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High Relative Wages and High Work Intensity: The French Food Processing Model in International Perspective[†]

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1) INTRODUCTION AND OVERVIEW

Food manufacturing is the leading manufacturing sector in France in terms of sales, and the third one in terms of employment (about 600,00 jobs in the mid 2000s). It is highly intensive in low skilled / low payed jobs: about two third of employees are blue collar workers, with more than 40% of them on jobs classified as "unskilled". Nevertheless, the proportion of low wage workers *stricto sensu* - i.e. with hourly wage below two thirds of the hourly median wage – is rather low, about 7%, much less than in comparable European countries such as the United-Kingdom or Germany, where about one third of employees (and even up to almost 50% in some subsectors such as meat processing in Germany) are low wage workers (Grunert et alii, 2009).

By many ways the food processing sector is quite representative of the French "model", charachterised by a quite low proportion of low wage workers on average (about 10% in 2005, see Askénazy, Caroli, Gautié, 2009). Some key features of the institutional framework play a crucial role to understand the functionning of the French low skilled / low pay labor market (Caroli and Gautié, 2008).

The French institutional system is rather "inclusive" (Gautié, Scmitt et alii, 2009). More than in any other comparable countries, the regulation by state law is central in France. The existence of a national statutory minimum wage – which is a key difference with Germany, where its absence has been a permissive cause of the increasing share of low wage work during the past fifteen years (Bosh and Weinkopf, 2008) – is of course not specific to France. But the minimum wage is more binding in France, because it is higher in relative terms (as compared to average and median wage) than in countries such as the United Kingdom and the Netherlands[1]. Beyond wage setting, state regulations cover many domains such as job protection, with an employment protection legislation significantly

[1] In 2006, the minimum wage to average wage ration was about 47% in France, as compared to about 43% in the Netherlands (46% for those aged 23 or more), and about 35% in the UK (Immervol, 2007).

higher than for instance in the UK or Denmark, according to the OECD index[2], and working time, the so-called "35 hours week" law having impacted significantly the working time organisation in many sectors, among them food processing. In this sector, as we will see, one consequence of these regulations is a greater focus on internal and more specifically functional flexibility than in other countries (in particular the UK – see Caroli, Gautié, Lloyd, Lamanthe and James, 2009).

Collective bargaining, at both national and branch levels, also play an important role in France – like in other "coordinated market economies", such as Denmark, Germany or the Netherlands, in sharp contrast with liberal market economies such as the United Kingdom where bargaining, if any, takes place now mainly – if not exclusively- at firm level. But there is a French paradox here: the average unionisation rate is about 8% in the mid 2000s (and only about 5% in the private sector), the lowest among OECD countries, even lower than in the United States. Nevertheless, more than 90% of employees are covered by an agreement or a regulated "status" (the highest rate among OECD countries, with Denmark and the Neherlands). Once again, state intervention is crucial here : most of the branch collective agreements are legally extended to the whole sector and therefore binding for all the firms (like in the Netherlands, but in contrast with Germany and Denmark).

The food processing sector is a good illustration of this French specificity: unions are usually weak and often divided at workplace level (if not absent), but collective bargaining is vivid at branch levels, concerning wages but also other issues (working time regulation, training…). The weakness of countervailing power at plant level is particularly felt in the field of working conditions – which are traditionaly harsh in this sector. This may contribute to explain why the "high relative wage / high work intensity / bad working conditions" model (Caroli and Gautié, 2008) applies in the food

[2] According to this index, the strictness of EPL for regular workers amounted to 2.5 in France in 2003, as compared to 2.7 for Germany and 3.1 in the Netherlands, but only 1.5 in Denmark and 1.1 in the UK. EPL is particularly strict for temporary work in France: the same year, the index amounted to 3.6 in France, as compared to 1.8 in Germany (before the Hartz reforms, it is lower since then), 1.4 in Denmark, 1.2 in the Netherlands and 0.4 in the UK.

manufacturing sector, as the results of our case studies in the confectionary and the meat processing subsectors tend to show (see box 1 on the methology). More precisely, to cope with increasing competitive pressures – due to the growing market power of retailers, the more demanding constraints in terms of health and security, as well as to changing consumers habits – French firms have been less able to compress the compensation, in contrast with other countries, notably Germany and the United Kingdom. Indeed, the French regulatory framework depicted above reduces the margin for adopting "social dumping" strategies. But French firms tried to react by increasing productivity by adopting "lean production" and developping new processes in which physical burden is lower but mental strain is higher. As a consequence, even if from a foreign eye their employment conditions may appear as rather good, dissatisfaction is high among food processing operators.

The paper is structured as follows. Section 2 gives an overview of the food processing sector in France, and its evolution, in particular concerning the increased competitive pressures firms had to cope with in the past decade. Section 3 explains why even if pressure has increased on compensation, the share of low wage work has remained low until the mid-2000s. Section 4 presents the different forms of flexibility (both external and internal) which are adopted. Section 5 focuses on work organisation and job satisfaction. Section 6 concludes.

Box 1: reaserch design and methodology

The results presented here are based on the case studies carried out for the comparative research on food processing in five European countries – Denmark (Esbjerg and Grunert, 2008), France (Caroli, Gautié and Lamanthe, 2008), Germany (Czommer, 2008), the Neherlands (Van Halem, 2008) and the United Kingdom (James and Lloyd, 2008). This research was part of the research program on "Low wage work in Europe" funded by the Russell Sage Foundation, which included four other sectors (call centers, hospitals, hotels and retail trade).

