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BASIC WAGES AND FIRM CHARACTERISTICS:

RENT-SHARING IN FRENCH MANUFACTURING

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Basic wages and firm characteristics: Rent-sharing in French Manufacturing

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Abstract This paper shows that firm profits (and losses) are strongly related to individual hourly basic wages for most employees, as well as to the total earnings measures that have been used previously but are correlated with working time. Capital intensity is independently important without reducing the significance of profits as in other studies. Our estimated basic wage-profit elasticity of one to two percent in the presence of numerous individual and firm controls is of similar magnitude to the female collective bargain premium and the firm size-wage effect, and these effects are much smaller than previous estimates without firm-specific controls.

JEL classification: J3

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1.Introduction

Long after the pioneering observations of Slichter (1950) in the US, a number of recent papers have assembled impressive evidence relating persistent industry wage differentials to industry profitability and capital intensity, and thus cast increasingly strong doubt on the hypothesis of a perfectly competitive labour market. Blanchflower, Oswald and Sanfey (1996), henceforth (BOS), relate individual earnings to industry profitability, thus extending earlier work of Krueger and Summers (1987, 1988), Katz and Summers (1989), Carruth and Oswald (1989), Artus, Legendre and Morin (1991), Holmlund and Zetterberg (1991), and others, for various countries. Hildreth and Oswald (1997) and Klodt (2000) use panels of firm level earnings and profit data, and review the literature.

This work suggests that wages are systematically related to firms' ability to pay, or to measures of industry profitability. Direct survey evidence from managers also indicates that profitability or ability to pay is an important determinant of wage levels (Campbell and Kamlani, 1997; Klodt, 2000). By contrast, in the perfectly competitive model, wages should only depend on individual characteristics of workers and the nature of their tasks, (to allow for compensating differentials). Of course, collective or individual bargaining in the more realistic case where specific assets, mobility costs and other market imperfections generate firm rents naturally leads to rent–sharing, and hence to pay that depends on observed profits and other firm characteristics.

As BOS point out, another possibility is that adjustment costs in an otherwise competitive labour market could generate upward-sloping labour supply or temporary monopsony. Following a positive shock, employment expansion by a firm that

exceeds local labour supply may require wage increases to compensate for relocation or longer travel, thus generating a relationship between profits and pay, at least in the short run. The initial reaction to a positive shock, however, is usually an increase in working time and effort by existing workers, thus generating a spurious correlation between profits and earnings that is not considered by BOS. With their industry panel data, profits begin to rise as cost cutting measures take effect around the bottom of the cycle, and continue to improve as working hours, earnings including overtime at premium rates, and then employment all begin to increase in the subsequent upswing. The lagged effect of industry profits on total earnings measures found by BOS may thus be influenced by cyclical variation in effort and compensation that is distinct from rent sharing.

Writers on inter-industry wage differentials such as Katz and Summers (1989) have noted that capital intensity, profitability, wages and unionisation are all positively correlated at industry level. Capital intensity may indicate employee responsibility and on-the-job training[3] that is not captured by formal qualifications, and is thus a necessary variable to control for some kinds of human capital, as well as a likely indicator of efficiency wage-setting. In the later case, rent sharing serves to motivate workers and reduce monitoring costs, and so may also be (part of) the cause of the higher profits observed.

While we expect rent sharing to be enhanced by collective bargaining unless it is primarily motivated by fairness considerations or efficiency wage setting, BOS find much larger wage-profit elasticities in a sub-sample with low union density than in their highly unionised industries. This somewhat surprising result is difficult to explain in the absence of firm-specific controls. BOS use annual or average hourly total

[3] Ballot, Fakhfakh & Taymaz (2001) find evidence, from a panel of 100 large French firms, that training has a positive effect on wages.

earnings that may be affected by overtime pay at premium rates or bonuses and fringe benefits, and are thus likely to be correlated with the longer hours that are a common reaction to positive demand shocks. But higher earnings may then simply compensate workers for less leisure without raising their utility, and so should not really be classified as true rent sharing.

Matched individual and employer-firm panel data is used by Abowd *et al* (1999), and by Margolis and Salvanes (2001, henceforth MS). They use total annual earnings that vary with hours worked, instead of the hourly basic wages that provide a better measure of rent sharing, but they do include firm specific and time effects and their interactions to control for spurious correlation between hours, earnings and profits. However, this approach neglects the differing impact of demand shocks on different classes of employees. Thus production worker earnings are more likely to be affected by varying overtime. Time invariant "person effects" are identified by assuming that individual transitions between firms are exogenous, although job-change is primarily driven by matching and search considerations. The crucial distinction between displaced workers who generally suffer wage reductions (Nickell et al,2002), and voluntary moves to better matching positions, is not made. MS use French and Norwegian data and mention explicit profit sharing in Norway (p.21), but do not refer to the extensive mandatory and voluntary, explicit profit sharing schemes in France (Fakhfakh and Perotin, 2000), which appear to institutionalise rent sharing unless there are some compensating effects.

