



TI 2000-13/3  
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# Wages and the bargaining regime in a corporatist setting: The Netherlands

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December 1999

## **Abstract**

In a corporatist country like the Netherlands, wages should not be distinguished by union membership status, but by bargaining regime. Acknowledging the firms' bargaining regime, we find small differences between four regimes and certainly no distinction between "covered" and "uncovered" firms.

keywords: wages; collective bargaining  
JEL code: J31, J51

\*This paper has evolved from earlier drafts presented at workshops at Leiden (Aldi Hagedaars Memorial Conference), Amsterdam (Tinbergen Institute), Madrid (CEMFI), Nagoya University, Kansai Research Center (Osaka), Arhus (EALE Meetings) and forms part of a research project on wage formation and corporatism. An earlier version appeared as Discussion Paper no 88 at the Economic Research Center, School of Economics, Nagoya University. Teulings was supported by a fellowship from the Royal Netherlands Academy of Sciences (KNAW). At the time of the research, Leuven was associated with OECD. The views expressed here are those of the authors and should not be interpreted as reflecting the views of KNAW or OECD. We thank all seminar participants for their comments.

## 1. INTRODUCTION

An econometric analysis of the effect of collective bargaining on wages should acknowledge the institutional structure of the bargaining process. In continental Europe, bargaining regimes cannot be characterised by union membership status of the individual worker. In the Netherlands the union membership rate is 25%, while collective bargaining covers 72% of the labour force. Such a situation is typical. For example, Germany has 35% union density and 90% coverage. In these markets, bargaining is not restricted to company level. Industry level bargaining is quite important, and agreements are often extended by law or custom to firms not represented at the bargaining table. Agreed wages are not confined to union members, but equally apply to other workers. This is different from the United States, where bargaining regime and union status virtually coincide. While there is a large literature on the union wage mark-up in the United States<sup>1</sup>, and a smaller literature for the similar institutional setting of Canada<sup>2</sup>, not much is known about wage differentials by bargaining regime in Europe.<sup>3</sup>

In this paper we analyse wage differentiation within the Dutch institutional structure. With respect to the coverage of firms by collective bargaining, we should distinguish between four regimes: company and industry level bargaining, mandatory extension of an industry agreement and no collective bargaining. If the firm is covered by a collective agreement, not all its employees are necessarily covered. Thus, within firms, we have to distinguish between workers who are covered and workers who are not.

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<sup>1</sup>See e.g the survey in Pencavel (1991).

<sup>2</sup>See Robinson and Tomes (1984).

<sup>3</sup>Blanchflower and Freeman (1992) report on wage differentials between union members and non-members in Austria and Germany, but this is inappropriate as membership status cuts right across bargaining regimes. Van den Berg (1995, p 124) reports that wage differentials between union members and non-members in the Netherlands are negligible. Applying Lee's model with endogenous switching even produced bizarre results (Van den Berg and Groot, 1992). Barth, Naylor and Raaum (1994) study wage effects in Norway for firm level bargaining on top of national bargaining. Dell'Aringa and Lucifora (1993) do the same for Italy, but focus on wage dispersion rather than levels. For the United Kingdom, there is an excellent study that acknowledges the rich variety in bargaining structures (Stewart, 1987). An international comparison of institutional features is given in Hartog and Theeuwes (1993).

There is little theory to guide us on expected wage effects in an institutional environment like the Dutch. Standard theory on unionisation effects would lead us to anticipate lower wages in firms not covered by collective bargaining. A thoughtless application would also suggest lower wages for uncovered workers in covered firms. Calmfors and Driffill (1988) analyse wage effects in environments that have bargaining either exclusively at the firm level, or at the industry level, or at the national level, and predict wages to be highest under industry bargaining. But here we have to deal with a system where several bargaining regimes coexist. The Dutch case is in fact a good example of a European corporatist labour market and apart from Teulings and Hartog (1998), there are no detailed analyses of such systems.<sup>4</sup> Teulings and Hartog argue that corporatism is an integrated institutional framework in which unions are not driven by the aggressive local rent sharing that characterises unions in a decentralised setting and that it reduces non-competitive wage differentials.

