

## **Impacts of Internal and External Changing Conditions On French and British Labour Market Segmentation**

**Valette Aline\***

September 2005, Berlin, Germany.

### Abstract

Drawing on empirical investigations based on national labour force surveys (Enquête Emploi for France, LFS and GHS for The UK) for years 1982-3 and 2001, the aim of this paper is to expose relationships between new external and internal conditions faced by organisations and permanencies and transformations of the macro structure of these two labour markets. We used multiple correspondence analysis (MCA) and hierarchical classification algorithm to constitute the typology of segments structuring labour market. The evidence suggests that the dualistic opposition between a primary and a secondary sector on labour market is still relevant. But in the same time, we go from three segments architecture to a fourfold division on labour market, both in France and the UK, with the apparition of a “Labour Insecurity” class.

Keywords: Labour market segmentation, dualism, employment relations.

---

\* LEST- UMR 6123, 35 avenue Jules Ferry, 13626 Aix en Provence Cedex., a.valette@univ-aix.fr.

## 1. Introduction

Globalization, increasing market competition, more uncertain environment, technological innovation but also evolutions of the educational and training system which modify workers skill level, are parts of the internal and external changing conditions that shape employment policies and labour market structure. Regarding these deep changes in internal and external organisation's environment during the last twenty years both in France and in the UK, one may question the evolution of their labour market segmentation. All these technological, economical or institutional factors must be studied to understand macro level changes of French and British labour market structure.

The question raised in this paper is not if the labour market is segmented or not, even classical economists accept this point but more which are the lines of segmentation, their transformations. Therefore we have to question the determinants of the labour market segmentation.

Employment relations are the general object of this paper. Employment relations are derived from manpower allocation, mobility, wage determination and skill construction processes. The conjunction of specific types of these elements defines different category of employment relations and workers sharing a same type of employment relation will form a peculiar space on the labour market. In order to study resulting labour market segmentation, we adopt a comparative approach between France and the UK. The choice of an international comparison explained our preoccupation to avoid disembodied categorisation and non operational typology. The motivation for a comparison between France and the UK comes from the fact that these two countries had both known changes in internal and external organisation's environment during the last two decades.

Our work will show the continuing relevance of the dualist approach of Doeringer and Piore (1971). But the main hypothesis tested in this paper is the transformation and the diversification, between 1982-1983 and 2001, of the labour market structure of both France and the UK and the need to go further the dualist approach.

Before putting light on the different employment relations and segments of French and British labour markets and there transformation between 1980's and 2000's, the first part of the paper will come back on determinants of labour market segmentation. We will expose technological, economical and institutional determinants existing in economic literature before specify our point of view. In the second part, we are going to present data and empirical investigations. Empirical investigations we carried out are based on national labour

force surveys. For France, we use INSEE *Enquête Emploi*, years 1982 and 2001. For The UK, we use General Household Survey (GHS) for the year 1983 and Labour Force Survey (LFS) for years 2001. For each years and each country we bring to the fore different classes of individuals sharing a same type of employment relation in order to compare them in time and space.

## **2. The Origins of the Labour Market Segmentation**

### *Technological and Economical Determinism*

Original works of Doeringer and Piore (1971) or Piore (1973, 1975) explain a deep technological determinism. The emergence of internal labour market (ILM) and therefore the dual structure of the labour market are linked with three main criteria: skill specificity, on-the-job training and customs.

Skill specificity increases the proportion of training costs borne by the firm and the absolute level of such costs (little economy of scales in training). These effects encourage the firm to seek to reduce labour turnover. Skill specificity affects also recruitment and screening costs, because when it reduces the turnover, it increases the employer willingness to accept these costs, and less the skill is specific more economy can be made for recruitment. Moreover, more the technology is specific, less the skills can be formally described and more the skills required tend to be the unique possession of the internal labour force. For blue-collar manufacturing jobs (main object of Doeringer and Piore analysis) the hallmark of on-the-job training is its informality. The ability to perform jobs is correlated with the length of time the worker has “been around”. Therefore the firm seek to stabilized is work force. Customs are unwritten set of rules based largely upon past practice or precedent, they can govern different aspects of work and they appear to be the outgrowth of employment stability with internal labour market. A factor producing ILM is the desire to effectuate stability. Or stability generates the formation of social groups, communities and so it generates unwritten rules governing action and relation between members. Customs have a stabilising influence to the rules of the workplace and have an influence on rules governing pricing and allocation of labour. Rules are less responsive to market forces, they explain the apparent rigidity of internal wage and allocation structures and they create constraints for management decisions.

In Doeringer and Piore book’s (1971), skill specificity, on-the-job training and custom are the critical factors in the generation of ILM, but they do not operate alone. Authors expose that ILM is introduced by managers who search to minimise their labour costs. “The availability of workers on the external labour market, the type of technology, the costs of

turnover to the employer, the value of the ILM to the internal work force, product market considerations, and customs were identified as key factors influencing internal manpower decisions” (p 189). This conception and justification of labour market segmentation (coming from the emergence of ILM) is therefore a functional justification drawing on an optimality calculation and an efficiency principal (Petit, 2001).

Later on, the eighties work of Berger and Piore (1980) bear witness to an economical determinism. Market and demand side characteristics are pushing on the foreground. Economical and technological determinism are in fact closely linked. The state of the market - uncertainty, demand variability – infers technological and production processes choices that shape work organisation and manpower management within the firm. Occupational spaces are shaped by a dynamic between market of products and labour market. Planning and institutionalisation increase on product markets tend to reinforce integrated qualification and labour management. Themselves they tend to increase immobilizations and firms’ control on products (Silvestre, 1978). During the nineties, Piore use the variability of the demand as the key notion to analyse labour market transformations so he stay in a functionalist framework to justify labour market segmentation (Petit, 2001).

### *Institutional and External Factors*

Osterman (1994) explains the importance to take into account external factors or firms’ competitive strategy but not as given. Osterman (1994) explain his point of view in a model based on three concentric rings. The first ring reveals supply and demand developments, performance considerations. The second ring is composed by “internal firm customs, norms, and politics” (p 324) and the third ring by the external environment. Presenting the first ring, the author underline the fact that external conditions or constraints conditioned others explanations.

“It is important to understand that the salient of each variant of a performance-based explanation is conditioned on external conditions or constraints. One obvious example is technology (...). Other external constraints include the skills that the labour force brings to the firm (and hence the nature of the educational system) and the characteristics of products market (high volatility and consequent frequent shifts in product characteristics affect optimal supervision practices)” (Osterman, 1994,p 322).

When the author exposes the second ring, he gives examples of external conditions that shape employment organisation within firms as government regulations or educational system as Maurice, Sellier, and Silvestre (1986) show by a French and German comparative study. Osterman (1994) speaks also about the role of national enterprises or public sector as employment regulation example for private sector. Regarding Osterman approach, we will retain the place and important role plays by external environment in the development process of employment organisations in firm, as the ILM.