One possibility, noted above, is that firms simply impose higher effort or hours of work on rent sharing employees, so that worker *utility* is not increased. It is often argued that sharing, perhaps in conjunction with other organisational innovations such as team work (Ichniowski, et al, 1997), motivates more *effective* work, which

does not exclude increased job-satisfaction or utility gains as well. Indeed, explicit profit sharing is generally associated with substantially greater productivity, but there is much less information about associated job-satisfaction[4].

Bronars and Famulari (2001) relate equity returns to the "straight-time salary" of white- collar workers in large US firms. However they find *no* significant relationship between lagged accounting profits (operating income per worker), and salaries, when capital intensity is included as an additional control. Profits only become significant when capital intensity is dropped, probably due to multicollinearity with the profit variable. They ascribe earlier results in the literature with a positive wage-profit correlation to the omission of capital intensity in most previous work. MS do not include capital intensity, and when they instrument their current profit variable (operating income) to avoid the obvious endogeneity problem, they find that it loses significance for their French- but not for their Norwegian –sample.

Bronars and Famulari's (2001) equity return-results are not, however, necessarily evidence for rent sharing. They suggest that most white collar workers are on 35-40 hour weeks, but they neglect the fact that many skilled, salaried employees, particularly those in positions of responsibility, are expected to work longer hours (without the overtime payment customary for hourly paid, blue-collar workers), when the need arises, which of course may be rewarded in the long run with faster promotion or bonus payments. The need for extra work is likely to be more frequent in more successful firms with higher equity returns, and it is plausible that such firms also pay higher straight-time salaries to their (harder working) white collar workers who do *not* benefit from explicit overtime pay. However the data used by Bronars and

[4] Fakhfakh and Perotin (2000) find a 6-7% productivity gain from voluntary profit sharing (*interessement)* in French firms.

Famulari (2001) do not allow firm conclusions about hourly rates of pay. Higher salaries as compensation for extra work can thus generate a spurious correlation between pay and profitability however measured, or equity returns, that does not imply rent sharing.

Our main innovations here are as follows: we match the most appropriate hourly basic wage data, (as well as hourly earnings) for a large cross section of French workers, with numerous individual and employer characteristics. We find robust evidence of quasi-rent sharing for most classes of employees, including both blue collar (manual) and managers, and, surprisingly, no collective-bargaining agreement effects for males. However our wage-profit elasticity of 1-4% is less than the 8% found by BOS, after controlling for the many firm-level variables that could not be included in their specification. In contrast to previous work we also consider *loss sharing* as well, and argue that these results provide some additional evidence for rent-sharing. Since negative profits are necessarily a very short-term phenomenon, their strong negative effect on hourly basic wages, as well as earnings, suggests that affected workers are accepting a temporary reduction of quasi-rents in order to protect their jobs and future quasi-rents.

The plan of the present paper is to present some theoretical discussion in the next Section 2, and describe the data in Section 3. The empirical results are reported in Section 4, and conclusions summarised in section 5.

2.Theoretical background

As many authors have pointed out, quasi-rent sharing is a natural consequence

of bargaining between workers and employers, either collectively or individually, in the presence of firm specific rents. This of course contrasts with the traditional view of perfectly competitive markets, where workers (and other factors) are paid their marginal products and firms have no rents to share. While the existence of rents follows from the existence of specific assets, their magnitude and persistence will also depend on the strength and dynamics of competition. Substantial and enduring wage losses by displaced workers, particularly those with skills or seniority, suggest that specific human capital and rents are widespread (Nickell et al, 2002).

Mobility and adjustment costs, including informational imperfections, also imply that adjustment to shocks will not be instantaneous, even in highly competitive markets. In particular, firms which experience large positive demand shocks may need to raise wages for *all* employees to attract new workers away from alternative employment, and from more distant locations, in order to avoid disruption of established differentials, or endangering co-operation between new arrivals and the existing workforce. If this kind of temporary monopsony or upward- sloping labour supply is important, wages should depend on the recent rate of change of employment. This firm-growth- wage relationship has received relatively little attention, though Christev and FitzRoy (2000) find supporting evidence from Polish transformation, but it complements the well-known firm size-wage effect.

A much discussed issue in the rent sharing (and also firm-size) literature is the role of unobserved individual heterogeneity as an alternative explanation for rent sharing (and size-wage) effects. Do more profitable (or larger) firms tend to have better-matched or harder-working employees, who are paid more for their greater productivity than others with similar qualifications? In the long run it seems compelling that high-profit, high wage firms will have more-and better- job applicants

in any classification, and hence are able to hire 'better' workers according to perhaps subjective or informal criteria not included in the recorded data. But these workers should then generate still higher rents, and all the arguments for rent sharing summarised below still apply. In the short run, all firms are likely to impose extra work loads, including longer hours, on existing employees as an initial reaction before hiring new workers in the face of positive demand shocks.