This paper tries to assess the magnitudes of wage differentials under corporatist labour relations, following the divides of the precise institutional structure. At the outset, we should point to inevitable modesty on the *causal* effect of the bargaining regime. We only have a single cross-section dataset, so we cannot allow for individual or firm fixed effects by using repeated observations. With respect to selectivity on the firm side we will argue that this is unlikely to be important given the historical background of present day arrangements. We will therefore take firm coverage as a point of reference in our analysis of wage differentials in order to minimize problems related to selectivity at the workers' side.

Section 2 of this paper specifies institutions, section 3 the data, and section 4 and 5 give estimation results, section 6 concludes.

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<sup>4</sup> Most of the analyses of corporatism so far have a macro-economic orientation. Full references to the debate are given in Teulings and Hartog (1998), Chapter 1. The state of the debate on the Calmfors and Driffill hypothesis is summarised in OECD (1998).

## 2. THE DUTCH INSTITUTIONAL SETTING

By law, a collective agreement is binding for all workers in a firm, not just for the members of the union signing the agreement. Also by law, the Minister of Social Affairs can extend an agreement to an entire industry. In practice, this is done for industry agreements where at least 55 per cent of the workers is employed by firms directly bound by the agreement. Extension requires that at least one party that signed the agreement requests it. In practice, all industry contracts are extended. Whether a contract is extended or not is usually not related to the wage level but to other terms of the contract.<sup>5</sup> Only in retail trade and wholesale, there are so many firms and their size is so small that it is difficult to satisfy the requirement that a substantial majority of the workers be bound directly. Instead, joint public bodies (PBO's) of employers and trade unions have been installed by law in most of these branches. Negotiations on industry agreements take place within these bodies, which then have the legal right to extend the agreements to the whole industry without interference of the Ministry. These agreements are called *rulings*. The character of rulings differs from usual industry contracts in the sense that they are really imposed upon the firms in the branch.

This institutional setting yields four relevant bargaining regimes in the private sector. First, a company can negotiate its own collective agreement with one or more unions. Second, a company can be part of an industry agreement. Third, it can be roped in by extension of an industry agreement (or be covered by a ruling). Finally, a firm can be uncovered by any collective bargaining at all. When the firm is bound by a collective contract, not all its employees are necessarily covered. The agreement itself defines coverage. Top level management is always excluded. Other categories of workers may also be excluded. Mostly, these are low-paid workers in non-core activities: cleaning, catering, doormen. Below, we refer to these workers as marginal workers. The formal rules for exclusion are not clear and we have no good information on exclusion practices.

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<sup>5</sup>For example, the agreement may include a pension system that does not suit the firm.

Bargaining regimes are not isolated, they are all embedded in a corporatist web. Most unions belong to one of three federations that have a seat in the Foundation of Labour, a private institution where trade union and employer federations meet and consult, give joint recommendations to their member organisations on wage setting, training, and employment policies. Sometimes a Central Agreement has been negotiated in the Foundation of Labour. There is no strong legal basis for the system of labour relations (e.g. no union representation rules, no compulsory collective bargaining). With a weak legal basis and low union density, union federations have managed to become key players in a system with extensive formal and informal co-ordination in a typical corporatist structure. Further details on the operation of the system are given in Teulings and Hartog (1998).

### **3. THE DATA**

Our data have been supplied by a government agency that monitors wage policies and the implementation of collective agreements.<sup>6</sup> The agency extracts the data from private sector company records, guaranteeing that wages are measured precisely and are based on straight definitions. A stratified sample of firms is drawn, with large firms being overrepresented. Within each firm, a random sample of workers is drawn, where the sampling probability depends negatively on firm size to compensate for the overrepresentation of large firms in the first stage. We can identify the workers that belong to the same firm, which enables us to separate between individual and firm effects. Our dependent variable is the gross hourly wage, excluding compensation for overtime, shift work and working conditions (in many wage systems, notably for blue-collar work, there is explicit compensation for 'inconveniences', such as hazards, dirt, smoke, etc.). The most serious shortcoming of the dataset is the omission of tenure. All we know is whether a worker has been hired recently, as an 'entrant', or has been with the firm for a longer period. Otherwise, it is a dataset of excellent quality. The observations refer to the year 1991.

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<sup>6</sup> Dienst Arbeidsvoorwaarden, Ministerie van Sociale Zaken en Werkgelegenheid. We are most grateful for getting these data.