The choice was made to focus on two contrasted subsectors – confectionery and meat processing – and to include in the sample firms of more than 50 workers, with the aim of achieving a

combination of mass producers and large/small batch producers. Big difficulties were experienced in gaining access to plants, so the sample of plants is certainly biased towards better-than-average employers in this sector. Seven firms were studied: four in meat processing (Canpat, Hambac, Multiprod, Regsaus), three in confectionery (Chochris, Chocind, Regsweet) – see appendix for a short presentation. Two day visits were made to the plants during 2005 and 2006. Face-to-face individual interviews were conducted in each of the companies with a range of managers, team leaders, production operatives, trade union and employee representatives. The interviews ranged in length from between 30 minutes and one hour for operatives, and from one to two hours with managers. Overall in the case of France, 75 interviews were conducted in the plants and 22 interviews were held at the branch and/or regional level with professional and employers' organisations, trade union delegates, relevant actors in the field of training and working conditions and labour inspectors.

Beyond national monographs, this article also relies on comparative work based on the same material (Caroli, Gautié, Lloyd, Lamanthe and James, 2009 ; Grunert, James and Moss, 2009).

2) OVERVIEW OF THE SECTOR AND COMPETITIVE PRESSURES

2.1 Food processing: between tradition and diversity

Food manufacturing is a large sector in France with sales amounting to €148 billion and employment reaching 593,000 jobs in 2006. It performs very well at the international level with France being the first European producer and the third world exporter (after the USA and the Netherlands). Total employment in the industry has increased during the 1990s until the beginning of the 2000s, before stabilising and then slightly decreasing since 2004. Food processing is a rather traditional low-tech sector characterised by low profitability and small size firms: in 2007, only 12% of firms had more than 10 employees. Concentration is taking place slowly but in 2006, the largest 10

firms in the sector accounted for only 10% of the market. Correspondingly, only 6 French groups are among the one hundred largest world companies[3] (Ministère de l'Agriculture, 2008).

The sector is subject to very important variations in day-to-day production. As a consequence it uses more temporary work than other sectors: short-term contracts account for 10% of employment (as compared to an 8% average in the French economy). Moreover, although not very frequent (6.4% of the workforce), temporary agency work is twice as much widespread as in the rest of the economy (Ministère de l'Agriculture, 2006). Partly due to strong seasonality, but also to poor working conditions, labour turnover is very high: 38% in 2006 as compared to an average 17% in the rest of the manufacturing sector. One consequence of this is that food processing provides more opportunities than other sectors for workers entering the labour market for the first time. Indeed, 30% of employees are under thirty years old as compared to 20% on average in the manufacturing sector.

Another specificity of the food processing industry is the very high proportion of unskilled blue-collar workers. In the early 2000s, blue-collars amounted to 65% of the workforce, as compared to an average 30% for the whole manufacturing sector, with almost half of them being unskilled (less than 32% in other manufacturing sectors). The sector was also characterised by a higher proportion of women (40% as compared to 30% in the whole manufacturing sector). In contrast, immigrants were few: in 2004, only 3.3% of the workforce were foreign nationals, while only 7.5% were born abroad.

Despite these common characteristics, there are wide differences across branches within the food processing sector. This is well illustrated by the contrast between meat processing[4] and confectionery (which respectively employed 45,000 and 18,000 workers, in 2006, in companies with more than 20 employees). In many respects, confectionery appears as a more "modern"sector than meat processing. It is more concentrated. In sugar confectionery, for instance, the biggest three groups (Cadbury, Haribo and Wrigley) control two thirds of the market, while in meat processing, the ten largest firms

[3] Danone, Lactalis, Pernod-Ricard, Bongrain, Terrena and In Vivo.

[4] Strictly speaking, meat processing here covers mainly pork meat processing, whereas beef meat and poultry production are classified in other branches.

accounted for only 25% of the sales, in 2004. It is also a more capitalistic sector with capital intensity reaching €114,000 per worker as compared to only €78,000 in meat processing in 2006. Correspondingly, the proportion of low-skilled workers is lower: at the beginning of the 2000s, unskilled blue-collars accounted for 59% of the workforce in confectionery as compared to 79% in meat processing. Finally, confectionery is more open to international trade with exports and imports representing respectively 23 and 27% of turnover, as compared to only 4 and 10% in meat processing in 2006.

The gap between both sectors is also quite large in terms of working conditions. As evidenced in Table 1, working conditions are quite bad in both confectionery and meat processing as compared to the overall manufacturing sector. Workers are more often ignorant of the number of hours they will work the following week. They also suffer much more frequently from physical constraints whatever the precise form these may undertake: noise, standing for long periods of time, carrying heavy loads or facing repetitive tasks.

Table 1
Working conditions of operators in meat processing and confectionery

	Meat Processing	Confectionery	All Manufacturing Sectors
Constraints on working time			
Working at least 10 Sundays per year	3%	19%	11%
Not knowing hours to be worked in following week	34%	21%	9%
Organizational constraints			
Permanent hierarchical supervision	43%	45%	42%
Computerized control	31%	37%	37%
Physical constraints			
Noise > 85 decibels, for more than 20 hours per week	32%	22%	29%
Standing for more than 20 hours per week	76%	66%	54%
Handling heavy loads for more than 20 hours per week	45%	30%	23%
Repetitive manual operations for more than 20 hours per week	59%	39%	29%

Source: SUMER survey, 2003; data provided by Jean-François Chastang, INSERM.