The standard definition of quasi-rents as the difference between current and next-best alternative wages (Milgrom and Roberts, 1992, p.269), implicitly assumes equal working time and other conditions, because otherwise a higher wage could just be a compensating differential for worse conditions, that did not imply any utility gain from the current employment. Bargaining models with well-defined worker utility functions (of wages, effort and other conditions) generate a relationship between firm profit and utility (rather than just wages), but survey data on job- satisfaction or 'happiness' would be required to identify this relationship (Frey and Stutzer, 2001).

Even in the absence of bargaining, modern theories of fairness and reciprocity (Fehr and Schmidt, 1999), as well as various efficiency wage models, suggest that rent 'sharing' in terms of utilities might be optimal for profit maximising employers, particularly when motivation and specific skills are important. Without necessarily postulating generalised utility functions incorporating fairness considerations, sharing could still function as a group bonus, and with appropriate work organisation generate improved (but unobserved) co-operation, and hence profitability, as well as higher worker utility (FitzRoy, 2001; Ichniowski et al,1997).

The theoretical case for the existence of utility rent sharing of some kind thus seems to be rather compelling, as also is the case for unobserved individual heterogeneity that results from search to find optimal effort-income combinations and

working conditions. However, direct empirical confirmation must await detailed survey data on job satisfaction.

The strongest test of rent sharing with 'objective' data would come from hourly basic wages, that are uncontaminated by the overtime premium rates and other bonuses which affect average hourly earnings, and are thus less likely to reflect spurious correlation with longer working hours and positive shocks. Surprisingly, basic hourly rates do not seem to have been used in this context before, presumably because of data availability.

An important distinction that also seems to be missing in previous work on rent sharing is that positive profits and losses are likely to have different effects. Losses cannot persist or the firm will become bankrupt, so any effects of losses on hourly wages are unlikely to be due to changing composition of the workforce. Furthermore, wage cuts are generally resisted by collective bargainers unless firm survival is at stake, suggesting substantial welfare costs on the downside, due to liquidity constraints, so even a cross sectional association between firm losses and lower wages would indicate a temporary reduction in employee's *utility* in order to safeguard future rents. Since losses are frequently unpredictable, random events, such 'loss sharing' effects would provide additional evidence for the existence of utility rent sharing.

As usual, however, this evidence is not quite conclusive, even apart from the small number of loss making firms (about 30 in our sample), because labour hoarding is a likely initial response to negative shocks and losses of uncertain duration. Just as firms respond to positive shocks with overtime hours and harder work before new hiring, so is reduction of both working time and the pace of work the usual response to negative shocks, before more costly and more permanent downsizing of the workforce

takes place. When less effort is demanded, extra on-the–job leisure may compensate to some extent for the income loss. However, reduced hours and total earnings already require adjustment of consumption patterns in the presence of liquidity constraints, so that additional hourly wage cuts are most likely to reduce utility as well.

3.Data Description

Our data match individual with firm level observations by combining two large-scale French surveys. The first, conducted by the French Ministry of Labour, is the "Enquête sur le coût de la main d'œuvre et la structure des salaires en 1992» ECS92 (Survey on Employment structure and cost of labour). This consists first of a questionnaire at the establishment level (15 000 firms). The sample covers all industries and focuses on the structure of employment by skill, gender, qualification, working time, and other variables. It also provides information on the decomposition of wages from basic wages to different bonuses, on the presence of unions, collective bargaining agreements, the evolution of the firm's activity, etc.

The second, shorter questionnaire was addressed to a randomly selected sample of 150 000 employees working in the establishments covered by the first survey. Due to the number of individuals, only information on their skill level, tenure, experience, gender, origin and on their earnings was collected.

Unfortunately, the first data set includes no financial information. Because the aim of our paper is to study the effects of profits and other firm characteristics on wages, another data set is needed for this kind of information. This is provided by the EAE (Enquête annuelle d'entreprise conducted by INSEE), an annual, firm- level survey. These surveys are available for a number of years, which allows us to use several lagged profits, as well as different definitions of profit. To obtain the

theoretically correct measure of rent we should subtract the opportunity cost of capital from the appropriate measure of surplus or accounting profit plus interest payments. However the cost of capital varies widely across firms with imperfect credit markets, and we have no reliable proxy for this variable. Thus we follow previous studies and use operating income (per employee) as the variable least subject to managerial and accounting discretion, which is closely correlated with true rents using capital intensity as an independent control variable. We can also interpret capital intensity as a proxy for more specifically skilled work, and because high capital intensity may require more attention and care from employees, this variable may also act as a proxy for worker bargaining power or scope for efficiency wages.

