WAGE FORMATION AND LABOR MARKET FLEXIBILITY IN THE NETHERLANDS

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Abstract
In this paper, we estimate wage functions for the Netherlands, to assess the effects of age, tenure, education, industry and the wage bargaining regime.
We compare the results with those for other countries (the U.S. mostly) and relate the comparison to the debate on corporatism.

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1. Introduction

There has been a remarkable shift in the perspective that economic theory offers on the role of wages. Once, wages were interpreted as the price determined in an open market and instrumental in guiding the allocation process in a market economy.
Hence, wages were taken to be determined by the forces of supply and demand. Starting with the human capital revolution, the perspective shifted to emphasis on wages as an instrument for the firm's wage policy. Wage setting came to be viewed as relevant for stimulating and protecting human capital investments, to provide insurance against wage fluctuations for risk-averse workers, to provide effort incentives on the job and assist in quality selection of workers. The characterization of the institutional and structural environment has shifted from the competitive market model (or perhaps monopsony) to a bargaining situation between unions and management. The latter shift is more important in Europe than in the US, as unions (or collective bargaining) are far more important in Europe. Moreover, attention has strongly increased for institutional variation between countries in terms of the level of bargaining (firm, industry, national level) and the role of the government. There is no standard view yet on how to model wage formation and what are the dominant motives (or variables) determining the outcome, but there is a lively debate on many interesting and relevant questions. In this paper, we try to collect comparative empirical evidence on wages in the Dutch labor market. We will link this with a description of the Dutch institutional setting and we will try to develop a coherent picture of the way this affects wage formation and labor market flexibility. We will mostly focus on the contrast with the US labor market, for two reasons. First, the US market is an example of a very decentralized system. Second, the relative abundance of empirical studies provides a convenient point of reference for the Dutch evidence.
We will relate our results to the centralization/corporatism debate but our approach is slightly different. In the centralization/corporatism debate, countries are ranked on an ordinal scale, and the economic performance is related to the position on that scale. Is there a monotonic relation between corporatism and economic performance, as Bruno and Sacks (1985) have claimed, or is there a hump shaped relation between centralization of wage bargaining and labor market performance, as Calmfors and Driffill (1988) have claimed?
We will relate to this debate and to the issues, but our approach is somewhat different. We will give a somewhat detailed description of the Dutch institutional setting, without reducing the conclusions to a single rank number[1]. We will then compare the outcomes of empirical studies on the Netherlands with (preferably) identical studies in other countries. We start, as mentioned, with the US, but we hope to extend the approach to other countries.

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[1]In Hartog & Theeuwes (1993) institutional descriptions for 12 OECD countries, in a standardized framework have been brought together.

2. The Dutch institutional setting[2]

There can be no doubt that the Dutch system of labour relations is highly institutionalized, giving the unions a large amount of leverage. Only 24% of the labour force belonged to a union in 1989, but 72% was covered by a collective agreement. Both formal and informal rules are responsible for this result.

The legal basis of labour relations begins with freedom of association and bargaining. Anyone can start a union[3] and ask for negotiations with an employer. The employer is free to honour this request or ignore it, he may choose to negotiate with one union and not with another, or he may use different ways, like works councils. There are no formal representation rules, no compulsory elections, no rules on bargaining or bargaining structures.

There are two key laws on collective bargaining. The 1927 Law on the Collective Agreement makes such an agreement binding for all workers in the firm, not just members of the union signing the agreement. Formally, it is possible to negotiate in the agreement that contract terms only apply to union members, but if so, this cannot be exclusively for a particular union: they should apply to members of any union. The 1937 Law on Mandatory Extension states that if a collective agreement covers a fair share of an industry's workers, the Minister of Social Affairs can extend the agreement to the entire industry. Mandatory extension has been routinely applied, but now is coming under scrutiny in the policy debates.