However, on all these aspects, working conditions appear to be much worse in meat processing than in confectionery: the proportion of workers affected by working time and physical constraints is much higher in the former than in the latter.

Regarding gross hourly earnings, they are slightly lower in confectionery than in the rest of the manufacturing sector (17€ as compared to 17.6) but the gap is much greater with meat processing where they only reached 13.2€ per hour in 2006.

Overall, food processing appears to be a rather low-tech sector with wages at or below average and hard working conditions but these characteristics are more pronounced in meat processing than in confectionery.

2.2 Competitive pressures and firms' strategies

In recent years, food processing firms have been subject to increasing competitive pressures. This is mostly due to rising pressures from large-scale retail chains but also to changing consumer habits and more stringent hygiene requirements.

Large-scale retailers have become the main clients of most non-craft producers: in the food processing sector as a whole, nearly 70% of sales turnover in 2005 was recorded by super/hypermarkets. These retail chains have a much stronger market power than producers because they are much more concentrated. As a consequence they are able to exert strong downward pressure on suppliers' prices (Canivet, 2004). This pressure usually takes the form of the so-called "commercial cooperation contracts": in exchange for alleged merchandising services offered by retailers, producers pay them back part of their margins. Moreover, large-scale retailers tend to pass on demand fluctuations to suppliers. Such fluctuations are usually generated by the seasonal nature of products but they may also result from product promotion campaigns launched by retail chains. They generate important flexibility requirements on the part of producers who must ensure just-in-time delivery. Pressure from large retailers is greatest for the so-called "1st price products" (i.e. lowest price products) and for products sold under own-brand names (i.e. retail chain brand products or RCBs)[5].

So, the rise of large-scale retailing affects all the constraints weighing on companies: cost reductions, increased quality, and greater responsiveness/adaptability to demand (in terms of quality

[5] "1st price products" are the lowest quality products, usually sold with no brand; the retail chains' own- brand products (RCBs) are rather medium-quality products.

and quantity). Thus doing, it amplifies the impact of changes in consumer habits and hygiene requirements. Pork meat consumption has steadily decreased over time and despite the recent increases in consumption, producers are quite pessimistic about demand prospects in the near future, due to the rising concerns about obesity. These long-run trends – in particular regarding pork meat - are partly offset by the increase in the sales of convenience foods but overall demand prospects are quite gloomy in both sub-sectors. Moreover, hygiene and quality requirements have strongly increased due to new European regulations and to rising health concerns on the part of consumers. This has forced food manufacturers to strengthen quality controls and sometimes to reorganise production in order to meet higher hygiene standards.

In order to face these increasing pressures arising from the demand side of the market, many firms have modified their business strategy. Let us first underline that no producer – even multinational firms - can afford not to produce at least some retail chain brand products. This being said, one way to reduce competitive pressure for producers is to move upward on the product quality ladder and sell some of their products under their own brand. This is usually done through tougher quality controls in the production process and increases in the share of high value-added products in total production. One additional strategy implemented by many firms has to do with product diversification. This may be achieved by buying out other firms. But the most common strategy is to climb the ladder in the supply chain: in the meat processing sector, for instance, slaughterhouse firms (i.e. the 1st stage in the chain) develop meat processing activities (i.e. 2nd stage), whereas many meat processors now produce increasingly-transformed products and convenience foods (3rd stage).

Despite this multiplicity of strategies, firms in the meat processing and confectionery sectors remain under strong competitive pressures. This, of course, translates into downward pressures on costs, and in particular, labour costs.

3) FEW LOW-WAGE WORKERS BUT INCREASING PRESSURES ON COMPENSATION

Despite their rather low-tech nature and the high share of unskilled workers, both meat processing and confectionery are characterised by a small incidence of low-wage work. The proportion of

workers paid less than 2/3rds of the median hourly wage is indeed lower than in the rest of the economy. It amounted respectively to 7.2% and 6.2% in meat processing and confectionery in 2003, as compared to 10.4% on average in the whole economy – excluding the public sector and domestic services (see Caroli, Gautié and Askenazy, 2008).

Beyond the crucial role of the statutory minimum wage (which is high in relative terms, see section 1), this apparent paradox can be explained by the role traditionally played by collective agreements in setting wages. However, this system is currently under stress due to increasing pressures to lower costs. Nevertheless, cost cutting strategies seem to rely more on productivity gains than on direct wage cuts.

3.1 The role of collective agreements in setting wages

As for many manufacturing sectors, food processing appears to be better structured professionally and in terms of its industrial relations than most service sectors. This is reflected in the legal, collective bargaining agreements that are negotiated at the branch level, and which provide workers numerous bonuses (at least for permanent employees). This ability of trade-unions to negotiate favourable agreements at the branch level is all the more important that, in France, most branch agreements are "extended" by the government, i.e. they are included as a part of the labour law which applies to all firms in the branch[6].

In both meat processing and confectionery, minimum wages at the branch level are set by job evaluation schemes. In such schemes, each job or post is characterised by a coefficient which is determined on the basis of several criteria: the complexity of the tasks to be carried out, the competences which are required, in particular the education level, the degree of autonomy in the post, the duration of on-the-job training required to become fully productive, the level of technical expertise, etc. The minimum wage corresponding to each coefficient is negotiated at the branch level

[6] The extension is independent of the effective representativeness of the organisations that signed the agreement. The only condition is that the agreement be signed by one of the five recognised labour unions and one employers' organisation.