To check the robustness of our results, we initially tried three different definitions of profitability : "Excédent brut d'exploitation" (operating income), "Résultat net comptable" (net profits) and gross profit. The three variables gave similar results, but we report estimates with the commonly used operating income. Our final sample, after merging these three surveys, covers around 1600 establishments with about 23000 employees. Due to the small number of firms in agriculture and service sectors, we decided to drop these so that our final sample covers only manufacturing industries. We thus lose most small firms, so that our sample is biased toward medium and large firms. The average firm size in the final sample is about 4000 employees.

In the original sample, union density (defined by a dummy for union presence at the establishment level) is about 24%, whereas it is around 75% in the selected sample. This variable will not be used in the empirical analysis for two reasons: the first is that an observed individual in a firm where there is a union presence is not necessarily a union member, and the second reason is that we have a more interesting

variable, which is the presence of a *firm-level* collective bargaining agreement on wages. Since such agreements apply to all workers at the establishment, whereas a unionised worker may benefit from some additional insider effect (such as union influence on some promotions), we use this agreement variable (AGREEM). About 15% of our firms are covered, and these (larger) firms employ 41% of the individuals in our sample. It should be noted that minimum wages (per occupation) are set by the *industry-level* bargaining that covers all the (large) firms in our sample, so we are estimating the additional effect of a supplementary firm agreement, rather than the usual union differential between collective and individual bargaining.

Wages are in FF per hour. We distinguish between basic wages and total earnings. As expected, the average hourly basic wage (71.80) is lower then hourly total earnings (90.27). The difference may include individual bonuses, bonuses related to group performance and those related to establishment or firm performance, such as mandatory French profit-sharing schemes (*participation).* We thus expect total earnings to be more affected by profits than basic wages. Furthermore, additional overtime hours following a positive demand shock will raise the *average* hourly earnings due to the overtime premium, but reduced leisure in this case may compensate for the extra income so that there is no gain in utility, as discussed above.

Turning to individual characteristics, we observe that individuals have labour market experience of 13.5 years on average, of which they have spent 9 years with their current employer. Employees are medium skilled on average, only 13% of them are graduates. Their working time schedule is mainly standard, with 31% of them having a special working time schedule. We will add these working time characteristics to control for some compensating wage differentials attributed to the difficulty and the unusualness of such schedules. A range of standard occupational classifications is

used, as well as firm size, industry classification, and location.

4.Empirical specification and Results.

Our basic wage or earnings equation takes the following simple form:

$$W = \beta_0 + \beta_1 AGREEM + \beta_2 (K/L) + \beta_3 OI + \beta_4 SIZE + \beta_5 X + \varepsilon \quad (1)$$

Here *W* is the log of the hourly basic wage (or hourly earnings), AGREEM is a dummy for the presence of a collective bargaining agreement in the firm, which supplements the industry level agreement on minimum occupational pay, and *K/L* is the log of the capital-labour ratio. While 2 and 3 year-lagged profits, with various definitions, have the strongest effect in unreported estimates, we reduce problems of endogeneity and obtain the best results with (the log of) average operating income (*OI*) over the 3 preceding years [5]. *SIZE* is a vector of firm-size dummies, and finally, *X* is a vector including a wide range of relevant individual characteristics such as educational qualifications, occupational classification, gender, race, experience, working time and also regional location, as well as industry classifications.

We tested alternative specifications using levels of profits with all other variables in logs, as in BOS, but only report results defining *OI* as the log of average operating income for the past 3 years (for the majority of firms with positive average operating income), or using both *OI*+ and *OI*-, defined respectively as the log of positive average operating income, and the log of the absolute value of negative average operating income (both for the 3 preceding years), which allows us to identify any asymmetric effects.

As appropriate for cross-sectional data, we checked first for heteroskedasticity and then for grouping effects (since several employees may belong to the same firm).

5 This is similar to the 3-year lag favoured by BOS

In most cases, a White test (for heteroskedasticity, see White 1980b) and a Hausman test (for grouping effects, see White 1980a) were significant. We then applied the estimation procedure suggested by White (1980a and 1980b) to correct for these effects.

Our first, model 1 is just the special case of our basic equation (1) without the variables *AGREEM* and *K/L,* reported in column 1 of the various Tables for comparison with previous work. Table 2 reports hourly earnings estimates for the whole sample (with a female dummy) and finds a highly significant profit elasticity of nearly 4%. Interestingly, the size effect peaks for the 1000-5000 employee range, and is much smaller than usually found. It is noteworthy that 76% of the hourly earnings variation is explained by this simple model, which is most unusual for a cross-section and nearly twice the 40% explanatory power of the panel estimates in MS.

Model 2 in the second column of the tables includes Agreement, which has a small effect of less than 1%, and capital intensity, which has a highly significant elasticity of 2.4%. Together they reduce the profit elasticity to 3%, but hardly affect its very high significance, in striking contrast to previous work such as Broras and Famulari (2001).