## *External and Internal Factors*

These approaches explain the diversity of the factors which generate labour market stratification. The large number of elements we have to study to analyse labour market segmentation could be divided into external and internal factors. The state of the product market within which the firm is situated, the type of technology and its rhythm of evolution, and the skill structure of the labour force are parts of the external firm environment. The type of technology in use within the firm, rules and customs of the work place structured the internal set of factors influencing labour organisation. We could see bridge to the societal analysis which put on the foreground three influential spheres: qualification, industrial and productive sphere. In the societal approach, external factors are considered integrated and appropriated by firms' decisions and organisations. They do appear directly. Wage determination comes from individual but also institutional and social characteristics. Each side must be taken into account to improve knowledge of labour market structuring and its evolution. Indeed we take employment relations as the results of interactions between labour market, product market and institutional environment. Demand and supply side are taken into account for each case. Here we share Grimshaw and alii (2001) point of view about segmentation determinants in the sense that the type of labour organisation is shaped both by internal constraints and external specific conditions.

“A more helpful approach is found in an emerging literature that treats the current transformations of ILM structures as arising out of changing conditions internal and external to the organisation. These authors recognise that the job and pay hierarchies, permanent contracts and training provision associated with ILM in the past were not only introduced to meet the internal productive requirements of the organisation (such as worker commitment, or a certain level of job stability to recoup the firm's costs of training) but also reflected particular external conditions: strong trade unions, low unemployment and steady national economic growth. Similarly, analysis of current transformations requires recognition of changes internal and external to the organisation that shape the observed outcomes.” (Grimshaw and alii, 2001, p26).

The remainder part of the paper show empirical evidences about the structuring of French and British labour market and their evolution between 1982-3 and 2001. We will try to give explanation track of this evolution from changing of these external and internal elements.

### **3. British and French Labour Market Structure**

#### *Methodology and Data*

The aim of this paper is to qualify the segmentation of French and British labour market. In order to distinguish different spaces which structure these labour markets we use a two step method. First, we analyse the relationship between the qualitative variables using the

multiple correspondence analysis (MCA). In a second step, we use a hierarchical classification algorithm to constitute the typology. Finally, we make clusters with classes coming out from the analysis. Results are three different spaces on labour market for France and the UK in the eighties and a fourfold division of their labour markets for the years 2001.

As we mentioned in the introduction we use national labour force surveys. We have constructed very closely variables or regrouping in each survey as far as possible. Variables we are going to present for France, 1982 and 2001, come from the French Employment Survey generated by *INSEE* and for the UK, 1983 data come from GHS and 2001 data from LFS. From these surveys we extracted individual and employment variables as monthly wage, length of service, type of initial education, type of job, sex, age, level of education<sup>1</sup>, working experience on labour market<sup>2</sup>, employment categories, job time (full or part time work), mobility, industries classification, firm size, public or private sector<sup>3</sup>. The distribution of variables used to construct the typology for each class is exposed in appendix 1.

The population we focus on, in each national survey, is constituted by men and women, from 30 to 55 years old, in employment (employed or self-employed<sup>4</sup>). It corresponds, for France, to 31932 individuals for 1982 and 29955 for 2001; and for the UK, to 4797 for 1983 and 10646 individuals for 2001. We chose to work on this population to concentrate on employment relation and to avoid comparative problems for youth or senior workers. Indeed youth start working earlier in the UK; they know more situation overlapping work and education than the French. For senior workers the French early retirement system decreases strongly their employment rate.

### ***British Labour Market Structure, 1983-2001***

Regarding the graphic representation for the two periods, we notice the permanence of the opposition of “primary and secondary” sector. Indeed, a divergence between high wages and length of service on one side and low wages and tenure on the other side appear for each survey. Six classes come from the MCA in 1983 for the UK and we construct three types of employment relation named: Internal Labour Market (ILM), Secondary ILM and External Labour Market (ELM). In 2001 a fourth segment appears named “Labour Insecurity”. Tables 1 and 2 (on pages 8 and 10) expose a synthetic view of results and characteristics of each space for years 1983 and 2001.

---

<sup>1</sup> Certification classification is fully presented in appendix 2.

<sup>2</sup> It is potential working experience because it is constructed by the difference between age at the time of the survey and age left school. We could not subtract unemployment or inactivity periods.

<sup>3</sup> 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.

<sup>4</sup> In fact, there is very little number of self-employed people.

### *Three segments on 1983 British labour market*

The ILM corresponds to 58% of the sample but sub-groups appear. A first part corresponds to individuals in large firms, traditional industrial sectors and services. The second part of the ILM close resemble to the upper-tier primary sector defined by Piore (1975)<sup>5</sup>. In this sub group people are younger and they have occupational qualification. Their qualification is constructed in initial education. We could say they are “professionals”. Even if they are stable in their jobs we can think that they could move positively on the labour market. They have relatively lower length of service than the first group of the ILM. The third sub group is constituted by employees with more than twenty years of tenure. Their qualification is constructed on the experience of work, “on the job training”, and with the acquisition of an occupational status. They work essentially in the sector of energy, metals or mining; in transports and less in services than the global sample. Main occupational category on the ILM are managers and professional or intermediate occupation. Marsden (1992) explains that internal markets are common among British white collar workers, even if they are organised differently than French internal markets.

The secondary ILM corresponds to 13% of the sample. People of this class have low wages, around 70% have more than ten years of tenure and they have low level of education. Employees of this class are relatively old and women are more numerous than the average. This segment echoes the diversity of the secondary sector pointed by Doeringer and Piore (1971) in the second part of their book.

The ELM represents 30% of the sample. It is formed on one hand by young workers in insertion period and on the other hand by employees “shut up” in precarious sphere of the labour market. This entire group have less than 5 years of tenure; they are personal services or unskilled manual with low wages. Situations of part time jobs and mobility between two jobs or between unemployment, inactivity and employment are frequent. The hallmark of this group is precariousness of their jobs.

---

<sup>5</sup> In Piore (1975) definitions, 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 promotion. 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.