– see Table 2 below. The wages presented in Table 2 are minimum wages: effective wages at the firm level may be higher.

Table 2: Wage levels in branch-level collective agreements – beginning of 2006
(full time operators, 35 hours a week, 151,67 hours a month)

Meat Processing*			**Confectionery****		
Coefficient in the job classification	Gross minimum wages in €		Coefficient in the job classification	Gross minimum wages in €	
	Monthly	Hourly		Monthly	Hourly
120	1,231.35	8.12	120	1,221.03	8.05
130	1,235.65	8.15	130	1,228.68	8.10
140	1,240.85	8.18	140	1,236.49	8.15
150	1,265.70	8.35	150	1,260.24	8.31
160	1,302.27	8.59	160	1,284.70	8.47
170	1,341.46	8.84	170	1,312.82	8.66
180	1,389.44	9.16	180	1344.92	8.87
190	1,437.57	9.48	190	1,377.84	9.08

Source: Caroli, Gautié, Lamanthe (2008)
(*) Main collective agreement of the activity (signed by the FICT employers' organization); the majority of slaughterhouses are covered by other collective agreements.
(**) Collective agreement covering, among others, sugar confectionery and chocolate confectionery.

In both sectors, branch level collective agreements define various bonuses which come on top of basic wages: an annual premium (the so-called "13th month", which indeed amounts to a full monthly wage, as set out in the agreement), a seniority premium[7], as well as various other bonuses (for cold/heat, night work etc.). Large firms also have profit-sharing schemes,[8] and very often other fringe benefits (such as complementary health insurance). Branch collective agreements also fix yearly recommendations for across-the-board wage increases.

By the end of the 1990s two laws were passed (the so-called Aubry laws) that reduced the legal working time to an average 35 hours per week. At the same time, the laws increased the cost of overtime hours for employers and fixed a legal yearly maximum of such hours per worker, so the

[7] The seniority premium usually amounts to an extra of 3% for every 3 years of tenure, with a maximum of 15%.

[8] There are two kinds: *intéressement* is a voluntary form of profit sharing, based on company agreements, whereas *participation* in profits is obligatory for companies with more than 50 employees. The income received via *participation* is locked into an account for five years (often the company's savings account): this makes it a form of forced savings.

number of such hours substantially decreased[9]. In most firms monthly wages did not decrease following the legal reduction in working time. As a consequence hourly wages increased sharply at the moment the working week was reduced. However, in the following years, wage increases negotiated at the branch level were very low so that the growth in real monthly earnings was very limited. In the meat processing sector, for instance, the real hourly wage for a job coefficient of 120 rose by 19.6% between the beginning of 1998 (before the implementation of the 35-hour week) and the beginning of 2006. But over the same period, the real monthly wage rose only by 6.9%.

Nonetheless, it has to be noted that the low-wage threshold (2/3 of the median hourly wage) is very close to the national minimum wage (the so-called SMIC). As a consequence, the "13th month salary" and other bonuses may bring average hourly compensation in both sectors above this threshold, even for the lowest paid workers. This is the case for almost all the permanent workers, who, moreover, are usually not indexed at the lowest coefficients in the job classification (i.e. 120-130), except in the first month of their contract. In contrast, non-permanent workers are usually indexed to these lowest coefficients. But workers on a standard "fixed-term" contract, as well as temp agency workers benefit from a legal 10% "precariousness" or job insecurity bonus that must be awarded at the end of the contract (plus another 10% corresponding to paid holidays). This is not the case for workers holding a "seasonal" contract. They are the employees, women in their majority[10], mainly affected by low-wage work (even those who come back on a regular basis, every year), because of the absence of any career prospects nor recognition for seniority[11].

Overall, as a result of numerous bonuses set by branch-level collective agreements, average wages in the sector are therefore not extremely low in relative terms. However, there exist significant inequalities, in particular between permanent and temporary workers (with low-wage work being

[9] Another important factor has also been the "annualization" of working time – see below.

[10] Among permanent workers, women are also overrepresented in the packaging activity, where wages are usually lower than in the production activity.

[11] Until 2005. Since then, seasonal workers are entitled to seniority premiums subject to certain conditions and proportionally to the time spent in the company.

especially concentrated among the latter). Moreover, due to increasing competitive pressures, firms are seeking to reduce labour costs and one way to do it is, of course, to lower wages, including to permanent workers.

3.2 Increasing pressures on compensation

It must be noted that none of the companies that we visited resorted to "social dumping" strategies: i.e. aggressive policies to cut labour costs. Apart from problems related to sample bias (we did not manage to get access to companies experiencing the greatest competitive pressures), one reason for this is certainly that the firms studied were still little-affected by international competition. Their main competitors were national, and therefore faced the same constraints, in particular the national minimum wage applied to all.

