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Why do employers organize internal markets for low skilled workers?
The case of a French retail company.

Introduction

The French retail sector is traditionally considered as a highly competitive workforce industry. The profit margin of the activity is low, thus forcing companies in the sector to compress their personnel costs. Hence, and also because the workforce is relatively unskilled, the sector is one with the lower average wage[2]. The rank-and-file employees represents more than 80% of the workforce and, for example, cashiers constitute more than a quarter of the total labour force. In addition, the permanent workforce coexists with an extra workforce who works to finance another activity (e.g. students[3]) and certainly contributes to maintain low wages.
However, despite low level of qualification, relative availability of the workforce, and strong market competition, some companies organize forms of internal market. In the company we are studying, each job is rated according to the expected qualification (from 1 to 4 for rank-and-file employees and from 5 to 10 for technicians, managers and directors). In addition, within each job, each employee is graded (with 4 levels, from A to D), marking a hierarchical and salary progression. Access to the next level is subject to an assessment by the manager, and access to the last level could be compared with a tournament. For example, in the studied company, among more than 12.000 cashiers, only 200 (< 2%) have reached the last level (D). Similarly, among the 4500 "Sales Employees" (rank 2), only 100 (2%) also have this level. The same holds for every job, even for the lowest one (e.g. rank 1 "packaging employees ").

This practice is understandable for the highest levels of qualification of the rank-and-file employees, where the notion of professionalism makes more sense (e.g. " Fresh Products Workshop Workers " or "Engineer"). But it is much more surprising for the lowest levels, especially because the increase in grade drives to an increase in pay. For example, compared to level A, level B and D cashiers earn respectively 1% and 8% more. In the context of a strong price competition between retail companies and relative availability of the workforce, this practice within the internal market seems even more surprising.

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[2] According to the national « Working Conditions Survey » (approx. 34.000 persons), the median wage is 1200€ net in the sector, which corresponds to the lower quartile in the rest of the population. The higher quartile in the sector (1600€) is much more lower than in the rest of the population (4000€), and corresponds to the median wage. Working times are almost the same (35 hours in the sector, 36,8 in the rest of the population).
[3] 5,1% of the employees are students versus 3,1% in the rest of the population. Except the catering sector, the retail industry is one with the highest rate of "student workforce".

The last few years see the emergence of empirical works to establish the effectiveness of these mechanisms within companies (Baker et al., 1994; Lazear, 1999; Treble et al., 2001; Lin, 2005; Pfeifer, 2008 Haeck and Verboven, 2012). Our study is in the field and completes the literature. This paper seeks to determine the rationality of organizing such internal markets, especially for those considered as low skilled workers. Why do employers organize internal markets for low skilled workers?

In this article we provide evidences of the double nature of internal markets.
-The internal market works as a « discipline device ». In an industry characterised by a high turnover rate (up 30%) and a high absenteeism rate (more than 30 days of absence for rank-and-file employees), companies can find advantageous to grade low skilled employees and promote them according to their behaviour.
-The internal market encourages the workforce to gain qualification because higher qualified employees contributes more significantly to economic performance, even for low level positions. The internal market thus plays a role similar to that expected for a much more skilled and rare workforce: skills development, promotion and selection of the best employees.

In the first part, we provide evidence of the existence of internal markets in the firm we are studying. We describe the hierarchy within the firm and the distribution of the workforce among the ranks and the levels. We also highlight how outsiders are restricted to certain entry positions and how, in the contrary, promotion and tournaments are used to allocate and sort the major part of the workforce. Starting from this, in a second part, we review the recent literature to underline the different roles played by internal labour markets.
In the third part, we provide evidence of internal labour markets both as a discipline device and a provision of incentives: via internal labour markets, employees are selected and promoted according to their behaviour and encouraged to develop their skills and abilities. In the last part, we study the economic rationality of internal labour markets by focusing on firm performance and evaluating the impact of these internal labour markets on it.

1. The firm and its internal markets

1.1 Description of the sector, the firm and the database

The importance of the food retail sector is indisputable in the French economy. In 2012, the sector represents more than 10% of the GDP, 224 billion euros of sales, 59 000 companies and 601 633 employees of which 282 767 work in hypermarkets[4]. The retail market can be considered oligopolistic. In 1980, six groups controlled 28% of the mass market; today, these six groups alone (Carrefour, Leclerc, Système U, Casino, Intermarché and Auchan) share more than 90% of product sales (Hocquelet, Benquet, Durand, and Laguérodie, 2016). Foreign retailers are less present, with the exception of the German Metro and the hard discounter Lidl. This highly competitive workforce industry is characterized by low wages, part-time jobs (Rieucau and Salognon, 2013), and a majority of positions that require only a low level of qualification. For example, 40% of cashiers do not have any diploma and, in the sector, 71% of the workforce has a diploma under or equal to the A level (versus 61% in the rest of the economy, national "Working Conditions Survey", 2013). Even first-level managerial positions are regularly held by employees with a low level of initial training.

[4] OPCA du commerce et de la distribution, 2014. Repères et Tendances (p.6), online at www.forco.org.

In our study, we use datasets from one of the six groups cited above (57.000 equivalent full-time employees, 15 billion euros in sales and 119 hypermarkets[5] in France), for year 2014.
In that firm, each hypermarket is organised into 4 clusters, relative to products sold: Food products (grocery, drinks, dairy, fruits and vegetables, meat and fish, etc.), Household (appliance, furniture and decoration), Care and Fashion (hygiene and beauty, jewellery and optics, ladies', men's, and baby clothes, etc.), and Leisure (books and magazines, multimedia devices, sport equipment, etc.). Each cluster is also divided into two commercial sectors[6], one for products that do not imply a direct sale relationship (self-service) and another for products that do (craft products, such as "Fishery", or technical products, such as "Audio/Video devices"). The commercial sectors have very different features in terms of surface, sales, margin, number of workers… However, all employees we study worked under the same set of legal, personnel, organizational and commercial rules and policies, which is very useful to the understanding of internal labour market (Lin, 2005; Baker, Gibbs and Holmstrom, 1994).

The main dataset we use is the personnel register, which contains records for every employee who worked at some point for the firm: registration number (identification code), job title, age, gender, affiliation (hypermarket, cluster, sector), working time, type of contract (temporary or permanent appointment), seniority, job professionalism level, rank. Information is provided for the 2011-2014 period.
On average, around 138.000 persons[7] worked at some point for the firm, each year (during the 4-years period of observation). Among them, around 128.000 are rank-and-file employees. Some of them work for very short periods, while activity peaks (for example, on December) or while permanent workforce holidays (mainly on Easter period and summertime). As our main concern is careers and internal markets, their effect on absenteeism, quits and performance, we focus in this study on those with a permanent contract. On average, it represents 47.500 employees (i.e. 190.000 observations during the 4-years period), which corresponds to approximately 42.500 equivalent full-time rank-and-file employees. When assessing the impact of internal markets on performance, we reduced the sample to those 46.000 employees (41.200 equivalent full-time) who work in a business unit (one of the listed commercial sector). So the following empirical analysis excludes employees working for the supply chain or for security or those who hold administrative positions such as human resources, accounting, etc., even if they work in a hypermarket.

Table n°1 reports key descriptive statistics for the main variables. Tenure within the firm is longer in upper ranks (managers) and age is correlated with tenure. Females (58%), part-time (14%) and temporary appointment (18%) workers are more employed in the lower ranks.

[5] In French context, a hypermarket supplies food and non-food products (food represents more than one-third of total sales) and has a sales area of 2,500 m² or more.
[6] « Care and Fashion » is divided into 3 sectors: self-service (accessories, perfume…), fashion, and jewellery/optics.
[7] It represents almost 57.000 equivalent full-time workers.

Table n°1: Summary Statistics, 2014.

Variable	Mean	SD	Min	Max
Managers (N=3250)				
Age (in years)	40,64	9,1	22	67
Tenure within the firm (in years)	15,34	9,6	0,12	42,50
Full-Time	99%	5	34%	100%
Permanent appointment	99,0%			
Female	43,2%			
Rank-and-file Employees (N=42615)				
Age (in years)	36,09	12,16	17	70,00
Tenure within the firm (in years)	10,95	10,87	<0,05	44,68
Full time	86%	22	9%	100%
Permanent appointment (in percentage)	82,6%			
Female (in percentage)	58,3%			

Perimeter: permanent employees in a business unit.

1.2 Evidence of an internal market

With such a large number of employees and more than 70 jobs, low wages and numerous low-skilled positions, there is no doubt that there are large workforce flows such as entries, quits and transitions from a position to another. What we are going to show is that these flows are strictly organised: jobs are distributed according to a pyramidal structure, ports of entry are limited and well spotted, and potential transitions are well identified and subject to internal rules.

1.2.1 Structure of the hierarchy

First of all, all these jobs (and workers) are sorted in a hierarchical structure. According to Baker et al. (1994) « Hierarchies are usually said to consist of job titles aggregated into "levels" related to the job's authority and place in the path of decision making (hence the term level). Careers are often described as a series of promotions to higher-level jobs with higher rewards and responsibilities». Hence correctly defining jobs and levels is the cornerstone for any subsequent analysis (Lin, 2005).