<b>Table 1: British Labour market in 1983</b>		Global (%)	ILM	Secondary ILM	ELM
Monthly wage ( euros)	0-365	25.6			++
	365-568	18.6		+++	
	568-786	24	+		
	786 and more	31.8	+		-
Length of service	Less than 1 years	10.7			+++
	1- 5 years	25.1		+	+++
	5-10 years	25.5	+	+	
	10 -20 years	27.5	+	+	
	More than 20 years	11.2	++		
Industry classification	Agriculture	1.2			
	Energy, metals, mining	8.2	+		
	Engineering, vehicules	13	+		
	Other manufacture	11.1			
	Construction	5.1			
	Services	55.7	+		+
	Transp., communication	5.7	+		
Type of initial education	No qualification	46.2		++	+
	FG	38.1	+		+
	FP	15.8	+	-	
Educational level	No qualification	46.2		++	+
	Elementary education	14.0		+	
	Occupational Qualif. 2dary inf.	9.1			
	Gal Qualif 2dary inf.	5.0	+		
	Occupational Qualif 2dary sup.	2.2	+		
	Gal Qualif 2dary sup.	3.6			
	1 <sup>st</sup> Occupational level in HE	4.9	+		
	HE Gal Qualif, Occupational Qualif	14.90	+	-	+
Sex	Women	46.1	+	++	+
	Men	53.9			
Age	30-35 years old	24.9	+		+
	36-41 years old	26.6			+
	42-47 years old	21.5		+	
	48-55 years old	27.1	+	+	
Firm size	0 to 24 employees	30.4			+
	25 to 99	23.5			
	More than 100	46.1	+		
Occupational Classification	Manager, professional	16.6	+		
	Intermediate Occupation	33.2	+		
	Personal services	8.2		+	+
	Skilled manual	21.9	+		
	Unskilled manual	20		+	+
Job time	Full time	72.9	++	+	
	Part time	27.1			+
Labour market experience	09-17 years	14.9	+	+	+
	18-25 years	34.7		+	+
	26-35 years	33.2			
	More than 35 years	17.1	+		
Private or public sector	Private	60.9			+
	Public	39.1	+		
Mobility <sup>6</sup>	Unemployment to employment	4.8			++
	Between two jobs	5.8			++
	No mobility	89.4	+++	+++	
<b>Frequencies</b>			<b>58%</b>	<b>13%</b>	<b>30%</b>

<sup>6</sup> It is just mobility during the year before the survey so it must under-estimate mobility of the labour force but we could not have larger period of mobility in surveys we used. "Unemployment to employment" corresponds to people who come out from unemployment or inactivity to job during the year before the survey. "Between two jobs" corresponds to people who have change job during the year before the survey and who are in job at the two moments.

<b>Tables 2: British Labour Market in 2001</b>		<b>Global (%)</b>	<b>ILM</b>	<b>Secondary ILM</b>	<b>Labour Insecurity</b>	<b>ELM</b>
Monthly wage (euros)	0-700	13.4			+++	+
	701-1100	12.6			+++	+
	1101-1400	13.6			+++	+
	1401-1800	16.7		+++		
	1801-2200	12.7		+++		-
	2201-3000	17.30	+++			-
	3000 and more	13.70	+++			
Length of service	Very low	19.1		---		+++
	Low	22.8			+	
	Middle	26.6	+	+	+	
	High	31.5	++	+		
Type of contract	Temporary contract	2.0				
	Temporary contract + very low tenure	2.9				
	Permanent contract	78.9	+++	+++	+++	
	Permanent contract + very low tenure	16.2				+++
Industry classification	Administration defence	9.4	+	+		-
	Agriculture	1.2			+	
	Trade	12.8				+
	Construction	5.0	+	+	+	
	Education -health - social	29.0				
	Finance - property business	13.9	+		+	+
	Hotel and catering	2.9				+
	Manufacturing	18.7	+	+		-
Transports	7.2			+		
Type of initial education	No qualification	11			+	
	General education	60.5	+			
	Occupational education	28.5	+	+		
Educational level	No qualification	11.0	-		+	
	Elementary education	13.7			+	+
	Occupational Qualif. 2dary inf.	20.2		+	+	
	Gal Qualif 2dary inf.	14.5		+		
	Occupational Qualif 2dary sup.	6.9	+			
	Gal Qualif 2dary sup.	4.0				
	1 <sup>st</sup> Occupational level in HE	9.7	+	+		
HE Gal Qualif, Occupational Qualif	19.9	++	-		-	
Sex	Women	52			++	
	Men	48	++	+		
Age	30-35 years old	25			-	+
	36-41 years old	26.5				
	42-47 years old	22.3				-
	48-55 years old	26.3			+	-
Firm size	Less than 10 employees	16.9	-		+	+
	10 to 49	28.7			+	+
	50 to 499	41.6	+	+		
	More than 500	12.9	+	+		
Occupational classification	Manager, professional Intermediate Occupation	28.6	++	-		-
	Personal services	25.2		+		-
	Skilled manual	17.8	-	-	++	+
	Unskilled manual	17.5		+		+
Job time	Full time	72.6	+++	+++		
	Part time	27.4			++	+
Labour market experience	0-10 years	3.0	+	-	-	
	11-18 years	25	+			+
	19-25 years	28.6				
	26-33 years	26.2	+			-
	More than 33 years	17.2	-	+	+	-
Private or public sector	Private	67.4				+
	Public	32.6				
Mobility	Unemployment I to employment	3.3				+
	Between two jobs	10.4				++
	No mobility	86.3	+++	+++	+++	
<b>Frequencies</b>			<b>26%</b>	<b>25%</b>	<b>30%</b>	<b>16%</b>

#### *Four segments on 2001 British labour market*

In 2001, British labour market is segmented into four occupational spaces: ILM, Secondary ILM, “Labour Insecurity” and ELM.

The ILM represents 26% of the sample. Half of people have more than 11 years of tenure and about 30% between 4 and 11 years. This group is composed by two sub classes one where private sector is the main one and another where public sector is predominant. Half of the “public” group are manager or professional and around 75% in the private one. In this group people work at 27% in finance and property business. Another difference between the two components of the ILM is wage level. In private sector wages are higher; all workers earn more than 3000 euros monthly. In the majority “public” sector they win between 2200 and 3000 euros. In the two subs group one on two people have higher education certificate. In each case, men are more presents and larges firms too.

Secondary ILM represents 25% of the population. 70% of people have more than 4 years of tenure 45% of whom have more than 11 years. They are in general skilled workers or have intermediate occupation. They have wages between 1400 and 2200 euros, middle level on the wages scale. They have in majority secondary educational level. The industries classification in which they are numerous are industrial sectors, construction and transports. There are more men than women and they work in general in large firms.

