

**Competitive pressure on the transitional labour market
Hungarian evidence**

by

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Competitive pressure, market structure and competition policy

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Non-technical summary

As transition started, most former socialist economies experienced a very substantial adjustment on the labour markets. Suddenly increasing competitive pressure, together with the wholesale reduction of state subsidies brought significant changes both in employment and in wage determination practices. Aggregate employment declined dramatically in many countries. This adjustment to the emerging market conditions led to large movements in employment and wage structure. Obviously, magnitudes and the time path of these developments varied substantially from country to country, depending on the particular characteristics of the transition process.

On the one hand, labour market adjustment was part of the overall transition process: its speed and depth very much reflected the particular characteristics of the structural adjustment in the economy and society. It was strongly influenced by policies limiting or accommodating structural adjustment, on the form and timing of the privatisation process, and on the external environment of the economy. On the other hand, labour market adjustment had direct social consequences: mass unemployment, quickly increasing income differentials, all having obvious social and political effect. As labour market developments increased (sometimes created) social tensions, politics responded to these tensions, and political interventions influenced labour market behaviour from time to time in all economies. For example, Hungary practically doubled minimum wages in two phases over a one year period; that obviously influenced wage setting and employment decisions at those firms substantially affected. Institutional changes also had an effect on the labour market outcomes; for example, changes in unemployment benefit entitlements, regulatory requirements with respect to job safety, redundancy and overtime all directly influence the labour markets.

But these political interventions could only influence the transformation of labour markets. There were very powerful economic forces, competitive pressures determining the basic directions of the adjustment process. These forces shaped the overall dynamics of labour market adjustments. However, different groups of firms in different phases of the transition process may have experienced variations to these overall characteristics, as there were substantial variations in initial conditions and competitive pressures.

This paper describes the tools for analysing how competitive pressure influenced the basic labour market transition for specific groups of firms in Hungary. The analysis is carried out at two levels.

First, we describe the labour reallocation process at characteristic segments of firms, differentiated by sector, ownership and size. We see a very intense labour reallocation; it was initially dominated by job destruction, but later both job creation and destruction were more intensive than typical in developed market economies. Labour is reallocated from domestic to foreign firms, from agriculture and mining to some manufacturing sectors (*e.g.*, engineering) and services. The intensity of both job creation and destruction decreased somewhat from the late 1990's, but it was still rather high by international standards. But the net job creation is rather paltry, the process is mostly reallocation; the high intensity of job creation and destruction coincided with a rather stable employment situation at the aggregate level: aggregate employment in 2002 was practically at the same level as in 1993.

Second, we identify the main determining forces of employment and wage decisions at the firm level, and analyse how and when this relationship is modified by the specific competitive environment of the firm. The most important result is that the overall transition process dominates changes in corporate employment and wage behaviour, and specific factors, representing differences in the competitive position of firms only modify corporate labour market behaviour marginally. Firm or sector specific competitive pressure will significantly influence labour and wage decisions from time to time, but these effects are temporary.

The overall picture is that labour markets initially were very volatile, and the corporate behaviour very flexibly adjusted to the fast changing environment. The situation gradually became similar to the behaviour observed in most West-European economies, but this adjustment took a long period.

Introduction

As transition started, most former socialist economies experienced a very substantial adjustment on the labour markets. Suddenly increasing competitive pressure, together with the wholesale reduction of state subsidies brought significant changes both in employment and in wage determination practices. Aggregate employment declined dramatically in many countries. This adjustment to the emerging market conditions led to large movements in employment and wage structure. Obviously, magnitudes and the time path of these developments varied substantially from country to country, depending on the particular characteristics of the transition process.

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But these political interventions could only influence the transformation of labour markets. There were very powerful economic forces, competitive pressures determining the basic directions of the adjustment process. These forces shaped the overall dynamics of labour market adjustments. However, different groups of firms in different phases of the transition process may have experienced variations to these overall characteristics, as there were substantial variations in initial conditions and competitive pressures.

The changes in the Hungarian labour market have been extensively analysed from the supply side and from the point of view of the (would be) employees (*c.f.*, Bardasi *et al* [1999], Galasi and Kertesi [1996], Galasi and Nagy [1999], Kertesi and Köllő [1996], [1999], [2000], [2001], Köllő [2001], Köllő and Nagy [1996], or Micklewright and Nagy [1996], [1998], and [1999]). Several studies documented that while the slow liberalization phase of the 1980's already brought about substantial changes in the income distribution and in the relative labour market position of various groups of employees, individual strategies on the labour market only changed substantially from the early 1990's with the emergence of large-scale unemployment.

The other side of the labour market, the demand of the firms has been less intensively studied, but that is where competitive pressure really matters. Some notable exceptions

¹ The monthly minimum wage increased from HUF25500 to 50000 in two steps. This represents an approximate 75-80% increase of real cost of labour, if the minimum wage was effective, taking into account inflation and the lowering social security contributions.

are *Basu et al.* [1997], *Estrin and Svejnar* [1998], *Köllő* [1998] and *Kertesi and Köllő* [2002]. Unfortunately, *Basu et al.* [1997] and *Estrin and Svejnar* [1998] use a very limited dataset on Hungary, and mostly concentrate on the Czech and Slovak Republics. The analysis of the Hungarian labour market is especially marginal in *Basu et al.* [1997].² The analysis in *Köllő* [1998] is also hampered by data problems: his dataset only consists of observations from every third year. *Surányi* [2002] analysed the speed of labour adjustment, and found that Hungarian firms adjust labour input to the changed corporate environment very rapidly.

Kőrösi [1997] estimated dynamic labour demand equations for large exporting firms in years 1987-95, which included early transition (1987-8), high transition (1989-92), and recovery (1992-5) periods. Adjustment cost proved to be asymmetric, especially in the high transition period. It was found that both output, and especially wage elasticities were extremely high (in absolute terms) during the high transition period, and downwards elasticities were much larger than upwards elasticities in most years. Foreign-owned companies had relatively more stable and less extreme behaviour than other firms. *Kőrösi* [2002] showed that labour demand gradually became less sensitive to wages in the growth period. It also showed the importance of sectoral differences.

This paper describes the tools for analysing how competitive pressure influenced the basic labour market transition for specific groups of firms. Section A describes the labour reallocation process at characteristic segments of firms, differentiated by sector, ownership and size. Section B identifies the main determining forces of employment decisions at the firm level, and analyses how and when this relationship is modified by the specific competitive environment of the firm. Section C analyses corporate wage determination in a similar manner.

² Their results on Hungary are mostly negative which is probably due to their sample period (1988-92). Their findings on the non-existence of the wage curve in Hungary is explained and strongly qualified by *Kertesi and Köllő* [1997].

Section A: Job creation and destruction

Aggregate employment started to decline in the mid-1980's in Hungary. Initially this decline was very small, but it started to accelerate in the late 1980's. The biggest drop came in 1992, when employment dropped by more than half a million persons in a year.

Consolidation after the transitional recession started in 1992. The process was accompanied by a substantial restructuring of the corporate sector. Privatisation was an important ingredient of this restructuring; and major Hungarian firms were frequently sold to foreign investors, usually to multinational companies. Thus, foreign ownership became dominant by the end of this consolidation period in 1996. Successful restructuring brought about economic growth: the annual GDP growth rate has been above 3.5% in each year since 1997, with a rapid expansion of manufacturing production and exports, especially between 1997-2001.

Aggregate employment, however, decreased throughout the consolidation period, and it only started to increase in 1997. By that time there were 1.5 million less people employed than in 1989, which represented a more than 30% fall. The overall gain in employment remained very modest ever since: despite the relatively rapid economic growth since 1996, there were only 4% more employees in 2002 than in 1996, and total employment was still marginally less than a decade earlier, in 1993.



Figure 1. Labour force participation, '000 persons

Figure 1 depicts how labour force participation changed between 1989 and 2002. The grey area, labelled as 'new inactive' represents what would have been the size of the economically active population, if the activity ratio had remained the same as in 1989. Some of these people study, as the higher education expanded very substantially. Some retired, and do not intend to return to the labour market. Some work in unregistered

jobs. But many are discouraged long-term unemployed, who do not hope to find jobs, thus they remain inactive, despite the rapid economic growth.

The sudden collapse of employment was obviously caused by the transitional recession in the early 1990's. The joint impact of increasing competition due to the wholesale liberalisation of all aspects of economic activities and the loss of captive CMEA markets resulted in drastic downsizing. The labour market consequences of this transitional recession were aggravated by the elimination of the slack labour of the socialist period, which was the consequence of labour shortages.

However, massive job destruction was mostly restricted to the corporate sector during the transitional recession and afterwards. Public employment remained steady throughout the period, adjustment was restricted to (real) wages. The number of individual enterprises and family firms increased, although with large fluctuations. It would be very interesting to study the dynamics of firm and job creation/turnover in this micro sector, but unfortunately, we have no reliable information on this sector. We can only analyse developments in the corporate sector. However, that is the biggest section of the labour market: public employment roughly accounts for 20% of the registered employment, micro firms for 20 to 25%, while the corporate sector for 60 to 55% after 1993, with very little variations.

All these characteristics indicate little action at the Hungarian labour market. One could easily suggest that the labour market became rather stable after the initial shock of the transitional recession. However, it is a completely mistaken interpretation of the labour market developments, and it suggests a very misleading conclusion.

A.1 Definitions and survey of empirical evidence

Davis et al [1996], *Davis and Haltiwanger* [1999] and several articles by the same authors introduced a very useful measurement of job flows. Labour economists traditionally analysed aggregate figures, or models based on firm and individual specific data. *Davis et al* [1996] suggested a decomposition of the aggregate figures (typically at sectoral level) which gives useful information on the reallocation process of labour.