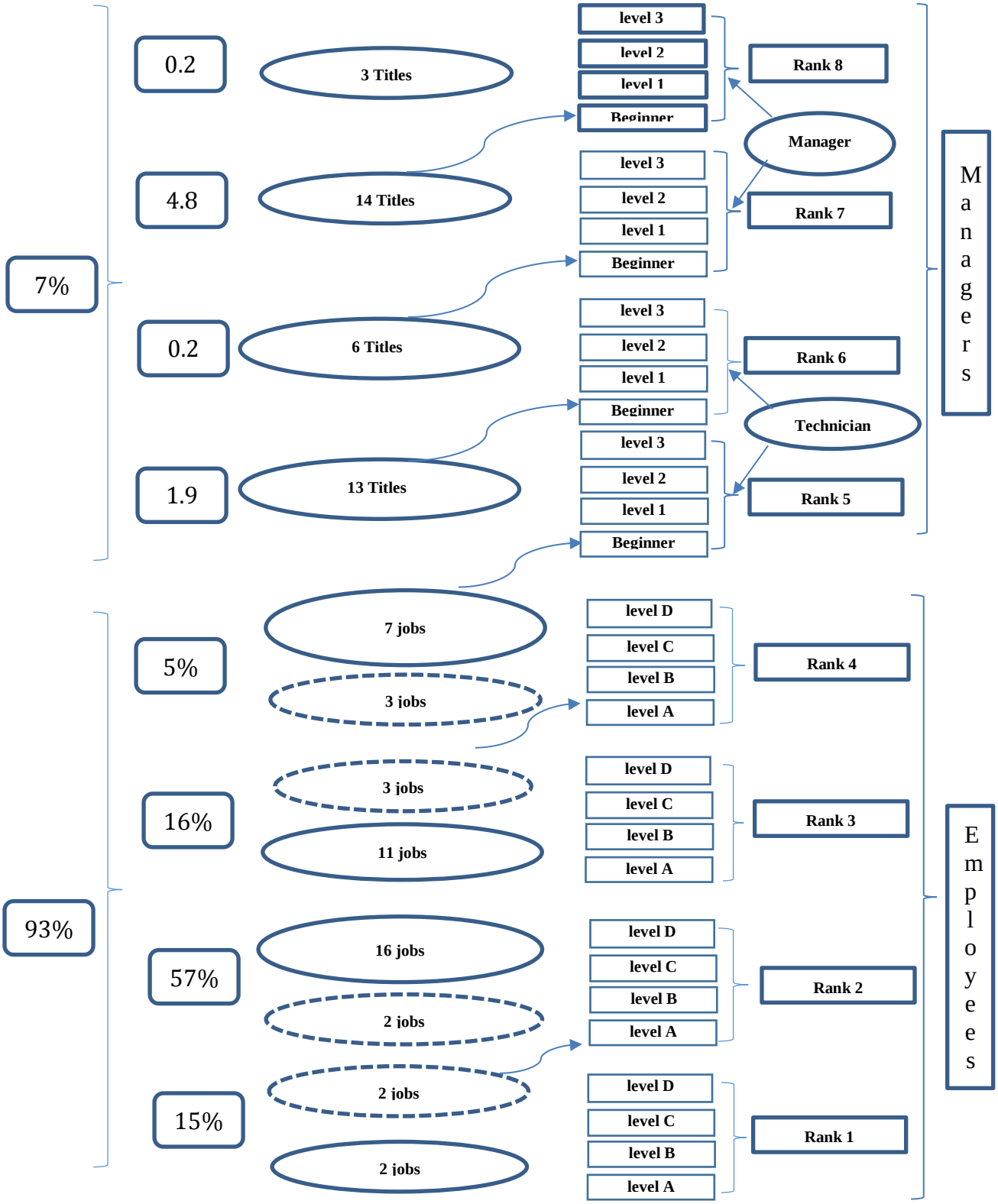
To describe the hierarchy in our firm, we use a hierarchical structure chart[8] (Baker at al., 1994; Lin, 2005). The structure, drawn in Figure n°1, consists of two parts, with ranks from 1 to 4 (for rank-and-file employees), and ranks from 5 to 8 (for managers)[9]. Each rank is divided into four levels (from levels A to D for rank-and-file employees, and from "beginner", and then from level 1 to level 3 for managers). In total there are 32 levels and 60 job; the lower part (rank-and-file employees) represents 93% of the workforce.

For most titles, career paths unfold in the same rank (from level A to level D). However, there are some titles with longer careers paths, which unfold inside two ranks (for example, food-craft workers who start their career at rank 3, level A, and finish at rank 4, level D).

[8] Lin (2005) was the first using organizational chart to identify the hierarchy.

[9] Rank 9 for directors (for example, hypermarket directors) and rank 10 for board members are not represented here.

Figure n°1: Job Titles and Hierarchical Levels

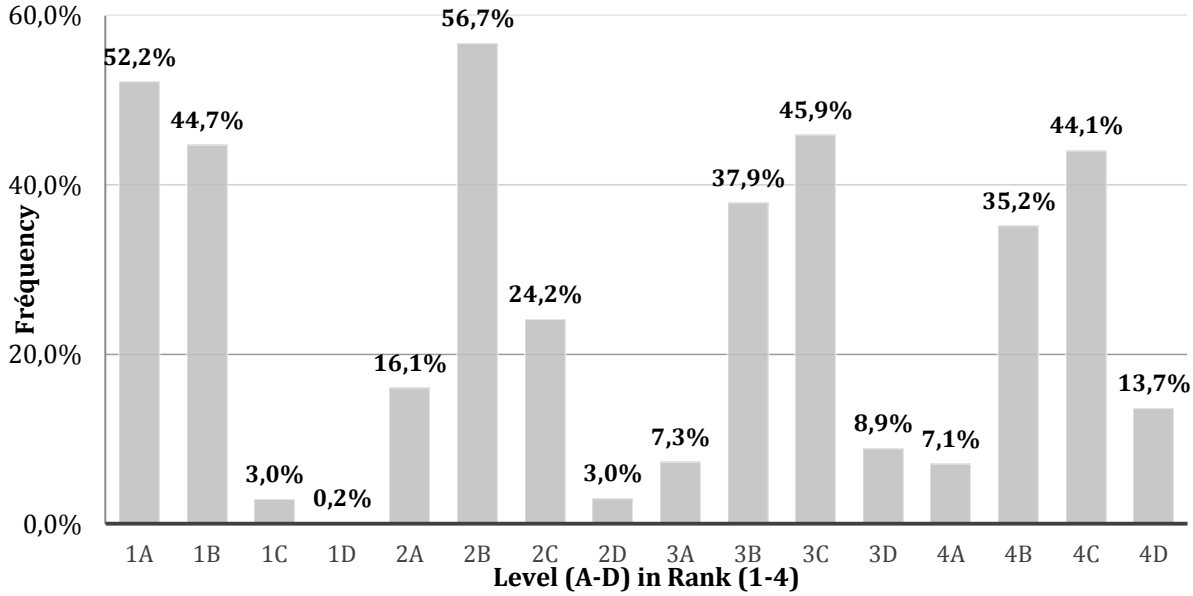


Note: dotted lines (5 jobs) represent jobs with long (more than one rank) careers paths while plain lines represent titles linked to only one rank. In each rank, Level A/Beginner is the lowest level and level D/3 is the highest one. Only employees who occupy a rank 4 position can be promoted to the manager's rank. Rank-and-file employees represent 93% of the workforce. Perimeter: permanent employees in a business unit (46.000).

1.2.2 Careers and wages

As shown in Figure n°2, the distribution of rank-and-file employees per level in the rank is not uniform, and has rather a pyramidal structure. Depending on the rank, the promotion from level A to level B is automatic after 6 months (for ranks 1 and 2), one year (for rank 3) or two years (rank 4), which explain the high proportion of employees in level B (more than 50% of all employees). Level B is crucial in the internal labour market. Indeed, in addition to seniority, performance and professionalism fulfilments are required for promotion to level C or D (see later). In addition, access to the next level (D) is also subject to an assessment of the level of professionalism by the manager, and could be compared with a tournament. As a consequence, the very small proportion of employees in the level D for all rank (4% of he workforce). For example, among more than 12.000 cashiers (rank 2), only 200 (< 2%) have reached the last grade (D). The same holds for every job, even for those on the base of the pyramid. However, the proportion of employees in the last level (D) increases with rank.

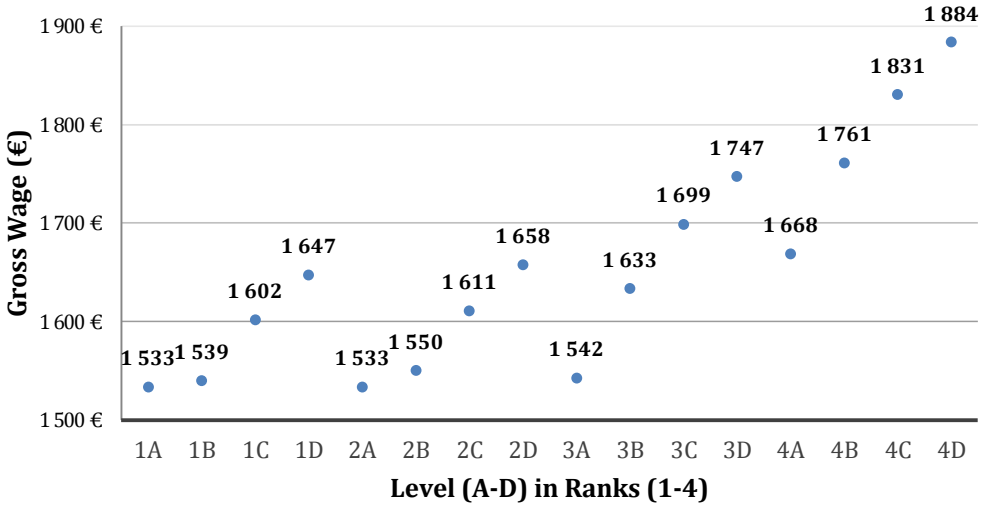
Figure n°2: Distribution of Employees per Level in the Rank, in 2014



Lecture: Among rank 1 employees, 52,2% are graded A, 44,7% are graded B, and only 0,2% are graded D.

As expected, wages depend on rank and level (see Figure n°3).
Level 1A and level2A employees are paid according to the conventional minimum wage, and then their wage rises with level and rank. The automatic promotion to level B slightly rises their wage (+0,5% for rank 1, +1% for rank 2). The increase is much larger for promotion to level C (+4%) and level D. Level D employees are paid 8% more than level A employees. The same holds for rank 3 and 4, but the wage gaps are larger. Promotion to level B results in a 6% rise, and level D employees are paid approximately 13% more than level A.
That grid holds for every employee, except those promoted from a lower rank. For example, when a level 3D employee is promoted to level 4A, of course his/her wage does not diminish. The employee keeps his/her previous wage until he/she reaches the B level and then benefits from a slight rise in wage and further career opportunities.