The character of the bargaining regimes is not always unequivocal. As noted, mandatory extension includes "rulings", and in fact the largest subset here is firms under rulings in retail trade. Bargaining areas under industry contracts do not coincide with industries as defined in the Standard Classification of Industries (SCI) for general statistical purposes. An industry agreement may indeed have a wide coverage, but it may also be restricted to a sector within an industry. Some care should be taken when interpreting the difference between 'mandatory extension' and 'industry agreement', as many extended agreements are classified in the latter category. Formally, the criterion for classification is whether the firm that is covered by the extended agreement is member of the relevant employer organisation. We are not sure that this is done properly in all cases. For example, nearly all firms in the construction industry are categorised as having an 'industry agreement', while extension is certainly relevant there.

[INSERT TABLE 1 AROUND HERE]

The data are characterised in Table 1. Experience is measured as potential experience (age minus schooling minus 6), education is given in years beyond basic schooling, hours worked are measured per week, firm size is measured by work force. By far the majority of the workers is covered by an industry agreement. In firms covered by industry or firm agreement, the share of workers actually covered is quite high, but in the mandatory extension segment it is low. Among the bargaining regimes, the company bargaining regime is special. It has the highest average wage, the highest worker experience, education, weekly hours worked and firm size and the lowest proportion of women and entrants. The no-bargaining regime does not markedly stand apart in terms of our variables. The data seem to suggest that it contains rather new industries, where workers have high education and relatively low experience.

To characterise the firm, we use firm size and industry affiliation. If these variables would correlate strongly with bargaining regime, we could not disentangle their contributions. Firm sizes are widely dispersed within each regime and the distributions for industry bargaining, firm bargaining and no



bargaining strongly overlap. Only the distribution for the firm bargaining regime is shifted markedly to the right, but even here we observe a substantial overlap.

The industry agreement is almost the exclusive agreement in a number of SCI industries (printing, some metal and electrical engineering, construction and health care). But in the other industries there is no exclusivity of a single regime. With dummies for the 31 SCI industries that we have in our data and with the dispersion of firm size within bargaining regimes are able to disentangle the bargaining regime effect from these two firm characteristics.

The particular bargaining regime of a firm is in itself subject to bargaining: a union can propose bargaining to a firm (and the firm may refuse), both the firm and the union can propose a regime switch. The firm may want to cut wages, the union may want to boost them. Indeed, occasionally a firm or a union manages to move to another regime, but this rarely happens. One might presume firms in some sector to be uncovered because the size of the rents that might be seized is too low relative to the cost of organising the bargaining. Similarly, one might presume a union to single out a firm for a separate agreement if the rent is higher than average in the sector. However, as we argued elsewhere (Teulings and Hartog, 1998), in the Dutch system, unions do not operate as aggressive local rent seekers. They are part of a corporatist structure that provides a wealth of countervailing incentives to discourage this type of behaviour. Bargaining regime affiliations are highly stable, and have mostly been determined by historical incidents. We conclude therefore that selectivity on the firm side is unlikely to pose a major problem for our analysis.

The remaining problem is one of unobserved heterogeneity in workers within firms. One of the main sources of selection bias is high skilled workers not being covered, thereby underestimating the union differential (Robinson, 1989). Unfortunately we are not able to control for individual fixed effects since we only observe one cross-section and are unable to use regime switchers as a source of identification.

However, selectivity on individual effects will be eliminated with our data by not taking individual coverage but firm coverage as the point of reference. By defining coverage at firm level we evade the within-firm selectivity problem.

#### **4. COMPARING FIRM BARGAINING REGIMES**

Table 2 reports the separate intercepts for the firm's bargaining regime from a pooled wage regression. The wage equation contains standard human capital variables like (potential) experience, education and gender. The dependent variable is the log hourly gross wage rate. For experience we use a third-degree polynomial, following Murphy and Welch (1990). As Table 2 shows, the differences in wage level between the bargaining regimes are no larger than 5 per cent. The hypothesis that the industry and firm agreement yield the same wage rate cannot be rejected at standard levels of statistical significance. The same holds for the mandatory extension and the no-agreement regime.