Nonetheless, because of the increasing competitive pressures depicted above, companies did aim at cutting costs, thus putting the traditional wage-setting system under pressure. Following the laws on the reduction in weekly working time, firms have been authorised to compute the actual working time on a yearly (rather than weekly) basis, thus meaning that the 35 hour limit has to be met on average, over the year. This additional source of flexibility has been much used by firms in order to reduce the amount of overtime they were using in peak production times. In a number of cases, this has led to a substantial decrease in workers' monthly earnings. Similarly, employers increasingly insist on negotiating not only monthly wages but the whole remuneration package (basic pay and supplements), on an annual basis, with the aim of limiting wage increases. Moreover, while trade-unions remain much attached to general wage negotiations carried out on the basis of job evaluation schemes including annual across-the-board pay increases and the maintenance of traditional bonuses, the growing importance of individualised pay and profit sharing (*intéressement*), as well as the pressure on these traditional bonuses, are undermining the traditional wage-setting model, especially in large companies. A good example of this can be found in the confectionery sector where many firms suppressed the seniority premium for new entrants – as they were allowed to – when they introduced the 35-hour working week.

Another way for firms to cut costs is to focus on core activities and increasingly rely on outsourcing. Some firms sub-contract certain activities, such as the cleaning of premises and machinery. Others, like the large confectionery multinationals sub-contract production activities entirely, or make their subsidiary producers compete against each other while they concentrate on marketing.

One last strategy used by firms to reduce wage costs wass to try and attract "peripheral" labour (compared to intermediate-aged, male breadwinners): single mothers, young, little-mobile workers. Such workers typically have lower wage requirements because of fewer alternative opportunities, due to family constraints (single mothers) or because they cannot look for jobs farther away because they have not yet passed their driving licence (young workers).

All these strategies involve some departure from the traditional wage-setting model aiming at reducing labour costs. But overall, the potential pressure on compensation is more limited in France than, for instance, in the UK and Germany. Both a high statutory minimum wage, the legal extension of collective agreements and a stricter regulation of temporary workers (imposing equal treatment and a 10% "precariousness premium" for temps for instance) make it less profitable for French firms to use outsourcing and/or temporary work to decrease the labour cost. Moreover, the French labour market is still protected by a strict immigration legislation that strongly reduces the influx of immigrants with low requirements in terms of wage. In contrast, both German and British firms have intensively used – especially in meat processing – immigrants on posted and/or temp agency work contracts, putting a downward pressure on wages (Czommer, 2008, James and Lloyd, 2008). Moreover, British firms have tended to reduce "fringe benefits" (such as sick pays, pension plans...), which in France are mainly settled by the law, and therefore out of the reach of employers' compensation policy.

3.2. Automation and the search for productivity gains.

In the recent years, automation has developed quite rapidly by the way of extending the computerization in production and packaging processes in both confectionary and meat processing.

When interviewed, executives and managers did not explicitly mention the cost of labour as a major reason for automation. However, it was quite clear that capital-labour substitution was taking place. The first reason given to justify automation was the need of rising labour productivity in order to meet competitive pressures and automation directly contributed to jobs losses on production and packaging lines. Moreover, automation was often accompanied by the implementation of "lean" production processes - the same amount of work being allocated to fewer workers. As a consequence, the rise of productivity is due both to higher capital intensity and work intensification. In Canpat, for instance, production lines were modernized in the 2000s and the number of workers on these lines was reduced from five to three. In an other case, Regsweet (see also below), computerization directly aimed to reduce the number of temporary workers, who were in short supply. This firm was located in an highly urban area where a number of others sectors compete shortly for low-skilled workers. Low wage and hard work conditions are the mean reasons of labour shortage.

4) DELIVERING FLEXIBILITY[12]

As mentioned above, the need for flexibility due to seasonal or even day to day fluctuations in production is high in the food processing sector, and has been increasing during the past decade. Firms use a mixture of both numerical and functional forms of flexibility, with some national specificities as compared to other European countries.

4.1. Increasing needs in terms of flexibility.

Traditionally, most of the food processing firms cope with strong seasonal variations in their activity. Regsweet and Chochris, for instance, two confectionery firms of our sample, generated between 60 and 70% of their turnover during the Christmas period. Regsaus, a sausage producer, had a peak of activity during the winter, when output increases fivefold.

[12] The following heavily relies on Caroli, Gauté, Lloyd, Lamanthe and James, 2009.

But the growing share in sales of the big retailers has increased both the seasonal and the short-term variations in activity. Retailers have adopted "just in time" practices which consist in passing to their suppliers any fluctuation in demand, with often last minute changes in order. They also launch promotional campaign which generally induce a big short-term peak in sales.

In firms where activity rates are more constant over the year, the need for occasional workers to replace temporarily permanent workers has also increased since the end of the nineties. In order to use more intensively the capital, some firms which used to close during one month in the summer now operate throughout the year, and therefore need temporary workers during the holidays periods. The implementation of the "35 hours law" has also induced in many firms a big increase in the number of days off[13] (up to 23, on top of the normal 5 weeks annual vacation in one firm of our sample, Hambac). Eventually, work intensification (see also section 6) has increased in some firms absenteeism among permanent workers, and therefore the needs in terms of replacement.

4.2. Different forms of flexibility

Firms in our sample used a wide range of flexibility tools.

Adjusting working time to deal with fluctuations in activity (i.e. using "internal numerical flexibility") was widespread. In five firms of our sample, "annualization" was adopted or significantly extended when the 35 hour laws were implemented, with working time computed on a yearly rather than on a weekly basis (see above). As the law and the branch collective agreements left an important role for negotiations at the firm level, each plant had its own form of annualisation. Higher working time was undertaken during the peak season (up to 47 hours in Regsaus), and lower the rest of the year (down to 21 hours during some periods). At Canpat (a producer of canned paté), for instance, workers alternated between four and five day weeks, according to the level of activity, to a maximum of 1607 hours annually (the threshold after which overtime has to be paid at a premium rate). At

[13] In many firms, workers continued to work 39 hours but were compensated by taking extra days off.

