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Aboa Centre for Economics

Discussion Paper No. 13
Turku 2006

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ISSN 1796-3133

Turun kauppakorkeakoulun monistamo
Turku 2006

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December 2006

ABSTRACT

This paper focuses on the relationship between higher wages and capital intensity. The relationship itself is by no means a novel finding but we try to provide a meaningful theoretical explanation for the relationship and empirical evidence on its exact nature. Our explanation is the outcome of the wage bargaining process in the case of capital-intensive companies. They are more vulnerable to strike threat than companies that have a small capital stock and thus they may more easily give in for union wage demand. In other words, the bargaining power of unions is related to the capital-labor ratio. This paper provides some tests for these hypotheses with an extensive panel data for Finnish unincorporated enterprises and companies. The results show the relationship between higher wages and capital intensity and very strong and it applies to all sorts of companies and, finally, and it is consistent with the wage bargaining hypothesis.

JEL Classification: J31, J51

Keywords: wages, bargaining, wage distribution, panel data

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Acknowledgements

I am grateful to Hanna Ulvinen from the Government Institute for Economic Research (VATT) for research assistance. This analysis is a part of a micro data study on employment, investment and production which is carried out in cooperation between the Government Institute for Economic Research and Bank of Finland. Financial support from the Yrjö Jahnsson Foundation is gratefully acknowledged.

1 Introduction

Why are similar workers paid differently, is a question which cannot be easily answered. We know that there is a lot of wage dispersion and that standard wage equations can explain only a small fraction of the variation. Take for instance the human capital variables: although they clearly significant they can explain only little of the variance of cross-section wages. It is often argued that 70 per cent of the (log) wage variation is not explained by observed ability differences. Obviously this means that some form of imperfect competition is necessary to explain the empirical findings.[1] As for the characteristics of the wage dispersion there are some well-established regularities in wages across firms. We know for instance that large companies pay higher wages than small companies. But we do not exactly know why this is the case; do the differences for instance just reflect unobservable worker ability or job attributed differences. Another feature of wage differences is the positive association of wages and capital intensity which is documented in several studies (see e.g. Awbod et al 1999).

This feature also shows up in the Finnish corporate sector micro data; graphs 1-3 in Appendix 1 illustrate the relationship between (real) wages and the capital-output ratio in the Finnish panel data for 1994-2004.

Why then do we have this association?[2] An obvious starting point is the capital-skill complementarity hypothesis originally proposed by Zwi Griliches (1969). According to this hypothesis capital intensive production requires more human capital (skill) and assuming that a proper rent is paid to human capital we would expect capital intensive firms to use disproportionally more skilled labor and thus there would a positive correlation between capital intensity and wages. The hypothesis has been subject for quite intensive empirical research but while the empirical evidence has generally given some support to the hypothesis (see e.g. Krusell et al 2000[3]) it has been somewhat moot (see e.g. Duffy, Papageorgiou and Perez-Sebastian (2003)). Partly this reflects the fact that testing requires quite sophisticated data and such data are usually available only in aggregated from (like in country averages).
In this light it may be well-founded to look for competing explanations. Given the case of Finland where trade unions seem play an important role in wage determination process and

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[1] This point is forcefully advanced by Mortensen (2003). Mortensen's explanation for wage differences is based a search-theoretic model which allows all firms to have some sort of monopsony power. In this set-up the search friction and cross-firm differences in labour productivity are key ingredients in the creation of wage differentials

[2] Obviously, the explanation can be related to a hypothesis where causality runs from higher wages to higher capital intensity or from higher capital intensity to higher wages. In the fist alternative, which might well be true, we have the problem that we have no explanation for the high wages (except for "exogenous "union militancy. Similarly, in the second alternative, capital intensity is just a given fact but that might not be so bad assumption because to some extent technological differences can be taken as exogenous. The positive association between wages and capital intensity has been established also in Juselius (2004) using aggregate Finnish time-series data.