First employers are separated to two subsets: S^+ represents those entering market or expanding employment between periods $t - 1$ and t , while S^- is the subset of those employers downsizing employment or exiting the market. L_{est} denotes employment at establishment e of sector s in period t . If the firm does not exist in period t then $L_{est} = 0$.

1. Gross job creation in sector s in period t is $C_{st} = \sum_{e \in S^+} \Delta L_{est}$.
2. Gross job destruction in sector s in period t is $D_{st} = \sum_{e \in S^-} |\Delta L_{est}|$.
3. Gross job reallocation in sector s in period t is $R_{st} = \sum |\Delta L_{est}| = C_{st} + D_{st}$.
4. Net job creation/destruction (change) in sector s in period t is $N_{st} = \sum \Delta L_{est} = C_{st} - D_{st}$.
5. Excess job reallocation in sector s in period t is $E_{st} = \sum |\Delta L_{est}| - |\sum \Delta L_{est}| = R_{st} - |N_{st}|$.

6. Size of employment in sector s in period t is $Z_{st} = (L_{est} + L_{es,t-1})/2$. Using this size we can compute ratios from measures 1–5. These relative measures indicate the intensity of labour market developments.

As the data appendix explains, initially there was an excessive number of identifier changes, which may adversely affect gross job flow measures. Thus, we also use ‘narrow’ figures, based on employment changes at continuing firms only. The denominator of the ‘narrow’ ratios remains the average sectoral employment. Thus, this ‘narrow’ ratio certainly underreports the job flow intensity, as the employment consequences of all reorganisations, corporate exits and entries are systematically ignored. The true intensity of job flows will obviously be somewhere between the level indicated by the gross ratio and the ‘narrow’ figures.

The typical annual gross job creation and destruction rates are in the neighbourhood of 10% for many developed market economies, giving an approximate 20% gross reallocation rate for a typical sector. Excess job reallocation rate measures the flexibility of the labour market: its value is typically in the range of 5% (inflexible) to 15% (flexible) for developed market economies. However, there are very characteristic variations over countries and sectors, indicating different levels of flexibility and maturity of the specific market, *c.f.*, *Davis and Haltiwanger [1999]*.

There also are characteristic differences in job-flow rates among different types of firms, differentiated by size, life cycle, productivity, and ownership structure (*e.g.*, *Albaek and Sorensen [1996]*, *Baily et al [1996]*, *Foster et al [1998]*, *Griliches and Regev [1995]*, or *Leonard and Zax [1995]*). One important characteristic feature is the *persistence* of these job flows; *Davis and Haltiwanger [1999]* suggests that only some 20–30% of the job flows are reversed in the next period; thus the overwhelming majority of these changes are long-term adjustment.

It is no surprise that practically all CEE economies were characterised by massive job destruction (with typically 9–13% rates) and little job creation (with approximately 1% intensity) during the initial transitional recession, creating very substantial unemployment within a relatively short period in many countries; *c.f.*, *Bilsen and Konings [1998]*, *Konings [2002]*, *Commander and Coricelli [1995]*, *Haltiwanger and Vodopivec [2002]* or *Blanchard [1997]*. Differences in job flows were frequently very strongly linked to shifts in the ownership structure, to the privatisation process; *e.g.*, *Chow et al [1996]* or *Konings et al [1996]*. Job reallocation is frequently from the old (formerly) state owned to the new (private) sector of the economy, *c.f.*, *Sorm and Terrell [2000]* or *Jurajda and Terrell [2002]*.

Recent studies found that in CEE and Baltic countries job flows became rather similar to the typical situation in developed market economies. *Konings [2001]* found that excess job reallocation rates reached the levels of developed market economies in the most successful transition economies (between 8 and 13% for Estonia, Poland and Slovenia) by the late 1990’s. He found that most of the job reallocation occurs within sectors and regions, rather than across sectors and regions. Still, inter-industry reallocation is more intensive than in many market economies, especially from agriculture and heavy industries to service sectors. *Haltiwanger and Vodopivec [2002]* found that by the end of the 1990’s the Estonian situation was very similar to the reallocation levels seen for the US manufacturing. *Faggio and Konings [2001]*, and *Jurajda and Terrell [2002]* found that both the

rapidly reforming countries, like Estonia, Poland or Czechia, and the more slowly reforming Bulgaria, Romania and Slovenia converge to the standards of market economies after the initial stage of transition was over. *Markov et al* [2002] also examined skill-specific job reallocation for Bulgaria; they found that the private, especially, the foreign-owned sector strongly differentiated labour by its skills.

Brown and Earle [2002a], [2002b], [2003] show that job reallocation is strongly linked to productivity growth even in Russia and in some other former Soviet republics, where job reallocation otherwise is slower than in the CEE region, and job creation is still paltry. Both they and *Konings et al* [2003] demonstrate that small firms are relatively much more important job creators than larger ones. *Christev et al* [2003] tried to link Ukrainian job flows to trade liberalisation, but found no significant overall effect.

Warzynsky [2003] analysed the relationship among job flows, labour productivity and measures of competitive pressure for Poland. A competitive market structure, measured via import competition and concentration, is associated with higher pace of labour reallocation. Fast growth of labour productivity also enhances reallocation, but that link is less robust over model specifications.

A.2 Job flows

Table 2³ summarizes the job flow results derived from the sectoral totals. The 1993-4 period is still clearly dominated by intensive job destruction. However, there is evidence of substantial job creation even in this very volatile period. Firms seem to operate rather flexibly on the labour market in almost all sectors throughout the entire sample period. The only real exception is the Mining and energy sector with almost uniformly intensive downsizing even in 2002.

There are clear sectoral differences: Engineering was the job creation powerhouse of the Hungarian corporate sector until 2001, while mining and Agriculture shed labour almost continuously. However, if we disregard Mining, even those sectors, where net job creation is negative, as in Agriculture, or, from time to time in Textile, clothing and footwear, or paltry, like in the Chemical industry, there was substantial job creation, job reallocation in all years. Even if we just use the ‘narrow’ measure of Table 3, completely disregarding firm entry and exit, the narrow job reallocation figures indicate flexible labour markets in many sectors.

Job flow figures computed from the sample of continuing firms obviously give lower intensity than the probably inflated aggregate ones. Although the sample is clearly not representative to the entire corporate sector, the main sectoral tendencies are similar. These Hungarian figures from the period 1993-2002 are much higher than those reported for most other transition economies for this period. They are practically as high as those reported for most developed market economies, at least if we look at job reallocations. That is less true for the process of job creation and destruction.

However, the period 2001-2 is different from the second half of the 1990’s: while the late 1990’s were characterised by net job creation, that stopped after 2000. Clearly, Hungary being a small open economy, international economic cycle had a strong effect

³ All tables of Section A are to be found in Appendix 2.

on the export markets. But 2001 also brought substantial wage rises, stipulated by the government minimum wage regulation. Section B will discuss, how much that may have effected net job creation.

If we examine the labour market behaviour by ownership categories, we find that as expected, state-owned enterprises are the least flexible ones, with very little gross job creation. Private firms are much more active. However, domestic private firms are net job destroyers, at least, if we restrict the analysis to the continuing firms, while foreign owned firms are the only net job creators.

Similarly to the ownership, size also gives the expected reallocation ranking: small firms are reallocating labour much more intensively than greater ones. The bad news is that they intensively destroy jobs.

We also examined reallocation at firms at specific market segments. Labour flows at exporting firms, and at those facing strong import competition are not significantly different from the ‘average’ firm. Firms with low market share in their sector (marginal firms) are net job destructors, but that category incorporates almost all small firms, so that is similar to the size effect.

Given that labour adjustment was found to be very fast (*c.f.*, Surányi [2002]), one could expect that job reallocation is less persistent in Hungary than in those Western European labour markets, where adjustment lasted 3-6 times longer. However, the opposite seems to be true. Job creation, but especially job destruction were highly persistent throughout the entire sample period. (Table 5) The extreme persistence of job destruction is almost uniform over the various categories of firms. If a company had to downsize, it is almost impossible that the company permanently rehires its employees.⁴

Job creation is also much more persistent in Hungary than in the developed market economies reported on in *Davis and Haltiwanger* [1999]. However, the picture is less uniform than with job destruction. There is one group of firms with much less persistent job creation: the small firms.

Kőrösi [2003] shows that this intensive labour reallocation is the consequence of the continued intensive corporate restructuring. The corporate landscape is shaped by a process of continuous and very rapid differentiation. Some companies expanded at a phenomenal speed. We can identify the typical dynamic firm as a big export oriented, foreign-owned company. The other side of the coin is that there are many companies which have to regularly downsize production, and also employment, rather substantially. They are mostly locked into the small domestic market, and they seem to be unable to compete with the rapidly expanding firms.

However, it also means that the apparent stability of the aggregate labour market was just an accident: the intensive job reallocation left the overall situation almost unchanged, because the number of winners and losers was almost equal during the rapid growth period. When this fine balance shifted for both domestic or external reasons, net job creation turned to net job destruction in the corporate sector even though the economy kept growing at a reasonable space.

⁴ As we work with annual employment figures, short-run (*e.g.*, seasonal) fluctuations do not show up in the results.

Clearly, the continued fast differentiation of the companies shows that the transition process created new and very profitable opportunities to some firms. But the strong competition put a large segment of the corporate sector into a precarious position: competitive pressure forced many firms to downsize almost constantly.