Regsweet, there was one shift operating a four day working week (32 hours) during the low season (April to July) and two shifts working five days a week (40 hours) during the high season (September to March). Legally, two weeks notice should be given for expected changes to the time schedule (and three days for unexpected changes), but this was not always respected. Other firms used a fixed number of normal working hours, usually under two shift rotating system.

French food processing firms also usually use a great number of temporary workers (i.e. "external numerical flexibility"). The regulation of temporary work is high in France, but at the same time it recognizes some kinds of work contracts derogatory to the standard "fixed term contracts" and "temporary work agency" contract. Those two cannot be used to replace regular workers on a permanent basis, they cannot be renewed more than once, and their total duration cannot exceed 18 months. Moreover, workers holding this type of contracts are entitled, as mentioned above, to equal treatment in terms of pay and to a precariousness premium of 10% of total wage. This is not the case for workers who hold a "seasonal contract", which is a specific work contract. Only firms which have an activity legally recognized as seasonal can use these contracts, less protective than the standard "fixed term contract". There is also a specific work contract for students working during holidays.

While seasonal contracts (by definition) are used only during the high season, fixed term and student contracts are mainly used during holidays periods. Temporary agency work is intensively used in most of the firms throughout the year. In Hambac, for instance (which produces mainly sliced ham and bacon), temps make between 15% and 20% of all workers, because of high absenteeism (up to 15% among operators) and the great number of days off due to the 35 hours week. In the other firms, temps were also used to cope with shirt-term changes in activity. In Regsaus (about 90 permanent workers), for instance, up to 15 to 20 temps were hired during retailers' promotional campaign. In all the firms, both fixed-term contracts and temp agency contracts were also systematically used as trial periods, to select those workers who would eventually be hired on permanent contracts.

Nevertheless, most of the firms of our sample intended to decrease the number of temporary workers – in particular seasonal workers and temps. Several companies complained about the

difficulty of finding (an keeping from one year to the next, in the case of seasonal workers) "good" non-permanent workers. The availability and reliability of those workers had become a big issue with the tightening of quality rules (notably hygiene and security), and the diffusion of "just in time" process. Managing a big pool of non permanent workers was also seen as an additional burden for the permanent ones who complained because of work intensification (see below).

Some firms (such as Chochris and Regsweet) mentioned that they had introduced computerized equipment in order to reduce the need of seasonal workers. Regsweet, for instance, could save up to 15 workers during the high season thanks to this new equipment. Another strategy was to stabilize temporary workers by participating to multi-employer groups (e.g. Multiprod and, more recently, Regsweet in our sample). These groups of employers are legal entities that offer permanent contracts to the workers. Member firms "share" these workers according to their needs. The employees thus work in several companies during the year, usually in firms with opposing high-seasons (for example, in the autumn and winter for one company, and in the spring and summer for another, depending on the nature of the products). But these workers share the benefits of permanent employees (especially seniority premiums, gain sharing - *intéressement*, etc.) and can also benefit from training. Such institutions tend to develop where local labor markets are particularly tight, but they require effective coordination between employers, and often with local authorities[14]. They are rare, however, being constraining and complicated to set up. Thus, two other companies in our sample which had tried to use such a scheme (Regsaus and Chochris) dropped it, because the constraints involved matched poorly with their specific needs.

Another alternative or complementary form of flexibility is functional (rather than numerical) flexibility – i.e. organizing the mobility of workers between different production lines, depending on

[14] The multi-employer group in which Multiprod participates was initially subsidized by an association of employers and the local authorities of the area.

orders, and enabling them to undertake a wider range of tasks. During the low season at Regsaus and Regsweet, for instance, permanent workers were rotated each week around all the jobs in their production area from low-skilled jobs such as handler to the higher skilled ones such as line manager. During the high season, these workers were allocated to skilled jobs, while temporary staff were hired to fill the low-skilled positions. In these two firms, functional flexibility was, therefore, combined with both internal and external numerical flexibility. But in other firms, job rotation was also used to make the production process more flexible. This aspect was particularly important in those plants where automation was more advanced as it allowed managers to reap the benefits of new technologies in terms of responding faster to changes in market demand. At Canpat, Chochris and Multiprod (in the convenience food plant) job rotation was organised across production lines and across job function, within and across each department both for occupational health reasons but also to match production demands. In Canpat and Multiprod, where the production process was highly automated, job rotation was complemented by active training policies that were seen as essential to developing multiskilling.

This form of flexibility – which requires higher skills and more training - is also witnessed in some firms in Germany (mainly in big companies) and the Netherlands, and more widespread in Denmark, where the production process is highly automated. In the latter, following the "Innovation act" adopted in 2001, firms can benefit from public subsidies (up to 50% of the cost) for investments in product and process innovations, often implying the development of skills (Esbjerg and Grunert, 2008). The contrast of the "portfolio" of flexibility tools used by firms is bigger between France and the United Kingdom (for an in-depth analysis, see Caroli, Gautié, Lloyd, Lamanthe and James, 2009). Whereas internal numerical flexibility is mainly based on "annualisation" in France, it takes the more classical form of paid overtime in the UK. British workers who have signed the "opt out" agreement in order to escape the 48 hours rule imposed by the European directive, work up to 70 or even 80 hours a week in some firms. External flexibility is widespread in the two countries, but has been increasing more rapidly in the UK in the recent year with a growing tendency to replace overtime hours, or even normal hours of permanent workers, by foreign temps (see also above).