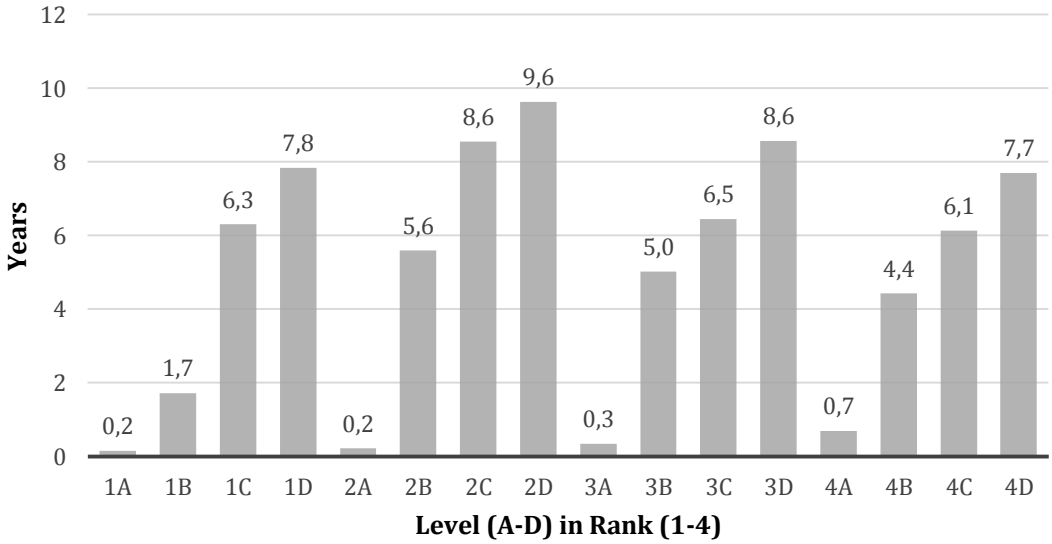
Figure n°3: Wages[10] per Level in the Rank, in 2014



Lecture: the gross wage for 1A employees is 1533€. That for 4D employees is 1884€.

Because access to the next level depends on seniority and, above all, on individual fulfilments, it takes more and more time to reach it. As shown in Figure n°4, the average tenure on the job increases with the level.

Figure n°4: Average tenure on the job per level in the rank (in years)



Average tenure for level A is very low, both because of the rule of automatic access to level B with seniority, and the presence of a lot of incomers at this level (see later). Notwithstanding rank 1 positions, average tenure drastically rises from level B. As access to level C and D is no longer automatic and new incomers are more rare, the average tenure is even higher. It is noticeable that average tenure on 2C and 2D is particularly high, especially for a low-skilled position. On one hand, rank 2 positions often correspond to dead-end jobs, especially for

[10] Here on January 2015. At the same time, the French minimum gross wage was 1 458 € for 152 working hours per month. In the retail sector, a convention set a "paid pause" equal to 5% of the working time: the conventional minimum wage is therefore equal to 1,05 x 1458=1531€. It corresponds to the level 1A employees wage.

those without any diploma (rank 3 positions often requires specific skills or abilities). On the other hand, a large part of rank 2 employees are cashier, for which seniority and tenure on the job is historically[11] very high and transition towards another title is quite rare.

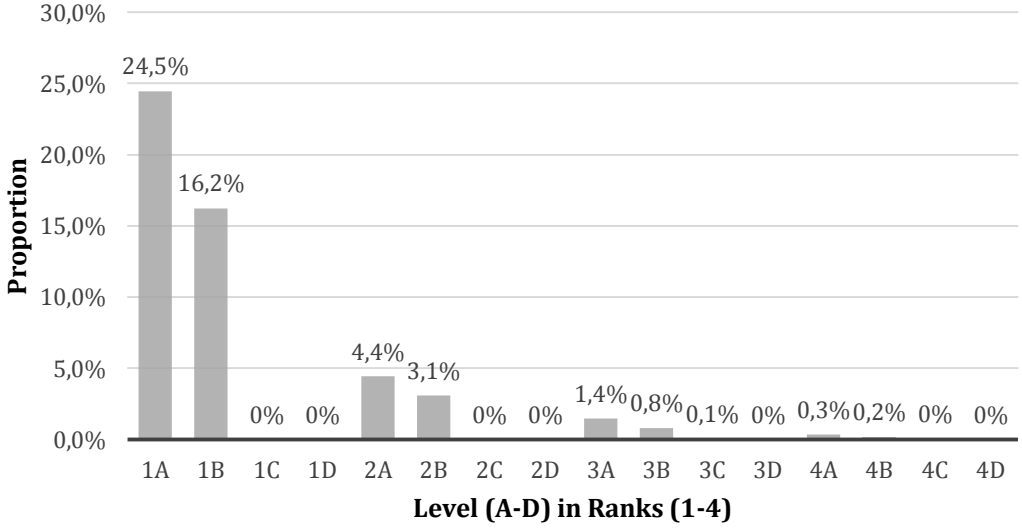
1.2.3 External entries and promotions

During the analysis period (2011-2014), every year, approximately 3500 employees left the firm and 3300 were hired[12]. However, the balance between quits and entries do not absolutely mean that all the vacant positions were fulfilled with external entries. Owing to this flow, the firm takes advantage of re-allocating its workforce via an organized "ports of entry and promotion system".

External entries correspond to around 8% of total employment of the firm and are very unequally distributed. 6 jobs represent 97% of all entries in 2014: cashier, store employee, sales employee, pick and drive employee, self-service qualified employee and packaging employee. It seems that these jobs are seen as great ports of entries.

Figure n°5 provides strong evidence for the presence of an internal labour market[13]: the lowest levels (A and B) in the lowest ranks (1 and 2) are considered as exclusive ports of entry in the internal labour market: 95% of all entries take place there. Hence the proportion of external entries drastically declines at highest ranks: only 5% of incomers are hired in the rank 3 and less than 1% in the rank 4. Even for management positions, the proportion of external entries is very low: only 18 managers were hired from outside in 2014 (0.5%).

Figure n°5: Proportion of yearly external entry, per rank, in 2014



Lecture: Among rank 1 employees, 40,7% were recruited that year from outside. 24,5% entered at level A, and 16,2% entered at level B. None entered from outside at level C or D.

[11] The firm was one of the first to implement profit-sharing plans in the 70s and 80s. In the context of the soar of the retail industry at the moment, the plans became very lucrative and feed the myth of the « millionaire cashiers ». As a consequence, the very high level of seniority for cashier.

[12] These figures concern permanent rank-and-file employees. Meantime, 7200 temporary contract employees were hired i.e. 97% of the temporary workforce. In fact, temporary workforce represents 68% of entries.

[13] This results support the findings of Dohmen, Kriechel, and Pfann (2004) and Dohmen (2004) about concentrated ports of entry at the lower blue and white collar, and Seltzer and Merrett (2000), Howlett (2004) about strong ports of entry. Some papers contradict our observation: Lazear (1992) finds that ports of entry are weak, Baker et al. (1994) find no evidence of ports of entry and exit, and Treble et al. (2001) and Lin (2005) conclude that both lower and higher ranks are exposed to entry and exit.

Unsurprisingly the age of incomers is much more lower than the average age of the workforce (25 vs. 36). The firm favours internal career and promotion rather than external entries at the highest levels. « In this way, the firm is able to offer employees a career » (Treble et al., 2001).

2. Promotions and the internal economics of firms: a literature review

Several rationales have been discussed in the literature for why firms employ promotion-based incentives (Gibbons, 1997; Gibbons and Waldman 1999). Different models can explain career ladders and wage structures. Tournament theory, learning models and human-capital theory are theories that are often used to explain this phenomenon (Van Herpen, Cools and Van Praag, 2006) and that seem best suited to our case. We will first briefly present the features of these models, we will then continue with a discussion on their relevance for our case.

2.1 Three models of ILMs

The first class of models focuses on the provision of optimal incentives under imperfect observability of effort (Haeck and Verboven, 2012). Lazear and Rosen (1981) propose a tournament theory of promotions. Workers are promoted if they perform better than other workers at the same level. The spread between wages at two different levels is the prize of winning the tournament and serves to induce an optimal effort level. The tournament model shows that promotions can be a substitute for incentive compensation as a way of giving incentives. Tournaments have an informational advantage over other incentive contracts, since it is only necessary to provide an ordinal ranking of the employees. The prospect of being promoted to a better-paid job generates incentives to work hard even if the current income is not tied to performance. Rosen (1986) extends the basic model, consisting of one round (Lazear and Rosen 1981), with multiple rounds in which employees are eliminated from further participation in the tournament after losing a round. He has modelled the competition for promotion in a multistage elimination tournament where, in each stage, fewer agents are selected for the next step of the career ladder. Incentives generated in such tournaments depend on two important components of the organizational structure: the immediate wage increase for an agent who gets promoted, and the option value of competing in further stages of the tournament and having the chance to earn even higher wages (Altmann, Falk and Wibral, 2012). The option value of participating in subsequent rounds decreases as the individual goes up in the hierarchy and is zero in the final round. The decreasing option value of wage increases in further rounds at increasing hierarchical levels has to be compensated by disproportional increases of the guaranteed wage for the winner in the last rounds of the tournament, or, in other words, a convex wage-structure is the result. Testable implications of the tournament model are thus the existence of fixed wage-slots and a convex wage-structure (Van Herpen, Cools and Van Praag, 2006). There is empirical evidence supporting these implications of the tournament model in firms (Main et al., 1993, Knoeber and Thurman, 1994).

A second class of models focuses on learning about workers' ability (Haeck and Verboven, 2012). Learning models concentrate on imperfect information problems. In these models, the ability of a certain employee is unknown, ex-ante, but becomes clearer over time as tenure increases (Jovanovic, 1979). Harris and Holmstrom (1982) develop a model of symmetric learning, where both firms and workers have little information about workers' ability at the

start and gradually learn by observing output over time. The disclosure of information on the quality of a match will lead to either a wage increase (if the match is good) or turnover to a better matching firm. In learning models this disclosure over time about the quality of a match with a firm or a specific task will affect the wage levels and can derive a convex wage structure (Van Herpen, Cools and Van Praag, 2006). The firm sorts employees into different positions in the hierarchy based on learning over time about abilities (Baker et al., 1994; Gibbs, 1995). In these models, promotions are considered as sorting mechanisms.