Section B: Labour demand

The ‘classical’ labour demand model can be derived from a standard model of profit maximizing firm, facing demand constraint under a budget constraint represented by a Cobb-Douglas production function, See *Nickell* [1986] and *Mátyás and Sevestre* [1996], Chapter 25 for the derivation. However, some major assumptions of the theoretical model, used as the general framework, do not apply to our case.⁵

The resulting dynamic labour demand model is the starting point of our analysis:

$$\log L_t = \mu \log L_{t-1} + \alpha_0 \log Q_t + \alpha_1 \log Q_{t-1} + \beta_0 \log w_t + \beta_1 \log w_{t-1} \\ [+ \gamma_0 \log c_t + \gamma_1 \log c_{t-1}] + b + \varepsilon, \quad (1)$$

where L is the number of employees; Q is production; w is labour cost (wage + benefits + wage related taxes and contributions); and c is capital cost. $\varepsilon \sim i.i.d.\mathcal{N}(0, \sigma)$. In the standard model, it is assumed that $\gamma_0 = -\beta_0$ and $\gamma_1 = -\beta_1$.

However, a stable long-run equilibrium path is unlikely to have existed during the transition period. We assume that as Hungary went through different phases of the transition process during the sample period, with different labour market characteristics, and these properties can be used for identifying different phases of the transition process. Thus, labour demand models are estimated for each year separately. It is tested whether downward and upward elasticities are equal, *i.e.*, the validity of the assumption on the adjustment costs.

There can also be characteristic differences among different groups of firms in the behaviour of these firms on the labour market: Some firms could adjust to market conditions relatively easily, for others transition was a much more painful process. Several different groups of firms are identified, and the differences in their behaviour is explored. We look at the heterogeneity of labour demand over the sectors, over the type ownership, and over the size of the firm.

The above base model, is, however, only the point of departure in the exploratory work. It is tested whether the function can be simplified either to a quasy differenced form (differencing by $(1 - \mu L)$)⁶ or to a differenced form $(1 - L)$. As the measurement of the cost of capital is very unreliable (*c.f.*, Appendix 1) it is also tested whether the cost of capital can be omitted.⁷

As these restrictions are typically only significant if we estimate the model for technologically heterogeneous samples, but not if we estimate the labour demand model for each sector separately, Equation (1) was simplified to the following differenced equation:⁸

$$D \log L_t = \alpha_0 D \log Q_t + \beta_0 D \log w_t + b + e, \quad (2)$$

⁵ During the derivation long-run equilibrium is assumed: The production function is linearized in its neighbourhood. Adjustment costs (of labour and capital) are assumed to be quadratic. Exogenous variables are assumed to follow AR(2) processes.

⁶ For example, $\alpha_1 = -\mu\alpha_0$, etc.

⁷ Omitting the cost of capital may obviously bias the estimation of wage elasticities. However, coefficient estimates usually changed very little with the inclusion/omission of the cost of capital variable, but the standard errors were much larger with included cost of capital, indicating large uncertainty in measurement.

⁸ *Kőrösi* [1997] and [2002] presented this specification analysis in detail for the early year of the sample. We get qualitatively the same results for the last two years, too.

where Dlog stands for the logarithmic differences. However, this function was augmented in the next step by several factors, describing market structure and the competitive position of the firm, as well as ownership dummies.

The panel dataset is used as a repeated cross section sample as substantial structural breaks are assumed among the turbulent years of the transition process. Even though the sample is used as a series of cross sections, the basic heterogeneity of a panel model has to be assumed here as well. In case of a dynamic model panel characteristics of the data will not only lead to heteroscedastic errors, but the use of lagged dependent explanatory variable may yield inconsistent OLS estimates, as there may be firm specific effects in corporate labour demand, in which case the lagged dependent variable is not independent of the individual effects incorporated in the error term. Thus output, wage, and lagged labour (when applicable) was treated endogenously.

The augmented dynamic labour equation incorporates several variables into Equation 2. These variables describe the market structure of the firm (import penetration, measures of concentratedness of the sector, market share of the firm within its sector), export share, ownership dummies (majority state, domestic private or foreign owner), together with possible interactions.

Table 6 summarizes the overidentification tests for the unrestricted augmented model. The specification analysis gives qualitatively the same picture for the augmented model as *Kőrösi* [1997] and [2002] for the original model: when the model was estimated for the individual sectors, the model is usually not rejected, but the specification is invalid technologically heterogeneous sectors, eg the entire manufacturing or corporate sample, or for ownership and size groups. This clearly indicates that technological differences cause significant differences, structural breaks in corporate labour demand. Thus we will concentrate on the sectoral estimates.

Interestingly, ownership does not usually influence the labour demand of the firm. Section A showed that foreign owned firms were the single most important group creating jobs, however, that apparently reflects their more favourable market position.

The importance of the market structure variables show an interesting pattern. While individual market structure variables are rarely significant, the joint test frequently is. However, their effect was variable. Competitive pressure, represented by the market structure variables typically influenced corporate labour demand in two periods: in the consolidation period (1994-6) and in 2001-2 when foreign demand eased just when the government raised labour costs substantially for many firms. In the years between, in the period of rapid growth, the specific competitive pressure, represented by the market structure variables, usually had no measurable effect on employment at firm.

Different market structure variables, however, are multicollinear. There is no single market structure variable that is usually significant if market structure variables jointly does. Import penetration and market share were the two market structure variables, which, together with export share were significant relatively frequently; thus, all other variables were omitted from the final specification. The results for the restricted augmented equations start with Table 10.

The sectoral estimates usually have no structural breaks. However, overidentification tests indicate larger likelihood of rejecting the model specification. Thus, even if market structure variables are jointly insignificant, they sometimes do matter.

Export-oriented firms tend to increase employment when exports becomes significant. On the other hand, the effect of the two market structure variables seems to be rather ambiguous, when significant.

However, the effect of overall competitive pressure is much more important than that of the specific factors. Initially labour demand was much more elastic, both with respect to labour cost and output, than typical in any normally functioning market economy. Especially the wage elasticity had some extreme values, sometimes not significantly different from -1 . As the situation of firms normalised, labour demand became less sensitive to labour cost. By 2000 most sectors were characterised by elasticities rather similar to the ones seen in Western Europe. (For example, *Bresson, Kramarz and Sevestre* [1992], *Hamermesh* [1992].) However, 2002 brought increasing sensitivity to wages.

The Hungarian situation is different from other CEE labour markets. *Basu et al.* [1997], *Estrin and Svejnar* [1998], *Grosfeld and Nivet* [1997] or *Singer* [1996]⁹ all got lower elasticities (in absolute terms) for Czechia, Poland, Slovakia, and claimed to have more stable coefficients. It should, however, be mentioned that they all used much shorter sample period, and typically estimated labour demand equations for a very heterogeneous group of firms, so coefficient estimates must be very noisy.

⁹ Singer uses monthly observations, thus the elasticities in that study correspond to a very different time frame.

Section C: Wage formation

Development of wages are frequently analysed for Hungary. (The most notable studies are *Kertesi and J. Köllő* [1996], [1997], [2000], [2001], *Köllő* [1998]. However, these studies mostly concentrate on individual wages, using the (frequently augmented) Mincerian human capital model. While *Kertesi and J. Köllő* [2001], for example, includes firm specific information influencing the wage distribution, they mostly are interested in these variables in the context of the revaluation of the human capital of employees.

Their approach has several disadvantages. Most importantly, these models are always static, while adjustment process should be an important part of a model determining wages.¹⁰ They concentrate on wage differentials, while the company really determines wages and employment together with activity level.

In this study we model the overall wage determination at the firm. The disadvantage of this approach is that we have to assume that labour is homogeneous; we cannot use information on the human capital of the employees at firm. But this way we can estimate a dynamic model.

This model is close to the Polish tradition of wage modelling (*e.g.*, *Grossfeld–Nivet* [1997], [1999], *Bedi—Cieslik* [2002], *Christev–Fitzroy* [2002] s *Bishop–Mickiewicz* [2003]). *Estrin–Svejnár* [1998] or *Noorkôiv et al* [1998] also estimated somewhat similar models for other CEE economies.

Firms determine wages in a dynamic adjustment process, where the key driving variable is labour productivity development. A firm has to pay higher wages if it wants to attract better, more productive labour. The productivity growth thus indicates that the firm uses higher quality labour (*c.f.*, *Akerlof and Yellen* [1986]). On the other hand, more productive firms may choose to share the rent with their employees (*c.f.*, *Nickell–Wadhani* [1990]). Similar rent sharing may be related to the good export performance of the firm (*c.f.*, *Abowd–Lemieux* [1993]).

The size of the firm, *e.g.*, measured by the number of employees may also have an effect on the wage determination process for several reasons (*c.f.*, *Bayard–Troske* [1999]).

Nickell, Vainoimaki and Wadhvani [1994] analysed the wage effect of the position of the firm on the product market. *Grossfeld and Nivet* [1999] and *Christev and Fitzroy* [2002] also assume that both the position at the product market and ownership structure will influence the productivity effect asymmetrically.

Regional unemployment will lower the wage demands of employees, thus its effect should be negative (*c.f.*, *Blanchflower and Oswald* [1994]). *Kertesi and Kll* [1997] shows how differences in regional unemployment rate became increasingly more important factor influencing individual wages.

Using all these, the core model of wage determination is

$$\log(W_t) = f(\log(W_{t-1}), \log(Pr_t), \log(Pr_{t-1}), \log(L_t), \log(L_{t-1}), UE_t, \\ Exsh_t, MS_t, OWN_t, Interaction) + \varepsilon,$$

¹⁰ This partly is the consequence of the dataset they use.

where w is the total wage bill; Pr is productivity; L is the number of employees; UE is regional unemployment; $EXsh$ is export share; MS market structure variables; OWN is ownership vector; and $\varepsilon \sim i.i.d.\mathcal{N}(0, \sigma)$. Interaction measures the possibility of structural break due to market structure or ownership effects, for example, on productivity.

As production, employment and wage decisions are interrelated, they come out as parts of the solution when the firm maximizes its profit, lagged wage, output and employment level (thus productivity) are all treated endogenously.

Again, we use the panel dataset as a repeated sectoral cross section sample. We usually get significant structural breaks, when pooling years. Similarly, sectoral coefficient vectors tend to be significantly different, reflecting technological differences.