Eventually, functional flexibility appeared much less widespread in the British firms: when they used job rotation for line operators, it was mainly restricted to moving them around one production line, to alternate very standardized, simple tasks, in order to avoid repetitive strain injuries (RSI).

5) WORKING CONDITIONS AND JOB SATISFACTION

5.1. Working conditions still harsh

A seen in section 2, working conditions in Food processing remain very hard. They are worse in meat production and confectionary than in the manufacturing sectors as a whole (see table 1). The working conditions at the companies in our sample were quite representative of the branch level as a whole, even if they were far from being among the worst.

In a number of companies we met employees who were over fifty, physically worn out, and anxious about losing their jobs. Work accidents and illnesses are still frequent in both subsectors, and many operators in their fifties or forties are "physical wrecks". Companies used early retirement schemes extensively in the past, and they still use the dismissal procedure for "incapacity", which is allowed by French labour law.

Until recently, tolerance of bad working conditions had been rather high among workers, and this is sometimes still the case. Such tolerance partly aroused from the fact that most food-processing firms are located in rural areas, where workers were used to hard physical labour. Moreover, blue-collar workers, especially those from a rural background, were traditionally reluctant, for cultural reasons, to complain about working conditions and their resulting health problems. As a result, trade-union claims typically used to focus on wages and bonuses, in other words, on the compensation for bad working conditions rather than on their improvement. Another reason was also that trade unions lacked expertise on the subject on working conditions. Eventually, unions also feared that automation – often the solution for reducing physical burden - would induce job losses.

Younger workers, however, are much more reluctant to accept bad working conditions. They are more conscious of the difficulty of their work and its potential long-term health consequences. Whereas older workers used to show "loyalty" on the issue, younger workers are more prone to "exit" and to "voice" attitude. Their "exit" behaviour could make turnover high among young workers, especially those on non permanent contracts, and generally a labour shortage is lamented in the whole food-processing sector. The "voice" behaviour is less frequent but trade unions had become increasingly concerned about working conditions in the recent years. Indeed, the role of unions and workers' representatives may be very important for the improvement of working conditions. At Hambac, the only firm we visited in which unionisation was important, the local union had launched an information campaign about occupational diseases and cumulative trauma disorders. The objective was not only to put pressure in management but also to make workers more conscious of the risks they were facing.

5.2. Changes in work organisation

Often along with automation, important changes in production process and work organisations had taken place at shop-floor level in the past decade. The line or machine conductors had to control highly sophisticated equipment on which the rate of breakdowns was sometimes very high – at least during the introduction phase of the new equipments. Generally speaking, with automation, more responsibility was required from workers. At the same time, as noted above, the number of staff on the line was reduced.

Shift systems had been introduced in almost all of our case studies in order to optimise the use of capital. As mentioned above, along with the 35 hours law, "annualization" of working time had been implemented in order to adapt working times schedule to orders variations. Job rotation had been developed, also to reduce slack times. Functional flexibility meant that permanent workers were often required to be able to perform a variety of tasks, corresponding to different posts, according to the needs of the production process.

The adoption of stricter hygiene and food security legal norms had been another factor pushing many firms to reorganize their production process. In the meat processing, the various stages of the production process, - production/packaging, raw meat/cooked meat -, had now to be clearly separated. This limited the opportunities for job rotation (impossible between production and packaging shop-floors) and it is a factor of malfunctioning – e.g. difficulties for the operators on production line to coordinate and to communicate with operators on packaging line… With hygiene and food security regulations new competencies were also required from the operators. These norms had contributed to enlarge the tasks performed by permanent workers, such as pick up samples and sometimes carry out the first quality tests (as was the case at Chochris, for example). The need for them to be extremely careful and precise was sometimes seen as an additional constraint raising the workload. Operators were now sometimes asked to record inputs and outputs on computers, whereas it was never the case in traditional production processes.

All these changes had important consequences for the working conditions of low-skilled / low-paid workers.

5.3. Work intensification and job dissatisfaction

In the recent years, automation has improved working conditions, because the number of very painful tasks had been reduced. The main physical tasks were now carried out by machines – but many still existed, especially in meat processing were the possibility for automation was more limited for some processes – such as deboning, for instance. Improving working conditions was often mentioned by employers as a main reason for adopting automated processes.

However, the impact on working conditions of new technologies, associated with the reorganisations mentioned in the previous paragraph, is overall rather ambiguous. The positive effects were partly offset by work intensification, often strongly felt by workers and clearly expressed in the interviews.

It was particularly the case at Hambac and Chochris – in which a worker on packaging line told us (about the increased work pace): "*the managers have gone mad*". But it was also true in the other firms. This feeling of an intensification of work resulted from many factors associated with the changes depicted above (reduced staff on the line; reduction in slack times; increased requirements in terms of attention and cautiousness due to the tightening of hygiene and quality controls; product diversification, which implies more frequent change of small-batch series...). Functional flexibility was seen as stressful by the some low-skilled workers unprepared to cope with multiskilling. Like the permanent ones, temporary workers we met also felt that work had intensified. They were less protected than permanent workers against health problems, even though they suffered from a disproportionately high rate of accidents. But, given the insecurity of their positions, they played down their health problems in interviews.