[3] In the Krusell et al (2000) analysis the idea is that a decrease in the relative price of investment goods has increased investment and – because of the skill-capital complementarity – and demand for skilled labor. That, in turn, has pushed up the skill premium in wages.

where average unionization is above 80 per cent it is not difficult to argue that some specific features of wage bargaining may affect the wage structure. In particular, one could argue that unions make use of the capital intensive companies' 'bad' outside options. That is, if there is a strike the company will end up with negative profits due to fixed costs. The higher are the fixed costs, the more vulnerable are the companies and the more easily they give in to unions' wage demands.

Although union bargaining model provides an obvious explanation for the positive relationship between wages and capital intensity it is not the only explanation. One alternative is the efficiency wage hypothesis which is particularly relevant in the case of non-unionized industries. According this hypothesis, wages have – for various reasons a positive effect on productivity which obviously creates a positive statistical relationship between wages and productivity. The role of capital comes evident if one takes into account the fact that better effort also allows for more efficient use of capital. In the way, one may think that 'the capacity utilization rate' is determined by the (relative) wage rate. High wages facilitate the more efficient production, i.e. higher return to capital which in turn translates to higher capital intensity.[4]

After going through all this, it is perhaps fair to state that also the search theoretic approach (Mortensen 2003) can rationalize the positive association between wages and capital intensity (productivity).[5]

From the point of empirical testing that is, of course, bad news because our ability to discriminate between different theories is quite limited. Had we individual (worker) data with also detailed of the employer characteristics, discriminating different hypothesis might be possible. But anyway it might be useful to establish the exact role of capital intensity in wage determination.

That is why we formulate a wage equation in which we have the capital intensity as the main forcing variable. In what follows next, is the derivation of he wage equation, then an empirical analysis with panel data of Finnish companies and, finally, some concluding remarks.

2 Wage bargaining

Assume efficient bargaining with the following basic assumptions: Workers have linear utility U in terms of the wage w and the alternative income b (which is financed by lump-sum taxes from workers) while firms have the conventional profit representation in terms of revenues and costs. Assume that (in the short run) capital is fixed and its value is takes as given in the bargaining process.[6]

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[4] See e.g. Lerner (1999) who analyzes the determination wages, effort and capital intensity in a simple two sector model. He also presents some evidence on wage/capital intensity association. See also Konings and Walsh (1994) who try to compare the different wage determination models using the UK data

[5] In a addition to Mortensen (2003) and Burdett & Mortensen (1998) one ought to mention Pissarides (2000) in which wages are determined as the outcome of bilateral bargaining between the employee and the employer (in a world where there is incomplete information of wages in different firms).

[6] Quite different situation emerges in a dynamic set-up where the outcome of bargaining affects investment and growth, see e.g. Devereux and Lockwood (1991). In the dynamic set-up the relative bargaining situation of a firm and the union may turn completely upside down: the firm has a positive outside option in financial markets while the union has just a zero option. See e.g. Bertocchi (2002). In the dynamic set up, we obviously face the problem of time-consistence and credibility due to the fact that the union's bargaining position is quite different before after investment. See e.g. Van de Ploeg (1987) for details.

Thus, we have the following Nash product which ought to be maximized with respect to the wage rate and employment

$$U^{\beta}\Pi^{1-\beta} = [(w - b)L]^{\beta}[pAF(L,K) - wL - cK + cK]^{1-\beta} \quad (1)$$

where A is the productivity factor, L employment and cK the fixed (capital) cost (notice that the outside option for the firm is -cK). β (1- β) indicates the bargaining power of the union (firm). In this linear utility cases, employment is determined according to the first order condition $pAf_L = b$ which implies a constant employment level L* (independently of the bargaining power of the parties) equal to. See e.g. Muthoo (1999) for details. That in turn implies the following solution to the wage rate