[INSERT TABLE 2 AROUND HERE]

Table 3 presents wage regressions for each company bargaining regime separately. The wage experience profiles are highly parallel (as a graph will immediately show). The firm bargaining regime generates a 2 per cent higher return for each year of schooling than the other bargaining regimes, where they are just over 9 per cent. With respect to entrants, there is a demarcation between industry/firm and extension/none. The hours effect stands out in the firm agreement, just as the education effect. The differences in firm size elasticities imply that the ranking of wage levels by bargaining regime depends on firm size<sup>7</sup>. The wage-size curves for the three types of collective agreements cross at a firm size just over 300 employees. For all firm sizes larger than the average size in the firm bargaining regime (380 employees), the firm bargaining regime generates the highest wages. At the mean firm size for firms

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<sup>7</sup> Brown and Medoff (1989) indicate an elasticity of establishment size in the United States of about 0.03, Teulings and Hartog (1998) report about .01 to .02 for Northern and continental European countries. The bigger value for the USA, where firm bargaining dominates, is mirrored in a higher elasticity for firm bargaining than for industry bargaining.

under industry bargaining, industry bargaining leads to the highest wages. Mandatory extension and no-agreement firms, evaluated at their mean firm sizes, occupy intermediary positions for their wage levels.

[INSERT TABLE 3 AROUND HERE]

Table 3 shows that the wage structure in the uncovered sector does not come out as markedly different from the bargaining sector. The only outstanding effect is the gender gap; this is a commonly found effect of collective bargaining (Teulings and Hartog, 1998; Blau and Kahn, 1996) The regime that really stands apart is firm bargaining where we find the largest differences in coefficients compared to the other regimes. The firm bargaining regime is more idiosyncratic than the no-bargaining regime.

[INSERT TABLE 4 AROUND HERE]

The wholesale trade industry is exceptional, because it is the only sector in which a no-contract regime exists next to industry agreements<sup>8</sup>. This allows us to analyse the effect of collective bargaining directly. The results are given in Table 4. The effect of the bargaining regime is again small. An industry agreement yields 1.5 per cent higher wages, mandatory extension now leads to the highest wages, 4 per cent above the uncovered sector. However, this segment is small, as most extended contracts are classified as 'industry agreements'. For firm agreements, the number of observations is too small to allow reliable judgement.

[INSERT TABLE 5 AROUND HERE]

Our data allow us to identify individuals working at the same firm. This feature makes it possible to decompose the error term in a firm specific component and an individual component. Table 5 presents

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<sup>8</sup> There are some other industries where multiple bargaining regimes are observed but there the uncovered sector

figures for all workers and for subgroups in wholesale trade. From the last two lines we conclude that the intra-industry/between-firm dispersion of log wages is substantially smaller under industry agreements. Industry bargaining seems therefore to act indeed as equalisation device for the bargaining position of workers in different firms. This conclusion is consistent with cross-country evidence, see Teulings (1999). The results counter the argument of Blau and Kahn (1996) that collective bargaining equalises on observable characteristics and leaves inequality from unobserved characteristics unaffected.

From the results in this section, we conclude that wage differentials between the firm's bargaining regimes are modest. Neither in terms of wage level, nor in terms of wage structure is there a cleavage between firms covered and not covered by a collective agreement (except for the gender wage gap). The firm bargaining regime has the most idiosyncratic wage structure. Bargaining does reduce the residual variation of wages.

## **5. WHO IS COVERED**

As noted, in a firm covered by collective bargaining not all of the firm's employees will be covered. We also know that individual non-coverage in a covered firm can have two faces: top-level management and low-pay marginal workers. Our data specify whether an individual worker is covered or not, but for non-covered workers we do not observe the "regime". To reflect this structure, we should estimate earnings functions separately for these different worker categories, corrected for selective coverage. However, the nature of our dataset as a single cross-section and the available variables (which do not justify exclusion restrictions) leave only functional form as the vehicle for identification. This, clearly, is not a very powerful vehicle. In the estimated endogenous switching regression models we present, we will therefore focus on the switching equations (who is covered) and use the earnings results as reconnaissance of the sensitivity of our results obtained so far.

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is dominated by firms employing mainly high-skilled professionals who would have been uncovered by the collective agreement anyway.

We attempted to estimate the Dickens and Lang (1985) model with unobserved sector selection, extending that model to have an observed covered regime and an uncovered sector consisting of the two regimes (top-management and marginal) but without observation of to the latter assignment. The model works excellently for industry bargaining but fails for the other two regimes (no convergence, little gain in log likelihood). For each type of firm bargaining regime we have also estimated a standard endogenous switching regression model (Maddala, 1983, 283). Table 6 gives results for standard switching regression and Table 7 for the extended Dickens-Lang model.