The overall picture is similar to the one obtained at the labour demand modelling, when testing the goodness of the model specification. (Table 21) Model specification is almost always rejected for technologically heterogeneous samples (all (manufacturing) firms, by ownership or size), and it usually is not significant, when estimating the model for the individual sectors. However, more specification tests are significant for the wage equation.

When looking at the importance of the market structure and ownership variables, we get similar picture for the ownership: it matters in most sectors for a small number of cases only. However, the market structure effect does not seem to be stronger, either. When we look at the joint significance of all ownership effects, including interactions, we get somewhat stronger effect, but the productivity related interaction variables, measuring possible structural break in productivity effect on wage determination, is rarely significant.

Significant ownership and market structure effect concentrate on specific years: mostly 1997 and 2001, which happen to be the initial year of the rapid economic growth and its aftermath. The share of significant tests is smaller in all other years, although never just random.

Thus, market share and ownership does not seem to have much explanatory power at wage determination. Import penetration is the only variable, which is individually significant in more cases than the significance level would suggest. We set up a parsimonious model, including variables which are relatively frequently significant. For the other variables the significant coefficients seem to occur randomly. The model after simplifications:

$$\log(W_t) = f(\log(W_{t-1}), \log(Pr_t), \log(Pr_{t-1}), \log(L_t), UE_t, Imppt)$$

Results are presented from Table 26.

There are marginally more equations where the overidentification test is significant, but the model reduction tests are almost never significant in those cases. Still, there may be some omitted effects, which would improve the model in those cases. However, the coefficients do not systematically change, when the restrictions are imposed. The model could frequently be simplified to a differenced model in the growth period, but not before and after: levels seem to matter when shocks are large. There are no clear tendencies in the productivity elasticity, either short, or long-run; they rather seem to fluctuate. The only visible tendency is that the smallest short-run elasticity was in 2002 for most sectors. Apparently, firms are less willing to share rents in time of strong government intervention.

The wage curve seems to be somewhat strange. Unemployment has a negative effect on wages, when significant, however, it is not always significant in any of the sectors. As

we use a dynamic model, unemployment really matters when it changes substantially. It becomes part of the information built into the actual wages, and it will only influence wage determination again, when there are changes. This obviously is very different from the wage curve effect estimated by *Kertesi and Kll* [1997] in a static model.

To conclude; competitive pressure clearly influences the overall employment decision of the firm: they are more sensitive to wage cost under higher pressure. Strong competitive pressure also seems to directly influence employment decisions. However, the situation is different with wages. Competitive pressure seems to have a very marginal effect on the wage determination, except for the unemployment ratio, which is an input pressure.

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Appendix 1: Data

The analysis is based on the financial accounts of the corporate sector, *i.e.*, firms which are obliged to follow double entry book-keeping. This covers all incorporated firms, and practically all firms employing more than 5 persons. Firms with large turnover or asset value are also included, even if they have fewer or no employees.

The job reallocation analysis of Section A was mostly based on the sectoral aggregates (at 4 digit NACE sectoral level) for computing the measures of job creation and destruction.¹¹ This dataset is comprehensive to the corporate sector, but the information is restricted to annual sectoral aggregates. This is sufficient for calculating the typical one period job flow figures, but ownership or size effect, persistence, etc. cannot be analysed.

All other analysis uses data at firm level, covering a substantial segment of incorporated firms. Table 1 summarizes the relevant characteristics of this sample. It is obvious that the sample is not representative: it covers almost all large firms, but many smaller ones are missing. However, the firms in the sample employ the vast majority of the workers, especially in manufacturing. The sample period is between 1992 and 2002.

Table 1: Summary statistics on the representativeness of the sample

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Manufacturing											
Total number of firms	11146	13234	13953	15089	16936	18927	20153	20991	21957	24560	26353
Firms in sample	1734	2457	2950	3224	3611	3961	4769	4790	5092	5007	6234
Share (%)	15.6	18.6	21.1	21.4	21.3	20.9	23.7	22.8	23.2	20.4	23.7
Sales total, % share	70.9	78.5	85.4	86.9	90.3	87.6	91.0	91.6	86.9	82.9	90.6
Value added, % share	75.1	82.7	88.7	90.5	93.7	89.4	92.9	93.2	90.1	87.2	90.3
Exports, % share	73.5	84.3	89.6	91.9	97.8	93.7	96.2	97.2	89.2	82.4	96.1
Employment, % share	69.3	76.9	81.9	82.8	84.2	80.4	85.4	85.1	81.7	79.3	84.0
Other sectors											
Total number of firms	45581	58266	65839	75134	88707	101496	110682	118341	129014	159250	178221
Firms in sample	3090	5212	5904	6452	7305	8125	10461	9904	11030	11114	15946
Share (%)	6.8	8.9	9.0	8.6	8.2	8.0	9.5	8.4	8.5	7.0	8.9
Sales total, % share	53.4	61.4	60.8	59.8	63.2	62.6	69.0	68.1	66.1	64.0	65.7
Value added, % share	62.1	74.1	75.2	76.8	81.3	79.1	83.3	81.8	82.0	77.5	79.9
Exports, % share	47.5	53.4	54.0	50.0	57.2	66.7	76.2	78.0	77.0	73.6	74.3
Employment, % share	65.5	69.0	75.5	72.1	72.2	67.6	70.2	67.7	65.0	60.6	60.1
All firms											
Total number of firms	56727	71500	79792	90223	105643	120423	130835	139332	150971	183810	204574
Firms in sample	4824	7669	8854	9676	10916	12086	15230	14694	16122	16121	22180
Share (%)	8.5	10.7	11.1	10.7	10.3	10.0	11.6	10.5	10.7	8.8	10.8
Sales total, % share	58.9	66.7	68.4	68.9	72.1	71.4	76.6	76.3	73.6	70.9	74.4
Value added, % share	67.0	77.4	80.5	82.5	86.5	83.6	87.4	86.5	85.4	81.2	83.9
Exports, % share	62.0	71.1	76.3	77.4	85.1	86.9	91.5	93.4	86.7	80.7	92.1
Employment, % share	66.9	71.8	77.8	76.0	76.6	72.4	76.0	74.2	71.3	67.5	68.4

Many observations, however, had to be excluded due to data problems, *e.g.*, missing observations, so the actual sample size of the estimations is smaller, but the coverage, measured by employment or sales, is still high in all years.

Employment is measured in annual average number of full-time employees. It is not possible to correct for part-time employment, however, that is usually negligible. Employment figures also include an unknown number of people on long-term unpaid leave (child care and military service). These uncertainties may also have an effect on the labour cost. Firms are identified by their tax-file number in the dataset. If a firm

¹¹ We would like to express our gratitude to Mrs. Valéria Marocsek and Mr. József Becsei for their help in compiling data base.

was reorganized: broken up, merged with another firm, or, sometimes, it simply changed name, relocated headquarters, etc., it got a new tax-file number. As our sample covers the period, when former SOE's were corporatized, frequently reorganized, and later privatized, there were many such changes, when a new tax-file number had to be assigned to the firm. This was especially common before in the first half of the 1990's: firms were routinely assigned a new identifier even when only the name of the company changed. Thus, in some cases, existing firms disappear from our sample, because their tax-file number was changed for some reason, and 'new' firms enter the dataset where the tax-file number is the only novelty. However, this also was a period of intensive restructuring. Unfortunately, we cannot distinguish de novo firms from the reorganized or merely relabelled ones, or from the spin-offs of break-ups. Firm creation and destruction is inflated in our database, and thus in our analysis. And these groups are rather large: Since the mid-1980's many small private firms were founded. Many grew to considerable size, and they represent a large fraction of new firms in our sample, although they frequently enter this sample only after several years of operation. On the other hand, there are many new firms created from existing former SOE's: *Voszka* [1997] reports that from remnants of 49 well-known former socialist SOE's which in 1989 produced approximately 30% of Hungarian GDP and 50% of the exports at least 690 firms were created by 1996, most of them privately owned by then.

The frequent change of identifier may obviously inflate gross job creation and destruction figures. The same workers may have continued to work in the same environment, on the same equipment, producing the same output, and still, it looks as if their jobs were first destroyed by the exit of the 'old' firm, and recreated in the emerging new firm.¹² New identifier almost exclusively indicated an important change (merger or split-up) in the firm's life after 1996.

Capital stock of firms was not measured reliably in the early years of sample period. The capital stock of a firm could have been revalued several times after 1990: once when the firm was corporatized, at least once, but in case of larger firms frequently 3–4 times before privatisation and usually after privatisation as well. These revaluations in some cases repeatedly substantially changed the size of the capital stock without incurring any new (dis)investment. As timing and magnitude of these revaluations are unknown, no adjustment is feasible. However, this sequence of revaluations usually was over by 1996, and the capital stock is comparable afterwards.

The cost of capital was measured as the effective average rate of depreciation which may be influenced by these revaluations. However, that probably is the minor source of measurement error in the cost of capital. There are many firms with clearly invalid reported depreciation: For more than 10% of the sample depreciation is either greater than half the net value of fixed assets, or less than 1% of the value of fixed assets, both of which is impossible. Apparently some firms use depreciation as a balancing item in their books: this is the only relatively large expenditure item which does not have to be substantiated by bills. Approximately 25% of the firms reported 0 profits with the precision of our observations (one million forints); for more than half of these firms the rounding error was less than 0.5% of the sales total. We suspect that many such firms applied creative accounting practices to avoid the necessity of reporting either losses or profits.

¹² Such corporate restructuring can always happen in any market economy. The problem is that in Hungary there were far more such changes than in a typical developed market economy.

