles of workers, which seems to belong to Occupational Labour Market (middle aged men, with high qualification and occupation, long labour market experience but short tenure) and Secondary Internal Labour Market (unskilled women, without qualification, with both long tenure and labour market experience). These two profiles appear both in France and in Great

Britain. Now we have to go further in the data analysis to determine others profiles of workers which could belong to other type of labour market segments, to establish if the four theoretical segments exist in each countries or not. One way to do that is to study institutional aspects of labour market segments as the work done by Marsden (1990) on ILM and OLM regulation in four European countries.

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### Appendix 1: DATA DESCRIPTION

|                          | France      |              | Great Britain |              |
|--------------------------|-------------|--------------|---------------|--------------|
|                          | 1982        | 2001         | 1983          | 2001         |
| <b>Tenure</b>            |             |              |               |              |
| Mean                     | 8.5 years   | 10.4 years   | 7.6 years     | 7.6 years    |
| Standard deviation       | 8.4 years   | 10 years     | 8.1 years     | 8.2 years    |
| Median                   | 6 years     | 6.8 years    | 6.7 years     | 4.3 years    |
| Less than 1 year         | 13.2%       | 17.1%        | 14.4%         | 18.8%        |
| 1 to less than 5 years   | 23.7%       | 26.1%        | 32%           | 34.8%        |
| 5 to less than 10 years  | 23.9%       | 15.5%        | 23.5%         | 17.5%        |
| 10 to less than 20 years | 26%         | 21%          | 21%           | 18.8%        |
| 20 years and more        | 13.2%       | 20.3%        | 9.2%          | 10.1%        |
| <b>Experience</b>        |             |              |               |              |
| Mean                     | 19.9 years  | 21 years     | 21.8 years    | 21.3 years   |
| Standard deviation       | 12.3 years  | 11.2 years   | 13.4 years    | 12.4 years   |
| Median                   | 18 years    | 21 years     | 21 years      | 21 years     |
| Less than 5 years        | 9%          | 8.7%         | 11.6%         | 11.6%        |
| 5 to less than 10 years  | 16%         | 11%          | 12.2%         | 8.3%         |
| 10 to less than 20 years | 29.4%       | 23.2%        | 22.1%         | 25.6%        |
| 20 to less than 30 years | 20.3%       | 32.3%        | 23.2%         | 26.4%        |
| 30 years and more        | 25.3%       | 24.9%        | 31%           | 28.1%        |
| <b>Wage</b>              |             |              |               |              |
| Mean                     | 750.3 euros | 1431.2 euros | 609.8 euros   | 1757.7 euros |
| Standard deviation       | 400 euros   | 960.1 euros  | 363.16 euros  | 1348 euros   |
| Median                   | 645.7 euros | 1238.7 euros | 566.9 euros   | 1526.7 euros |
| Less than 762 euros      | 65.8%       | 13.3%        | 73.7%         | 17.9%        |
| 762 to less than 1219    | 25.5%       | 40.9%        | 22.3%         | 22.3%        |
| 1219 to less than 1524   | 4.7%        | 13.3%        | 2.1%          | 9.5%         |
| 1524 to less than 2287   | 2.8%        | 22.9%        | 1.7%          | 27.4%        |
| 2287 to less than 3049   | 0.8%        | 5.7%         | 0.2%          | 12.3%        |
| 3049 and more            | 0.4%        | 4.0%         | 0.1%          | 10.7%        |