The extended Dickens-Lang model is a relevant extension of the standard switching regression, as judged by the gain in log likelihood. The Dickens-Lang identification of regimes is often viewed rather skeptically, but in our case we actually know that the distinction is real, even if we do not observe the assignment directly. Moreover, the results give a very sharp regime assignment. If we predict regime assignment within the uncovered segment, we either predict a very high probability of the marginal segment or a very low probability. Failure of the Dickens-Lang model in the other firm bargaining regimes may be understood from the results in the standard switching regressions, which we discuss below. The results in Table 6 suggest that non-coverage under firm-bargaining is dominated by top-level management, while under mandatory extension the non-covered segment is probably too heterogeneous for a straight dichotomy.

The selection equations in Table 7, for firms under industry bargaining, give the inclination to end up in the uncovered marginal or top-management segment, relative to the uncovered segment. Experience borders on positive significance for management non-coverage, while it is insignificant in all other selection equations (cf Table 6). Education, gender and hours worked neatly separate non-coverage at the opposing ends, while increasing firm size about equally favours both positions. As noted, under firm bargaining the selection equation (in Table 6) points to non-coverage dominated by

top-management: education increases non-coverage, gender (female) decreases it, leaving the top for highly educated men. In fact, the wage equation for these uncovered workers supports this interpretation, with a positive effect of education, a very large negative effect for women and a very strong positive effect of firm size. In the extension sector we found no support for a clear dichotomy in the uncovered segment. In this sector, the majority of workers is uncovered rather than covered as in the other firm bargaining regimes. That, apparently, makes the uncovered segment too heterogeneous for easy characterisation in the selection equation.

Cautiously looking at the wage equations we may make a few brief comments. Under industry bargaining and firm bargaining, the firm size elasticity is larger for uncovered workers than for covered workers, as one would probably expect. As Table 7 shows, this larger elasticity is mostly due to the sensitivity of management compensation. Quite remarkable is the large gender wage penalty for covered workers under industry bargaining, a magnitude comparable to that for workers in uncovered firms. One would have anticipated unions to wipe out such differences, an anticipation borne out by the other results. Perhaps even more surprising is the finding that uncovered women in the marginal workers segment experience no significant earnings difference to men. Conceivably, in this segment of non-core activities (cleaning, catering) women are discriminated as much as men. In this segment, many immigrants have a job, but our data do not identify them.

While fully acknowledging the limitations of our wage estimates, we made a comparison of predicted wages for typical workers under different regimes, restricting employees of covered firms to covered workers only (Table 8). The typical worker in the no-bargaining regime will not gain from moving to a firm in a covered regime, nor will a typical worker in any of the covered regimes lose from moving to the no-bargaining regime. Collective bargaining per se does not create a gap with the no-bargaining regime. This conclusion is in line with our results in section 4. Comparing firm bargaining regimes, the rankings for different worker types are very similar. Industry bargaining and firm

bargaining have small wage differences, no more than 5%; the difference is to the advantage of industry bargaining. This again, is similar to what we found in section 4. In each comparison the extension sector comes out with the lowest predicted wages, with wages up to 10% lower than elsewhere.

## **6. CONCLUSIONS**

We have found that the institutional structure for wage bargaining in the Netherlands does not lead to a cleavage between the sector with some form of collective bargaining and the sector without collective bargaining, neither in wage level nor in wage structure. If, in terms of wage structure, we would have to single out one regime, it would be the regime with firm level bargaining.

The absence of a wage gap between covered and uncovered firms fits an analysis of a corporatist system where unions are not seeking profile as aggressive local rent seekers (Teulings and Hartog, 1998). Small wage differentials between bargaining regimes, as suggested by the simple dummy effects, are in line with the negative effect of the degree of corporatism on the magnitude of non-competitive wage differentials (o.c., Chapter 1).

Our results indicate that there is a need for further work on the effect of collective bargaining in systems that are more complex than just a distinction between unionised bargaining and no collective bargaining at the level of the firm. In particular, better analysis of wage differentials between covered and uncovered employees of covered firms, would be most valuable.