Definitions:

All variables (except employment) were deflated, usually with four digit sectoral producer price indices. There were some—usually small—sectors, where the price index was only available at a higher level of aggregation (2 or 3 digit sectors). Variables are measured in million Forints at 1991 prices. The variables are:

Output (Q): Sales total, net of revenue from asset sales and other extraordinary sources.

Labour (L): Annual average employment at the firm.

Productivity (Pr): Q/L

Cost of labour (W): Annual wage bill and social security contributions relative to average employment at the firm.

Capital (K): Fixed assets. See data section for qualifications.

Capital cost (c): Depreciation over fixed assets. See data section for qualifications.

Export share: Export revenue relative to Q.

Market share: Sales of the firm divided by the market size, where market size is the sectoral production plus competing imports less exports, all measured at the NACE four digit sectoral level. The sectoral classification of imports is based on the four-digit product classification.

Import penetration: The ratio of the sectoral imports to the above defined market size.

Concentration measures: Herfindahl–Hirschmann index of concentration of total sales, measured at the NACE four digit sectoral level; share of 3 largest firms in the total sales; relative standard deviation of total sales

Exporting firm: Export share ≥ 0.05

State owned firm: A firm where the central and local governments together owned more than 50% of the equity capital.

Foreign owned firm: Foreign investors owned more than 50% of the equity capital.

Private firm: Domestic private investors owned more than 50% of the equity capital.

Small firm: A firm where the number of employees is less than 50, or the value of fixed assets is less than 20m. 1991 forints or sales volume is less than 25m. 1991 forints.

Large firm: A firm where the number of employees is greater than 500, or the value of fixed assets is greater than 1bn. 1991 forints or sales volume is greater than 1.5bn. 1991 forints.

Legend to the tables: Asterisks after the coefficients and test statistics indicate that the test is significant at 0.05 level (*) or at 0.01 level (**).

Appendix 2: Tables for Section A

Table 2: Job creation and destruction, all firms (percent)

Sector	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Job creation										
Agriculture	14.2	7.9	7.2	6.2	6.4	7.1	9.2	7.6	10.8	7.1
Mining and energy	31.8	16.4	8.1	5.4	3.9	2.3	2.3	2.1	2.5	2.3
Manufacturing	18.0	14.6	14.9	14.0	15.0	12.5	11.0	14.4	10.5	7.4
— TCF	18.8	12.9	13.3	14.3	16.4	11.2	8.8	9.7	8.7	7.2
— Chemical	14.4	9.1	10.3	8.9	10.0	9.9	11.6	9.5	9.4	8.4
— Engineering	19.5	15.9	16.2	16.9	18.5	14.9	13.4	23.5	11.7	6.7
Trade	24.0	21.2	16.4	17.3	19.9	17.5	15.7	23.1	18.4	15.5
Construction	25.1	26.7	20.5	21.8	20.6	19.6	18.6	16.9	16.6	20.7
Services	28.9	16.3	16.0	14.4	13.2	11.9	12.5	12.1	13.9	12.6
Total	23.0	16.6	15.0	14.3	14.3	12.8	12.4	13.7	12.8	11.7
Job destruction										
Agriculture	37.9	22.0	14.6	10.2	11.8	8.8	14.6	15.5	18.6	12.0
Mining and energy	29.0	14.6	12.9	9.7	10.5	6.3	8.7	12.1	9.8	8.7
Manufacturing	30.6	19.9	15.3	13.4	11.2	8.8	11.4	11.7	11.6	14.3
— TCF	28.2	19.9	15.6	11.6	7.7	10.3	11.0	12.7	12.5	19.0
— Chemical	23.2	13.3	11.3	8.3	7.2	9.0	10.1	8.4	8.2	16.2
— Engineering	24.4	23.3	14.2	11.1	7.9	6.1	10.9	10.5	12.8	13.8
Trade	34.9	26.2	24.1	22.9	17.7	15.0	13.8	15.2	18.5	16.5
Construction	36.7	27.6	21.7	18.7	18.5	12.8	13.5	11.9	12.7	13.0
Services	36.0	20.2	18.2	12.6	12.0	9.1	10.6	8.5	11.2	13.1
Total	33.8	21.4	17.4	14.0	12.9	9.7	11.8	11.3	12.4	13.5
Net job creation										
Agriculture	-23.7	-14.1	-7.5	-4.1	-5.4	-1.7	-5.4	-7.9	-7.8	-4.9
Mining and energy	2.8	1.8	-4.8	-4.3	-6.6	-4.0	-6.4	-10.1	-7.2	-6.3
Manufacturing	-12.6	-5.3	-0.3	0.7	3.8	3.7	-0.5	2.7	-1.1	-6.8
— TCF	-9.5	-7.0	-2.4	2.7	8.7	0.9	-2.1	-2.9	-3.8	-11.7
— Chemical	-8.7	-4.2	-1.0	0.6	2.8	0.9	1.5	1.1	1.2	-7.8
— Engineering	-4.9	-7.4	1.9	5.7	10.7	8.8	2.5	12.9	-1.1	-7.1
Trade	-10.8	-4.9	-7.7	-5.5	2.3	2.5	1.9	7.9	-0.1	-1.0
Construction	-11.6	-1.0	-1.1	3.0	2.1	6.8	5.1	5.0	3.9	7.8
Services	-7.1	-3.9	-2.3	1.8	1.2	2.9	1.9	3.6	2.8	-0.5
Total	-10.8	-4.8	-2.4	0.2	1.4	3.1	0.6	2.4	0.3	-1.8
Job reallocation										
Agriculture	52.1	29.9	21.8	16.4	18.2	15.9	23.8	23.0	29.4	19.2
Mining and energy	60.8	31.0	21.0	15.1	14.4	8.5	10.9	14.2	12.3	11.0
Manufacturing	48.6	34.4	30.2	27.4	26.2	21.2	22.4	26.2	22.0	21.7
— TCF	47.0	32.8	28.9	25.9	24.1	21.5	19.8	22.4	21.3	26.2
— Chemical	37.6	22.4	21.7	17.2	17.2	18.9	21.6	17.9	17.7	24.6
— Engineering	43.9	39.2	30.4	28.0	26.4	21.1	24.3	34.0	24.5	20.4
Trade	58.9	47.4	40.6	40.2	37.6	32.5	29.5	38.3	37.0	32.1
Construction	61.8	54.3	42.2	40.5	39.2	32.5	32.1	28.8	29.3	33.7
Services	64.9	36.5	34.2	27.0	25.2	21.0	23.1	20.7	25.1	25.7
Total	56.8	38.0	32.4	28.3	27.2	22.5	24.1	25.1	25.2	25.2
Excess job reallocation										
Agriculture	28.3	15.8	14.3	12.3	12.8	14.2	18.4	15.2	21.6	14.3
Mining and energy	58.0	29.2	16.2	10.8	7.8	4.5	4.5	4.1	5.0	4.7
Manufacturing	36.0	29.1	29.8	26.7	22.4	17.5	21.9	23.5	20.9	14.9
— TCF	37.5	25.8	26.5	23.2	15.4	20.6	17.7	19.5	17.4	14.4
— Chemical	28.9	18.2	20.7	16.6	14.4	18.0	20.2	16.8	16.5	16.7
— Engineering	39.0	31.8	28.4	22.3	15.7	12.3	21.7	21.1	23.4	13.3
Trade	48.1	42.5	32.9	34.7	35.3	30.0	27.6	30.4	36.9	31.1
Construction	50.2	53.4	41.1	37.5	37.1	25.6	27.0	23.8	25.4	26.0
Services	57.9	32.6	31.9	25.2	24.0	18.1	21.1	17.1	22.3	25.1
Total	45.9	33.3	30.0	28.1	25.8	19.4	23.6	22.7	24.9	23.4

Note: TCF stands for Textile, Clothing and Footwear.

Table 3: ‘Narrow’ job creation and destruction, all firms (percent)