|  |            |            |            |            |
|--|------------|------------|------------|------------|
| <b>Age</b>                             |            |            |            |            |
| Mean                                   | 35.9 years | 39.3 years | 37.4 years | 38.7 years |
| Standard deviation                     | 11.2 years | 10.4 years | 12.8 years | 11.6 years |
| Median                                 | 34 years   | 39 years   | 37 years   | 38 years   |
| 16-29 years                            | 32.1%      | 21.5%      | 31.8%      | 23.9%      |
| 30-44 years                            | 40.5%      | 44%        | 36.3%      | 42.5%      |
| 45-65 years                            | 27.3%      | 34.5%      | 31.9%      | 33.5%      |
| <b>Level and type of qualification</b> |            |            |            |            |
| No qualification                       | 21.7%      | 15.4%      | 39.1%      | 11.2%      |
| Elementary education                   | 20.7%      | 6.6%       | 15.3%      | 12.9%      |
| GQ 2 <sup>daire</sup> inf.             | 7.7%       | 7.5%       | 13.8%      | 20.6%      |
| OQ 2 <sup>daire</sup> inf.             | 26.5%      | 30%        | 6.6%       | 14.3%      |
| GQ 2 <sup>daire</sup> sup.             | 5.8%       | 8.2%       | 3.7%       | 7.9%       |
| OQ 2 <sup>daire</sup> sup.             | 6.6%       | 9.6%       | 4.6%       | 5.3%       |
| GQ 1 <sup>er</sup> cy sup.             | 2.5%       | 8.1%       | 3.9%       | 8.7%       |
| Higher GQ, OQ sup                      | 8.6%       | 14.7%      | 13%        | 19.1%      |
| <b>Occupation classification</b>       |            |            |            |            |
| Manager & professional                 | 8.6%       | 13.6%      | 13.9%      | 24.9%      |
| Intermediate occupations               | 22.4%      | 23.1%      | 19.2%      | 13.7%      |
| Personal services                      | 29.9%      | 31.9%      | 29.3%      | 40.1%      |
| Skilled manual                         | 22.5%      | 20.5%      | 17%        | 8.8%       |
| Unskilled manual                       | 16.6%      | 11%        | 20.7%      | 12.5%      |
| <b>Private or public sector</b>        |            |            |            |            |
| Public                                 | 32.8%      | 29.9%      | 35.6%      | 28.7%      |
| Private                                | 67.2%      | 70.1%      | 64.4%      | 71.4%      |
| <b>Industry classification</b>         |            |            |            |            |
| Agriculture                            | 2.3%       | 1.7%       | 1.4%       | 0.7%       |
| Manufacturing Industry                 | 29.7%      | 20.4%      | 31.8%      | 18.7%      |
| Construction                           | 8%         | 5.6%       | 5.6%       | 5%         |
| Services industry                      | 60%        | 72.3%      | 61.2%      | 75.6%      |
| <b>Working place size</b>              |            |            |            |            |
| Less than 10                           | 20.2%      | 26.9%      |            | 18%        |
| From 10 to 49                          | 18.2%      | 18.7%      |            | 29.4%      |
| From 50 to 499                         | 25.6%      | 25.3%      |            | 40.4%      |
| 500 and more                           | 36%        | 29.2%      |            | 12.2%      |
| Less than 24                           |            |            | 31%        |            |
| From 25 to 99                          |            |            | 23.5%      |            |
| 100 and more                           |            |            | 45.5%      |            |
| <b>Type of job</b>                     |            |            |            |            |
| Full time job                          | 93.5%      | 83.8%      | 77.7%      | 74.7%      |
| Part time job                          | 6.5%       | 16.2%      | 22.3%      | 25.3%      |
| <b>Population</b>                      | 51338      | 61533      | 8280       | 15676      |



## Appendix 2: Certificate level classification

For qualification classification, we do not respect a strict correspondence in terms of year of schooling but more in terms of contents, status of certificates (if they are leaving certificate or not etc.). We focus as far as possible on a distinction occupational and general qualification. For higher education, we could not make a fine distinction so there are just two classes. In fact the objective of the construction of this classification is to have a classification that allowed internationals and in the same time which avoid a single structure without national and societal logic in each country.