The occupational space named “Labour Insecurity” come from a diversification of the secondary sector as mentioned by Doeringer and Piore (1971). This occupational space is characterising by jobs quite stable (but less than in secondary ILM) with low wage and qualification. People of this segment have low educational level so if they return on the labour market searching for a job they must be in precarious situation<sup>7</sup>. More precisely this “Labour Insecurity” space is composed by three sub classes. In these classes people are 74, 82 and 65% having less than 11 years of tenure. The less tenured are in the second group where also 9 on 10 workers hold a part time job. In the two first classes people are personal services for more than 40% and 15 or 30% unskilled workers. In the third class workers are more qualified; around 30% hold an intermediate occupation. This last sub group joint more qualified, paid worker but we put them in the “Labour Insecurity” space because of the women share, the weight of part time jobs (even if we are aware of the fact that all part-timer are not in insecure situation or low skilled jobs) and the share of high tenure. Indeed, there is no more than 35% of higher tenure in opposition with the secondary ILM in which higher tenure is shared by more than 40% of individuals. In “Labour Insecurity” space, people earn less than 1400 euros monthly corresponding to the three lower level of wage. Around 20%

---

<sup>7</sup> In latter development we plan to work on situation of these individuals one or two year’s latter condition to data base to test the potential instability of their labour market situation.

have no certification and the same proportion elementary education. Less than 30% hold a secondary certificate like “O-AS Level”. The main industries in which they work are education, health or social activities (40% of the class), trade (around 20%) and hotel and catering. A large majority of workers are women, from 63 to 90% in each sub group and around one third of the class is more than 48 years old. Small firms are more presents than in the general sample.

The last occupational space on British labour market in 2001 is the ELM. It represents 16% of the sample. The entire group have less than one year and a half of length of service. They are 15% unskilled workers and 22% personal services. Half of this class earn less than 1400 euros monthly, including 20% earning less than 700 euros. 16% hold an elementary educational certification and higher educated people are less presents than in the global sample. More than 80% of the class works in private sector and primarily in tertiary activities like hotels and catering, trade or finance and property business. Mobility variables are five times more frequent than in the general population, so this space is characterise by a high turnover. One third of the class is less than 35 years old so this space corresponds to the main “insertion space” for younger workers. Lefresne (1999) deals with a peculiar space for youth insertion on British labour market characterised by low paid and qualified jobs. But this segment is not entirely this type of segments. The part quite important of higher educated people, of intermediate wages and qualified tertiary sector let think that there is a part of favourable external labour market for professionals but the aggregation level of our data and variables do not explain that very clearly.

The next table make together the labour market segmentation of each period for the UK.

<i>1982-3</i>	<i>2001</i>
- ILM (58%)	- ILM (26%)
- Secondary ILM (13%)	- Secondary ILM (25%)
- ELM (30%)	- Labour Insecurity (30%)
	- ELM (16%)

The stable employment relation share (ILM and secondary ILM) decrease from 71% to 51%. This expresses the development of flexibility on labour and product markets. But in the same time the major part of the workforce even in the UK still have stable jobs so, like Doogan (2005), we could not valid literature dealing with the “end of stable work”.

The apparition of the “Labour Insecurity” segment may be put in parallel with the development of part-time job and women employment rate. Even if our data do not express deeply the development of part-time work it is an important trend on labour market. At European level<sup>8</sup>, part-time jobs increase by 35% between 1992 and 2000, when full-time employments rise by 1% (Doogan, 2005). Part-time is frequent in “Labour Insecurity”

<sup>8</sup> These figures are from 1992 and 2000 so they concern the twelve country of the EU in 1992.

segment. More over women employment participation increase deeply during the last two decades and they are the major part of this occupational space. From 1992 to 2000, total jobs gain for women are 8.5% more in the UK and 10% more in France, with in both country around one million jobs gain (Doogan, 2005).

### ***French Labour Market Structure 1982- 2001***

The dualist approach seems to be relevant for French labour market, as for British earlier. In 1982 and 2001, graphic representation show an opposition between high wages, qualifications and length of service and on the other side, low wages, qualifications, tenure and education. The analysis shows four classes but the third correspond to “no answer” for the wage variable so we keep only three classes. In 2001, the analysis put out eight classes merged into four occupational spaces.

#### *Three segments on 1982 French labour market*

Similarly to British labour market, the French one is structured around three types of employment relations: ILM, Secondary ILM and ELM.

ILM corresponds to 43% of the sample. Half people have more than twelve years of tenure. They are manager, professional or they have intermediate occupation. The entire group is situated between the higher or the second level of wages. 20% have higher education certification, and the same proportion the level of the “baccalauréat”. Around half of the class work in public sector and the majority in services.

The Secondary ILM counts 39% of the sample. They have for a third low length of service, for a third middle and a third high. So they are stable in their jobs but these jobs are relatively low skilled. There are many unskilled or skilled workers and personal services. Around 90% of the class is in the lower or the second lower wage group. 70% have no more than elementary education.

The ELM represents 13% of the sample. Quite the entire class have less than one year and a half of length of service. The most frequent type of job is personal services and lower wages are two times more frequent than in the entire sample. Around three quarter of workers is in private sector and little firms are numerous. More over part time job are very frequent<sup>9</sup>.

---

<sup>9</sup> We do not associated totally part-time job and precariousness and we are aware of the heterogeneity of part-timers and part-time jobs. But at this level of the analysis we have not precise information on part-timers to make the difference but we pay attention to that and we will try in further research to better introduced this dimension.

<b>Table 3: French Labour market in 1982</b>		Global (%)	ILM	Secondary ILM	ELM
Monthly wage (euros)	0-492	19.9	---	+	++
	493-645	24.9	---	++	
	646-831	26.5	++		
	832 and more	28.7	++		
Length of service	Very low	14.7	-		+++
	Low	23.0		+	
	Middle	28.5	+	+	
	High	33.8	+		
Type of contract	Temporary contract	0.4			
	Temporary contract + very low tenure	1.1			
	Permanent contract	85	+++	+++	
	Permanent contract + very low tenure	13.5			+++
Industry classification	Agriculture	1.4			
	Energy, metals, mining	10.5	+	+	
	Engineering, vehicules	11	+		
	Other manufacture	9.5		+	
	Construction	7.9		+	+
	Transp-communication	7.5	+		
	Services	52.2	+	-	+
Type of initial education	No qualification	22.2		++	
	General education	42.8	+		
	Occupational education	35	+		
Educational level	No qualification	22.2		++	
	Elementary education	23.2		+	
	Occupational Qualif. 2dary inf.	6.6	+	-	
	Gal Qualif 2dary inf.	23.6	+	-	
	Occupational Qualif 2dary sup.	5.2	+	-	
	Gal Qualif 2dary sup.	6.4	+	-	
	1 <sup>st</sup> Occupational level in HE	2.4		-	
	HE Gal Qualif, Occupational Qualif	10.3	+	-	
Sex	Women	38.6		+	+
	Men	61.4	+	-	
Age	30-35 years old	33.5		-	+
	36-41 years old	22.6	+	-	+
	42-47 years old	19.7			
	48-55 years old	24.3		+	
Firm size	Less than 10 employees	17.9		+	+
	10 to 49	17.5		+	+
	50 to 499	25.8		+	
	More than 500	38.8	+	-	
Occupational classification	Manager, professional	10.8	+	-	
	Intermediate Occupation	25.5	++	-	
	Personal services	27.1		+	+
	Skilled manual	22.5		+	
	Unskilled manual	14.1		+	
Job time	Full time	93.3	+++		
	Part time	6.6		+	+
Labour market experience	0-8 years	2.3		-	+
	09-14 years	13.6	+	-	+
	15-21years	29.05			
	22-32 years	33.2			
	More than 32 years	21.7		+	
Private or public sector	Private	64.6		+	+
	Public	35.4	+		
Mobility	Unemployment to employment	3.3			
	Changing jobs	4.1			
	No mobility	92.6	+		
<b>Frequencies</b>			<b>43%</b>	<b>39%</b>	<b>14%</b>