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Table 1. Descriptive sample statistics by firm bargaining regime

|                                   | Industry<br>agreement | Firm<br>agreement | Mandatory<br>extension | No<br>agreement  | All              |
|-----------------------------------|-----------------------|-------------------|------------------------|------------------|------------------|
| Number of workers                 | 15489                 | 1175              | 1519                   | 5006             | 23189            |
| Workers covered (share)           | 0.95                  | 0.84              | 0.31                   | 0                | 0.70             |
| Experience (years)                | 18.60<br>(11.09)      | 19.67<br>(10.36)  | 16.67<br>(11.46)       | 16.20<br>(10.90) | 18.01<br>(11.09) |
| Education (years beyond<br>basic) | 2.11<br>(2.16)        | 3.72<br>(3.11)    | 1.91<br>(2.00)         | 3.44<br>(2.75)   | 2.47<br>(2.43)   |
| ln Hours worked                   | 3.48<br>(0.49)        | 3.63<br>(0.26)    | 3.41<br>(0.56)         | 3.54<br>(0.42)   | 3.49<br>(0.48)   |
| Female (share)                    | 0.33                  | 0.20              | 0.45                   | 0.38             | 0.34             |
| Entrant (share)                   | 0.19                  | 0.17              | 0.20                   | 0.19             | 0.19             |
| ln Firm size                      | 4.05<br>(1.40)        | 5.78<br>(1.16)    | 3.06<br>(1.52)         | 3.48<br>(1.37)   | 3.95<br>(1.49)   |
| ln Wages:                         |                       |                   |                        |                  |                  |
| All workers                       | 2.98<br>(0.37)        | 3.25<br>(0.46)    | 2.80<br>(0.47)         | 3.04<br>(0.42)   | 3.00<br>(0.40)   |
| Covered workers                   | 2.96<br>(0.35)        | 3.14<br>(0.38)    | 2.70<br>(0.42)         |                  | 2.96<br>(0.36)   |
| Non-covered workers               | 3.43<br>(0.52)        | 3.80<br>(0.44)    | 2.85<br>(0.48)         | 3.04<br>(0.42)   | 3.07<br>(0.48)   |

Table 2 The effect of the firm's bargaining regime in a single wage equation

*Compared to Industry Agreement:*

|                     |                |
|---------------------|----------------|
| Firm Agreement      | 0.005 (0.008)  |
| Mandatory Extension | -0.038 (0.006) |
| No CLA              | -0.041 (0.005) |

R<sup>2</sup> 0.712

S.E.E. 0.215

N 23189

*Note:* Standard errors in parentheses. The regression equations include a third degree polynomial for experience, education, ln hours worked, and dummies for female, entrant and 30 industries.

Table 3 Wage equations by bargaining regime of the firm

|                             | Industry          | Firm              | Extension          | None              |
|-----------------------------|-------------------|-------------------|--------------------|-------------------|
| Intercept                   | 1.827<br>(0.019)  | 1.410<br>(0.123)  | 1.555<br>(0.102)   | 1.764<br>(0.044)  |
| Experience 10 <sup>-1</sup> | 0.818<br>(0.012)  | 0.697<br>(0.064)  | 1.003<br>(0.042) 1 | 0.72<br>(0.022)   |
| Experience**2 <sup>-3</sup> | -2.693<br>(0.057) | -2.189<br>(0.312) | -3.272<br>(0.196)  | -2.038<br>(0.101) |
| Experience**3 <sup>-5</sup> | 2.810<br>(0.080)  | 2.353<br>(0.457)  | 3.269<br>(0.268)   | 1.786<br>(0.138)  |
| Education(years)            | 0.092<br>(0.0008) | 0.115<br>(0.002)  | 0.094<br>(0.004)   | 0.092<br>(0.001)  |
| Female                      | -0.098<br>(0.004) | -0.096<br>(0.017) | -0.102<br>(0.016)  | -0.141<br>(0.008) |
| Entrant                     | -0.060<br>(0.004) | -0.044<br>(0.017) | -0.084<br>(0.018)  | -0.078<br>(0.009) |
| lnHours                     | 0.107<br>(0.004)  | 0.191<br>(0.030)  | 0.096<br>(0.013)   | 0.092<br>(0.009)  |
| lnFirmsize                  | 0.011<br>(0.001)  | 0.031<br>(0.007)  | 0.019<br>(0.005)   | 0.017<br>(0.003)  |
| R <sup>2</sup>              | 0.705             | 0.794             | 0.706              | 0.700             |
| S.E.E.                      | 0.200             | 0.209             | 0.254              | 0.231             |
| N                           | 15489             | 1175              | 1519               | 5006              |
| Industry dummies            | 30                | 13                | 22                 | 22                |

Note: Standard errors in parentheses.