A third class of models considers the role of human capital acquisition (Becker 1964). Carmichael (1983) links human capital theories to career tracks within organizations. By including firm-specific human capital, the model is able to derive an efficient outcome of careers and wage structures with wages attached to jobs and jobs assigned by seniority. Hartog (1988) also shows the workers' human capital increasing effect in the hierarchical level, in a context of comparative advantage. Prendercast (1993) shows how pay scales and promotion can give rise to efficient training by workers in the presence of two-sided moral hazard. Gibbons and Waldman (1999) develop a rich model with human capital acquisition, job assignment, and learning. In their model, workers have different abilities that determine the rate of skill acquisition on the job. As they improve their productivity, they climb the within-job-level wage ladder. Firms that learn about their employees' talents assign a worker to a higher job level once his expected productivity exceeds a certain threshold value. Workers are heterogeneous in their innate ability, and this heterogeneity implies the presence of fast tracks: workers who promoted most quickly to level 2 will probably also promote most quickly to level 3, as they are more efficient in accumulating human capital.

A general conclusion that can be drawn from the recent empirical evidence is that no single theory can explain all facts relating to internal promotion dynamics (Haeck and Verboven, 2012). The three effects can interact in different ways, giving rise to a specific wage-career relationship (Lima Pereira, 2003). Baker et al, (1994) find evidence that general and firm-specific human capital matter to career outcomes, but that firm learning about employee ability is also an important determinant of career dynamics. The firm uses lower-rank job performance level to learn about the innate abilities of employees and uses this information in its subsequent promotion decisions. In the Haeck and Verboven (2012)'s study, the evidence on career dynamics is consistent with promotion-based incentive theories, but other theories (learning, human capital accumulation) also matter to some extent. Gibbs (1995) shows strong evidence that promotions are not merely incentive schemes, but also sorting schemes. The firm uses a promotion system partly to sort employees, and that system also provides incentives. In principal, the firm would like to address the two objectives of sorting and incentives separately. However, noise in the performance measure makes it difficult to distinguish between the effects of ability and effort on performance. As long as promotions carry rewards, they will have incentive effects, because extra effort affects the chance of winning promotion.

In the light of these theoretical models, it seems important to us to bring some elements on the nature of the work in the company we study. What type of effort is required in this retailing firm? What are the expected qualities of employees? What do we learn from recruitment practices in this sector?

2.2 ILMs in the retail industry

Let us first emphasize that the notion of effort is not absent at all. It has however a special meaning. In service activities, it is difficult to identify and measure an individual productivity. Effort, in our case, should not be understood as an additional amount of work. Rather, it refers to a set of attitudes and behaviours expected from employees. Several studies confirm the importance of soft skills for the employers in services. These include not only the ability to communicate and to interact socially but also qualities that mobilise employees' very personalities, such as enthusiasm, or employee involvement (Bailly and Léné, 2013). This requirement for involvement is many-sided. Employees are required, firstly, to be able to deal with varied and changing situations, to take initiatives and to work independently. Autonomy at work has increased particularly for employees working in direct contact with the public, particularly in retailing industry (Rosenthal et al., 1997). After all, the obligation they are under to satisfy customers' demands requires them to be able to react quickly and therefore to have the necessary room for manoeuvre. All in all, employees are being asked to become absorbed in their work and 'to offer something of themselves' as they make this commitment.

Over and above the relational and emotional competences, which reflect the crucial importance of the customer, the range of soft skills demanded of employees has also been accompanied by behavioural requirements, such as resistance to stress. The demand for such capacities can be seen as a desire to build up a disciplined, loyal and reliable workforce (Lloyd and Payne, 2009). Gamble (2006) made the same observation in certain Japanese shops, where these characteristics are explicitly required. Workers have to be able to put up with a lot of trials and tribulations, have a hard-working spirit and be obedient. From this point of view, during the recruitment phase, job applicants' previous work experience is often scrutinized for evidence that they have the capacity to endure difficult working conditions, that they have the necessary discipline and determination. The ultimate aim for employer is to find reliable individuals who will not be found wanting when faced with the constraints of the job (Rieucau, 2015). These individuals have to be resilient and able to cope with stress or matters of urgency.

In the retail sector, employees are indeed confronted with difficult working conditions, and in particular with atypical and binding working hours. It is often necessary to deal with important peaks of activity, which result in increased temporal pressure. It is thus important for employers to check whether young recruits show some self-denial. From this point of view, the learning models seem quite relevant to us to analyse what takes place in the first stages of the career. It is about identifying individuals capable of working in this particular environment. Similarly, individuals discover the constraints of working in the retail industry and decide to stay or not. The first months show an intense selection process. Very high resignation or dismissal rates (and then decreasing over time) are proof of this. It is a peculiarity of the ILM that we analyse. Workers are participating in a sort procedure that will decide whether or not they gain access to the internal labour market. This is a two-way process: the employer is gathering information on the worker to see if they met its criteria; whilst the worker is gauging whether the constraints of working for the firm are outweighed by the benefits. Those who want to stay and whom the firm is willing to keep passed into the internal labour market. They represented the core permanent staff. These workers are characterised by lengthy employment, and had access to promotion ladders.
We will also show that this system is a discipline device. It allows limiting harmful behaviours (staff turnover, absenteeism), which have a determining influence on the

performance of the company. Such a function is rarely put forward in the literature on ILMs. Such a mechanism has been described by Howlett (2001) in a nineteenth century firm: the UK Great Eastern Railway company. One of the major challenges facing railway management was in disciplining and supervising its workforce. Initially, a punitive system of fines and a costly, but ineffective, system of visual surveillance had been adopted. However, in the late 1870s a new approach was adopted based on "attempts to motivate and discipline workers by using career ladders to encourage workers to monitor and regulate their own actions".
Once selected, employees are intended to stay in the firm and develop their skills. We will show that within this internal market, employees accumulate human capital, even for jobs that appear to be the least qualified. Beyond the selection and discipline function, a genuine logic of 'professionalization' is at work for these employees. The company provides firm-specific training that allows the workers to potentially improve their situation significantly over their career. Thus these ways of constructing careers could be compared to the idea of 'entry tournaments' first put forward by Marsden (2007). This model is characterised by a relatively open system at the point of entry but intense selection and fierce competition subsequently for access to better-paid positions in the hierarchy. Consequently, reward for specific skills is deferred until the higher rungs of the career ladder for those who manage to climb that high.

In the light of the literature, it appears that ILMs empirically play different roles within firms. In the next section, we provide evidence on how it regulates employees' behaviour and how the firm uses it both as a discipline device and a provision of incentives.

3. The regulation of behaviour

3.1 Evidence of the internal market as a discipline device

Absenteeism and turnover are major issues for firms in the French retail sector. Low wages, bad working conditions, poor work-life balance, and low skilled jobs (see table n°2, below, for details) lead the employees to withdraw and to regularly look after a better situation outside the firm, and even often outside the sector when they do not fit with the binding working conditions it imposes.

Table n°2: Elements on the retail sector

	Retail sector	Other sectors
Monthly net median wage	1200€	1600€
"I feel badly or very badly paid" (YES)	45%	40%
Worked Saturdays, per year	39	23
"I feel able to hold the same position as today, for the rest of my working life" (YES)	46%	62%
… "And I want to" (YES)	39%	61%
Industrial accident frequency	0,19	0,11
"I hold a position which values my skills " (NO)	48%	29%

Source: national French "Working Conditions Survey" (2013)[14]

[14] The WCS is a face-to-face survey, which is conducted every 7 years and implies almost 34.000 respondents. The survey is representative of the French workforce. More than 200 questions are asked on various topics, including, income, position, working conditions, and relations at work…

Because they are costly, the firm tries to regulate these behaviours by severely selecting the workforce and dismissing those who do not comply with its expectations, especially in terms of absence, and promoting those who make significant efforts. It is therefore expected that selection and promotion processes drive to a fall in misdemeanours, absenteeism in particular.

3.1.1 Absenteeism

The firm we are studying is actually facing 4 major issues regarding absence.
-The first one is the overall level of absence. Every year, on average, more than 2 million working days[15] are lost because of absence (whatever the motive). It corresponds to a mean value of 12,2 days per capita (13,6 days per full time capita). The rank-and-file population (with permanent contract) is particularly concerned, as the mean value is equal to 33,2 days of absences.
-The second one concerns long time absences. It represents 340.000 working days lost per year. Almost 1900 employees are absent more than 90 days a year for illness and, on average, are absent for 180 days a year for illness. These absences are probably mainly related to working conditions and, of course, to the ageing of the workforce and the depreciation of its health status. This issue is a serious one but it has probably nothing to do with the regulation of behaviour and we will not focus on it in this study.
-The third one concerns illness absences. They represent almost 800.000 lost working days a year, i.e. 4,6 days per capita. Once again, the rank-and-file population (with permanent contract) is particularly concerned, with a mean value equal to 12,8 days.
Illness absence is not specifically a behavioural issue, since a large part of these absences is undoubtedly caused by illnesses. However it is also likely that some employees cheat. As controls are quite scarce and costly, their regulatory power is probably insufficient and the firm clearly seeks a way to reduce these absences.
-The last issue is unjustified absences. Almost 115.000 days per year (0,7 per capita) are lost because of absences the employees do not account for, by a motive and another. Rank-and-file employees with permanent contract encounter 53.000 days (1,1 per capita) and are, once again, particularly concerned.

Absences values are generally characterized by a large unobserved heterogeneity. The range of values is very large (for example, from 0 to the whole year for illness absences, but strong heterogeneity also occurs for other motives of absence), and personal information is commonly unavailable[16]. For that reason, it is often a good strategy to use panel data to reduce unobserved heterogeneity. With repeated observations for the same employee, we are more able to spot individuals characterized by "abnormal" absence values and reduce unobserved heterogeneity. Of course it implies a loss in observations, but as the number of observations is still very high, it seems reasonable. Moreover, as our main concern is long-term labour relationship, it seems relevant to focus only on those who stayed in the firm all along the period. In that case, we have full information for 37.000 rank-and-file employees in the 4-years cylinder.
However we should keep in mind that the presence in the cylinder could correspond to a selection process: permanent contract employees not present all along the period could have been dismissed because of absences or misdemeanours (or they could have resigned). It could means that employees inside the cylinder exhibit lower absence values than their population

[15] On average, the stores of the firm were open 308 days per year in 2010-2014, and absences are counted according to the number of opening days.
[16] For example, health status is unknown despite it is a major determinant of illness or long absences.

mean values. Therefore, studying the effect of internal market only on those inside the cylinder could underestimate its regulatory power, especially through the workforce selection process. Then, it seems relevant to conduct regressions both on stacked and panelled data, in order to have a better understanding of the effect of internal markets.
As, by definition, an employee who quitted the firm is not in the cylinder, it does not make sense to study dismissals within the panel. We use the full database instead.