In model 3 we investigate the asymmetric effects of profits and losses, now including the 31 firms with negative operating income. The 4% response elasticity of hourly earnings to losses is substantially larger than the response of earnings to (positive) profits.

Although rent sharing might be expected to be most important for managerial employees, the differential impact across occupations does not seem to have been investigated before. Thus in model 4 we add interactions of *OI* with 5 occupational

classifications, and, surprisingly, find rather similar elasticities of about 2-3% for all, with manual workers actually showing the largest response.

In table 3 the same estimates for basic hourly wages are reported, and as expected, the profit elasticities are substantially smaller, though still highly significant. The next tables , 4-7, report similarly differing earnings and wage results for male and female samples separately. Profit (and capital intensity) effects are smaller for females in most cases (except for managers), but the most striking difference is that bargaining agreements have highly significant effects on female pay, but no significant influence on male earnings or wages.[6]

As a final robustness test, we report a somewhat different approach in the last Table 8. With several individuals in each firm in our sample, we can control for firm-specific effects. While severe multicolinearity problems arise with too many firm dummies, we obtain satisfactory results after eliminating all dummies with absolute t-values of less than 0.9, and also dropping all firm variables except capital intensity and OI. Results for earnings and wages in the total sample in Table 8 show these variables remaining highly significant, with coefficients similar to those in Tables 2 and 3. In unreported regressions we find that the size of the firm specific effect is related to capital intensity and (for basic wages) to profitability.

Since firm- though not individual- variables are available for various years we test the hypothesis of temporary monopsony or upward sloping labour supply by including positive and negative employment growth over the four preceding years as

[6] In previous work on collective bargaining and wages in France, Arai, Ballot and Skalli (1996) estimate small effects of firm level bargains on wages when bargaining includes employment and other issues as well as wages, but, strangely, no effect of pure wage bargaining. They do not separate male and female samples, and do not use firm financial data. In a descriptive analysis, Laulhé and Folquès (1997) found small wage increases in firms with agreements.

separate variables in unreported regressions. Somewhat surprisingly and in contrast to Klodt(2000), positive growth is negatively and significantly related to wages and earnings[7], while the negative growth variable was insignificant. Other results were unchanged. A possible explanation might be that adjustment costs of employment growth at least temporarily reduce individual productivity and pay;

The robustness of the rent sharing results for both wages and earnings in all of the numerous specifications we have tested (both reported and unreported) is remarkable. So also is the explanatory power of our cross-sectional estimates as shown by the R-squared ranging from 0.84 to 0.7. While both mandatory and voluntary, formal profit sharing schemes in France (*participation* and *intéressement*) have been extensively studied[8], our results here indicate that even basic wages for manual workers are strongly influenced by firm rents, and indeed for males, much more strongly than by a collective bargaining agreement in the firm.

To obtain a rough idea of the magnitudes involved, we used estimated coefficients to calculate the addition to earnings and wages imputable to average OS, holding other variables at their mean values. The effect on wages is about 3%, similar to the average share of formal profit sharing schemes (*participation, intéressement*), so we find a total profit-related share of earnings of about 7%.

5.Conclusions.

We have presented what is to our knowledge the first study of individual basic hourly wage dependence on properly matched firm profits and other characteristics in a large cross-section of French manufacturing workers. The results

7 Bronars and Famulari (2001) also report a negative relation between employment change and earnings,though they do not distinguish between positive and negative changes.

8 See Fakhfakh and Perotin(2000), and Vaughan-Whitehead (1992), for example.

provide strong confirmation of at least pecuniary rent-sharing for basic wages (as well as the expected result for total hourly earnings), though elasticities are much smaller than previous estimates. This appears to be because we control for the capital intensity, and firm size effects which are at least as large, but have not been included in previous work using industry data. These effects are difficult to reconcile with any model of perfectly competitive labour markets, and suggest that 'implicit profit- or rent-sharing', in addition to the explicit profit sharing schemes which are mandatory in larger French firms, is part of the process of setting basic wages. Since minimum wages (per occupation) are bargained at industry-level, and firm-level agreements only seem to benefit female workers, we can conclude that firms appear to share rents with manual workers (and other classifications) independently of union influence. The surprising strength of manual worker- compared to managerial-sharing reinforces the evidence from loss sharing to provide a fairly strong, though of course not conclusive indication of true, utility rent sharing.

Some puzzles remain. The firm size-wage effect, though smaller than in most other wage estimates, remains statistically highly significant, with the highest wages in the middle range of firm sizes, rather than the largest. The direct effect of union agreements is surprisingly small for males in particular. Panel studies to explore the dynamics of employment and wage change remain a priority for the future.

References

Abowd, J., F. Kramarz and D. Margolis, 1999, "High wage workers and high wage firms", Econometrica, March, 67 (2), 251-333.

Arai, M., G. Ballot, & A. Skalli, 1996, "Différentiels intersectoriels de salaires et characteristiques des employeurs en France", *Economie et Statistique,* 299, 37-57.