Table 4 The wage equation in wholesale

*Compared to No CLA:*

|                     |        |         |
|---------------------|--------|---------|
| Industry Agreement  | 0.015  | (0.009) |
| Firm Agreement      | -0.025 | (0.044) |
| Mandatory Extension | 0.041  | (0.017) |
| R <sup>2</sup>      | 0.645  |         |
| S.E.E.              | 0.227  |         |
| N                   | 2960   |         |

Note: Standard errors in parentheses. The regression equation includes the same controls as in Table 3 (except for industry dummies).

Table 5 Decomposition of residual variance of log wages in individual and firm effects

|                    | Total  | Firm   | Individual |
|--------------------|--------|--------|------------|
| Wholesale          | 0.1908 | 0.0707 | 0.1772     |
| Industry Agreement | 0.2080 | 0.0704 | 0.1957     |
| No CLA             | 0.2226 | 0.0996 | 0.1991     |

Table 6 Ordinary (endogeneous) switching regression equations

| Industry             | Firm             |                  |                 | Extension        |                   |                           | No CLA           |                  |                   |                  |
|----------------------|------------------|------------------|-----------------|------------------|-------------------|---------------------------|------------------|------------------|-------------------|------------------|
|                      | Wc               | Wcn              | Selection       | Wc               | Wcn               | Selection                 | Wc               | Wcn              | Selection         | W                |
| Constant             | 1.700<br>(.017)  | .486<br>(.162)   | 2.319<br>(.178) | 1.226<br>(.088)  | 1.855<br>(.389)   | 2.298<br>(.411)           | 1.0205<br>(.122) | 1.497<br>(.079)  | -1.554<br>(.309)  | 1.783<br>(.036)  |
| Experience/10        | .839<br>(.013)   | .741<br>(.080)   | -.065<br>(.130) | .672<br>(.062)   | .568<br>(.205)    | -.119<br>(.509)           | 1.200<br>(.087)  | .950<br>(.059)   | -.279<br>(.263)   | .722<br>(.022)   |
| Experience**2/1000   | -2.786<br>(.061) | -1.925<br>(.354) | -.081<br>(.581) | -2.253<br>(.302) | -1.566<br>(1.014) | -.608<br>(2.518)          | -4.621<br>(.480) | -2.986<br>(.275) | 1.811<br>(1.435)  | -2.049<br>(.103) |
| Experience**3/100000 | 2.930<br>(.086)  | 1.801<br>(.456)  | -.339<br>(.766) | 2.525<br>(.441)  | 1.640<br>(1.513)  | .879<br>(3.719)           | 5.295<br>(.766)  | 2.859<br>(.368)  | -3.900<br>(2.248) | 1.806<br>(.140)  |
| Education            | .087<br>(.001)   | .154<br>(.008)   | -.187<br>(.007) | .099<br>(.003)   | .104<br>(.026)    | -.227<br>(.018)           | .093<br>(.006)   | .095<br>(.005)   | -.044<br>(.019)   | .094<br>(.001)   |
| Female               | -.130<br>(.004)  | -.217<br>(.029)  | -.021<br>(.043) | -.038<br>(.016)  | -.265<br>(.125)   | .724<br>(.176)            | -.020<br>(.031)  | -.077<br>(.024)  | .607<br>(.077)    | -.144<br>(.008)  |
| Entrant              | -.057<br>(.005)  | -.076<br>(.034)  | .004<br>(.052)  | -.065<br>(.017)  | .0003<br>(.051)   | -.055<br>(.147)           | -.082<br>(.030)  | -.103<br>(.026)  | -.136<br>(.094)   | -.079<br>(.009)  |
| ln Hours             | .131<br>(.004)   | .119<br>(.024)   | .152<br>(.039)  | .244<br>(.023)   | -.<br>(.023)      | <sup>a</sup> -.<br>(.023) | .118<br>(.024)   | .143<br>(.019)   | .184<br>(.074)    | .098<br>(.009)   |
| ln Firmsize          | .007<br>(.001)   | .079<br>(.010)   | -.107<br>(.013) | .030<br>(.005)   | .117<br>(.020)    | .016<br>(.046)            | .046<br>(.008)   | .034<br>(.007)   | .143<br>(.023)    | .020<br>(.003)   |
| Std dev              | .203<br>(.002)   | .476<br>(.067)   |                 | .189<br>(.009)   | .245<br>(.035)    |                           | .286<br>(.022)   | .323<br>(.012)   |                   | .235             |
| Correlation          | -.022<br>(.071)  | .865<br>(.032)   |                 | -.144<br>(.134)  | -.115<br>(.591)   |                           | -.848<br>(.051)  | -.603<br>(.080)  |                   |                  |
| N                    | 14667            | 822              |                 | 982              | 193               |                           | 475              | 1044             |                   | 5006             |
| Mean Log-L           | -.019355         |                  |                 | -.134790         |                   |                           | -.651306         |                  |                   |                  |