Unions and employer organizations are organized in federations, and these meet in two bodies, The Foundation of Labour and the Social Economic Council. The Foundation of Labour is a private foundation, created by employers and unions during the Second World War. Each of the parties has half the seats, and the chair rotates among them. It's an organization where the parties meet and consult and sometimes sign a Central Agreement. Central Agreements contain recommendations to their members (the separate unions and employers) about desirable outcomes of bargaining (like moderate wage increases, efforts to increase training, hire minorities, etc.). The Social Economic Council is a public body, with membership split in three groups: unions, employer's organizations and independent members each make up 1/3 of the seats. Independent members are appointed by the government (most of them are university professors). The Chairman is also appointed by the government. The government is under legal obligation to ask the Social Economic Council for advice on about all important laws and policies in the social economic domain. There is no free entry to the Foundation of Labour of the Social Economic Council. In the Foundation, members decide on admission of new parties, as one might expect in a private body. The Social Economic Council also has the right to decide itself on extension (that is, on who should give up a seat to let a new party in). In recent decades, only one new union has been admitted to both bodies, a union of middle and senior management. This union emerged, presumably, out of dissatisfaction with the existing unions' wage compression policies.

The Foundation and the Council are the essential elements in the Dutch consensus

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[2]All the information of this section is taken from Voskamp (1992).

[3]There are only some minor restrictions on unions, to guarantee that they are decent organizations.

machine. Consultation, negotiation and coordination is going on in these bodies and they are the heart of the corporatist structure of Dutch labour relations. Search for consensus is obvious to any outside observer, but is also demonstrated by the very low incidence of strikes and workdays lost in conflicts.

The open structure of labour relations at the bottom has produced two key features in the actual bargaining situation: multiple unionism and simultaneous bargaining. Formerly, unions could associate with one of three large federations, the socialist, the catholic and the protestant federation. In 19.. the former two merged into FNV, so now there is the FNV, the CNV (the protestant federation) and MHP (the managers federation). FNV is by far the largest federation. In 1985, 58% of the union members were affiliated with FNV, 20% with CNV, 7% with MHP and 15% belonged to other unions. At the bargaining table, the most common situation was the joint presence of FNV and CNV unions: 52% of the collective agreements; 29% of the agreements were entered jointly by FNV, CNV and MHP, 11% was entered only by an FNV union, and 4% by unions belonging to the two main federations (FNV, CNV) and some other union (like a company union, such as for the railways).

The 1927 Law on Collective Bargaining allows an employer to sign an agreement with just one union, in spite of the presence of other unions at the bargaining table, which will then be binding for all workers, including those belonging to the non-signing union. This happens rather infrequently, presumably because employers realize that a divided workforce will be detrimental to productivity. But in bad times, when employers demand concessions, it sometimes occurs that one union agrees, and that the others can only follow suit, their protests not withstanding[4].

Most collective agreements are industry agreements, although the share of company agreements has been rising. In 1990, 82% of covered workers were covered by an industry agreement, and 18% by a company agreement. In 1975, the latter share was still 14.6%. As to the nature of coverage, 46% of the workers were directly covered by an industry agreement that was subjected to mandatory extension. The extension covered another 11%. Only 2% of the employees were covered by an industry contract that was not extended. 13% was bound by a company agreement, 28% was not covered at all[5].

Extension and non-coverage had differential impact across sectors of the economy. In the trade sector 39% of the workers was not covered in 1990, 16% in the transport sector and only 4% was not covered in construction. Mandatory extension, on average catching 11% of the employees, caught 28% of the workers in the construction industry.

We may now characterize the Dutch labour relations system as a system that has open entry at the bottom, but is closed at the top. Open entry is not often utilized, and the organizational structure is highly stable[6]. The vast majority of collective agreements is industry agreements. Mandatory extension of such agreements covers 11% of the workers. Coordination and consultation takes place in two bodies, the Foundation of Labor and the Social Economic Council. The former is private, the latter is public, and is

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[4]Philips, some years ago, with MHP; NS, 1 or 2 years ago, with CNV. Other cases? ←

[5]Data for October 1990; check sector (private or total?).