This feeling of work intensification was also expressed through a strong dissatisfaction about wages, which were not considered as having compensated the required increase in productivity in the recent years. "*We're always asked to do more (...) but the wages don't follow*" was a recurrent complaint eared from the workers we met.

Overall, the picture concerning working conditions and job satisfaction may appear as rather bleak in France. But in the other European countries, it is quite the same: is France doing better or worse? Because of the lack of reliable indicators, it is not easy to answer. It appears that working conditions have been a greater concern in the past in countries like Denmark and the Netherlands. The Danish Working Environment Authority sets rules to reduce the amount of repetitive work, by imposing systematic job rotation for instance (Esbjerg and Grunert, 2008). The same goes in the Netherlands, but through collective agreements covenants on the reduction of RSI. In the confectionary sector, for instance, according to the agreement adopted in 2003, job rotation has to be implemented: employers are obliged to offer a variety of tasks, which workers are obliged to perform. In those two countries, firms that improve working conditions can benefit from funding, at national level in Denmark (through the "Innovation Act" mentioned above), or at the branch level in the Netherlands (through a

"social fund"). It is also the case in France, but in a smaller scale - firms can benefit from expertise and some funding from the regional branches of the ANACT (National Agency for the Improvement of Working Conditions).

As compared to the British firms and the German ones (at least in the meat processing subsector) working and employment conditions may be better in French firms. In those two countries, posted or temp agency workers from foreign origins face usually very harsh working conditions. The non availability of such a workforce has forced French employers to improve working conditions, because they face increasing problems for attracting youth, who are much more reluctant to bad working conditions than their parents were (see above). As noted above, physical constraints have diminished, but mental strain has increased, with work intensification: when comparing to the British firms, for instance, work intensity and mental strain may be higher in French firms (Caroli et alii, 2009).

6) CONCLUDING REMARKS

Even if it is less opened to foreign trade than its Danish and Dutch counterparts, the French food processing sector had to cope with increasing competitive pressures in the last decade, which have affected all the European countries. Those pressures came mainly from the rise of the share of big retailers in the sales, the strengthening of hygiene and security rules and the changing habits of more demanding consumers.

The impact on low paid / low skilled workers was "filtered" by the institutional framework, both at national and sectoral level. By many ways, the food processing sector in the mid-2000 is representative of the "French model": all the national rules apply without any derogations (from the statutory minimum wages to the 35 hours law), and collective bargaining, with agreements being extended by the law, plays an important role at the branch level, with unions often weak and divided at the plant level.

Even if there has been a big pressure on compensation (some traditional elements like the seniority premiums being abolished for new entrants in some subsectors), the existing regulations prevent the great majority of operators from being low wage workers. Social dumping strategies, based on the use of temporary workers or posted workers from foreign origins are much less spread in France than in the United Kingdom, Germany, or even (but to a lesser extent) the Netherlands.

Nevertheless, the number of temporary workers (on several types of work contracts: fixed term, temp agency, seasonal, student) remains quite high. A strong dualism characterises the sector, and many temporary workers feel like "second class" workers. But in fact, because of tougher regulation of the use temporary work, and higher requirements on equal treatment, this dualism may not be higher than in countries like Germany and the United Kingdom.

In the past decade, many firms sought to develop internal forms of flexibility. The "annualization" of working time fostered by the implementation of the 35 hours law played an important role. Functional flexibility based on multiskilling was also adopted by some firms. Innovative institutional arrangements also emerged – such as multiemployer contracts, aiming at "sharing" between several employers workers who have permanent status. "High road" practices are slowly spreading, but France seems to lag behind the Netherlands and overall Denmark in this domain.

Nevertheless, if physical constraints have diminished, mental strain due to lean production process and higher requirements in terms of quality control had increased. More generally, the feeling of work intensification was widespread among operators, and they expressed a strong frustration about wages which were seen as insufficient to compensate for higher work intensity. Overall, this "French model" may not be sustainable anymore. Improving working conditions is a key challenge for the future of the sector, both to make jobs more attractive for young workers, and more sustainable for the older ones.

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Appendix: List of cases (the names have been changed)

	CANPAT	HAMBAC	MULTIPROD	REGSAUS
MEAT PROCESSIN	- Independent, mainly family-owned firm; 190 permanent workers; - medium and high quality products (mainly canned pâté, and sausage); own brand products and RCB* products; - rural labor market	- Firm belonging to an American group; 560 permanent workers ; - mass production of RCB* and 1st price** products (mainly ham and bacon) - rather rural labor market, but in an area where other food factories operate	- Independent, mainly family-owned firm; 2 establishments (80 / 520 permanent workers); - medium and high quality products (ham, pâté, convenience food); own brand products and RCB*; - urban labor market in a rural region	- Independent firm; 90 permanent workers; - high quality products (regional labelled sausage); own brand products and RCB* products; - rural labor market

	CHOCHRIS	*CHOCIND*	REGSWEET
CONFECTINERY	-Firm owned by a French group; 250 permanent workers; - medium and high quality products (Christmas and Easter chocolates); own brand products and RCB* products; - urban labor market in a depressed area	-Firm owned by a French group; 120 permanent workers; - mass production of industrial chocolate with no brand; - urban labor market	- Independent firm; 62 permanent workers - high quality regional labeled sweets; own brand products and RCB*; - urban labor market

Note: (*) RCB products = medium quality products sold by retail chains under their own-brand. (**) 1st price products = low quality products sold under no brand label in the retail chains.