<b>Tables 4: French Labour Market in 2001</b>		<b>Global (%)</b>	<b>ILM</b>	<b>Secondary ILM</b>	<b>Labour Insecurity</b>	<b>ELM</b>
Monthly wage (euros)	Lower than 800	12			+++	++
	800 to 1000	12.4			+++	+
	1000 to 1200	14.9				
	1200 to 1500	22.1		+++		-
	1500 to 1900	18	+++	+++		-
	More than 1900	20.7	+++			-
Length of service	Very low	16.3	---	---	---	+++
	Low	22.4	-	+	++	
	Middle	31.3	+	++	+	
	High	30	++	+	-	
Type of contract	Temporary contract	1.4			---	++
	Temporary contract + very low tenure	2.7				
	Permanent contract	82.3	+++	+++	+++	
	Permanent contract + very low tenure	13.6			---	++
Industry classification	Administration defence	12.8	+		-	
	Agriculture	3.9			+	+
	Trade	11.1			+	+
	Construction	5.5		+		+
	Education -health - social	20	+		-	+
	Finance – property business	4.7	+		-	
	Manufacturing	18.7	+	+		
	Services	18.3			+	++
	Transports	5.0			-	
Type of initial education	No qualification	16			+	+
	General education	34.2	+	-	-	
	Occupational education	49.8		+	-	
Educational level	No qualification	16.0		+	+	+
	Elementary education	7.6			+	
	Occupational Qualif. 2dary inf.	7.8		+	+	
	Gal Qualif 2dary inf.	31.7		+	+	
	Occupational Qualif 2dary sup.	7.7	+		-	
	Gal Qualif 2dary sup.	8.1	+		-	
	1 <sup>st</sup> Occupational level in HE	6.9	+	-	-	
HE Gal Qualif, Occupational Qualif	14.3	++	-	-		
Sex	Women	46.4		+	++	+
	Men	53.6	+		-	
Age	30-35 years old	23.4	-			+
	36-41 years old	24.3		+		+
	42-47 years old	23.9	+			
	48-55 years old	28.4	+	-		-
Firm size	Less than 10 employees	25.7			+	+
	10 to 49	18		+	+	+
	50 to 499	25.8		+		
	More than 500	30.5	+	+	-	-
Occupational classification	Manager, professional	14.7	++	-	--	
	Intermediate Occupation	23.6	++		--	-
	Personal services	31.4		+	++	
	Skilled manual	21.00	--	+		
	Unskilled manual	9.31	--	+	+	+
Job time	Full time	84.1		+++	-	
	Part time	15.9			++	+
Labour market experience	0-10 years	5.5		-	-	+
	10-18 years	22	-			+
	18-24years	22.1	-	+		
	24-31 years	25.5	+			
	More than 31 years	24.9	+	+	+	-
Private public sector	Private	68.1			+	+
	Public	31.9	+		-	
Mobility	Unemployment to employment	5.4				++
	Between two jobs	5.8				++
	No mobility	88.8	+++	+++	+++	
<b>Frequencies</b>			<b>34%</b>	<b>31%</b>	<b>17%</b>	<b>17%</b>

### *Four segments on 2001 French labour market*

Between 1982 and 2001 we go from three segments structuring French labour market to a fourfold division with ILM, Secondary ILM, “Labour Insecurity” and ELM.

34% of the population correspond to the ILM. This space is composed by two sub groups differentiated by their qualification (majority of managers and professional or of intermediate occupation) and educational levels (half or a quarter of higher educated people). Therefore wages are higher in the first sub group. The general and shared characteristic of the ILM is the high length of service. Around 80% of workers have more than 7 years of tenure including 50% with more than 17 years. This occupational space is specified by 40% of workers in public sector, 22% in education, health or social activities, finance and property business for the higher paid and administration for the other. Workers on the ILM constructed their qualification by experience (on the bases of a relatively high level of education) and acquisition of a labour status; they are for around 65% in the second part of their carrier, indeed more than 32% are between 48 and 55 years old. One of the differences between 1982’s ILM and 2001 one is the increase of level of education of the population, a general trend within labour force. It let us thinking about modifications of the return of variables like education, tenure that we will investigate latter.

The Secondary ILM, 31% of the population, is composed by two sub groups. The difference between these two groups is the larger part of public sector in the first one. Therefore length of service is a little more important in this sub group but general characteristics of the population are very similar. Around 40% people have between 7 and 17 years of tenure. 38% in the first sub group and 28% in the second are in the same firm for more than 17 years. These people are stable in their jobs. Levels of qualification are quite low: around 35% are skilled workers and a little more personal services. They earn between 1000 and 1500 euros per month. The sub group where public sector is more important has the highest wages. In terms of educational levels, 40% have a secondary occupational certificate and in the private sub group 23% have no qualification. Industries where these people work are mainly manufacturing, transports and administration for the public one, construction and trade for the private one. This occupational space combines job stability but low qualification and wages like secondary segments of Doeringer and Piore analysis (1971).

The third space characterising French labour market is named “Labour Insecurity”. Two classes composed this space and the main difference refers to industries classification: primary and secondary in the first group, tertiary in the second one. Consecutively there are more men, with higher wages in the first group and more women in the second one. In average 45% of the “Labour Insecurity” workers have a low length of service and around 40%

a middle one. Qualification levels are mainly personal services (essentially in the second group with more women) or skilled and unskilled workers (in the first and “male” one). They earn less than 1000 euros monthly, less than 800 for women. 30% of the class do not have any certificate and around 15% elementary education. In the “male” group 35% hold a secondary occupational certificate like “CAP- BEP”. The entire space corresponds to the private sector and as we said earlier mainly services in the “female” group and secondary activities in the other. In the group where women are highly represented, three quarter of people work in part time jobs. Workers of this class are in a precarious situation according to their low level of earnings, job classification and educational certificates even if their jobs give evidence of job stability in opposition to the notion of external labour market in segmentation literature (Doeringer and Piore, 1971).