$$w = (1 - \beta)b + \beta\{pAF(L,K)/L\} \quad (2)$$

The solution implies that the wage is a convex combination of the alternative income and average gross return. In other words, we could write the result as $w = (1 - \beta)b + \beta\{pf(L)/L\} - cK/L\} + \beta cK/L$ where the second term on the RHS is the conventional average return (net of capital costs) while the third term the (fixed) capital costs. f(k)L equals to F(K,L). Because in the short run the capital costs are sunk costs they simply cancel out. Thus, if β = 1 (unions completely dominate the wage setting process) wages would exhaust all income, also capital income. Obviously, this could not be a feasible long-run solution because the company would simply go to bankrupt.
This suggests that the bargaining power of unions is positively related firms' capital intensity. One way to put it is to say that the longer is the strike, the bigger is the bankruptcy risk. These considerations may be formalized by 'endogenisizing' the bargaining power parameter β in such a way that β = β(k). One simple way of doing this, is to assume the following functional form for $\beta = 1 - \exp(-\gamma k)$. If we plugged that into (2) it would give us

$$w = b\{\exp(-\gamma k)\} + AR(1 - \exp(-\gamma k)) \quad (3)$$

where AR = pAf(k), The partial derivative of wages w.r.t. the capital/labor ratio k would now be

$$\partial w/\partial k = -\gamma b\{\exp(-\gamma k)\} + \gamma AR\{\exp(-\gamma k)\} + (1 - \exp(-\gamma k))MR > 0.$$

where MR = pAf'(k). Clearly, if $k \rightarrow \infty$, $\partial w/\partial k = MR \rightarrow 0$, and if $k \rightarrow 0$, $\partial w/\partial k = \gamma(AR - b)$. One might extend this line of argument by suggesting that heavily indebted firms are even more handicapped in this bargaining situation and thus β may not only depend on k but on the whole asset liabilities structure of the firm. Although we also test this hypothesis we have to admit that here our approach is quite speculative because bankruptcy threat is quite delicate for both the union and the firm and in reality the bankruptcy risk may prevent most extreme wage demands from the side of the union.
The matter would be different if we assumed that the fall-back position of the firm would indeed be larger than -cK (e.g. because of liquidity and customer relationship problems). If we assumed that the true fall-back position were $-(1 + \theta)cK$ we would end up with the following version of (2.2)

$$w = (1 - \beta)b + \beta\{pAf(k)\} + \beta\theta ck \quad (2')$$

That provides the basic estimating/testing equation of the paper.

The fact that capital intensity will increase wages does not only apply to the efficient bargaining model which we use here as a point of reference. If we use the so-called 'right to manage model' (which is quite popular in Europe) we can end up with a somewhat similar expression. The problem is that the wage bargaining models are not the only models which produce a positive relationship between wages and capital intensity. Thus, at least the efficiency wage models (cf. e.g. Gera and Grenier 1994) provide the same prediction. As pointed out earlier, discriminating between these models is now, however, possible with our data even if we have unexceptionally large data sample.

3 Empirical analysis

Now, turn to empirical testing of the hypothesis that higher capital intensity leads to higher wages in a wage bargaining model. Technically, the simplest way is to estimate the nonlinear specification (3) directly. Put simply, the model says that capital intensity will increase the share of total return which goes to labor. In other words, at the firm level the relationship between wages and productivity becomes stronger along with capital intensity.

$$w_t = a_0\{\exp(-a_1k_t)\} + q(1-\exp(-a_1k_t)) + a_2w_{t-1} + u_t\,, \qquad (4)$$

where w is the real wage and q the output labor ratio (labor productivity). u is the error term. The lagged dependent variable is introduced to take into account the fact that wage agreements cover more than one period and that firm-specific features in wages and productivity may prevail longer time.