Sector	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Job creation										
Agriculture	2.1	3.8	3.7	4.0	3.8	4.9	3.3	4.3	4.1	4.1
Mining and energy	7.7	7.7	2.3	1.3	2.0	1.6	1.0	1.2	1.5	1.3
Manufacturing	5.5	6.6	7.5	7.6	9.7	9.6	7.8	9.7	6.9	5.0
— TCF	5.3	6.7	6.7	8.3	10.1	7.1	5.4	5.7	5.9	3.8
— Chemical	3.9	4.0	5.0	5.9	5.9	8.4	10.0	6.8	6.4	6.2
— Engineering	7.5	7.5	9.8	10.4	13.0	12.2	10.3	17.4	8.5	5.0
Trade	8.7	9.4	8.1	8.4	10.9	12.2	10.5	15.0	9.7	8.6
Construction	8.4	10.5	9.6	9.8	11.1	14.0	12.1	11.5	10.6	15.0
Services	5.0	5.6	5.7	6.1	6.9	8.2	9.0	7.8	7.9	6.7
Total	5.8	6.8	6.7	6.9	8.3	9.3	8.4	9.1	7.7	7.3
Job destruction										
Agriculture	25.0	15.1	11.0	8.1	8.8	6.9	11.5	10.9	12.7	9.1
Mining and energy	8.7	7.0	5.3	5.5	8.7	6.0	7.5	9.4	7.9	7.7
Manufacturing	17.6	9.5	8.0	7.5	6.1	6.1	8.0	6.2	7.8	8.2
— TCF	10.1	7.4	7.2	5.9	4.7	7.0	7.3	7.1	8.6	10.7
— Chemical	17.0	6.1	7.0	6.1	5.4	8.0	7.0	7.0	5.9	8.9
— Engineering	14.7	12.5	7.9	6.6	4.7	4.9	8.7	4.7	9.2	7.0
Trade	18.8	12.9	15.5	14.2	10.9	10.7	9.2	8.2	14.4	9.6
Construction	21.4	12.5	11.3	11.5	10.0	7.9	9.3	8.2	9.4	7.4
Services	15.0	9.5	8.9	8.7	8.9	6.7	7.7	6.4	8.4	8.6
Total	17.6	10.5	9.3	8.8	8.1	6.9	8.5	7.2	9.0	8.3
Net job creation										
Agriculture	-23.0	-11.2	-7.2	-4.1	-5.0	-2.0	-8.1	-6.5	-8.6	-5.0
Mining and energy	-1.0	0.7	-3.0	-4.2	-6.7	-4.4	-6.5	-8.3	-6.5	-6.5
Manufacturing	-12.1	-2.9	-0.6	0.0	3.6	3.4	-0.2	3.5	-0.9	-3.2
— TCF	-4.8	-0.7	-0.5	2.5	5.4	0.0	-1.8	-1.5	-2.8	-7.0
— Chemical	-13.2	-2.1	-2.0	-0.2	0.5	0.5	3.0	-0.2	0.6	-2.7
— Engineering	-7.3	-5.0	1.9	3.8	8.3	7.3	1.6	12.7	-0.6	-2.0
Trade	-10.1	-3.5	-7.4	-5.8	0.0	1.5	1.3	6.8	-4.7	-0.9
Construction	-13.1	-1.9	-1.8	-1.7	1.1	6.1	2.8	3.3	1.2	7.6
Services	-10.0	-3.8	-3.2	-2.5	-2.0	1.6	1.3	1.4	-0.4	-1.9
Total	-11.8	-3.7	-2.7	-1.9	0.2	2.4	0.0	1.9	-1.3	-1.1
Job reallocation										
Agriculture	27.1	18.9	14.7	12.1	12.6	11.8	14.8	15.2	16.8	13.2
Mining and energy	16.5	14.7	7.6	6.9	10.7	7.6	8.5	10.6	9.4	9.0
Manufacturing	23.1	16.1	15.5	15.1	15.8	15.7	15.9	16.0	14.8	13.2
— TCF	15.4	14.1	13.9	14.2	14.8	14.2	12.7	12.8	14.5	14.5
— Chemical	20.9	10.1	12.0	12.0	11.3	16.4	17.0	13.8	12.3	15.1
— Engineering	22.2	20.1	17.7	16.9	17.7	17.1	19.0	22.1	17.7	11.9
Trade	27.5	22.4	23.5	22.7	21.8	22.9	19.8	23.3	24.2	18.2
Construction	29.8	23.0	20.9	21.3	21.1	21.9	21.5	19.7	20.1	22.4
Services	20.0	15.1	14.6	14.8	15.8	14.9	16.8	14.1	16.3	15.3
Total	23.5	17.4	16.0	15.7	16.4	16.1	16.8	16.2	16.6	15.6
Excess job reallocation										
Agriculture	4.2	7.7	7.5	8.0	7.6	9.9	6.7	8.7	8.2	8.2
Mining and energy	15.5	14.0	4.6	2.7	4.0	3.2	2.0	2.4	3.0	2.5
Manufacturing	11.0	13.2	14.9	15.1	12.3	12.3	15.7	12.4	13.9	9.9
— TCF	10.6	13.4	13.4	11.7	9.4	14.1	10.9	11.4	11.7	7.5
— Chemical	7.8	8.0	10.0	11.8	10.8	15.9	14.1	13.7	11.7	12.4
— Engineering	14.9	15.0	15.9	13.1	9.4	9.8	17.4	9.4	17.1	9.9
Trade	17.5	18.9	16.2	16.9	21.8	21.3	18.5	16.5	19.5	17.3
Construction	16.8	21.0	19.1	19.6	20.0	15.8	18.7	16.3	18.8	14.8
Services	10.0	11.2	11.4	12.3	13.8	13.3	15.5	12.7	15.9	13.4
Total	11.7	13.7	13.3	13.7	16.3	13.8	16.7	14.3	15.3	14.7

Table 4: ‘Narrow’ job creation and destruction, sample (percent)

Sector	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Job creation										
Agriculture	2.1	3.6	2.8	3.0	4.4	4.0	2.4	3.1	1.8	2.2
Mining and energy	24.5	3.9	0.9	1.9	2.0	3.0	1.2	3.7	5.5	3.4
Manufacturing	6.1	5.9	6.6	6.5	8.5	9.0	7.2	7.8	6.1	4.0
— TCF	5.3	6.9	5.9	6.9	8.9	6.7	4.7	4.4	5.1	2.7
— Chemical	6.8	3.0	3.2	4.0	4.3	6.6	7.9	3.9	4.4	4.8
— Engineering	7.1	7.2	8.8	10.5	12.2	12.0	9.9	13.8	8.1	4.3
Trade	7.8	7.7	7.5	7.5	9.0	11.4	10.8	7.3	8.3	6.6
Construction	8.6	8.8	6.2	5.5	8.8	10.1	7.7	6.7	8.9	6.3
Services	4.1	2.4	2.1	1.4	2.0	2.7	2.8	2.2	2.4	2.0
Total	6.5	6.0	5.4	5.2	6.8	7.8	6.7	6.1	5.7	4.2
Owner: state	3.1	2.0	1.3	1.5	1.5	2.6	1.1	1.2	1.1	1.3
— domestic private	9.4	6.4	6.2	5.5	7.3	6.5	6.6	4.7	4.3	3.8
— foreign	10.8	12.5	9.7	8.7	11.0	11.0	9.6	10.1	8.3	4.7
Size: large firms	4.9	3.9	3.5	3.2	5.8	6.2	5.4	5.6	4.3	3.4
— medium sized firms	6.5	6.9	6.8	7.1	7.2	8.6	7.2	7.1	7.0	4.8
— small firms	12.5	11.7	8.5	6.5	9.0	10.1	9.0	5.0	6.3	4.8
Exporting firm	5.6	5.0	5.4	5.7	8.0	7.9	6.5	7.6	5.7	3.4
Marginal firm	7.2	7.8	6.5	6.3	7.9	8.6	7.9	6.4	6.9	5.1
Competing with imports	5.8	5.5	5.8	6.2	7.8	8.2	7.0	7.9	5.9	3.8
Job destruction										
Agriculture	33.6	17.6	12.2	8.1	8.6	6.8	12.1	11.6	11.9	10.5
Mining and energy	20.6	11.9	10.3	9.0	17.7	7.6	12.4	21.4	11.2	12.6
Manufacturing	18.9	10.9	8.2	8.1	6.5	6.0	8.1	6.5	6.3	9.0
— TCF	13.3	8.3	7.3	6.5	5.0	7.0	6.9	7.2	7.5	12.5
— Chemical	9.0	10.3	7.1	5.9	6.2	6.7	6.3	8.5	6.6	9.3
— Engineering	17.0	13.4	8.5	7.5	5.3	4.9	8.7	5.4	6.4	8.8
Trade	17.4	12.2	11.4	11.0	10.1	8.2	11.4	10.0	8.5	9.3
Construction	22.2	14.7	16.6	16.3	11.3	10.3	8.8	8.7	10.0	11.0
Services	7.1	6.5	5.1	5.6	7.2	3.5	3.7	2.8	3.6	3.9
Total	19.0	11.5	9.2	8.7	8.0	6.5	8.6	7.6	7.1	8.4
Owner: state	15.4	10.6	7.7	7.3	7.3	5.4	4.2	3.7	2.8	3.4
— domestic private	25.7	12.5	10.8	10.8	9.5	7.7	13.1	10.6	9.5	11.7
— foreign	12.2	8.2	6.7	7.1	6.2	4.5	6.1	5.2	6.2	7.9
Size: large firms	10.8	7.9	5.9	5.6	5.9	4.4	5.6	4.4	4.3	4.9
— medium sized firms	23.5	12.4	9.8	9.0	7.4	6.1	8.8	7.9	6.3	8.3
— small firms	33.4	22.6	20.6	19.3	16.7	13.0	16.1	15.0	16.1	17.4
Exporting firm	19.1	9.5	7.4	6.9	6.3	5.0	7.8	6.1	5.6	8.1
Marginal firm	26.0	16.1	14.5	12.4	10.8	9.4	10.9	10.6	11.2	12.0
Competing with imports	20.9	11.4	8.6	7.8	6.6	6.1	8.7	6.8	6.6	9.4

Note: Exporting firm: export share is greater than 5%; marginal firm: market share is less than 1%; competing with imports: import penetration to the sector is greater than 5%.