The last part of the working population represents the ELM. We use the Doeringer and Piore (1971) term even if in our European countries these types of segments know less turnover than in the US situation. More than 85% of the class have less than one year and a half of tenure but this class is composed by two different groups. One may correspond to young workers in a stabilisation pathway; they have permanent contracts, job classification similar to the global sample. We notice presence of higher educated people and high paid jobs. The other may be people “shut up” in precarious job, they hold temporary contracts, earn for half of the group less than 1000 euros and hold low level certificates. For the two groups, jobs are mainly in services for firm or private individuals; education, health and social activities. A significant characteristic is the high weight of mobility variables (between 5 and 7 times more frequent than in the global population) and part time jobs (2 times). The large turnover could be explained in two different ways. For the first group, younger workers, it may correspond to a “matching period” in which they try different jobs to find the right one. For the second group, the mobility may be more involuntary and linked with the end of temporary contracts. This table resume the French situation for each year.

<i>1982-3</i>	<i>2001</i>
- ILM (43%)	- ILM (34%)
- Secondary ILM (39%)	- Secondary ILM (31%)
- ELM (14%)	- Labour Insecurity (17%)
	- ELM (17%)

We notice a decrease in stable employment relations (ILM and Secondary ILM) like in the UK but they are still more frequent on the French labour market. The less stable part of the workforce (“Labour Insecurity” and ELM) is more heterogeneous.

#### 4. A Comparison Between France and the UK : National Declination of Employment Relations Categories

In the remainder part of the paper we return to a comparison of the national labour market structure of France and the UK. This comparison focuses on the impacts of the changing external environment and internal conditions of firms from the eighties to the years 2001.

##### *Common points and distinctions between countries: 1982-3*

Empirical evidence for French and British labour market segmentation, at the beginning of the eighties, ends up at a three spaces structure (Tables 1 and 3). In general, these three segments are close to those exposed by Doeringer and Piore (1971). The ILM is characterised by employment stability, high level of qualifications and wages. Secondary ILM could be defined as authors do: “These markets do possess formal internal structures, but they tend to have many entry ports, short mobility clusters, and the work is generally low paying, unpleasant or both” (p 167). It corresponds to employees in stable jobs but with low wages, qualifications and level of education. ELM put together employees with unstable job, low wages and qualification. They are frequently named as “unstructured”, “unorganised”; resemble the jobs postulated in competitive theory. These three types of employment relations are shared by the two countries but their inside organisation shows specific traits. The next table presents the distribution of each professional space both in France and the UK.

<b>1982-83</b>	<b>France</b>	<b>UK</b>
ILM	43%	58%
Secondary ILM	39%	13%
ELM	14%	30%

Comparing French and British labour market in 1982-3 we could notice a larger share of stable employment relations in France. This type of employment relation seems to be largely widespread among all level of occupational qualification in France. In Britain this seems to be reserved to qualified workers even if a group with occupational education could move in a positive way. If we focus only on ILM, it seems to be more “closed” in France and difficult to enter for people with low labour market experience. The age variable seems to be more determining in France than in the UK. Favereau and alii (1991), in a longitudinal approach of labour market segmentation, show that French labour market give many examples of ILM as they named “youth or older selective” because the intermediate aged population is protected when employment vary. They explain that on the contrary, for the metals and mining sector in

the UK we do not found this protection of intermediate aged population but a stability of youth employment.

Skilled workers seem to have a different position on each labour market. In France they are more likely on Secondary ILM and in the UK on ILM. This fact probably reflects the national ways of construction of their qualifications. In France, in the eighties, there is little initial occupational education so they acquire their qualification on the job, with time and experience. It could explain the existence of a “maximum” stage in their carrier. On the contrary, in the UK, they know apprenticeship, with more formal qualifications, or at least more recognized by employers. They could have longer mobility chains.

Regarding educational level in each segment, they are quit similar in each country expect for ELM. In the UK we found higher educated people in this segment. It may be the sign of the existence of occupational labour market as described by Eyraud, Marsden, Silvestre (1990). These workers are “professionals” and move between firms in the framework of a promotional carrier.

***Changes in Internal and External Environment: Parallel Evolution but National Specific Traits of Labour Market Segments***

The data analysis for 2001 brings them to a fourfold division of labour market both in France and in the UK. The main difference between 1982-3 and 2001 is the apparition of the “Labour Insecurity” space<sup>10</sup>. Consequently, French and British labour markets, in 2001, are formed with four types of employment relations: an ILM, a Secondary ILM, a “Labour Insecurity” space and an ELM. The next table shows the weight of each type of employment relation in the two countries.

<b>2001</b>	<b>France</b>	<b>UK</b>
ILM	34%	26%
Secondary ILM	31%	25%
Labour Insecurity	17%	30%
ELM	17%	16%

First, we could notice that stable employment relation (ILM and secondary ILM) is still the situation of the major part of the labour market. Following Auer and Cazes (2000) or Doogan (2005), our results express a persistence of stable job and the fact that precariousness or flexibility is not the new rule on the entire labour market. Doogan (2005) deals with the increase of long-term employment, defined as workers who have been with their current

<sup>10</sup> Between 1983 and 2001 British surveys we add the type of contract variable. One may say that it is this difference that creates the fourth segments. We tested a configuration for 2001 without this variable and we find again classes grouped in the “Labour Insecurity” segments.

employers for ten years or more. These results are compatible with ours. Indeed, the share of long tenured workers can increase in the same time with unsecured and unstable positions for another part of the workforce. It may correspond to a “bipolarisation” process, a phenomenon of duality which is pointed out by several studies of both countries (Gregg and Wadsworth, 1996; Fouquin and al, 2000; Dupray, 2000; Amossé, 2002; Léné, 2002).

We see the still larger part of stable jobs in France than in the UK in 2001. This structural and we could say societal difference between the two countries is still present and seems to be enforced since 1982-3. Indeed, in 1982-3 stable jobs represent around 82% of French labour market and 71% of the UK one. In 2001, they are 65% for France and 50% for the UK. Even if the main part of workers is stable in their jobs, unstable segments have increased.

The apparition of “Labour Insecurity” segment show the increase of flexibility that has touched both country, but their societal characteristics make the evolution national specific. The “Labour Insecurity” is larger in the UK. Indeed, even if the ELM has shortened in the UK, the global part of unstable and insecure situations has increased between 1983 and 2001. This situation explains the increase of instability and insecurity on labour market even if they could stay potential as in “Labour Insecurity” space. In a context of more flexibility on product markets, of rapid technological changes, firms have to adapt their organisation to face this new environment. But it could be expensive and disadvantageous to modify ILM structure and rules. Doeringer and Piore (1971) expose a possible reaction of firm to preserve ILM in such a context by the encouragement of some types of secondary employment in the primary enterprise. Dauty and alii (2001) deals with three main forces driving of the transformation of labour organisation. Globalisation enlarges competition on the market, push firms to find new productivity margin and enforce the “market logic”. In the same time, on market product, there is an increase in product and service variability, an intensification of innovations and shrinkage of product life cycles. Finally, technological evolutions spread over all economic sectors. Consequently firms, both in France and the UK, search more technical, organisational and social flexibility in order to adapt to this changing environment. In the same way, Givord and Maurin (2004) explain that contemporary technological changes increase job insecurity because they “contribute to decreasing the incentive to keep workers for long periods of time” (p 611). They add that institutional environment and changes interfere in that trend, and could restrict their effects. In fact, combination of external (more flexibility on market product, innovation and technological changes, globalisation) and internal pressures (cost of a modification of ILM rules) could explain the apparition of this “Labour Insecurity” space.