Alternatively, we could just use a linearized form of equation (2') and test whether capital intensity has indeed a positive effect on wages given labor productivity and other control variables of w. Then the estimating equation would simply take the following form:

$$w_t = b_0 + b_1w_{t-1} + b_2b_t + b_3q_t + b_4k_t + u_t, \qquad (5)$$

where b denotes the alternative income. Otherwise, the notation is the same as in equation 4. It is tempting to use also the log linear form instead of (5). Unfortunately, (2) or (2') cannot be transformed to a log linear form that would exactly correspond to equation (5). Only if we assumed that the alternative income is zero and β depends on k (e.g. according to expression $\beta = 1 - \exp(-\gamma k)$) we could derive the following (approximate) log linear expression for the wage rate: $\log(w) = \log(q) - \exp(-\gamma k)$. Notice that in this case the coefficient of labor productivity ought to be unity. Anyway, we use a completely unrestricted logarithmic form of (5) as an accompanying form with the level form (5). We have to keep in mind, however, the above-mentioned reservations on comparability of the level and log level forms.

The problem is that the alternative income b is not zero but we do not have data for it. The Finnish unemployment compensation system is a bit complicated and there is no (single) minimum wage. The best we can do is to assume that b is constant but it is related to the price level due to some form of indexation.

The above-mentioned equations are estimated from a panel data of Finnish firms so that the sample period is 1994-20042. Firms consist of both unincorporated enterprises and companies in which can be divided to personal companies and limited liability companies. As for limited liability companies, only a small fraction (less than one hundred) of them are listed in the Helsinki stock exchange. Those four types of companies are quite different in terms of company taxation. In the unincorporated enterprises and in most companies (all except listed companies) owners are taxed according to an imputed capital income which in turn is computed on the bases of net assets (with a bit different rules in different company types). Although we use these three different employer types we to keep in mind that overwhelming majority of full-time job (more than 95 %) belongs to the unlimited liability company sector and thus it is better to concentrate on these enterprises.

Total number of observations (after deleting missing and overly deficient observations) is about one million. After taking lags, the effective number is a bit smaller (as one can see from the last column of Table 1) but even then the data are exceptionally large. Basically the data correspond to the whole population because the data include all firms which have had income and which have been entitled to make the tax declaration (basically the data tax declaration data).[7]

Unfortunately, the data do no contain any information on the characteristics of individual employees in the way of Abowd et al (1999) for instance. Thus we are not able to make a fair comparison between firm specific effects and employee specific effects. The estimating equations also include annual dummies to take into account common aggregate time-specific effects. They may, of course, also capture changes in the alternative income b that are not captured by the price level.

A few words on measurement issues: As for the output variable Q, we have the turnover data for all firms but the value added data only for a part of companies. The wage rate w is here simply the gross wage sum divided by the number of employees L. Quite obviously; there are measurement errors in the constructed time series. The problem is that the output variable, the value-added, comes quite close the wage sum and in the cross-section context w=WS/L and Q/L are highly correlated, partly due to measurement errors. As a consequence, the coefficients of the other variables may be biased downwards. To overcome this problem we use also total turnover (sales) as a measure for output.

Now, turn to presentation of the estimation results. The estimates are reported in Tables 1-4 below. Table 1 includes the non-linear least squares estimates for equation (4). Table (2) in turn includes least squares estimates for the log difference from of equation (5). Log differencing is used in order to eliminate the (cross-section) fixed effects. Finally, Table 3 includes the estimates of equations (4) and (5) in the level that is estimated by both OLS and various panel data estimators. Thus, we use the conventional fixed effects and random effects specifications. In the panel data setting, we also use the IV estimator to take care of the fact that productivity (output) at least ought to be considered endogenous. Finally, in Table 4 we report estimates with various wage and employment concepts. Thus, we consider total compensation and just wages. On the other hand, we consider total employment, full-time (full year) employees and part-time employees separately.

[7] The data allow us to estimate the production and factor demand functions. It appears that the best representation is obtained with a CES production function with the following parameters $\alpha = 0.67$ ("labour share"), $\sigma = .87$ (elasticity of substitution) and $\theta = 0.08$ (Harrod-neutral technical change), n = 450014 (number of observations.