'Narrow' job creation and destruction, continued

Sector	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Net job creation										
Agriculture	-31.5	-14.0	-9.4	-5.1	-4.2	-2.8	-9.7	-8.5	-10.1	-8.3
Mining and energy	3.9	-8.0	-9.4	-7.1	-15.7	-4.5	-11.2	-17.6	-5.7	-9.2
Manufacturing	-12.8	-5.0	-1.5	-1.5	2.0	2.9	-0.9	1.3	-0.2	-4.9
— TCF	-7.9	-1.4	-1.4	0.4	3.9	-0.3	-2.3	-2.8	-2.4	-9.8
— Chemical	-2.2	-7.4	-3.9	-1.9	-1.9	0.0	1.6	-4.6	-2.3	-4.4
— Engineering	-10.0	-6.1	0.3	3.0	6.9	7.0	1.2	8.5	1.7	-4.5
Trade	-9.6	-4.5	-3.9	-3.5	-1.0	3.2	-0.2	-2.7	-0.2	-2.7
Construction	-13.6	-5.9	-10.5	-10.8	-2.5	-0.2	-1.2	-2.0	-1.1	-4.7
Services	-2.9	-4.1	-3.0	-4.2	-5.2	-0.7	-1.0	-0.7	-1.2	-1.9
Total	-12.5	-5.4	-3.8	-3.5	-1.2	1.3	-1.8	-1.5	-1.4	-4.2
Owner: state	-12.3	-8.6	-6.4	-5.8	-5.8	-2.9	-3.1	-2.5	-1.8	-2.1
— domestic private	-16.3	-6.1	-4.6	-5.3	-2.3	-1.2	-6.5	-5.9	-5.2	-7.9
— foreign	-1.4	4.3	3.0	1.7	4.8	6.5	3.4	4.9	2.1	-3.2
Size: large firms	-5.9	-4.0	-2.4	-2.5	0.0	1.8	-0.2	1.2	0.0	-1.5
— medium sized firms	-17.0	-5.5	-3.0	-1.9	-0.2	2.5	-1.6	-0.8	0.8	-3.5
— small firms	-20.9	-10.9	-12.1	-12.8	-7.7	-2.9	-7.1	-10.0	-9.8	-12.5
Exporting firm	-13.5	-4.5	-2.1	-1.2	1.7	2.9	-1.3	1.5	0.1	-4.7
Marginal firm	-18.8	-8.3	-8.0	-6.1	-2.9	-0.8	-3.1	-4.2	-4.2	-6.9
Competing with imports	-15.0	-5.8	-2.7	-1.6	1.2	2.2	-1.7	1.2	-0.7	-5.5
Job reallocation										
Agriculture	35.8	21.2	14.9	11.2	13.0	10.8	14.5	14.7	13.7	12.7
Mining and energy	45.0	15.7	11.1	10.9	19.8	10.6	13.7	25.1	16.7	15.9
Manufacturing	25.0	16.9	14.8	14.6	15.0	15.0	15.3	14.4	12.4	13.0
— TCF	18.6	15.2	13.1	13.5	13.9	13.6	11.6	11.6	12.7	15.2
— Chemical	15.8	13.3	10.2	9.9	10.5	13.3	14.2	12.4	11.0	14.1
— Engineering	24.1	20.6	17.3	18.0	17.6	16.9	18.6	19.2	14.5	13.1
Trade	25.2	19.9	18.9	18.5	19.1	19.5	21.9	17.4	16.8	15.9
Construction	30.8	23.5	22.8	21.8	20.1	20.4	16.5	15.3	18.9	17.3
Services	11.2	8.9	7.2	7.0	9.2	6.2	6.5	5.0	5.9	5.8
Total	25.5	17.5	14.7	13.8	14.9	14.3	15.1	13.7	12.8	12.7
Owner: state	18.5	12.5	9.1	8.8	8.8	8.0	5.3	4.9	3.9	4.6
— domestic private	35.1	18.8	17.0	16.3	16.8	14.2	19.8	15.3	13.8	15.5
— foreign	23.0	20.7	16.4	15.8	17.2	15.5	15.7	15.3	14.4	12.5
Size: large firms	15.7	11.7	9.4	8.8	11.8	10.6	11.0	10.0	8.6	8.4
— medium sized firms	30.0	19.3	16.6	16.0	14.6	14.7	16.0	15.0	13.3	13.1
— small firms	45.9	34.4	29.1	25.8	25.7	23.2	25.0	20.0	22.3	22.2
Exporting firm	24.8	14.6	12.8	12.6	14.3	12.9	14.3	13.7	11.3	11.5
Marginal firm	33.2	23.9	21.0	18.7	18.6	18.0	18.8	17.0	18.1	17.1
Competing with imports	26.7	16.9	14.4	13.9	14.4	14.3	15.7	14.7	12.5	13.2
Excess job reallocation										
Agriculture	4.3	7.2	5.6	6.0	8.8	7.9	4.7	6.1	3.6	4.4
Mining and energy	41.2	7.7	1.7	3.8	4.1	6.1	2.4	7.4	10.9	6.7
Manufacturing	12.2	11.9	13.3	13.1	13.0	12.1	14.4	13.1	12.2	8.1
— TCF	10.7	13.8	11.7	13.1	10.0	13.3	9.3	8.9	10.2	5.4
— Chemical	13.7	5.9	6.3	8.0	8.6	13.2	12.6	7.8	8.8	9.6
— Engineering	14.1	14.5	16.9	14.9	10.6	9.9	17.5	10.7	12.8	8.6
Trade	15.6	15.4	15.0	15.0	18.1	16.3	21.6	14.6	16.6	13.3
Construction	17.2	17.5	12.4	11.0	17.5	20.3	15.4	13.3	17.8	12.6
Services	8.3	4.8	4.2	2.8	4.0	5.5	5.5	4.3	4.7	3.9
Total	12.9	12.1	10.9	10.3	13.7	12.9	13.4	12.2	11.5	8.4
Owner: state	6.2	3.9	2.7	3.0	3.1	5.2	2.3	2.4	2.1	2.5
— domestic private	18.8	12.8	12.4	11.0	14.5	13.0	13.3	9.4	8.6	7.5
— foreign	21.6	16.4	13.4	14.1	12.4	9.0	12.3	10.4	12.3	9.3
Size: large firms	9.8	7.7	7.0	6.3	11.7	8.9	10.8	8.8	8.6	6.9
— medium sized firms	13.0	13.8	13.6	14.1	14.4	12.2	14.4	14.1	12.5	9.6
— small firms	25.0	23.4	17.0	13.1	18.0	20.3	17.9	10.0	12.6	9.7
Exporting firm	11.3	10.1	10.7	11.4	12.5	10.0	13.0	12.2	11.2	6.8
Marginal firm	14.4	15.6	13.0	12.6	15.7	17.2	15.8	12.9	13.9	10.2
Competing with imports	11.7	11.1	11.7	12.4	13.2	12.1	14.0	13.6	11.8	7.7

Table 5: Persistence of job creation and destruction, sample (percent)

Sector	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Job creation										
Agriculture	64.9	83.7	69.5	84.5	82.7	83.1	54.1	68.7	72.5	72.0
Mining and energy	51.4	95.2	72.9	79.7	80.4	68.7	73.0	65.6	18.4	80.0
Manufacturing	44.3	76.9	89.2	88.9	88.7	88.4	82.7	86.3	85.2	77.1
— TCF	83.4	86.8	91.4	90.8	88.9	88.9	79.1	81.2	66.4	75.6
— Chemical	91.3	55.5	89.5	92.5	85.5	85.8	83.9	89.8	91.4	76.4
— Engineering	81.2	71.8	89.8	90.4	91.8	89.1	87.7	89.4	87.0	76.8
Trade	78.0	83.4	82.6	83.8	82.6	86.9	85.4	86.6	81.9	84.4
Construction	76.4	77.2	71.1	74.2	84.0	66.6	77.8	81.1	77.9	77.9
Services	89.5	90.3	70.6	86.4	80.5	88.0	88.6	90.5	87.7	82.0
Total	61.2	81.9	82.9	86.0	85.9	86.0	82.3	85.8	83.3	80.1
Owner: state	74.3	55.2	76.2	86.2	83.5	85.3	71.2	80.0	78.0	78.9
— domestic private	22.7	88.4	80.2	82.8	83.7	79.5	78.5	80.5	83.8	78.7
— foreign	89.2	86.9	90.2	92.2	92.3	91.5	87.7	92.1	85.2	81.2
Size: large firms	80.2	78.7	88.4	89.8	92.3	88.0	89.7	89.4	89.7	84.4
— medium sized firms	49.6	84.8	85.3	87.6	87.9	87.6	80.0	86.4	84.7	82.0
— small firms	75.6	80.1	72.0	74.5	68.6	78.6	73.3	78.7	62.2	68.4
Exporting firm	41.9	80.5	88.7	89.2	90.8	89.3	82.0	88.0	86.4	78.1
Marginal firm	75.3	82.0	76.9	81.6	79.9	79.9	74.8	83.4	76.1	76.1
Competing with imports	41.3	81.0	86.0	88.8	89.6	88.0	81.8	87.1	85.9	76.2
Job destruction										
Agriculture	99.2	96.3	96.2	92.0	92.5	91.4	95.7	96.5	95.8	95.4
Mining and energy	98.9	99.7	97.6	94.5	93.8	96.1	98.0	98.1	87.1	97.2
Manufacturing	97.5	96.5	94.0	91.9	86.3	88.4	89.8	89.3	89.6	91.5
— TCF	96.8	90.4	93.9	91.0	74.3	86.7	94.6	90.0	88.1	95.2
— Chemical	97.8	98.2	96.5	90.3	95.5	92.4	77.8	90.9	94.6	86.4
— Engineering	97.3	94.5	93.0	92.5	84.7	87.7	88.9	89.1	88.7	92.4
Trade	97.6	95.4	95.6	93.4	90.7	89.8	92.9	95.1	93.3	90.5
Construction	96.4	94.5	93.2	93.1	88.7	82.4	89.9	87.7	89.2	90.4
Services	96.5	95.7	96.4	96.3	97.2	94.7	97.2	96.0	94.2	95.4
Total	97.8	95.8	95.0	93.1	90.3	90.4	92.4	92.8	92.3	92.2
Owner: state	98.9	96.0	97.3	94.8	95.0	95.9	97.7	95.5	97.1	95.7
— domestic private	96.0	98.1	92.7	95.0	85.9	91.8	91.3	95.5	94.1	95.1
— foreign	96.8	91.4	93.4	90.8	91.2	86.9	91.3	90.5	88.1	90.6
Size: large firms	98.3	92.2	94.8	93.5	88.9	91.9	92.3	93.6	92.3	92.3
— medium sized firms	97.5	96.9	94.4	91.9	89.2	87.0	91.4	91.5	90.9	91.5
— small firms	98.1	96.7	96.1	94.3	93.1	92.8	93.4	94.0	93.9	92.8
Exporting firm	97.3	96.3	94.8	92.7	87.4	89.4	89.7	90.3	89.4	92.2
Marginal firm	98.1	96.2	95.7	92.7	91.1	90.4	92.5	91.9	92.6	92.1
Competing with imports	97.9	96.0	94.4	91.9	88.9	89.0	89.8	90.4	90.7	92.3