Other external changes as development of tertiary activities and feminisation of the workforce could echo “Labour Insecurity” segment. The share of “services” in total employment comparing to agriculture and industry increase in France from 46% in 1969 to 69% in 1995 and in the UK from 51% to 73% during the same period (Tremblay, 1997). As we exposed earlier (p 11) women employment has deeply increased during the last two decades, around ten percent more during the 1990’s both in France and the UK. As we could see in next table, which shows main characteristics and differences between “Labour Insecurity” and ELM, tertiary activities and women are largely represented on “Labour Insecurity” segment.

	<i>France</i>	<i>UK</i>
<b>Labour Insecurity</b>	-43% low tenure (1.5 to 7 years) 40% average tenure (7 to 17 years)	-37% low tenure (1.5 to 4 years) 37% average tenure (4 to 11 years)
	-19% unskilled workers -58% personal services	-22% unskilled workers -36% personal services
	-1/2 less than 800 euros -1/2 800-1000 euros	-1/3 less than 700 euros -1/3 700-1100 euros -1/3 1100 to 1400 euros
	-43% no qualification or elementary education + Secondary occupational certification	-40% no qualification or elementary education + Secondary general certification
	-80% private, essentially tertiary activities and little manufacture	-Private/public sector like the average sample, essentially tertiary activities
	-75% women -30% more than 48 years old	-80% women -1/3 more than 48 years old
	<b>ELM</b>	-93% very low tenure (less than 1.5 years)
-10% unskilled workers -30% personal services		-15% unskilled workers -22% personal services
-1/4 less than 800 euros -1/4 800-1000 euros -20% 1000 to 1200 euros		-20% less than 700 euros -15% 700-1100 euros -16% 1100 to 1400 euros
-25% no qualification or elementary education + Secondary occupational certification		-27% no qualification or elementary education
-essentially private sector, 1/3 services, trade		-essentially private sector, 1/3 services (trade, catering, financial and property business)
-very high mobility -part time frequent -36% less than 35 years old		- very high mobility  - 1/3 less than 35 years old

Each type of segments close resembles from one country to the other. The main difference between “Labour Insecurity” and ELM is the fact that “Labour Insecurity” seems to be a lasting situation and ELM a more transitional one. “Labour Insecurity” is constituted by older people, essentially women, low qualified. They seem to be “imprisoned” in this precarious segment. ELM groups younger workers with high turnover and level of education, wages more disparate. It seems to be a more transitional segment in which people change job to find better matching even if some people are “shut up” in very precarious situation within the ELM. We find here a limit of the traditional notion of ELM to explain nowadays precarious situations notably on European labour markets. “Labour Insecurity” people stay in that segments and in their jobs too because they do not have characteristics to move positively on the labour market and because they threat to stay long time unemployed.

Another evolution between 1982-3 and 2001 is the transformation of ILM. More precisely we could see a development of higher educated people in ILM. It corresponds to structural trends as the development of schooling and the increase of educational level within the labour force in each country (Béduwé and Planas, 2002; Béduwé and Germe, 2003; Green F., McIntosh S., Vignoles A., 2002). These trends make less necessary for firm to construct “on the job” their labour force qualification as in the traditional definition of the ILM. But in the same time, educated people stay in their jobs, they have long length of service. Doogan (2005) expose, based on European data, that up-skilling is associated with more long-term employment and labour market attachment. Higher educated people are situated on ILM in which wages returns come probably more from educational qualification or labour market experience than tenure. In a French labour market study, Béret (1992) conclude to the presence of ILM where returns come from qualification and/or labour market experience, of a secondary ILM in which tenure keep wage returns and an ELM where educated people could move positively. These findings enforce the hypothesis of a modification of internal rules in traditional labour market segments even if their main traits seem to stay relevant. On ILM, length of service will no longer stay the main wage determinant.

## **5. Conclusions and Prospects**

Empirical evidence of the paper shows that the dualist approach of the labour market is still relevant. This conclusion is in the line of the work of Petit (2003) based on firm data for France. A large literature about both France and the UK (Fouquin and alii, 2000; Dupray, 2000; Gregg and Wadsworth, 1996) deals about a strengthening opposition between stable

and unstable work force. We find the same results in the sense that the four segments for year 2001 could be divided for each country into a stable (ILM and secondary ILM) and an unstable or insecure population (“Labour Insecurity” and ELM). Between 1982-3 and 2001 the weight of the unstable part has increased in each country but more largely in the UK. We notice here a societal aspect of the UK labour market, structurally more flexible than the French one. The dual situation could be put in parallel with the idea of an educational bipolarisation expressed for the UK by Layard, McIntosh and Vignoles (2002). We would work on this idea in future works.

After pointing out the relevance of the dualist approach we have showed its limit to take into account national specificities. Further research may question a national declination of the generic categories like ILM, Secondary ILM and ELM. We plan to work in this direction with an econometrical study of variables returns like for example education, labour experience, and tenure. This type of work would make us able to generate specific declination based on econometrical results and institutional context of each country. Another deepening of this work must be a specific analysis of the “Labour Insecurity” space. Variables returns study would help us to valid the existence of this peculiar type of employment relation and the use of variables explaining people situation one or two years latter must help them to characterise the instability of this type of employment relation.

## BIBLIOGRAPHY

- AMOSSE T., 2002, “Vingt cinq ans de transformation des mobilités sur le marché du travail”, *Données Sociales, La société française*, INSEE.
- AUER P., CAZES S., 2000, « L’emploi durable persiste dans les pays industrialisés », *Revue Internationale du travail*, Vol. 139, 4.
- BEDUWE C., GERME J.F., 2003, “Vers une stabilisation des niveaux de formation en France?”, Working Paper of CEE, n°27.
- BEDUWE C., PLANAS J., 2002, *Hausse d’éducation et marché du travail. Final Report TSER EDEX Project*, Report for the European Commission, *Les Cahiers du LIRHE*, n°7.
- BERET P., 1992, “Salaires et marchés internes: quelques évolutions récentes en France”, *Economie Appliquée*, tome XLV, n°2.
- BERGER S., PIORE M.J., 1980, *Dualism and discontinuity in industrial societies*, Cambridge University Press, Mass.
- DAUTY F., AUBRY C., OURTAU M., 2001, Evolution des modes de gestion, comportement des entreprises et hausse des niveaux d’éducation en France, WP 3, EDEX.
- DOERINGER P., PIORE M.J., 1971, *Internal Labour Market and Manpower Analysis*, Lexington, Mass.