[6]In 199 , dissatisfied nurses started an interest group that started some negotiations with employers, but the established unions quickly attempted to take over.

under legal compulsion to advise on all important socio-economic policy issues. The influence of these two bodies appears to have fallen since, say, the fifties, but is still substantial[7].
P.M.: Sociaal Akkoord/ Social Contract

3. How corporatist is Holland?

There may not exist a generally accepted standard definition of corporatism, but it is generally understood as joint decision making of employers organizations, unions (union federations) and the government on social and economic policies. To qualify for corporatism, this extra-parliamentary process should be clearly institutionalized, to distinguish it from just lobbying. Corporatist decision making is a much wider concept than the degree of centralization in bargaining. Calmfors and Driffill (1988) define the latter as 'the extent of inter-union and inter-employer cooperation in wage bargaining with the other side'.
Several authors have developed country rankings of corporatism or centralization. While there exist broad agreement about these rankings (Austria and the Nordic countries high on corporatism, the US very low) there is also disagreement, about the positions of e.g. Switzerland, Japan and France. Calmfors and Driffill (1988) present 5 rankings of 15-16 countries, and the position of The Netherlands fluctuates substantially: with the most corporatist country ranked number 1, the Dutch position on these scales is 2, 3, 6, 7 or 8. Others (cited in Hemerijck 1992) rank Holland among the very corporatist structures.
There appears to be some structure in the variations: the more the definition moves to the wider concept of corporatism, the higher is the Dutch ranking. Schmitter (1981) and Cameron (1985) only consider the union structure for their rankings, and Holland ranks 6 out of 15 (Schmitter) and 8 out of 16 (Cameron). Bluth (1979) and Calmfors and Driffill (1988) add the employers side to their consideration, and this puts Holland 10 out of 16, resp. 7 out of 17. When the concept is deliberately widened to corporatism, Holland is ranked markedly higher. Wilensky (1976) chooses 2 out of 15, Bruno-Sachs (1985) 3 out of 17, Lehnbruch (1984) has three categories of corporatism (strong/medium/weak) and opts for medium[8]. Lehnbruck (1984) takes the most outspoken position: 'The most elaborate institutionalization of corporatism is to be found in The Netherlands' (quoted in Hemerijck, 1992, p..).
The divergent opinions can be put in perspective with the help of the description of the Dutch setting in the previous section. Wage bargaining is predominantly industry-wide, which puts Holland at least in the middle of any scale of corporatism and centralization. Consultation, coordination, sometimes negotiation in the Foundation of Labour and the Social Economic Council is an element that should certainly be considered. But presumably authors have different opinions on its importance. Even though this coordination may be less important than it once was, and though there may not be as many Social Agreements or Social Contracts as before, this aspect is a strong argument for moving Holland to higher ranks. We agree with Soskice (Hemerijck, 1993, p ..) that informal coordination can also be very important. On that account, we tend to think of The Netherlands as

[7]On the postwar developments, see ....

[8]The scales and the sources are discussed in Calmfors & Driffill (1988) and Hemerijck (1992).

a country in the top-group of corporatism.

4. Some preliminary results on wage flexibility

Blanchflower and Oswald (1992) have collected empirical results on what they call the 'wage curve': a standard Mincerian earnings equation (log wages on education, experience, experience squared) in which they also include the logarithm of the regional unemployment rate. They summarize their results for 11 countries by saying that the elasticity of wages to unemployment is distributed (closely) around -0,1, with a high of -.12 for Holland. However, the latter coefficient is not significant statistically. Moreover, Groot, Mekkelholt and Oosterbeek (1992) report difficulties in establishing the wage curve with different datasets. In a different specification, separating men and women and controlling for participation selectivity for women, they find much lower values of the elasticity. Hence, at this stage we are somewhat skeptical about the robustness of the wage curve for the Netherlands. It ties in with our judgement that in a small country like the Netherlands, regional differentiation in wages is not important.