Table 1 Estimates of the nonlinear wage equation

Company type	$10*a_0$	a_1	a_2	R^2/SEE	DW/n
Personal un-incorporated enterprise	.003	.001*	.244	0.437	2.18
	(102.92)	(238.51)	(111.98)	0.0113	130946
Personal un-incorporated enterprise	.004	.001*		0.337	1.45
	(181.49)	(269.94)		0.0106	200967
Personal company	-.000	.052	.063	0.668	1.33
	(6.45)	(336.81)	(35.73)	0.0142	112320
Personal company	.007	.029		0.422	1.54
	(85.52)	(268.48)		0.0176	140757
Limited liability company	.011	.002	.400	0.255	2.25
	(88.27)	(177.73)	(289.85)	0.0073	398386
Limited liability company	.019	.001*		0.078	1.42
	(174.88)	(198.49)		0.0080	538296
Listed limited liability company	-.0016	.019	.009	0.552	1.66
	(1.26)	(23.38)	(0.40)	0.0024	614

* Multiplied by 1000. Numbers inside parentheses are (unadjusted) t-ratios. n indicates the number of observations. n refers to the number of data points. Estimation period is 1994-2003.

Table 2 Estimates of the log linear wage equation

Company type	k	q	size	w_{-1}	R^2/SEE	DW/n
Personal un-incorporated	.082	.515	-.172	-.177	0.333	1.98
enterprise	(12.90)	(35.90)	(11.55)	(39.90)	0.785	82532
Personal un-incorporated	.155	.567		-.183	.331	1.99
enterprise	(18.65)	(49.03)		(42.01)	0.787	82532
Personal company	.081	.536	-.170	-.156	.462	1.97
	(12.45)	(49.03)	(11.19)	(33.26)	0.679	81268
Personal company	.180	.571		-.163	0.459	1.99
	(16.63)	(38.90)		(34.81)	0.682	81268
Limited liability company	.150	.395	-.180	-.158	.321	1.88
	(34.56)	(84.90)	(28.56)	(55.21)	0.699	288443
Limited liability company	.265	.410		-.163	0.317	1.90
	(65.07)	(90.95)		(57.55)	0.701	288443
Limited liability company	.205	.022	-.437	-.129	0.641	1.73
listed in Helsinki stock exchange	(3.55)	(0.84)	(5.92)	(4.57)	0.4273	562

All variables are expressed in log first differences to eliminate the fixed effects. Numbers inside parentheses are Newey-West t-ratios All equations include annual dummies for 1995-2003. q corresponds to the output-labor ratio in terms of the value-added. Firm size is measured by employment.

Table 3 **Estimates of wage equations for limited liability companies**

Equation	w_{-1}	k	q	trend	R^2	DW
		level form equation				
LS,PFE		.010	.019		0.257	1.25
		(2.02)	(7.49)		64270	
LS,PFE	.044	.012	.016		0.235	1.39
	(1.28)	(1.67)	(5.47)		63322	
GLS		.014	.019	5.259	0.916	1.27
		(6.25)	(67.07)	(13.13)	63860	
LS,FE		.007	.021		0.531	1.95
		(1.85)	(7.44)		56708	
LLS,RE		.008	.020	.299	0.252	1.57
		(1.95)	(7.47)	(0.83)	57101	
		log linear equation				
LS,PFE		.612	.036		0.441	0.71
		(247.49)	(26.55)		0.703	
LS, Dif		.335	.051		0.312	2.14
		(128.71)	(7.29)		0.578	
LS;FE		.509	.121		0.773	1.65
		(160.31)	(42.71)		0.497	
LS,FE	.078	.449	.164		0.799	2.01
	(27.71)	(120.56)	(49.86)		0.422	
IV,FE	.064	.634	.074		0.791	2.08
	(23.08)	(104.28)	(17.54)		0.428	
GLS		.580	.051	.001	0.991	0.74
		(982.99)	(213.06)	(61.16)	0.711	
GLS,RE		.499	.099	.016	0.413	0.67
		(205.15)	(56.44)	(55.86)	0.531	