As previously underlined, (potentially abusive) illness absences and unjustified absences are major behavioural issues for the firm. To evaluate the impact of internal market and graduation on these behaviours, we conduct two different regressions.
The first one concerns unjustified absences. Unjustified absences are a clear marker of misdemeanours. The labour relationship is a subordination relationship where employees are due to come at work as planned. Repeatedly not coming and not accounting for it is a break in the relationship, which makes the contract impossible to maintain. Repeated unjustified absences are therefore a signal of a mismatch. If ILM aims at sorting the workforce, we could expect a strong effect of ILM on unjustified absence.
As we expect the internal market to have a regulatory power, we estimated the correlates of unjustified absence (number of days of absence). We included demographic variables (age, gender…), and organisational variables (position, job level, geographical position and size of the store, and graduation level). We also included other motives of absence we considered as relevant. Indeed, it is likely that employees who exhibit unjustified (and costly) absences try to cheat on absences by invoking different (and less costly) motives like illness or industrial accident.

The second regression concerns illness absences. Contrary to unjustified absences, illness absences are not a clear marker of misdemeanours. In most cases employees encounter illness absences just because they are ill. However, it is also likely that those who misbehave also adduce illness to justify they did not come at work. It seems therefore relevant to test if internal labour market helps to prevent misbehaviours on illness absences. Once again we estimate the correlates of illness absences by including, as previously, demographical and organizational variables and other motives of absence, like unjustified absences.
Both regressions are conducted using a Binomial Negative model (SAS 9.4 PROC GENMOD), which is a common way to deal with count data with strong heterogeneity.

Unjustified absences

Table n°3: Determinants of unjustified absences (full database: N=190077 stacked observations, offset=yearly working time)

Parameters Estimates				
Parameter	Est. Value	Std. Error	Wald Khi-2	Pr > Khi-2
Intercept	-1.5289	0.1025	222.47	<.0001
Age	-0.0303	0.0015	386.72	<.0001
Seniority	-0.0091	0.0018	25.83	<.0001
Rank 1 job	0.8767	0.0592	219.26	<.0001
Rank 2 job	0.4924	0.0495	99.07	<.0001
Rank 3 job	0.2092	0.0457	20.97	<.0001
Gender (Male)	0.1031	0.0248	17.35	<.0001
Hypermarkets	0.6441	0.0766	70.75	<.0001
Supply chain	-0.6095	0.1021	35.63	<.0001
North-France stores	-1.1763	0.0327	1290.27	<.0001
South-France stores	-0.4842	0.0327	219.53	<.0001
East-France stores	-0.8177	0.0328	620.34	<.0001
West-France stores	-1.0932	0.0339	1038.86	<.0001

Cashier	0.2317	0.0388	35.71	<.0001
Self-service Emp.	0.1148	0.0390	8.68	0.0032
Store Emp.	0.1691	0.0676	6.27	0.0123
Sales Emp.	0.5915	0.0494	143.63	<.0001
Size store <75M€	-0.5070	0.0338	224.73	<.0001
Size store 110-150M€	-0.0656	0.0257	6.54	0.0105
Level A	**1.5031**	0.0719	437.30	<.0001
Level B	**1.5341**	0.0598	658.78	<.0001
Level C	**0.6054**	0.0600	101.84	<.0001
Freq. Illness Abs.	0.0226	0.0038	35.47	<.0001
Dispersion	17.3997	0.1277		

When estimating on the full database (table n°3), and after controlling for different effects, we clearly see the regulatory effect of the qualification level, especially for highest levels (the most important as access to level B is automatic with seniority, while access to level C and level D depends on formal evaluations and a managerial decision). Level A and B employees exhibit higher values of unjustified absences, while level C and, above all, level D employees[17] exhibit lower values (all differences highly significant).
When estimating on panel database with random effects (table n°4), the differences between level A/B/C and level D are much lower. While the regulatory effect is still clear (all differences highly significant), the selection effect of the internal labour market also appears. Among the employers present all along the period, unjustified absences level is much lower. The effect is particularly strong for level A employees as they even exhibit lower absences than level B. Clearly they are selected on this basis and it seems very unlikely that the employer keeps and promotes at level B a level A employee who exhibits unjustified absence (in fact, in the panel database, 90% exhibit a null value and 99% exhibit less than 5 days).
In both regressions, we notice that unjustified absences decrease with age and seniority (which is also congruent with the idea of a selection effect). Moreover, the higher the job position (from rank 1 to rank 4), the lower the number of unjustified absences. It is difficult to find specific effects for jobs, as most of them are associated to a certain rank. However, we find that cashiers, especially in large hypermarkets (more than 200 million sales) and in the capital region, are the most concerned. We also notice than unjustified absences are also correlated with illness absences. It suggests that those employees who cheat on absences use different forms of withdrawal.

Table n°4: Determinants of unjustified absences (4-years panel database: N=37840 cross-sections, offset=yearly working time)

Parameters Estimates (maximum likelihood)				
Parameter	Est. Value	Std. Error	t value	Pr > |t|
Intercept	-3.190262	0.109619	-29.10	<.0001
Age	-0.015576	0.001612	-9.66	<.0001
Seniority	-0.017339	0.001953	-8.88	<.0001
Rank 1 job	0.792218	0.069083	11.47	<.0001
Rank 2 job	0.574600	0.050580	11.36	<.0001
Rank 3 job	0.379665	0.053289	7.12	<.0001
Gender (Male)	0.315627	0.025734	12.26	<.0001
Hypermarkets	1.016769	0.065270	15.58	<.0001
North-France stores	-1.413983	0.035044	-40.35	<.0001
South-France stores	-0.225309	0.031332	-7.19	<.0001
East-France stores	-0.868877	0.035076	-24.77	<.0001
West-France stores	-1.231954	0.040901	-30.12	<.0001
Cashier	0.547680	0.028826	19.00	<.0001

[17] Level D=reference term

Store Emp.	-0.317553	0.076904	-4.13	<.0001
Size store <75M€	-0.704595	0.046189	-15.25	<.0001
Size store 75-110M€	-0.526312	0.037330	-14.10	<.0001
Size store 110-150M€	-0.361697	0.036380	-9.94	<.0001
Size store 150-200M€	-0.288410	0.034046	-8.47	<.0001
Level A	**0.467038**	0.104344	4.48	<.0001
Level B	**0.845590**	0.073139	11.56	<.0001
Level C	**0.578125**	0.073113	7.91	<.0001
Freq. Illness Abs.	0.051450	0.002363	21.77	<.0001
_Alpha	1.208149	0.018322	65.94	<.0001
_Beta	0.461271	0.011335	40.69	<.0001

Illness absences

The same phenomenon occurs for sickness absences (see Table n°5, in Appendix). After controlling for different effects, we notice that absences decrease with the level. Level D employees exhibit lower absence values (all differences highly significant). Notwithstanding level A employees, the higher the level, the lower the absences. Level A employees exhibit lower absence values than Level B and C probably because a large part (more than 50%) of them are newcomers. As a consequence, they have to undergo a try-out period throughout they can be dismissed at any time without any reason. It probably strongly binds their behaviour: as an example, newcomers level A employees exhibit, on average, 0,7 days of illness absence a year and 85% of them exhibit zero absence. Non-newcomers level A employees encounter 5,8 days of absences and only 60% of them exhibit zero absence.

It confirms the idea that graduation is a way to reward employees whose behaviour complies with the firm demands. On the contrary, those who do not, first are dismissed (see the next section for evidence), and then are very unlikely to be promoted to the next grade.

3.1.2 Dismissals

When facing with non-compliant behaviours, the employer has a wide range of disciplinary measures at its disposal, regarding the seriousness of the fault.

For misdemeanours, the employer can give an official warning or, for more serious things (repeated mistakes, acts of negligence…), can dismiss for 'simple fault'. In that case, as the immediate dismissal of the employee is not justified, they are kept on their job during the legal procedure and are not suspended. In the end, there are fired and receive a severance pay (according to their seniority).

For more serious cases (repeated unjustified absences, lack of discipline, insubordination, harassment, abuse, violence, robbery…), the employer can dismiss for gross misconduct. It leads to instant dismissal and the loss of financial compensation. During the legal procedure, the employee is suspended so that suspension appears as a marker of the seriousness of the fault.

Dismissals and quits are both a serious issue for the firm. As shown in table n°6, among the permanent rank-and-file workforce, the firm has to deal approximately with 3500 unexpected contract breaches. It represents 7,3% of the workforce.

Table n°6: Dismissals and quits, by grade

	2010-2014 Average value	Level A	Level B	Level C	Level D
Population	N=47519	N=3214	N=28834	N=13365	N=2106
'simple fault' Dismissals	125	5	106	13	1
'gross misconduct Dismissals	845	57	701	81	6
Quits	2535	388	2020	119	8

It is clear that both the number and the frequency of these breaches drastically decrease with grade. For example, quits concern 12% of the level A workforce, 7% of level B, 0,9% of level C and only 0,4% of level D. Once again, graduation seems to regulate behaviours.
To evaluate the disciplinary power of internal markets, we first conducted two regressions for dismissals, one for each case.
In the first one, the dependent variable is 'gross misconduct' dismissal (1 for dismissal, 0 otherwise). The probability of dismissal is estimated according to the previous demographic and organizational variables, plus unjustified absences and suspension time (number of days of unjustified absence or suspension, both considered proportional to the seriousness of the fault). In the second one, the dependent variable is 'simple fault' dismissal.