|   | France   | Great Britain  |
|---|--|--|
| <b>0- no qualification</b>  |  |  |
| <b>1- Elementary education</b>  | CEP  | -CSE, GCSE<br>-Clerical and commercial qualifications without GCE 'O' level<br>-YT/YTP certificate<br>-GNVQ-GCVQ foundation level<br>-NVQ 1                          |
| <b>2p- Occupational Qualification secondary inf.</b>  | CAP, BEP (avec ou sans BEPC)   | -Apprenticeship<br>-C&G craft, RSA diploma<br>-BTEC first and general diploma<br>-NVQ 2, GNVQ intermediate   |
| <b>2g- General Qualification secondary inf.</b>   | BEPC   | -GCE 'O-AS' level or equivalent<br>-GCSE<br>-SCE higher or equivalent  |
| <b>3p- Occupational Qualification secondary sup.</b>  | -Bac techno, bac pro, brevet pro<br>-BEI, BEC, BEA<br>-Paramédical ou social (avec ou sans bac général)  | -RSA, Advanced diploma,<br>-BTEC, ONC/OND national<br>-NVQ 3<br>-GNVQ advanced   |
| <b>3g- General Qualification secondary sup.</b>   | -Bac général   | -GCE 'A' level or equivalent   |
| <b>4p- Occupational Qualification (first level in higher education)</b>                                       | -BTS, DUT  | -Teaching and nursing qualifications<br>-HNC-HND/ BTEC ... Higher certificate<br>-RSA higher diploma<br>-NVQ 4   |
| <b>5- Higher General Qualification and Occupational Qualification (after first level in higher education)</b> | -1 <sup>er</sup> , 2 <sup>nd</sup> cycles universitaires généraux (DEUG, licence, maîtrise) 3 <sup>ème</sup> cycle universitaire général (doctorat...)<br>-Grande école, diplôme d'ingénieur | -First degree / university diploma<br>-Qualification or certificate from colleges of further education (census level B)<br>-Higher degree (census level A)<br>-NVQ 5 |

**Appendix 3: Estimates of returns to seniority and labour market, in France and Great Britain  
for 1982-3 and 2001, private sector only**

|  | France    |            | Great Britain |          |
|--|-----------|------------|---------------|----------|
|  | 1982      | 2001       | 1983          | 2001     |
| <b>Tenure</b>  | 0.0115*   | 0.020*     | 0.006**       | 0.0061*  |
| <b>Tenure square</b>   | -0.00017* | -0.00035*  | n.s.          | n.s.     |
| <b>Labour market experience</b>  | 0.02*     | 0.0044*    | 0.032*        | 0.035*   |
| <b>Labour market experience square</b>   | -0.00039* | -0.00004** | -0.00057*     | -0.0007* |
| <b>Level and type of education</b><br>(ref: OQ 2 <sup>daire</sup> inf.)                                  |           |            |               |          |
| No qualification   | -0.117*   | -0.109*    | -0.134*       | -0.117*  |
| Elementary education   | -0.065*   | -0.090*    | -0.059**      | -0.041** |
| GQ 2 <sup>daire</sup> inf.   | 0.035*    | -0.044*    | n.s.          | n.s.     |
| GQ 2 <sup>daire</sup> sup.   | 0.115*    | 0.067*     | 0.11**        | 0.129*   |
| OQ 2 <sup>daire</sup> sup.   | 0.108*    | 0.077*     | n.s.          | 0.043**  |
| GQ 1 <sup>er</sup> cy sup.   | 0.202*    | 0.132*     | n.s.          | 0.087*   |
| Higher GQ, OQ sup  | 0.317*    | 0.198*     | 0.17*         | 0.294*   |
| <b>Sex</b> (ref: men)  |           |            |               |          |
| Femme  | -0.172*   | -0.126*    | -0.345*       | -0.22*   |
| <b>Industry</b> (ref: Services industry)   |           |            |               |          |
| Agriculture  | -0.049*   | n.s.       | n.s.          | n.s.     |
| Industry   | 0.044*    | 0.038*     | n.s.          | n.s.     |
| Construction   | 0.014**   | 0.022**    | 0.061**       | 0.082*   |
| <b>Size of the workplace</b><br>(ref: more than 500 workers, or more than 100 for GHS 83))               |           |            |               |          |
| Less than 10 workers<br>(or 24 for GHS 83)   | -0.073*   | -0.119*    | -0.16*        | -0.203*  |
| From 10 to 49 workers<br>(or from 25 to 99 for GHS 83)   | -0.027*   | -0.0537*   | -0.06*        | -0.127*  |
| From 50 to 499 workers   | -0.13**   | -0.031*    |               | -0.042** |
| <b>Occupational category</b><br>(ref: Employees)   |           |            |               |          |
| Manager & professional   | 0.60*     | 0.678*     | 0.255*        | 0.382*   |
| Intermediate occupations   | 0.227*    | 0.261*     | 0.106*        | 0.188*   |
| Skilled manual   | -0.035*   | 0.051*     | n.s.          | 0.048**  |
| Unskilled manual   | -0.153    | -0.086*    | -0.048**      | -0.113*  |
| <b>Working time</b><br>(ref: part time, Fce : more than 30h, GB more than 20h, full time job for GHS 83) |           |            |               |          |
| Part time job<br>- less than 20 h per w<br>- less than 30 h per w  | -0.407*   | -0.380*    | -0.565*       | -0.526*  |
| Full-time job  | 0.305*    | 0.257*     |               | 0.525*   |
| <b>Type of contract</b><br>(ref: permanent job)  |           |            |               |          |
| Temporary job  | -0.0383*  | -0.084*    |               | -0.075*  |
| N  | 32690     | 43115      | 4723          | 11060    |
| R <sup>2</sup>   | 65.2%     | 62.5%      | 66.6%         | 70%      |