Numbers inside parentheses are corrected (White's) ratios. LS refers to least squares and GLS to generalized least squares. FE denotes the fixed effects model and RE to the random effects model. PFE indicates the only the period fixed effects are included. All companies are limited liability companies. Estimation period 1994-2004 and the number of data points 573831. All equations also include industry dummies (32). In the case Instrumental Variable (IV) estimation the list of instruments includes lagged q and total turnover (in relation to number of employees).

Table 4 estimates for different wage concepts

Equation	w_{-1}	q	k	trend	R^2	DW
			level form equation			
total compensation		.070	.135		0.067	0.75
LS		(1.07)	(4.39)		11550	
wages		.058	.104		0.064	0.71
LS		(1.08)	(4.56)		9490	
wages, full time		.138	.087		0.077	0.40
LS		(2.47)	(6.16)		6990	
wages, part time		.004	.009		0.018	1.00
LS		(1.06)	(2.72)		3580	
total compensation	.004	.232	.163	1145	.061	0.78
GLS	(144.26)	(5.50)	(25.00)	(282.4)	11484	
total compensation	.002	.025	.182	1199	0.720	2.54
LS fixed effects	(1.35)	(0.85)	(5.49)	(89.12)	7529	
total compensation	.002	.003	.124	1187	.061	0.77
GLS random effects	(2.82)	(1.00)	(3.31)	(97.04)	7505	
			log linear equation			
total compensation		.659	.006		0.433	0.70
LS		(225.58)	(3.96)		0.719	
wages		.643	.001		0.450	0.68
LS		(228.64)	(0.44)		0.669	
wages, full time		.088	.012		0.180	0.48
LS		(91.62)	(22.71)		0.226	
wages, part time		.205	.021		0.072	0.97
LS		(93.40)	(15.75)		0.765	

The data are for the period 1999-2004 and for limited liability companies only. Number of data points is 345370. All equations that are estimated without the time trend include period fixed effects. All equations also include industry dummies.

The estimates in Table 1 with the non-linear model (3.1) clearly show that higher capital intensity (higher K/L ratio) increases the weight of average returns in wage determination. Thus, if capital intensity becomes very large, all income goes to labor. The estimated parameter values of θ vary quite lot depending on the company type but even then the estimates are systematically of the correct sign and – due to the huge number of observations – clearly different from zero at all conventional significance level of the t-test.

Basically the same story applies to estimates of the linear approximation (5) reported in Tables 2 and 3. Estimates in Table 2 illustrate on the effect of the change of the capital-output ratio on wage growth. The parameter values are quite similar again suggesting that capital intensity has a positive effect on wages even in the case in which we control the company size (see e.g. Miller and Mulvey (1996) for empirical evidence on this factor).
Finally, to results with the limited liability companies and different estimators reported in Table 3. These results are based on the level form equation (5). The results can be summarized quite easily: Wages are persistent but not overly so. Wages are positively related to productivity which is in accordance with the (efficient) bargaining model, or in general with rent sharing models. Also the capital/labor ratio is significant and correctly sized which suggests that the bargaining story may have some relevance in explaining the wage structure in the Finnish industry. Capital intensive companies seem to pay a noticeable wage premium.
Equation 2 can in fact be transformed into a wage share form in which the wage share is explained by the capital-output ratio. In other words, $(wL/Y) = (1-\beta)b(L/Q) + \beta + \beta\theta cK/Q$. If that form is estimated it turns out that the coefficient of capital intensity is positive (0.021 with the t-ratio 2.77). In other words, in capital- intensive companies also the wage share is, ceteris paribus, higher[8].
The results seem to be robust in terms of various definitions of the data and estimation methods. Thus, the results are not particularly sensitive to the panel data assumptions and to the choice of instrumental variables. Only in the case of Arellano-Bond GMM estimation (not displayed) we some problems with the J -test which suggests that over-identification restrictions can be rejected. In our case, the number of observations is so large that practically all hypotheses can be rejected so that the results of the J-test can perhaps be explained by this "degrees of freedom paradox".[9]
All that has some powerful implications. If indeed there is positive relationship between wages and the capital/labor ratio that may seriously hinder investment activity because investment increases the bargaining power of unions and the total wage bill.[10] But obviously this is not the full story because in a dynamic (general equilibrium) set-up we have to take into account at least the income (distribution) effects which may even reverse