In the 1987 Journal of Economic Literature, Kniesner & Goldsmith discuss aggregate models for the US labour market, and they start with some regressions to assess the cyclical sensitivity of unemployment and wages. More precisely they regress unemployment, nominal wages and real wages on the logarithm of GNP, for the period 1948-1985. We copied that relation for the Netherlands. The results point to lower unemployment fluctuation and greater wage flexibility in the Netherlands. The coefficient of unemployment was -7.26 for the US and -2.67 for the Netherlands (both significant). For the nominal wage the coefficients were .004 and .53 (neither significant), for the real wage .02 and .61 (with only the Dutch coefficient significant). Greater cyclical wage flexibility in the Netherlands (and smaller volume variations) are in line with the standard results on relative wage flexibility in Europe versus the US (i.e. greater flexibility in Europe).
Layard, Nickell and Jackman (1991) in their two-equation model of wage and price setting, summarize their results on nominal and real wage rigidity in Table 7, p. 58. Nominal wage rigidity is measured as the marginal unemployment needed to reduce inflation by 1%, real wage rigidity is the NAIRU response to a given increase in real wage push. In their outcomes for 19 OECD countries, if we rank the most rigid country as number 1, the US ranks number 3 in nominal wage rigidity while the Netherlands ranks 12. In terms of real wage rigidity, the US and the Netherlands both share in the tied position of rank 9/10/11. From these two studies, we conclude that aggregate wage flexibility in the Netherlands is fairly high, ranking in the upper half of countries studied. Nominal wage flexibility in the Netherlands is clearly larger than in the US, real wage flexibility is certainly not lower than in the US.

5. The educational wage structure

The educational composition of the labour force has changed dramatically over the last three decades, and there has been a strong adjustment in the wage structure. For example, in 1960 57% of the male labour force only had lower education, while this has been reduced to 14% in 1991. At the same time, the proportion with a university degree

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11
12
10.0
10.2
9.3
8.9
7.2
7.3

increased from 1.6 to 7.6%. Similar developments apply to women, although the share of women in the labour force with university education is lower than for men, while the share with semi-higher education is higher.
In Hartog, Oosterbeek & Teulings (1993) we estimated a standard Mincerian earnings function on 14 different datasets covering the period 1962-1989. Comparability of the datasets is often tedious, but the trend of a substantial reduction in the rate of return on human capital is undeniable. Our best estimate of the rate of return is about 13% in 1962, and 7% in 1989. The development of the rate of return is depicted in Figure 1. There is substantially less variation in the wage experience profiles across time, and the profiles even appear virtually stable[9].

In Hartog, Oosterbeek & Teulings (1993) we also searched for an effect of cohort size on wages. But we could not find convincing evidence that this is relevant. However, in the process we estimated an earnings function containing schooling years, experience (measured from recall) and age (for men only). In that equation, experience and its square got insignificant coefficients, while those on age and age square were clearly significant. This indicates that age may be more important than experience for individual wage determination. Such a result is in line with our impression on the predominance of age, e.g. based on casual evidence that re-entrants to the labour force (women, mostly) would be too expensive for their experience, as they should be paid on the basis of their age.
In Table 1, we present results from the regressions for these years on the LSO data. LSO data are collected by the government statistical agency CBS, with wages carefully measured on the basis of company records. The wage concept is gross wages, including overtime, bonus, etc. The regressions also include 31 industry dummies (see the discussion in section 6), gender and age, age squared separately for men and women (see the discussion in section 8).
The results are ordered by mark-up in 1979 (the coefficients are measured on dummies, with Ln wages as the dependent variable). In 1979, the types of education for a given level mostly fit in with the ranking by education level, with only one intermediate type ('unknown') and one semi-higher type (also 'unknown') out of step. Between 1979 and 1989, the higher educations loose much of their advantage. Most of the loss occurs between 1979 and 1985, with all the semi-higher groups even recovering some of their loss between 1985 and 1989.
The results are in line with those reported in Hartog, Oosterbeek & Teulings (1993). But the greater detail of the regression equation indicates a slight widening of differentials for semi-higher educated that was not visible before. In some countries, notably the US and the UK, the rate of return to education has been rising during the eighties, and hence, wage inequality has been increasing. This effect has been related to a drop in unskilled wages following a reduction in demand as low skilled jobs were moved to developing and newly industrialized countries. Such downward adjustment of the unskilled wage may have been prevented in the Netherlands by the provisions of the welfare state: a legal minimum wage, and social benefits that put a floor under the reservation wages of the low skilled (who make up the majority of the unemployed).