Table n°7: Determinants of 'gross misconduct' dismissal (full database: N=190077 stacked observations)

Parameters Estimates (maximum likelihood)				
Parameter	Est. Value	Std. Error	t value	Pr > |t|
Intercept	-5.603351	0.244294	-22.94	<.0001
Seniority	-0.055975	0.004060	-13.79	<.0001
Rank 1	-0.361813	0.104986	-3.45	0.0006
Rank 3	0.201994	0.073554	2.75	0.0060
Gender (Male)	0.168692	0.054635	3.09	0.0020
Hypermarkets	-0.596748	0.239874	-2.49	0.0129
Supply chain	-1.165469	0.407356	-2.86	0.0042
South-France stores	0.315790	0.069773	4.53	<.0001
East-France stores	0.311554	0.071009	4.39	<.0001
Store Emp.	0.515982	0.137851	3.74	0.0002
Size store <75M€	0.791923	0.107834	7.34	<.0001
Size store 75-110M€	0.583079	0.098626	5.91	<.0001
Size store 110-150M€	0.445048	0.099700	4.46	<.0001
Size store 150-200M€	0.631324	0.094469	6.68	<.0001
Days Unjustified Abs.	0.134752	0.001567	86.02	<.0001
Days Suspension	0.482632	0.009678	49.87	<.0001
Level B	**0.792665**	0.098453	8.05	<.0001
Level C	**0.395993**	0.126388	3.13	0.0017

Regression on 'gross misconduct' dismissal underlines the huge influence of repeated unjustified absences on the decision taken by the employer. The variable (number of days on unjustified absences) is the regressor with the highest explanatory power. As previously, we notice the effect of seniority, gender, activity and the size of the store.
Once again notwithstanding Level A employees, the higher the graduation, the lower the risk of dismissal. Level A employees present a low risk of dismissal, similar to level D. However, according to us, reasons are very different. Indeed, we should keep in mind that 85% (in the full database) of level A employees are newcomers therefore submitted to a try-out period. During this period, the employer can dismiss them at any time, without any justification. As a consequence, there is no need to dismiss for 'simple fault' or 'gross misconduct'. A simple word is enough.

On the contrary, after the try-out period, the employer is due to precisely justify the dismissal motive and, except in most serious cases (robbery, violence…) has to 'draw up a file on its employee'. It takes time, especially because repeated misbehaviours are required to justify such a dismissal. It is unlikely that all of that occurs before the employee is automatically promoted to B level according to its seniority. It seems therefore very unlikely that level A newcomers would be dismissed for that motive (actually, 27 cases occurred per year among more than 2700 newcomers while 30 cases occurred among 500 non-newcomers).

Table n°8: Determinants of 'simple fault dismissal (full database: N=190077 stacked observations)

Parameters Estimates (maximum likelihood)				
Parameter	Est. Value	Std. Error	t value	Pr > |t|
Intercept	-7.691055	0.721262	-10.66	<.0001
Seniority	-0.033852	0.006330	-5.35	<.0001
Gender (Male)	0.713171	0.097477	7.32	<.0001
Rank 1	-0.631401	0.218954	-2.88	0.0039
North-France stores	-0.870532	0.147512	-5.90	<.0001
South-France stores	-0.475585	0.134431	-3.54	0.0004
East-France stores	-0.628991	0.144567	-4.35	<.0001
West-France stores	-0.650310	0.150519	-4.32	<.0001
Store Emp.	0.855452	0.262515	3.26	0.0011
Sales Consultant	0.279087	0.166546	1.68	0.0938
Days Unjustified Abs.	0.019733	0.001355	14.56	<.0001
Days Suspension	0.063843	0.010793	5.92	<.0001
Level A	**1.122453**	0.747568	1.50	0.1332
Level B	**2.274641**	0.712930	3.19	0.0014
Level C	**1.346323**	0.720727	1.87	0.0618

The analysis of 'simple fault' dismissal leads to almost the same results. Controlling for different effects, the number of unjustified absence always appears as one of the most important determinants. And as previously, the higher the graduation, the lower the risk of dismissal, taking into account the previous remark on level A employees' risk of dismissal.

To sum up these results, we found evidences that the firm carries a drastic selection and sort procedure out and rewards those who were selected by quick (automatic) promotion. Afterwards, it keeps trying to regulate behaviours by building internal markets where employees are promoted through a severe selection process. The process seems efficient as absenteeism decreases. The same holds for dismissals; it suggests that (unobserved) behaviours that drive the employer to dismiss (continual lateness, negligence…) are also prevented. The regulatory power persists until the lash grade. Level D employees exhibits better behavioural markers than any other employees. D grade looks like the ultimate reward dedicated to those with the most irreproachable behaviour.

However, it is clear that graduation should also reflect a reward for involvement, skills development and contribution to the firm performance, as we will see it in the next session. We expect the firm to link graduation to the development of professionalism and skills.

3.2 Evidences of the internal labour market as a provision of incentives

3.2.1 Workforce retention

In addition to disciplinary issues, the firm has to deal with high quit rates among the workforce. As previously shown in table n°6, more than 2500 rank-and-file employees with a permanent contract leave their job, per year. Reasons are numerous: poor work-life balance (especially for those, the huge majority, who work in one of the 119 hypermarkets and have to work on Saturdays and, more and more frequently, on Sundays and during Christmas), bad working conditions, cultural non-compliance, and better opportunities on wages (or transportation time which is a key issue in the capital region). Even for low-skilled workers, these quits have a cost for the firm: replacement costs, training costs, and potentially, customer dissatisfaction and loss in sales. In all likelihood, the more qualified is the workforce, the more important is the cost of these resignations. In addition, some needs for certain jobs are very difficult to satisfy: butcher, pastry confectioner for example are sought-after employees and, according to the firm, their qualification level has a strong impact on business and customer satisfaction. The firm cannot afford to let them leave and therefore try to retain them.
To drive these employees to develop their qualification level and to recognize it (by wage, notably) seems a relevant retention strategy. The internal market where employees are promoted according to their professionalism could therefore play a role as a provision on incentives. We test this hypothesis by estimating the determinants of resignation. The dependent variable is a binary one (1 for those who quitted during the period, 0 for the others) and we use a logistic model. Several regressors are included, among them the qualification level.

Table n°9: Determinants of quits (full database: N=190077 stacked observations)

Parameters Estimates (maximum likelihood)				
Parameter	Est. Value	Std. Error	t value	Pr > |t|
Intercept	-2.808639	0.105572	-26.60	<.0001
Seniority	-0.137794	0.002863	-48.13	<.0001
Hypermarkets	0.482831	0.096946	4.98	<.0001
North-France stores	-0.175195	0.032789	-5.34	<.0001
East-France stores	0.136277	0.029933	4.55	<.0001
West-France stores	0.192859	0.031165	6.19	<.0001
Cashier	0.530517	0.024317	21.82	<.0001
Self-service Emp.	-0.389202	0.040904	-9.52	<.0001
Store Emp.	0.140219	0.042308	3.31	0.0009
Married	-0.994685	0.030748	-32.35	<.0001
Pack. Emp.	-0.470332	0.119441	-3.94	<.0001
Pick & Drive Emp.	-1.151416	0.178587	-6.45	<.0001
Size store <75M€	-0.185883	0.038235	-4.86	<.0001
Size store 110-150M€	0.101280	0.028188	3.59	0.0003
Size store 150-200M€	0.059899	0.027185	2.20	0.0276
Level A	**0.185761**	0.059950	3.10	0.0019
Level B	**0.656348**	0.050534	12.99	<.0001

The results show that, once again, seniority plays in favour of a reduction of the probability of quitting. Similarly, after controlling for different effects, it appears that qualification level also contributes to the workforce retention. This time, there is no significant difference between grade D and grade C employees, both exhibiting a lower level of resignation.

3.2.2 Skills development

If graduation requires employees to fulfil the firm expectations in terms of behaviour, and therefore serves as a discipline device, it primarily relies on the development of a certain professionalism level for the job.

From level A to level B, professionalism is directly associated with seniority. Depending on the job level (from 1 to 4), employees are automatically ranked to level B a certain period after they got tenure (from 6 months to 2 years). But from level B to level C and, above all, from level C to level D, an assessment is required, based on an "individual development management" (IDM) evaluation tool.

The IDM tool, one for each job, is a grid of approximately 70 criteria, gathered together in around 12 large topics, which are the expression of skills and abilities required for the job (according to the firm). Every year, managers evaluate all their subordinates, according to these criteria, and deliver a global mark. Graduation directly and automatically depends on the mark, except for level D where a managerial decision is also required (meaning that the manager can refuse the promotion for example if he/she points out inappropriate behaviours). Employees are ranked to level C when they reach 2 years consecutively a mark of 42.

To set an assessment tool for high-skilled positions is quite common and understandable. When holding the job is a complex affair, requires specific skills and abilities and when wage depends on it, it seems reasonable and relevant to use a complex grid that fits the firm expectations. It seems less understandable for low skilled positions where a less complex (and costly) grid could be enough. More than 25.000 employees hold a level 1 or a level 2 position; it costs a lot to conduct, every year, the evaluation of such a large population. Despite these arguments, the firm does maintain that complex grid and organise detailed evaluations of professionalism, even for low-skilled positions.

More surprisingly, in 2013, the firm even went further to deepen and detail the evaluation tools, and totally renewed the IDM grids. Previously, whatever the job level, all grids contained exactly 12 large criteria, which probably gave a global but sometimes imprecise and disputable appreciation. In 2013, the firm adopted new grids, which much more focus on professionalism and expectations. For example, before 2013, bakery packaging employee grid (level 1) had 12 criteria (ability to cut and pack products, ability to label products, ability to serve customers, cleanness, productivity, efficiency…). The grid now contains 71 items; some of them are strictly identical to those previously used, some others correspond to previous topics but are now detailed (for example, there are now 6 criteria for cleanness) but some others are totally new and quite surprising for a level 1 position (as, for example, "know the customer habits and the sector traffic figures" or "contribute to the optimization of the retail activity").

What is at stake for the firm is the development of professionalism. In the context of a hard competition between the six competitors in the market and the rise of hard-discounters, stress is laid on "customer experience". As customers no longer focus exclusively on price but also pay attention on quality, variety, traceability, the retail firms need every employee to level up both on ability to serve the customers and on capability to work autonomously and take relevant decisions. There is therefore a strong incitation to redefine what professionalism means and, then, to develop it.

For high-skilled positions, the need for professionalism is understandable and to postulate a link between professionalism and performance seems reasonable. In France, the retail sector contributed to the disappearance of independent high-skilled catering trades like butcher, fishmonger, confectioner and even backer. But the customers' needs remain and the retail

sector "internalize" these high-margin trades in a large movement for providing new upmarket services.
For low-skilled positions, the need for professionalism is less obvious. Certainly, the firm built skills and abilities assessment grids, and we showed that such a practice does contribute to regulate the behaviour. But it is questionable it has any effect on performance: notwithstanding productivity, what does really mean professionalism for instance for a packaging employee. Above all, does professionalism have any impact on the performance of the sector? Is there any economic rationality to built ILM for low-skilled workers?