Artus, P., F Legendre & P. Morin, 1991, Le partage implicite des propfits et ses effets sur la productivité , *Annales d'Economie et de Statistiques*, 22, pp 33-57.

Ballot, G. F., F. Fakhfakh & E. Taymaz, 2001, "Who benefits from training and R&D? The firm or the workers? A study on panels of French and Swedish firms" Working paper, ERMES.

Blanchflower , D. G., A. J. Oswald & P. Sanfey, 1996, "Wages, Profits and Rent-Sharing", *Quarterly Journal of Economics*, 111, pp227-251.

Bronars, S. G. and M. Famulari, 2001, "Sharholder Wealth and Wages: Evidence for White-Collar Workers", *Journal of Political Economy,* 109, pp. 329-54.

Cambell III, C. M. and K. S. Kamlani, 1997, "The Reasons for Wage Rigidity: Evidence from a Survey of Firms", *Quarterly Journal of Economics,* 112, pp.759-89.

Carruth, A. A., and A. J. Oswald, 1989, *Pay Determination and Industrial Prosperity,* Oxford University Press.

Christev, A., & F. R. FitzRoy, 2000, "Employment and Wage Adjustment: Insider-Outsider Control in a Polish Privatization Panel Study", Dept. of Economics, University of St. Andrews Discussion Paper Nr. 0003, forthcoming in *J. of Comparative Economics.*

Fakhfakh, F., & V. Perotin, 2000, "The effects of Profit-sharing Schemes on Enterprise Performance in France", *Economic Analysis*, 93-112.

Fehr, E. and K. M. Schmidt, 1999, "A Theory of Fairness, Competition and Cooperation", *Quarterly Journal of Economics,* 114, pp. 817-68.

FitzRoy, F. R., 2001, "Incentives, Cooperation, and Multiple Equilibria in the Firm",
DP 0106, Dept. of Economics, University of St.Andrews.

Frey, B.S. and A. Stutzer, 2001, *Happiness and Economics: How the Economy and Institutions Affect Human Well-Being,* Princeton University Press.

Hildreth, A. K. G., and A. J. Oswald, 1997, "Rent Sharing and Wages:

Evidence from Company and Establishment Panels", *Journal of Labour Economics,* 15, pp. 318-37.

Holmlund, B., & J. Zetterberg, 1991, "Insider Effects in Wage Determination : Evidence from Five Countries", 1991, *European Economic Review*, 1009-34.

Ichniowski, C., Shaw, K., Prennushi, G., 1997, "The Effects of Human Resource Management Practices on Productivity: A Study of Steel Finishing Lines", *American Economic Review*, 87, 3, 291-313.

Katz, L. F. & L. H. Summers, 1989, "Industry Rents : evidence and implications", *Brookings Papers on Economic Activity*, (Microeconomics), 209-75.

Klodt, T., 2000, *Produktmaerkte, Rent Sharing, und Lohnhoehe,* Frankfurt/New York: Campus.

Krueger, A. B & L. H. Summers, 1987, "Reflections on the Inter-Industry wage structure", In K. Lang and J. Leonard, *Unemployment and the structure of the Labour market*, (Oxford, UK : Basil Blackwell, 1987.

Krueger, A. B. & L. H. Summers, 1988, "Efficiency wages and the inter-industry wage differential", *Econometrica*, LVI (1988), 259-93.

Laulhé, P. and D. Folquès, 1997, "Les salaires et la négociation salariale dans le secteur privé et semi-publique a la mi-1995", 1997, *Travail et Emploi*, 65, 74-78.

Margolis, D. N. and K. G. Salvanes, Do Firms Really Share rents with their Workers", IZA DP No.330, Bonn, July 2001.

Nickell, S., P. Jones and G. Quintini, 2002, "A picture of job insecurity facing British men", The Economic Journal, 112, 1-27.

Slichter, S., 1950, "Notes on the Structure of Wages", *Review of Economics and Statistics,* 32, 80-91.

Vaughan-Whitehead, D., 1992, *Interéssement, Participation , Actionnariat,* Paris, Economica.

White, H., 1980a, "Non linear regression on cross-section data", *Econometrica*, 48 (April), 721-46.

White, H., 1980b, "A heteroskedasticity consistent covariance matrix estimator and a direct test for heteroskedasticity", *Econometrica*, 48 (May), 817-38.