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[9]It should be noted that experience has been measured as age-schooling -6. (True? How Exactly?)

6. Industry wage differentials

Krueger & Summers (1988) put a strong focus on industry wage differentials. In individual wage equations, controlling for personal characteristics like age, education, experience and gender, and for regional variables, they found strong industry effects, persisting over long periods of time, and in fairly stable rankings. They tested for spurious effects by analyzing labor quality effects, separately studying workers who changed industry and adding variables that should pick up compensating wage differentials. Strong, convincing industry effects remained. They associate these with efficiency wages paid by employers, but the differentials may also reflect rent sharing, as argued, with empirical support, by Blanchflower, Oswald and Sanfrey (1993).

Table 1 Wage differentials by education

			1979	1985	1989
25	extended lower,	nec	.041	.078	.081
22	extended lower,	technical	.064	.088	.071
29	extended lower,	unknown	.084	.022*	.156
21	extended lower,	general	.100	.159	.161
24	extended lower,	accounting	.149	.155	.174
23	extended lower,	medical	.190	.280	.NA
32	intermediate,	technical	.220	.206	.183
31	intermediate,	general	.257	.267	.288
35	intermediate,	nec	.289	.241	.245
34	intermediate,	accounting	.343	.284	.252
33	intermediate,	medical	.350	.367	.361
43	semi-higher,	medical	.490	.396	.471
45	semi-higher,	nec	.512	.385	.408
42	semi-higher,	technical	.517	.432	.477
39	intermediate,	unknown	.559*	.005*	.182
44	semi-higher,	accounting	.596	.456	.486
55	higher,	nec	.786	.648	.571
54	higher,	accounting	.809	.652	.678
59	higher,	unknown	.831	.669	.633
52	higher,	technical	.860	.699	.642
49	semi-higher,	unknown	.899*	NA	.407
53	higher,	medical	.999*	.918	.872

* = not significant (at 10% or better)

Table 2 Wage differentials by industry[a]

		1979	1985	1989
4	public utilities	.243	.190	.217
1	mining, gas	.236	.463	.332
33	metal, basic	.233	.321	.355
51	construction	.233	.260	.258
71-77	state utilities: Rail, KLM, PTT	.233	.202	.173
92	education	.228	.139	.078
90	gov., soc. security	.210	.221	.160
73, 74	sea, river transport	.200	.326	.349
27	printing & publishing	.180	.252	.262
83, 85	real estate	.170	.280	.236
91, 96, 97	religious, sport, social organizations	.160	.194	.160
82	insurance	.156	.278	.178
26-30	paper, oil, chemical industry	.151	.323	.329
84, 86	services, private	.133	.204	.181
36	electrical industries	.129	.224	.207
81	banking	.125	.278	.223
95	social-cultural organ.	.122	.163	.157
93, 94	health and social service	.119	.149	.116
38, 39	optical, instrument industries	.115	.179	.150
61-64	trade, wholesale	.112	.204	.201
37	transport equipment	.104	.199	.210
32	building material, glas	.098	.184	.195
20, 21	food industries	.096	.243	.233
31	rubber, plastics	.095	.214	.236
52	construction 'installation'	.089	.145	.094
34	metal products	.080	.198	.166
35	machines	.066	.190	.185
25	carpentry, furniture	.062	.104	.101
67	cafe's, restaurants	.049	.087	.062
68	repair	.047	.139	.069
65, 66	trade, retail	.033	.032	.002
	Weighted Adjust Standard Deviation of differentials	.068	.074	.079