Note: Standard errors in parentheses. Wc, Wcn: wage for covered, non-covered workers

<sup>a</sup> There is no variation in the hours worked for the 193 non-covered individuals; the variable hours is therefore excluded from the selection equation and the non-covered wage equation.

Table 7 Wage and Selection Equations, Industry bargaining

|                                   | Covered      |                  | Non-Covered      |                    |                   |                   |
|-----------------------------------|--------------|------------------|------------------|--------------------|-------------------|-------------------|
|                                   |              |                  | Marginal         |                    | Sr. Manag.        |                   |
| <i>Wage equation</i>              |              |                  |                  |                    |                   |                   |
| Intercept                         | 1.694        | (0.017)          | 1.445            | (0.588)            | -0.167            | (0.551)           |
| Experience/10                     | 0.838        | (0.012)          | 1.062            | (0.111)            | 0.687             | (0.106)           |
| Experience**2/1000                | -2.785       | (0.061)          | -4.175           | (0.538)            | -1.474            | (0.469)           |
| Experience**3/100000              | 2.930        | (0.086)          | 5.082            | (0.763)            | 1.180             | (0.623)           |
| Education (years)                 | 0.086        | (0.001)          | 0.066            | (0.010)            | 0.168             | (0.011)           |
| Female                            | -0.133       | (0.004)          | 0.118            | (0.178)            | -0.270            | (0.056)           |
| Entrants                          | -0.057       | (0.004)          | -0.105           | (0.037)            | -0.031            | (0.047)           |
| ln Hours                          | 0.132        | (0.003)          | 0.096            | (0.057)            | 0.250             | (0.124)           |
| ln Firm size                      | 0.006        | (0.001)          | 0.022            | (0.018)            | 0.083             | (0.012)           |
| <i>Selection-equation</i>         |              |                  |                  |                    |                   |                   |
| Intercept                         |              |                  | -2.141           | (0.231)            | -7.232            | (0.767)           |
| Experience/10                     |              |                  | 0.022            | (0.188)            | 0.332             | (0.182)           |
| Experience**2/1000                |              |                  | 0.251            | (0.856)            | -1.447            | (0.800)           |
| Experience**3/100000              |              |                  | -0.641           | (1.134)            | 3.117             | (1.033)           |
| Education (years)                 |              |                  | 0.006            | (0.019)            | 0.255             | (0.012)           |
| Female                            |              |                  | 0.809            | (0.091)            | -0.464            | (0.181)           |
| Entrant                           |              |                  | 0.020            | (0.076)            | -0.044            | (0.083)           |
| ln Hours                          |              |                  | -0.268           | (0.055)            | 1.050             | (0.199)           |
| ln Firm size                      |              |                  | 0.081            | (0.021)            | 0.111             | (0.018)           |
| <i>Variance-covariance matrix</i> |              |                  |                  |                    |                   |                   |
|                                   |              | (1)              | (2)              | (3)                | (4)               | (5)               |
| (1) Wage, Sr. Management          | $u_1$        | 0.249<br>(0.036) | *                | *                  | -0.461<br>(0.045) | 0                 |
| (2) Wage, Marginal                | $u_2$        |                  | 0.045<br>(0.003) | *                  | 0                 | -0.019<br>(0.230) |
| (3) Wage, Covered                 | $u_3$        |                  |                  | 0.0413<br>(0.0002) | 0.012<br>(0.013)  | 0.063<br>(0.015)  |
| (4) Selection, Sr. Management     | $\epsilon_1$ |                  |                  |                    | 1                 | 0                 |
| (5) Selection, Marginal           | $\epsilon_2$ |                  |                  |                    |                   | 1                 |

Note: Standard errors in parentheses.