Table 1 : Descriptive Statistics

Variable	Mean	Variable	Mean
Operating Income per emp 1000 FF.	78.63	Female	0.277
Net Profit per emp. 1000 FF	20.68	Living in PARIS	18.3 %
Gross Profit per emp. 1000 FF	63.78	% Unskilled Manual Workers	8.01
Labour	3972	% Specialised manual workers	12.28
Capital Intensity 1000 FF	716.195	% Qualified manual workers	16.63
Hourly basic wage FF	71.80	% Unskilled clerical	2.13
Hourly Earnings FF	90.27	% Skilled clerical	2.85
Experience	13.46	% very skilled clerical	4.78
Tenure	9	Administrative Monitor %	3.75
Size < 200 emp	5.41%	% Manual's Monitor	5.80
Size 200-1000 emp	32.03	% Technician Level 1	7.64
Size 1000-5000 emp	38.88	% Technician Level 2	5.14
Size over 5000 (ref)	23.68	Starting Skilled (managers) %	5.32
Education (%)		% Skilled (managers)	4.29
Secondary	8.84	% Top administrative	1.95
Short technical	33.32	Number of empl. per firm	%
Advanced technical	9.11	1 to 3	19.05
General graduate	4.92	4 to 10	23.17
Professional graduate	5.55	11 to 30	35.52

Post Graduate %	2.84	31 to 80	18.29
Unskilled (ref)		+80	3.96

Note : about 1550 firms and 23000 employees (depending on missing values).

Table 2 : Total hourly earning (Total sample, Log average OS over 3 years)

	Model 1	Model 2	Model 3	Model 4
Intercept	3.703 (327.54)	3.595 (244.34)	3.582 (244.06)	3.584 (240.48)
Agreement		0.008 (2.85)	0.007 (2.76)	0.008 (3.10)
Capital Int.		0.024 (11.37)	0.027 (12.93)	0.023 (11.87)
OI : Op Inc.	0.039 (23.25)	0.030 (18.14)		
+ OI			0.026 (16.42)	
-OI			-0.038 (-14.18)	
OI*Manual				0.033 (16.80)
OI*Clerical				0.021 (4.19)
OI*Superv.				0.022 (4.52)
OI*Tech				0.018 (4.28)
OI*Manage				0.027 (4.86)
Female	-0.093 (-27.46)	-0.095 (-27.97)	-0.096 (-29.01)	-0.095 (-27.85)
Size<200	-0.055 (-8.32)	-0.033 (-4.88)	-0.036 (-5.42)	-0.034 (-5.12)
Size 200-1000	-0.007 (-1.71)	0.004 (1.01)	0.005 (1.20)	0.004 (1.06)
Size 1000-5000	0.021 (5.26)	0.033 (8.40)	0.028 (7.26)	0.031 (7.78)
R2	0.773	0.771	0.772	0.773
N. employed	15702	15702	16756	15702

The following variables are included in all the models (and in the following tables) : tenure, tenure squared, experience, experience squared, african origin, 9 working time regime dummies, regional dummies, industry affiliation dummies, marital, education and occupation.
All estimation uses two Weighted Least Squares to correct for Heteroskedasticity (White 1980b) and for group effects (White 1980a).

Table 3 Hourly base wage (Total sample, Log average OS over 3 years)

	Model 1	Model 2	Model 3	Model 4
Intercept	3.566 (349.42)	3.532 (278.26)	3.529 (277.98)	3.530 (273.74)
Agreement		0.003 (1.27)	0.001 (0.59)	0.004 (1.66)
Capital Int.		0.010 (5.63)	0.011 (5.84)	0.010 (5.80)
OI : Op Inc.	0.019 (12.20)	0.014 (9.31)		
+ OI			0.013 (8.08)	
-OI			-0.023 (-9.06)	
OI*Manual				0.015 (8.00)
OI*Clerical				0.014 (3.10)
OI*Superv.				0.015 (3.21)
OI*Tech				0.001 (0.38)
OI*Manage				0.025 (4.57)
Female	-0.060 (-19.89)	-0.062 (-20.41)	-0.061 (-20.72)	-0.062 (-20.39)
Size<200	-0.018 (-3.07)	-0.006 (-0.97)	-0.006 (-0.92)	-0.005 (-0.77)
Size 200-1000	0.015 (2.87)	0.019 (4.02)	0.019 (5.05)	0.018 (4.70)
Size 1000-5000	0.011 (2.14)	0.016 (4.50)	0.016 (4.84)	0.015 (4.33)
R2	0.802	0.804	0.805	0.805
N. employed	15702	15702	16756	15702

Table 4 Total hourly earning (Male sample)

	Model 1	Model 2	Model 3	Model 4
Intercept	3.693 (277.83)	3.574 (198.36)	3.561 (200.96)	3.560 (197.16)
Agreement		-0.002 (0.51)	0.001 0.03)	-0.002 (-0.52)
Capital Int.		0.026 (9.70)	0.030 (11.53)	0.026 (10.44)
OI : Op Inc.	0.042 (21.09)	0.033 (16.85)		
+ OI			0.029 (15.47)	
-OI			-0.043 (-13.98)	
OI*Manual				0.036 (15.78)
OI*Clerical				0.026
OI*Superv.				0.028
OI*Tech				0.017
OI*Manage				0.024
Size<200	-0.043 (-5.82)	-0.015 (-1.92)	-0.021 (-2.90)	-0.017 (-2.25)
Size 200-1000	-0.002 (-0.35)	0.013 (2.67)	0.011 (2.32)	0.012 (2.39)
Size 1000-5000	0.026	0.040	0.032 (7.34)	0.037
R2	0.772	0.768	0.765	0.771
N. employed	11402	11402	12207	11402