[a] 'other private services' omitted

In Table 2 we report industry differentials from dummies in the LSO regression discussed above. Again, the results are ranked by mark-up in 1979, now top-down. Some patterns familiar to other countries appear. Public utilities, mining and gas have high mark-ups, restaurant service, repair, and retail trade are at the bottom of the scale. Substantial variations occur, such as the strong increase for mining and gas in 1985, the strong increase for sea and river transport after 1979 and the strong increase in paper, oil and chemical industries. There is a very strong decrease in the relative position of education. But on the whole, the ranking is fairly stable.

Table 3 Standard deviation of industry wage differentials

centralization (Calmfors-Driffill)	country	# industries	source	weighted st.dev.		
				1974	1979	1984
low (16)	US	7	Krueger & Summers	.097	.069	.094
		41		.132	.108	.140
		212		-	-	.160
intermediate						
(6)	Germany (1984)	25	Zanchi (1992)	.072		
(7)	Netherlands	31	Hartog & Teulings	1979	1985	1989
				.068	.074	.079
high						
(3)	Sweden (1984)	16	Zanchi (1992)	.012		
(2)	Norway (1992)	NA	Barth & Zweimuller (1992)	.052		
(1)	Austria (1983)	25	Winters-Ebner (1993)	.055		

At the bottom of the table, we reported the weighted adjusted standard deviation of industry differentials, measured in exactly the same way as Krueger and Summers did. The dispersion is much lower than in the US and increasing. To put the results in perspective, we constructed Table 3. We collected results from some other countries as well and ordered the results by ranking in Calmfors-Driffill's scale of centralization. The number of industries varies for these studies, affecting the estimated dispersion, but if for the US we take their results based on 41 industries, the outcome suggests a monotonic relation with centralization: a dispersion between .10 and .14 in the US with very low centralization, a dispersion between .07 and .08 for intermediate centralization countries

like Germany and the Netherlands[10] and very low dispersion, down even to about 1% for highly centralized countries.

7. Firm size effects

Brown and Medoff (1989) have studied the relation between wages and firm size, and they present an elasticity of .03, when controlling for . The firm size effect is not very well understood, and it may have several causes. It may be due to unobserved quality differences between workers, efficiency wages, rent sharing, or relate to a larger firm's information problem, leading to opt for high wages as an instrument to attract better workers. An interesting study in this respect is Oosterbeek and Van Praag (1993). They break up the firm size wage effect by estimating wage equations by firm size interval, corrected for selectivity bias. They find that the largest firms reward education most, but also manage to attract the more intelligent workers.
Whatever its cause, the existence of a firm size effect is well documented. We copied the Brown-Medoff regressions on the LTD and the LSO data that we have available. It is a large dataset referring to 1990, with data collected from company records by a government agency that monitors the governments wage policy and the implementations of collective agreements. This institutional background guarantees a high quality of the data. In this dataset we find a size elasticity of wages (controlling for experience, education, industry and gender) of about .02 for the total wages, and even of only about .0135 if we ignore shift premiums and only consider the basic wage. Clearly, this effect is smaller than in the US.

8. Tenure and experience effects

We already referred to our results on wage-experience profiles in section 5, where the results in Hartog, Oosterbeek & Teulings (1993) suggested a stable profile. The LSO regressions referred to include wage-age profiles, and these are certainly not stable, as the table below indicates.