4. Internal markets and firm performance

In order to assess the impact of internal labour market on firm performance, we built a whole and detailed dataset: the previous personnel and absences datasets are now matched with additional datasets provided by the firm. One concerns stores' performance dispatched by clusters and sectors (sales, profit margin, personnel costs, number of full-time equivalents, sales area in square meter). Another provides information on the local characteristics of the trade area of each store: socio-demographic variables (the number of inhabitants in different areas around the hypermarket, the wealth of the inhabitants…) and market variables (hypermarket competition index). All commercial sectors are considered whatever their specificities, except fuel filling station and Internet ordering. Information is therefore available for each of the 1023 sectors dispatched in 119 hypermarkets everywhere in France.

4.1 Absenteeism and Turnover as a major issue for economic performance

Absenteeism and turnover are major human resources issues for the firm. They generate costs: replacement costs, administrative costs, health and benefit system costs, hiring costs… The firm logically seeks to reduce them and, in the previous section, we underlined how selection and promotion both contribute to absence prevention.
We could also expect that absenteeism and turnover have both negative impacts on economic performance: customer dissatisfaction, ruptures, lack or personnel could cause loss in sales and therefore justify per se the existence of an internal market because of its regulatory power. To prove that internal labour markets contribute to performance, we estimated a Cobb-Douglas production function where sales (transformed to log) are estimated according to various regressors[18]. The first block of regressors concerns surface and workforce quantity in the sector (in log), which are very common explanatory variables. As it is likely that elasticity of sales is different according to the sector, one parameter is estimated for each one. The second block of regressors concerns context variables: size of population living around the hypermarket -the surroundings are divided into 3 circles from the nearer (core zone) to the further (large zone)-, wealth of that population, average size of the household and competition

[18] A Cobb-Douglas function is a simple and very common specification for production function. Sales seem a natural performance indicator for retail industry. However, we also conducted regressions on profit margin, with the same results.

index[19]. The last block concerns absenteeism and turnover rates[20] for the first regression, and also average professionalism level[21] for the last ones.

Table n°10: Determinants of sales, 2014. The impact of absenteeism and turnover.

Variance Analysis					
Source	D.F.	S.S.	Quad. mean	F value	Pr > F
Model	22	1642.59073	74.66322	1593.13	<.0001
Error	1006	47.14696	0.04687		
Total	1028	1689.73769			

Parameter	Est. Value	Error	F value	Pr > F
Intercept	9.10442	0.21621	1773.23	<.0001
LN Equivalent Full Time (Ref)	0.45349	0.02654	291.93	<.0001
LN SURFACE (Ref)	0.39679	0.01520	681.78	<.0001
LN EFT (Food – Self Service)	0.19124	0.01068	320.92	<.0001
LN EFT (Food – Craft)	0.40001	0.08568	21.79	<.0001
LN SURFACE (Food – Craft)	-0.38565	0.10274	14.09	0.0002
Food Craft Dummy	0.96295	0.47459	4.12	0.0427
LN SURFACE (Fashion)	0.16675	0.04267	15.27	<.0001
Fashion Dummy	-1.66694	0.27798	35.96	<.0001
LN EFT (Care – Sale)	0.67333	0.06015	125.33	<.0001
LN SURFACE (Care – Sale)	-0.45313	0.02583	307.81	<.0001
LN EFT (Household – Self Service)	0.20785	0.07019	8.77	0.0031
LN SURFACE (Household – Self Service)	-0.25506	0.06477	15.51	<.0001
Household Self Service Dummy	1.32348	0.37801	12.26	0.0005
LN EFT (Household – Sale)	-0.09563	0.03995	5.73	0.0169
Household - Sale Dummy	-0.52694	0.08110	42.21	<.0001
Care – Self Service Dummy	0.30350	0.02568	139.72	<.0001
LN HOUSEHOLD POPULATION - CORE ZONE	0.13651	0.01260	117.40	<.0001
LN HOUSEHOLD POPULATION - SWAP ZONE	0.07683	0.01382	30.90	<.0001
LN HOUSEHOLD POPULATION - LARGE ZONE	0.03646	0.01204	9.16	0.0025
LN HOUSEHOLD SIZE - MERCHANT ZONE	0.31295	0.10033	9.73	0.0019
ABSENTEEISM RATE	**-0.13407**	0.04436	9.13	0.0026
TURNOVER RATE	**-0.07175**	0.02100	11.67	0.0007

These first results show that internal labour markets, as they contribute to reduce absenteeism and turnover which both have negative impact on firm performance, are economically rationale. Even without estimating the costs associated with absenteeism and turnover, which evidently decrease when behaviours are regulated, the firm has economic arguments to build ILMs up.

[19] Defined as the number of squared meter accessible for 100.000 customers. The larger the more competitive is the area.

[20] Turnover rate corresponds to the number of quits and dismissals divided by the number of employees. On average, the turnover rate is 7,3% (see table n°6). Absenteeism rate corresponds to the number of lost working days, whatever the motive (except legal paid leave and training periods) divided by the number of working days. On average, the absenteeism rate is 9,4%. Both the values are computed for each commercial sector.

[21] Average professionalism level is computed by attributing and averaging a mark on each employee, according to her/his level: 1 for Level D, ¾ for level C, ½ for level B and ¼ for level A. The same is done for managers, with a mark between 1 (Beginner) to 4 (level 3).

4.2 The effect of professionalism on economic performance

If ILM regulatory power seems indeed a sufficient reason to implement it, it does not mean the firm could not take economic advantage to develop professionalism. So the question is "Does the qualification/graduation also contribute to economic performance, taking into account cut in absenteeism and turnover?"

To answer the question, we conducted two analyses.
-The first one deals with the general case. As previously, a regression is conducted for the 1023 sectors.
-The second one focus on some particular sectors. Indeed, sectors have very specific features regarding the workforce they employ. Some sectors, like "Food-Self service" sector or "Care – Self service" sector, use a majority of low skilled workers (Rank 1 and Rank 2 employees). On the contrary, some others sectors like "Food-Craft" or "Leisure – Sales" sectors employ a larger part of higher skilled workers (Rank 3 and Rank 4 employees). How professionalism can contribute to economic performance of the sector could be very different for sectors with a high percentage of high-skilled workers and those with a low percentage of these workers.

Table n°11: Determinants of sales, 2014. The impact of professionalism.

Variance Analysis					
Source	D.F.	S.S.	Quad. mean	F value	Pr > F
Model	24	1611.80170	67.15840	1476.92	<.0001
Error	998	45.38110	0.04547		
Total	1022	1657.18280			

Parameter	Est. Value	Error type	F value	Pr > F
Intercept	9.17014	0.21447	1828.18	<.0001
LN Equivalent Full Time (Ref)	0.29832	0.03832	60.60	<.0001
LN SURFACE (Ref)	0.39146	0.01506	675.64	<.0001
LN EFT (Food – Self Service)	0.20520	0.01092	352.88	<.0001
LN EFT (Food – Craft)	0.39667	0.08468	21.94	<.0001
LN SURFACE (Food – Craft)	-0.36228	0.10131	12.79	0.0004
Food Craft Dummy	0.91520	0.46829	3.82	0.0509
LN SURFACE (Fashion)	0.19908	0.04246	21.98	<.0001
Fashion Dummy	-1.80337	0.27502	43.00	<.0001
LN EFT (Care – Sale)	0.66041	0.06194	113.68	<.0001
LN SURFACE (Care – Sale)	-0.44329	0.02644	281.14	<.0001
LN EFT (Household – Self Service)	0.20561	0.06919	8.83	0.0030
LN SURFACE (Household – Self Service)	-0.26607	0.06384	17.37	<.0001
Household Self Service Dummy	1.45275	0.37317	15.16	0.0001
LN EFT (Household – Sale)	-0.08139	0.04065	4.01	0.0455
Household - Sale Dummy	-0.53448	0.08262	41.85	<.0001
Care – Self Service Dummy	0.35845	0.02774	166.95	<.0001
Average Professionalism Level - MANAGER	**0.01528**	0.00654	5.46	0.0197
Average Professionalism Level – R&F EMPLOYEES	**0.22599**	0.04705	23.07	<.0001
LN HOUSEHOLD POPULATION - CORE ZONE	0.13267	0.01252	112.29	<.0001
LN HOUSEHOLD POPULATION - SWAP ZONE	0.08045	0.01370	34.50	<.0001
LN HOUSEHOLD POPULATION - LARGE ZONE	0.02684	0.01199	5.01	0.0255
LN HOUSEHOLD SIZE - MERCHANT ZONE	0.36144	0.10049	12.94	0.0003
ABSENTEEISM RATE	**-0.11308**	0.04387	6.64	0.0101
TURNOVER RATE	**-0.05987**	0.02083	8.26	0.0041

That first regression leads to very strong statistical results (R^2=93,2%. The model is highly significant). Signs are as expected (positive or null for elasticities relative to workforce and surface) and context variables coefficients are all positive and ordered (meaning that the closer is the population the larger is its impact on sales). Absenteeism and turnover rates still remain highly significant and almost unchanged: it suggests that professionalism assessments probably depends on individual absenteeism rate, the effect is weak. Both average managers and rank-and-file employees professionalism levels[22] enter the regression: globally, the higher the skill level, the better the performance.

Focus on Food-Self Service and Food-craft sectors

Despite both these sectors deliver Food products to the customers, they make it very differently. Food-craft sector is a high margin sector. It delivers daily fresh food, mostly prepared in internal workshops. It is therefore also a high workforce intensity sector (see Table n°12, below). It is also a high margin rate sector.