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[8] For more exhaustive analysis on movement of labour share, see e.g. Bentolila and Saint-Paul (2003)
[9] We have carried out an extensive analysis of robustness of our results including estimation with Huber's robust estimator. Thus the equations have been estimated with alternative concepts of wages, employment output and the capital stock. Alternative specifications produced more or less the same qualitative results. We also introduced company taxes and dividends as additional regressors into equation (5) but found that these variables had only very marginal predictive power in terms of wages.
[10] Take a simple specification of w so that that $w = w(k)$ with $w'>0$.. Then, in assuming the CD production function with constant returns to scale produces in the cost minimization case the following 'solution' for the capital/labor ratio: $k = (1/\alpha)*(w(1 - \varepsilon)/(c + w')$ where ε is the elasticity of w w.r.t. k. Although either ε or w' may depend on k we conclude from this condition that the bargaining effect leads to lower capital/labor ratio and consequently to slower output growth. See Grout (1984) for more thorough analysis.

the basic results (see Devereux and Lockwood 1991) not to speak about other complications in terms of the bargaining process, time-consistency of future plans and contracts.[11][11]

4 Concluding remarks

Our analysis has shown that there is a positive association between wages and capital intensity at the firm level. This relationship stays even if we control labor productivity, company size (fixed) industry effects. Perhaps the most obvious explanation to this result is the bargaining power of labor: the power increases along with the level capital intensity. This just reflects the vulnerability of capital intensive firms to all kinds of labor disputes. If this conjecture is true it has powerful implications to investment and growth and therefore it deserves further analysis with data from other sort labor market institutions' countries. It would also be interesting to study to which extent this arguments apply to nontangible capital, or even human capital.

The fact that firm characteristics seem to be crucial in explaining the wage structure suggests that the labor market is not functioning very efficiently. True, we have been able to control the characteristics of employees (and work quality) only marginally but even then the relationship between wages and capital intensity appears to be so strong that it is no point of characterizing the labor market as perfectly competitive. Irrespectively of the exact reasons behind this relationship, it is clear that it leads to lower output (growth) and welfare. Therefore it deserves more attention and analysis.

[11] See Malcomson (1997) for implications of capital accumulation on wage contracts in a dynamic set-up.