Notes : \*, \*\*, \*\*\*: significant at the 1 per cent, 5 per cent and 10 per cent level, respectively., n.s. non significant.

**Appendix 4 : Estimates of returns to seniority and labour market (year 2001)**  
**Population : all employees, in public and private sectors**

$$w = k + \beta_1 \text{ten} + \beta_2 \text{ten}^2 + \beta_3 \text{exp} + \beta_4 \text{exp}^2 + \text{residual}$$

|                   | <b>France</b> | <b>Great Britain</b> |
|-------------------|---------------|----------------------|
| Tenure            | 0.036*        | 0.028*               |
| Tenure square     | -0.0004*      | -0.0002**            |
| Experience        | -0.002**      | 0.044*               |
| Experience square | -0.0001*      | -0.001*              |
| n                 | 61532         | 15542                |
| R <sup>2</sup>    | 0.146         | 0.125                |

\*significant at the 1 per cent level, \*\* significant at the 5 per cent level.

The following table shows the estimations for years 1982 in France and 1983 in Great Britain

$$w = k + \beta_1 \text{ten} + \beta_2 \text{ten}^2 + \beta_3 \text{exp} + \beta_4 \text{exp}^2 + \text{residual}$$

|                   | <b>France</b> | <b>Great Britain</b> |
|-------------------|---------------|----------------------|
| Tenure            | 0.023*        | 0.031*               |
| Tenure square     | -0.0002*      | -0.0003*             |
| Experience        | 0.018*        | 0.018*               |
| Experience square | -0.0005*      | -0.0004              |
| n                 | 48998         | 7527                 |
| R <sup>2</sup>    | 0.133         | 0.121                |

\*significant at the 1 per cent level, \*\* significant at the 5 per cent level.

**Appendix 5 : Effects of individuals and employment variables on the *Sup* and *Inf* variables<sup>3</sup>**  
**Logistic regression, year 2001**