Table n°12: Food sectors characteristics

	Food – Self Service (N=119)	Food – Craft (N=119)	All sectors (N=1023)
% Rank 3&4 Employees	21%	42%	
Av. Sales	50,0 M€	16,8 M€	12,5M€
EFT	60,2	79,7	25,9
Surface (m^2)	3311	1224	1164
Margin/Sales	21,2%	27,1%	23,4%
Abs Rate	9,1%	10,1%	9,4%
Turnover Rate	8,6%	8,2%	7,3%
Average Professionalism Level - MANAGER	2,45	2,50	2,38
Average Professionalism Level – R&F EMPLOYEES	0,49	0,44	0,51

Results for Food-Self Service sector

Variance Analysis					
Source	D.F.	S.S.	Quad. Mean	F value	Pr > F
Model	4	21.36892	5.34223	464.85	<.0001
Error	114	1.31013	0.01149		
Total	118	22.67905			

Parameter	Est. Value	Std. Error	F value	Pr > F
Intercept	13.11129	0.10699	15018.3	<.0001
LN EFT	1.04115	0.05002	433.22	<.0001
Average Professionalism Level – R&F EMPLOYEES	0.21577	0.07981	7.31	0.0079
ABSENTEEISM RATE	-0.14209	0.07775	3.34	0.0702
TURNOVER RATE	-0.12609	0.02425	27.04	<.0001

Results for Food-Craft sector

[22] Because of the scale effect, the coefficients are not directly comparable. When reducing at the same scale (by multiplying the "manager" coefficient by 4), we notice that the effect of professionalism is approximately 4 times greater for rank-and-file employees).

Variance Analysis					
Source	D.F.	S.S.	Quad. Mean	F value	Pr > F
Model	5	26.55098	5.31020	437.21	<.0001
Error	113	1.37247	0.01215		
Total	118	27.92345			

Parameter	Est. Value	Std. Error	F value	Pr > F
Intercept	9.72815	0.65776	218.74	<.0001
LN EFT	1.01411	0.04083	616.91	<.0001
Average Professionalism Level – R&F EMPLOYEES	0.15219	0.07639	3.97	0.0488
LN HOUSEHOLD POPULATION - LARGE ZONE	-0.03790	0.01889	4.03	0.0472
LN HOUSEHOLD WEALTH - MERCHANT ZONE	0.28934	0.07148	16.39	<.0001
LN HOUSEHOLD SIZE - MERCHANT ZONE	-0.46941	0.15936	8.68	0.0039

What is striking is that for both sectors performance depends on professionalism level. Professionalism does matter for Food-Self Service sector, and its impact is even larger. In fact, it seems that, maybe because scarce, the workforce is needed highly skilled: high performance level absolutely requires high professionalism level and attendance. On the contrary, Food-craft sector performance relies less heavily on professionalism. Performance depends more on context variables: the richer the customers (globally, and per capita), the larger the sales.

Table n°13: 2 specific sectors characteristics

	Leisure - Sale	Care – Self Service	All sectors (N=1023)
% Rank 3&4 Employees	91%	19%	
Av. Sales	5,4 M€	10,5 M€	12,5M€
EFT	14,2	14,6	25,9
Surface	400	1020	1164
Margin/Sales	11,8%	25,5%	23,4%
Abs Rate	7,5%	10,9%	9,4%
Turnover Rate	6,2%	7,6%	7,3%
Average Professionalism Level - MANAGER	2,30	2,35	2,38
Average Professionalism Level – R&F EMPLOYEES	0,58	0,48	0,51

“Leisure – Sale” and “Care – Self Service” are also very different sectors. The first one is focused on selling photo/video/audio/TV products. The activity requires an accurate knowledge of the products and the technologies and also requires selling abilities. Therefore, 91% of the workforce is ranked 3 or 4. The second one gathers beauty/hygiene/perfume products, underwear and baby products (food, clothes, equipment). It is essentially a traditional retail low-skilled activity: unpack, display and tidy. 81% of the workforce is ranked 1 or 2.

"Leisure – Sale" sector

Variance Analysis					
Source	DDL	S.S.	Quad. Mean	F Value	Pr > F
Model	8	26.80342	3.35043	88.19	<.0001
Error	107	4.06503	0.03799		
Total	115	30.86845			

Parameter	Est. Value	Std. Error	F value	Pr > F
Intercept	6.92106	1.16601	35.23	<.0001
LN EFT	0.40934	0.10238	15.98	0.0001
LN SURFACE	0.22783	0.05754	15.68	0.0001
Average Professionalism Level – R&F EMPLOYEES	0.33827	0.14131	5.73	0.0184
LN HOUSEHOLD POPULATION - CORE ZONE	0.16214	0.03411	22.59	<.0001
LN HOUSEHOLD POPULATION - SWAP ZONE	0.12151	0.03504	12.02	0.0008
LN HOUSEHOLD WEALTH - MERCHANT ZONE	0.21987	0.12587	3.05	0.0835
LN HOUSEHOLD SIZE - MERCHANT ZONE	0.61028	0.28083	4.72	0.0320
ABSENTEEISM RATE	-0.35290	0.13093	7.26	0.0082

"Care – Self Service" sector

Variance Analysis					
Source	D.F.	S.S.	Quad. Mean	Valeur F	Pr > F
Model	6	26.01716	4.33619	139.74	<.0001
Error	107	3.32021	0.03103		
Total	113	29.33737			

Parameter	Est. Value	Std. Error	F value	Pr > F
Intercept	6.28148	1.18351	28.17	<.0001
LN SURFACE	0.36456	0.08026	20.63	<.0001
LN EFT	0.25451	0.07715	10.88	0.0013
Average Professionalism Level – R&F EMPLOYEES	0.24733	0.12138	4.15	0.0441
LN HOUSEHOLD POPULATION - CORE ZONE	0.16649	0.03528	22.27	<.0001
LN HOUSEHOLD POPULATION - SWAP ZONE	0.11530	0.03212	12.88	0.0005
LN HOUSEHOLD WEALTH - MERCHANT ZONE	0.33679	0.10535	10.22	0.0018

Despite the activity is low skilled, "Care-Self Service" sector performance still depends on professionalism. The effect is even strong (similar to what is observed for other self-service sectors) although not as strong as what is found for "Leisure-Sale" sector. However, it suggests that in addition to context variables (most notably the size and the wealth of the population), whatever the skills and abilities required by the activity, professionalism always matters and contribute per se to economic performance.

Concluding remarks on the role of internal markets

Internal labour markets are complex mechanisms which effects, as underlined in the literature, can be various: matching and selecting the workforce, regulating behaviours, developing skills and abilities. As sometimes the question was which effect is predominant, we found, in the context of a large firm of the retail industry, that all are effective.
The firm restricts entries to few positions and ranks where the workforce is tested and sorted. The firm operates here a drastic selection: those workers who comply with the firm demands and accept the binding working conditions (of the sector) are kept, the others quit or are dismissed. The internal labour market here is used for a kind of reciprocal matching device: the worker tests its ability to deal with the sector constraints; the firm tests its compliance to these constraints and if "he/she is meant for".

When that first step is cleared, the internal labour market plays a regulatory role. As working conditions could become tedious, especially because workforce is ageing and find more and more difficult to put up with low wages, long working hours and poor working/personal life balance, the ILM aims at maintaining workers' involvement high, notably by offering career perspectives and better wages. The firm we are studying is known to encourage long careers and offering both specific and general training programs. However, pressure is kept on employees as these opportunities are given only to those whose behaviour is exemplary.

At least, internal labour market keeps employees acquiring and developing their skills and abilities. As retail firms aim at providing middle range or even upmarket products and services (especially to face the concurrence of hard-discounter and specialized retailers), they expect from their rank-and-file employees, even those occupying low-skilled positions, to "lift off". They are urged to gain professionalism (update their knowledge on products and technologies, develop their know-how and their interpersonal skills) but also to become more autonomous, prompt to decide, especially to make possible a lighter (and less costly) managerial structure. That organizational evolution, as it requires highly skilled and reliable rank-and-file employees is devoted to the internal market.

Most of the literature on ILM puts under light these various functions and implicitly postulates that firm performance should be de facto enhanced. On the contrary we do not posit but show that the effect on performance, which is real, passes through two different ways. First, through behaviour regulation, internal labour markets contribute to reduce absenteeism and turnover we have proven to deteriorate performance. This effect can be explained by losses in know-how, product shortages, job vacancies and less attention dedicated to the customers. Second, through skills development, internal labour markets play a part in performance. That is true even for commercial sectors, which predominantly use low-skilled workers. The effect could be explained by better services and better (craft) products, and all in all by a higher customer satisfaction.

Appendix

Table n°5: Determinants of illness absences (4-years panel database: N=37840 cross-sections, offset=yearly working time)

Résultats estimés des				
Parameter	Valeur estimée	Erreur type	Valeur du test t	Approx. de Pr > |t|
Intercept	-3.246871	0.053653	-60.52	<.0001
Seniority	-0.004536	0.000472	-9.60	<.0001
Gender (Male)	-0.226727	0.010025	-22.62	<.0001
Rank 1	0.409238	0.028588	14.32	<.0001
Rank 2	0.334073	0.019415	17.21	<.0001
Rank 3	0.236503	0.018102	13.06	<.0001
Hypermarkets	-0.109461	0.031879	-3.43	0.0006
Supply chain	0.097914	0.037780	2.59	0.0096
North-France stores	0.026846	0.013064	2.05	0.0399
South-France stores	-0.042453	0.014107	-3.01	0.0026
East-France stores	0.120956	0.013960	8.66	<.0001
West-France stores	-0.067567	0.014650	-4.61	<.0001
Cashier	0.168544	0.015111	11.15	<.0001
Self-service Emp.	0.028106	0.015049	1.87	0.0618
Store Emp.	-0.094964	0.046506	-2.04	0.0412
Sales Emp.	0.055181	0.019051	2.90	0.0038
Size store <75M€	-0.105131	0.017342	-6.06	<.0001
Size store 75-110M€	-0.037782	0.015181	-2.49	0.0128
Size store 110-150M€	-0.033713	0.014635	-2.30	0.0212
Size store 150-200M€	-0.070624	0.014066	-5.02	<.0001
Level A	**0.167853**	0.052527	3.20	0.0014
Level B	**0.510672**	0.021896	23.32	<.0001
Level C	**0.283353**	0.021888	12.95	<.0001
Maternity Leave	0.171325	0.004146	41.32	<.0001
Days Hospital	0.016438	0.000505	32.56	<.0001
Days Unjustified Abs.	0.003944	0.000558	7.06	<.0001
Days Suspension	0.040387	0.005250	7.69	<.0001
PRESENCE	1.160830	0.040844	28.42	<.0001
_Alpha	1.238377	0.019945	62.09	<.0001
_Beta	28.401834	0.909322	31.23	<.0001

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