Table 4 Age-wage profiles LSO regressions*

		1979	1985	1989
Male	age	.067	.082	.086
	age-squared/100	-.070	-.084	-.088
Female	age	.061	.086	.088
	age-squared/100	-.068	-.098	-.099

* All coefficients are highly significant statistically.

[10]This requires that we accept Calmfors-Driffill's ranking for the Netherlands, although we think it is a low estimate.

Clearly, the age profiles across cohorts have steepened, suggesting that wage adjustments in the labour market start with the young.
There are some though issues on what it is exactly that moves individuals' wages as they grow older: age, experience or tenure? In the US, Altonji & Shakotko (1987) have argued that tenure profiles are quit flat. But they had some serious measurement errors in their data according to Topel (1991), who concluded to stronger tenure effects on the same data, correcting for the spotted measurement errors and opting for a more flexible form, including cubic and quartic terms in the specification. The need for these higher order terms was convincingly demonstrated in Murphey & Welch (199). Brown (1989) has argued that wages rise with tenure on the job only during the time that training is given. But it is not inconceivable that his measure of training is endogenous and too much dependent on wage growth (check this).
The issue of age, tenure and experience needs a lot of solid work. Here, we just make a simple comparison based on similar specifications. For the US, we use the May 1988 CBS tapes, for the Netherlands our LSO data. We include in the regressions experience and its square, gender and marital status. For the Netherlands the data also include industry dummies. For tenure, we use the specification introduced by Altonji & Shakotko (1987): a linear specification of tenure (for log wages) and a dummy for tenure = 0, to single out wage growth during the first year on the job. Table 5 gives the result.

Table 5 The effects of tenure on Ln wages (with t-values)

	tenure	tenure = 0
US (1988)	.0196 (37.5)	-.1039 (11.4)
NL (1979)	.0042 (14.5)	-.0409 (9.2)
NL (1985)	.0034 (6.9)	-.0787 (9.0)

The results point unequivocally in one direction: tenure profiles are much flatter in the Netherlands than in the US. But certainly on this issue, there is a lot more work to do.

9. Contract adjustments

As mentioned in the introduction, the view on wages has changed substantially during the last decade. In line with this new literature, Beaudry & DiNardo (1992) presented test results for a view emerging from the contracting literature. In this contracting literature, the employer is seen as a risk-neutral agent that provides insurance against wage fluctuations to his risk-averse employees. In that way, their wage is protected against market fluctuations that would otherwise emerge. In return, employment has to adjust, but in a strict form of the model, laid-off workers will be fully compensated by the firm, before they are recalled.
Beaudry & DiNardo (1992) argue that in a spot market, wages would react to the instantaneous state of the labor market, i.e. the simultaneous rate of unemployment. In a contracting model with costly mobility, workers would remain with the firm after contracting, and their wage would be determined by the unemployment at the moment of

contracting, i.e. at the beginning of their tenure. If mobility is costless, the firm can only keep its workers from moving to better jobs in good times by matching the offers, and hence, the wage should be responsive to the best labour market conditions (the lowest unemployment rate) experienced during the contract. Thus, the contract is downward rigid (the insurance component) and upward flexible (to prevent mobility). Beaudry & DiNardo test the three specifications and find most support for the model with costless mobility: wages respond in particular to minimum unemployment during the tenure that has elapsed. The elasticity of the wage is estimated at -.03.
We have not yet copied Beaudry and DiNardo's tests, as this requires panel data. But we did copy their estimate with the lowest unemployment rate during elapsed tenure. With the 1979 LSO data we found a coefficient on log wage of -.0107 (t = 4.1), with the 1985 LSO data we got a coefficient of -.0089 (t = 6.4). Clearly, the coefficient is substantially smaller in the Netherlands.