| Explicative variables                   | France    |           | Great Britain |           |
|---|-----------|-----------|---------------|-----------|
|   | Sup       | Inf       | Sup           | Inf       |
| No qualification                        | 0.623     | 1.686     | 0.663         | 1.964     |
| Elementary education                    | 0.762     | 1.573     | 0.955 n.s     | 1.350     |
| GQ 2 <sup>daire</sup> inf.              | 1.058     | 1.054 n.s | 0.883 n.s     | 1.031 n.s |
| GQ 2 <sup>daire</sup> sup.              | 2.007     | 0.609     | 1.736         | 0.672     |
| OQ 2 <sup>daire</sup> sup.              | 1.676     | 0.654     | 0.855 n.s     | 0.618     |
| GQ 1 <sup>er</sup> cy sup.              | 2.259     | 0.343     | 1.653         | 0.442     |
| Higher GQ, OQ sup                       | 2.821     | 0.492     | 4.086         | 0.238     |
| Women                                   | 0.453     | 2.371     | 0.351         | 2.999     |
| Agriculture                             | 0.812 n.s | 1.045     | 0.637 n.s     | 0.889 n.s |
| Manufacturing Industry                  | 1.184     | 0.785     | 0.971 n.s     | 0.653     |
| Construction                            | 1.322     | 0.813     | 1.523         | 0.552     |
| Public sector                           | 0.814     | 0.449     | 0.724         | 0.977 n.s |
| Less than 10 workers in the workplace   | 0.552     | 2.608     | 0.371         | 2.830     |
| From 10 to 49 workers in the workplace  | 0.652     | 2.129     | 0.573         | 2.006     |
| From 50 to 499 workers in the workplace | 0.747     | 1.737     | 0.777         | 1.467     |
| Manager & professional                  | 35.656    | 0.063     | 7.482         | 0.230     |
| Intermediate occupations                | 4.867     | 0.205     | 2.559         | 0.373     |
| Skilled manual                          | 1.201     | 0.833     | 1.773         | 0.862 n.s |
| Unskilled manual                        | 0.438     | 1.717     | 0.696         | 1.468     |
| Temporary contract                      | 0.330     | 1.421     | 0.727         | 1.320     |
| Part time job                           |           |           |               |           |
| - less than 20 h per w                  |           |           | 0.218         | 6.913     |
| - less than 30 h per w                  | 0.238     | 7.436     |               |           |
| Full-time job                           | 3.674     | 0.144     | 8.533         | 0.079     |
| Age 16-29 years                         | 0.328     | 4.961     | 0.582         | 0.937     |
| Age 45-65 years                         | 1.680     | 0.688     | 1.051 n.s     | 0.870 n.s |
| Tenure: less than 1 year                | 1.328     | 0.747     | 1.215         | 1.076 n.s |
| Tenure: 5 to less than 10               | 0.493     | 1.644     | 0.692         | 1.367     |
| Tenure: 10 to less than 20              | 0.247     | 3.194     | 0.325         | 2.468     |
| Tenure: 20 years and more               | 0.089     | 6.470     | 0.127         | 5.112     |
| Experience: less than 5 years           | 0.440     | 0.455     | 1.837         | 0.665     |
| Exp.: 5 to less than 10                 | 0.561     | 0.414     | 2.356         | 0.460     |
| Exp.: 10 to less than 20                | 0.676     | 0.780     | 1.340         | 0.681     |

<sup>3</sup> The variable *Sup* takes the value 0 when people are in the 25 per cent with the most favourable difference between estimated and real wage and 1 when they do not. The second variable *Inf* takes the value 0 when people are in the 25 per cent with the less favourable difference and the value 1 when they do not.

|                         |       |       |       |       |
|-------------------------|-------|-------|-------|-------|
| Exp.: 30 years and more | 1.531 | 0.671 | 2.470 | 0.440 |
|-------------------------|-------|-------|-------|-------|

Notes: Coefficients presented in the table above are Odds Ratio. In the first column, 0.623 can be read as follows: people without any qualification have 37.7% less chance than the reference population to belong to *Sup* group ( $1 - 0.623 = 0.377$ ). 1.058 can be read as follows: people with general qualification at inferior secondary level have 5.8% more chances to belong to the *Sup* group than the reference population.

Reference population: OQ 2<sup>dairé</sup> inf., men, services industries, firms with more than 500 workers, employees, part time workers (France : more than 30h, GB more than 20h), with a permanent job.