- DOOGAN K., 2005, "Long-term Employment and the Restructuring of the Labour Market in Europe", *Time and Society*, vol. 14, n° 1.
- DUPRAY A., 2000, "Permanence et évolution de la mobilité professionnelle: de la fin des années soixante aux années quatre vingt dix", INED Workshop, France.
- EYRAUD M., MARSDEN D., SILVESTRE J.-J., 1990, "Occupational and Internal Labour Market in Britain and France", *International Labour Review*, 129 (4).
- FAVEREAU O., SOLLOGOUB M., ZIGHERA J.A, 1991, "Une approche longitudinale de la segmentation du marché du travail", *Formation Emploi*, n°33.
- FOUQUIN M., JEAN S., SZTULMAN A., 2000, "Le marché du travail britannique vu de France", *Economie et Statistique*, No. 332-333.
- GIVORD P., MAURIN E., 2004, "Changes in job security and their causes: An empirical analysis for France: 1982-2002", *European Economic Review*, 48.
- GREEN F., MCINTOSH S., VIGNOLES A., 2002, "The utilisation of education and skills: evidence from Britain", *The Manchester School*, vol. 70, n°6.
- GREGG P., WADSWORTH J., 1996, "A short history of labour turnover, job tenure, and job security, 1975-93", *Oxford Review of Economic Policy*, 11:1.
- LAYARD R., MC INTOSH S, VIGNOLES A., 2002, "Britain's Record on Skills", Working paper, Centre for the Economics of Education.
- LEFRESNE F., 1999, *Systèmes nationaux d'insertion professionnelle et politiques publiques de l'emploi en direction des jeunes : une comparaison européenne*, Thèse de Doctorat en Sciences Economiques, Université de Paris I, 586 pages.
- LENE A., 2002, "Insertion des jeunes et segmentation du marché du travail: l'effet des politiques éducatives", RAPPE Conference, Aix en Provence, France.
- MARSDEN D., 1992, "Trade union action and labour market structure", in Castro A., Méhaut Ph., Rubery J., *International Integration and Labour Market Organisation*, Academic Press.
- MAURICE M., SELIER F., SILVESTRE J.J., 1982, *Politique d'éducation et organisation industrielle en France et en Allemagne*, PUF.
- OSTERMAN P., 1994, "Internal Labor Markets: Theory and Change", in Kerr and Staudohar, *Labor Economics and Industrial Relations - Markets and Institutions*, Harvard University Press.
- PETIT H., 2001, "Cambridge contre Cambridge : une version segmentationniste", *Cahiers de la MSE, Série MATISSE*, 2001-46.
- PETIT H., 2003, "Is the concept of Labour Market Segmentation still accurate in France in the 90's?" Communication for the 24<sup>th</sup> Conference of the International Party on Labour Market Segmentation, Rome, Italy.
- PIORE M.J., 1973, "On the technological Foundation of Economic Dualism", Working Paper, Department of Economics, MIT, n°110.
- PIORE M.J., 1975, "Notes for a theory of Labour Market Stratification" in Edwards R., Reich M., Gordon D.M., *Labour Market Segmentation*, D.C Health &Co., Lexington, Mass.
- SILVESTRE J.J., 1978, *Les inégalités de salaires – Marché du travail et croissance économique*, PUF.
- TREMBLAY D-G., 1997, *Economie du travail – Les réalités et les approches théoriques*, Télé-université, Québec, Canada.

## Appendix 1 - Data base and the variables used

### ▪ French “Enquête Emploi”

For France, we used INSEE “Enquête Emploi”. It is a labour force survey generated each year containing individual data records on monthly earnings, human capital traits, labour market characteristics and other socio-economic data.

From the surveys of 1982 we extracted a sample of 31932 individuals and one of 29955 individuals for 2001. We focus on 30-55 years old workers (employed or self-employed) for whom we know monthly wages. We have excluded extreme wages.

### ▪ General Household Survey (GHS) and Labour Force Survey (LFS)

For the UK we used two different surveys because of wage variables that not exist in LFS for years before 1992. So for 1983 we used the GHS and LFS for 2001.

From the survey of 1983 we extracted a sample of 4797 individuals and one of 10646 individuals for 2001. We focus on the same 30-55 years old workers population.

### ▪ The variables used in the classification analysis

Fourteen variables have been used for the empirical investigation. Some are individuals' traits and others are linked with the firm.

#### **Individual variables:**

- Sex
- Age (30-35 years old , 36-41years old, 42-47 years old, 48-55 years old )
- Educational level ( eight levels, see Appendix 2)
- Type of education (no qualification, occupational or general qualification)
- Length of service (very low, low, middle and high)<sup>11</sup>
- Labour market experience
- Monthly wage
- Type of job ( permanent contract, temporary contract, and these two situations crossing with very low length of service)
- Occupation classification (Manager & professional, Intermediate occupations, Personal services, Skilled manual, Unskilled manual)
- Job time (Full time or part time job)
- Mobility (having change employer between n and n-1, no change of employer, coming out form unemployment or inactivity to employment). It is mobility variables only on a one-year period, so figures are relatively low.

#### **Firm characteristics:**

- Firm size (less than 10, from 10 to 49, from 50 to 499, 500 and more)<sup>12</sup>
- Industry classification
- Private or public sector.

---

<sup>11</sup> For GHS 1983 we could not use the same distribution because we do not have a continuing variable, so we constructed five levels: less than one year, from one year to five, from five to ten, form ten to twenty and more than twenty years.

<sup>12</sup> For GHS 1983 we could not use the same cut-out. We have: less than 24, from 25 to 99, 100 and more

## 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	UK
<b>0- No qualification</b>		
<b>1- Elementary education</b>	CEP	-CSE, GCSE -Clerical and commercial qualifications without GCE 'O' level -YT/YTP certificate -GNVQ-GCVQ foundation level -NVQ 1
<b>2p- Occupational Qualification secondary inf.</b>	CAP, BEP (avec ou sans BEPC)	-Apprenticeship -C&G craft, RSA diploma -BTEC first and general diploma -NVQ 2, GNVQ intermediate
<b>2g- General Qualification secondary inf.</b>	BEPC	-GCE 'O-AS' level or equivalent -GCSE -SCE higher or equivalent
<b>3p- Occupational Qualification secondary sup.</b>	-Bac techno, bac pro, brevet pro -BEI, BEC, BEA -Paramédical ou social (avec ou sans bac général)	-RSA, Advanced diploma, -BTEC, ONC/OND national -NVQ 3 -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 -HNC-HND/ BTEC ... Higher certificate -RSA higher diploma -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...) -Grande école, diplôme d'ingénieur	-First degree / university diploma -Qualification or certificate from colleges of further education (census level B) -Higher degree (census level A) -NVQ 5