10. The effect of the bargaining regime

As mentioned in section 2, wages can be set under 4 bargaining regimes: a company agreement, an industry agreement, mandatory extension of an industry agreement, or no collective agreement. The LTD 1990 data allow us to estimate wage equations, where we include experience, its square and its cubic, 5 education dummies, 30 industry dummies and firm size (number of employees). There is an important reservation we have to make at this stage of the research. We classify a firm to a particular bargaining regime, not an individual employee. Some employees may not be covered, because they belong to a job category that has no collective agreement. And, disturbingly, the highest category of employees in a firm (top level management) is not covered by collective bargaining, but by individual agreements. The cut-off level is not fixed throughout the labour market, and we don't know yet how it is determined. We will return to this issue in later work.

Table 6 Effect of the bargaining regimes

	wage dummy (t)	σ_ϵ	firm size elasticity (t)
industry agreement	-	.1987	.0112 (8.47)
company agreement	.00159 (.21)	.2063	.0303 (4.35)
mandatory extension	-.0330 (4.59)	.2657	.0118 (1.62)
ruling *	-.0416 (3.81)	.2119	.0180 (.66)
uncovered	-.0396 (8.46)	.2324	.0161 (6.12)

* as yet, meaning unknown; small number of observations, particular industries.

The results collected in Table 6 are quite interesting. The first column gives the wage differentials (for log wages) in an overall regression, with dummies for the bargaining

regime. There are two clear conclusions: there is no difference between industry and company agreements, and mandatory extension is quite ineffective. In the uncovered sector, the wage is about 4% lower than in the industry sector, and in the extension sector the gap is a little over 3%. Hence, the difference between the two is negligible. If there were no mandatory extension and if in that case the sector would have wages as in the uncovered sector, they would fall by about .6%. Hence, abolishing mandatory extension would barely affect the wage level. The third column gives the standard error of estimate from separate wage regressions within each bargaining regime. Dispersion is larger in the uncovered sector, and still larger in the sector covered by mandatory extension. One might perhaps have anticipated larger dispersion in the covered sector than in the extension sector, but it turns out to be the other way round.
The final column gives the estimated firm size elasticity from separate regressions for the bargaining regime. It is largest under company agreements, with fairly small differences between the other regimes. The value of the elasticity of .03 for company agreements is striking: it is the same value as found for the US, where virtually all agreements are company agreements.
The results indicate fairly small effects of the bargaining regime on the wage outcome: at most a difference of 4%. This is by far smaller than the difference between the union and the non-union sector in the US, which is commonly put at around 15% (check Hamermesh).

11. Wrapping it up

The tour d'horizon of institutions and empirical work allows us to take stock, in spite of the very preliminary nature of many of our results. We draw the following conclusions:

1. aggregate wage flexibility in the Netherlands ranks high internationally; nominal wage flexibility is higher, real wage flexibility not lower than in the US.
2. the schooling wage structure has been quite flexible, with substantial reduction in the rate of return to human capital, and barely a sign of increasing inequality so far
3. relative to the US, we find for the Netherlands:
   - small industry differentials
   - small tenure effects
   - small firm size effects
   - small effects of the bargaining regime

   These results jointly produce a core result of our paper: whether insider effects or rent sharing, 'special interest effects', or exclusive exploitation of relatively strong market positions, such effects are much smaller in corporatist Holland than in decentralized USA.
4. The sensitivity of wages to minimum unemployment during elapsed tenure is smaller than in the US. Again, this points more to solidarity in wage setting than to structures that secure advantages to particular groups of individuals.
5. The age-tenure-experience question deserves more attention. There are indications that age is more important than experience, but there is also evidence of stable experience profiles over a long time, and steeping age-profiles in the last decade.

As stated, more work is needed to assess the reliability and robustness of our conclusions.

Also, we should consider the issue of job-to-job mobility and on-the-job training, as these have a clear relation with the experience-tenure problem. Job-to-job mobility is low in the Netherlands, compared to other countries and this by itself could explain the rather flat wage-tenure profiles. But that would take mobility patterns as exogenous, and that is not an attractive assumption.

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