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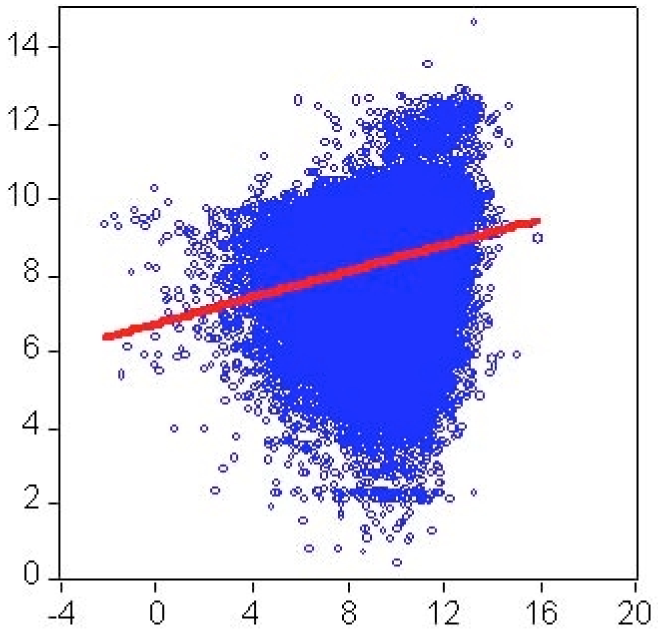
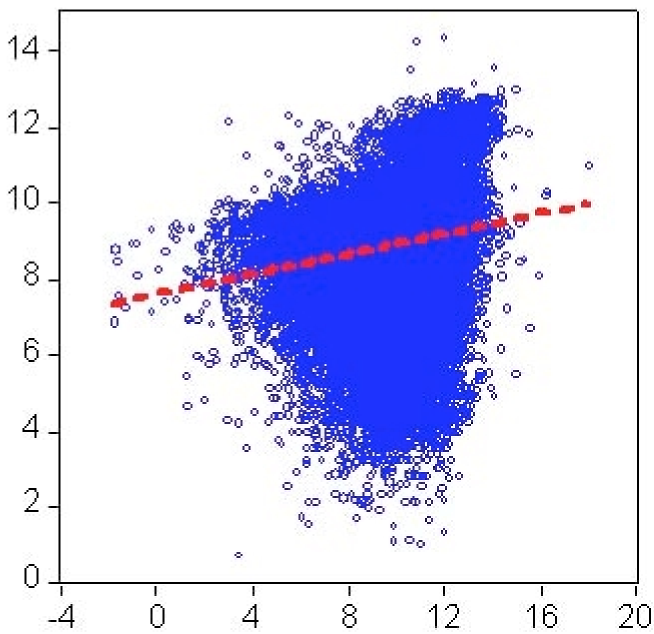
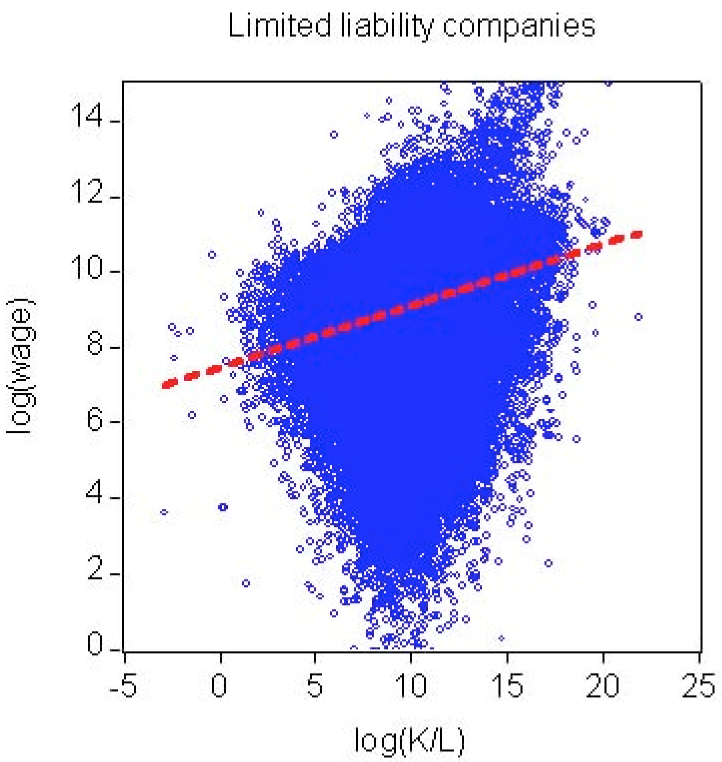
Appendix 1

Relation between wages (log(wage)) and capital intensity (log(K/L)) in the Finnish private enterprise data




14
12
10
8
6
4
2
0
-4
0
4
8
12
16
20


Limited liability companies
log(wage)
log(K/L)
0
2
4
6
8
10
12
14
-5
0
5
10
15
20
25

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ISSN 1796-3133