Table 5 Hourly basic wage (Male sample)

	Model 1	Model 2	Model 3	Model 4
Intercept	3.568 (297.71)	3.525 (228.25)	3.519 (229.62)	3.520 (229.12)
Agreement		-0.000 (-0.13)	-0.002 (-0.54)	0.000
Capital Int.		0.011 (4.64)	0.012 (5.13)	0.011 (5.13)
OI : Op Inc.	0.018 (0.52)	0.013 (7.38)		
+ OI			0.012 (7.07)	
-OI			-0.022 (-7.70)	
OI*Manual				0.014 (7.01)
OI*Clerical				0.018 (2.19)
OI*Superv.				0.017 (3.39)
OI*Tech				-0.001 (-0.33)
OI*Manage				0.023 (3.80)
Size<200	-0.010 (-1.39)	0.005 (0.67)	0.005 (0.66)	0.006 (0.94)
Size 200-1000	0.022 (5.00)	0.027 (6.14)	0.027 (6.20)	0.027 (5.94)
Size 1000-5000	0.017 (4.23)	0.022 (5.54)	0.02344	0.021 (5.22)
R2	0.812	0.814	0.814	0.817
N. Employed	11402	11402	12207	11402

Table 6 Total hourly earning (Female sample)

	Model 1	Model 2	Model 3	Model 4
Intercept	3.669 (206.20)	3.601 (180.44)	3.594 (178.07)	3.598 (166.84)
Agreement		0.033 (8.09)	0.030 (7.52)	0.036 (8.86)
Capital Int.		0.017 (6.60)	0.019 (7.18)	0.016 (6.78)
OI : Op Inc.	0.027 (10.33)	0.019 (7.21)		
+ OI			0.016 (6.28)	
-OI			-0.017 (-3.68)	
OI*Manual				0.020 (5.81)
OI*Clerical				0.014 (3.74)
OI*Superv.				0.012 (1.40)
OI*Tech				0.012 (1.26)
OI*Manage				0.050 (3.80)
Size<200	-0.100 (-9.43)	-0.083 (-8.24)	-0.086 (-8.27)	-0.078 (-7.74)
Size 200-1000	-0.040 (-5.37)	-0.034 (-4.80)	-0.031 (-4.54)	-0.034 (-4.63)
Size 1000-5000	-0.018 (-2.48)	-0.010 (-1.46)	-0.010 (-1.56)	-0.009 (-1.31)
R2	0.775	0.777	0.780	0.783
N. employed	4300	4300	4549	4300

Table 7 : Hourly basic wage (Female sample)

	Model 1	Model 2	Model 3	Model 4
Intercept	3.544 (220.66)	3.539 (199.29)	3.535 (200.08)	3.519 (179.46)
Agreement		0.006 (1.70)	0.006 (1.63)	0.011 (3.07)
Capital Int.		0.005 (2.46)	0.006 (2.84)	0.006 (3.08)
OI : Op Inc.	0.020 (8.31)	0.017 (7.09)		
+ OI			0.014 (6.20)	
- OI			-0.026 (-5.89)	
OI*Manual				0.018 (5.70)
OI*Clerical				0.008 (1.81)
OI*Superv.				0.009 (1.08)
OI*Tech				0.006 (0.60)
OI*Manage				0.057 (4.43)
Size<200	-0.052 (-5.46)	-0.045 (-4.82)	-0.045 (-4.85)	-0.042 (-4.40)
Size 200-1000	-0.029 (-4.04)	-0.021 (-3.24)	-0.021 (-3.36)	-0.022
Size 1000-5000	-0.027 (-3.95)	-0.021 (-3.29)	-0.022 (-3.53)	-0.020 (-2.99)
R2	0.810	0.811	0.820	0.808

Table 8 : Total Sample with firm specific effect

	Total Hourly Earning	Hourly Basic Wage		
Variable				
Intercept	3.320 (204.37)	3.317 (213.70)	3.499 200.21)	3.475 (212.43)
Capital Intensity	0.071 (24.67)	0.073 (25.99)	0.020 (6.16)	0.026 (8.76)
OI	0.021 (0.66)		0.013 (5.68)	
OI+		0.018 (0.20)		0.008 (3.68)
OI-		-0.089 (-20.54)		-0.059 (-14.01)
Female	-0.082 (-30.26)	-0.084 (-30.89)	-0.058 (-22.24)	-0.057 (-22.04)
R2	0,844	0,849	0.841	0.845
N. Indiv	15367	15989		
N. Param N. Firms N. Empl.	421 637 15367	422 656 15989		