Appendix 3: Tables for Section B

Table 6: Augmented dynamic labour demand equation: Overidentification test

Sector, group of firms	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	7.82 **	5.37 **	5.29 **	5.18 **	3.29 **	4.30 **	3.13 **	5.29 **	3.50 **	7.62 **	5.19 **
manufacturing	4.24 **	2.19 **	4.16 **	1.41	2.83 **	1.88 *	1.63 *	3.88 **	2.24 **	3.52 **	3.00 **
engineering	2.25 **	0.76	1.04	0.40	1.12	1.26	0.85	3.04 **	1.37	1.86 *	0.76
chemical industry	0.40	1.10	0.43	0.89	0.74	1.02	1.05	0.57	0.70	0.94	0.77
food industry	0.92	0.76	3.29 **	1.23	1.38	1.11	1.20	1.24	2.03 **	0.63	1.04
TCF	2.10 **	1.33	2.48 **	0.79	0.93	1.62 *	0.75	1.43	1.12	1.70 *	1.74 *
other industries	1.34	1.79 *	3.65 **	1.03	1.20	1.39	0.28	1.64 *	0.86	1.06	1.43
agriculture	2.23 **	2.72 **	2.68 **	1.64 *	3.62 **	4.09 **	1.80 *	4.62 **	2.88 **	2.36 **	2.23 **
construction	3.59 **	1.90 *	1.02	1.51	1.44	1.21	2.41 **	2.37 **	2.06 **	2.14 **	3.19 **
trade	3.65 **	3.01 **	2.20 **	2.91 **	2.55 **	4.35 **	3.36 **	7.77 **	1.92 *	3.37 **	3.62 **
services	0.46	0.72	0.28	0.25	0.79	0.19	0.58	1.64 *	1.04	1.10	0.45
domestic private ownership	4.46 **	3.91 **	5.75 **	5.30 **	4.27 **	7.14 **	2.41 **	17.70 **	4.76 **	5.70 **	7.05 **
state-owned	3.80 **	2.20 **	2.41 **	2.57 **	1.26	0.61	2.61 **	1.53	1.14	0.68	1.55
foreign owner	2.53 **	2.05 **	3.80 **	2.10 **	4.07 **	1.58	2.50 **	3.30 **	2.45 **	4.98 **	2.97 **
other ownership	4.17 **	3.41 **	1.36	0.91	1.44	1.23	1.92 *	2.56 **	1.65 *	1.97 *	1.09
small firms	9.39 **	14.51 **	16.73 **	12.01 **	13.24 **	16.11 **	15.10 **	33.78 **	22.03 **	22.37 **	19.86 **
medium-sized firms	12.47 **	12.48 **	10.18 **	8.09 **	4.58 **	10.45 **	10.80 **	9.30 **	11.10 **	9.01 **	11.02 **
large firms	2.49 **	2.11 **	2.67 **	1.94 *	2.69 **	0.98	1.94 *	1.71 *	2.41 **	2.20 **	1.39

Table 7: Augmented dynamic labour demand equation: Wald test for market structure variables

Sector, group of firms	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	26.48 **	18.99 **	12.28 *	18.72 **	90.34 **	12.80 *	32.46 **	29.91 **	17.24 **	41.48 **	35.90 **
manufacturing	12.22 *	10.06	35.02 **	11.86 *	65.27 **	11.15 *	7.26	22.94 **	8.03	18.46 **	26.38 **
engineering	4.36	13.79 *	16.73 **	5.59	28.80 **	1.52	5.77	9.93	6.84	12.33 *	4.97
chemical industry	9.61	0.84	1.70	7.95	32.53 **	23.42 **	1.29	9.94	15.02 *	11.46 *	13.29 *
food industry	19.03 **	4.59	13.58 *	18.87 **	10.86	7.70	13.34 *	7.83	8.73	9.09	8.71
TCF	13.63 *	9.96	15.87 **	14.26 *	20.98 **	15.01 *	2.80	10.70	5.73	3.12	19.03 **
other industries	6.81	0.61	12.22 *	7.04	18.27 **	14.47 *	6.80	2.82	12.92 *	13.39 *	25.69 **
agriculture	9.15	7.12	12.09 *	13.61 *	10.30	9.81	13.03 *	5.48	8.80	16.51 **	13.69 *
construction	3.12	2.77	11.33 *	1.41	5.14	6.22	6.77	0.68	3.76	10.38 *	2.65
trade	11.78 *	12.17 *	10.79 *	4.66	8.70	10.90 *	13.93 *	19.53 **	3.95	5.83	12.83 *
services	18.02 **	14.30 *	4.85	5.87	9.62 *	7.77	17.73 **	5.76	10.17	15.17 *	21.03 **
domestic private ownership	14.26 *	14.11 *	15.43 **	21.87 **	39.79 **	12.06 *	25.76 **	24.30 **	14.80 *	25.63 **	22.45 **
state-owned	8.35	11.05	13.04 *	9.34	19.61 **	1.74	2.53	13.15 *	4.84	4.83	14.12 *
foreign owner	6.07	3.95	26.04 **	8.28	61.04 **	21.54 **	12.73 *	24.23 **	13.00 *	19.28 **	15.56 **
other ownership	21.29 **	43.06 **	9.81	5.20	10.57	23.01 **	19.23 **	4.75	2.22	5.46	3.13
small firms	5.61	7.66	14.19 *	17.58 **	48.66 **	4.27	17.98 **	23.75 **	3.82	26.12 **	15.07 *
medium-sized firms	30.11 **	24.20 **	8.86	25.43 **	56.51 **	28.72 **	3.65	6.10	19.10 **	9.43	30.80 **
large firms	9.84	7.17	5.58	13.99 *	18.87 **	17.33 **	5.63	8.53	13.26 *	1.64	5.63

Table 8: Augmented dynamic labour demand equation: Wald test for ownership variables

Sector, group of firms	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	0.92	12.86 **	20.55 **	30.45 **	14.84 **	17.50 **	13.52 **	46.02 **	27.84 **	10.25 **	13.48 **
manufacturing	3.04	0.71	3.63	11.39 **	4.52	0.20	0.09	4.75	26.28 **	0.13	0.25
engineering	5.72	3.78	3.38	0.65	9.37 **	4.68	2.28	0.87	17.16 **	0.26	2.51
chemical industry	3.20	2.16	2.26	5.38	4.42	1.43	1.65	7.25 *	1.26	1.92	0.13
food industry	0.32	0.68	2.25	3.38	3.23	2.11	0.20	2.59	3.58	0.24	4.39
TCF	3.41	2.72	6.66 *	14.80 **	1.06	0.79	0.25	1.05	10.62 **	1.57	1.13
other industries	0.51	7.02 *	7.87 *	0.21	0.90	3.65	2.26	3.37	0.26	3.49	6.51 *
agriculture	1.86	3.17	2.34	0.74	3.65	0.76	5.60	2.82	1.66	1.02	7.24 *
construction	1.22	3.84	4.03	1.14	5.59	2.21	3.50	2.52	3.47	2.07	2.90
trade	0.27	23.72 **	17.87 **	19.58 **	4.21	14.08 **	11.28 **	17.55 **	9.17 *	14.89 **	13.91 **
services	3.43	4.92	2.44	2.11	1.55	6.09 *	1.08	20.06 **	4.31	3.77	0.97
domestic private ownership	3.51	9.95 **	7.12 *	18.78 **	1.44	10.22 **	17.63 **	52.77 **	19.20 **	13.36 **	14.07 **
state-owned	1.11	0.33	14.75 **	14.84 **	18.10 **	7.87 *	11.16 **	7.13 *	6.48 *	14.10 **	14.23 **
foreign owner	5.00	1.04	0.56	3.40	6.12 *	0.72	5.56	0.18	3.18	2.38	1.65

Table 9: Augmented dynamic labour demand equation: Wald test for market structure and ownership variables

Sector, group of firms	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	30.79 **	39.93 **	46.50 **	62.62 **	130.39 **	39.81 **	54.68 **	94.20 **	46.82 **	73.19 **	46.80 **
manufacturing	16.51 *	11.51	40.70 **	21.44 **	90.15 **	12.87	7.42	31.17 **	40.47 **	22.97 **	26.57 **
engineering	16.40 *	17.89 *	21.59 **	6.90	48.97 **	9.38	11.05	12.28	29.68 **	20.65 **	6.39
chemical industry	13.86	3.78	7.27	10.59	41.08 **	28.93 **	2.45	23.43 **	16.31 *	21.69 **	13.53
food industry	21.50 **	6.97	19.80 **	19.10 **	12.41	11.42	13.70	18.51 *	13.12	10.37	9.39
TCF	23.23 **	11.45	25.22 **	26.98 **	23.43 **	18.70 **	3.83	13.81	14.61 *	3.65	19.63 **
other industries	7.23	9.64	24.86 **	7.07	42.87 **	16.37 *	9.94	9.33	13.98	14.71 *	26.20 **
agriculture	11.33	9.36	13.49	18.48 *	17.23 *	11.96	18.58 *	8.69	11.24	16.59 *	20.16 **
construction	5.07	6.83	14.11 *	4.02	8.62	8.55	10.16	3.73	7.99	14.54 *	5.10
trade	12.53	34.45 **	27.98 **	25.53 **	15.11 *	25.55 **	28.42 **	46.75 **	12.19	24.53 **	25.98 **
services	18.15 **	18.92 **	6.15	9.03	14.57 *	15.19 *	25.41 **	34.37 **	14.06	22.03 **	23.96 **
domestic private ownership	11.19	19.90 **	26.06 **	40.90 **	61.92 **	15.05 *	39.61 **	88.92 **	25.86 **	43.09 **	28.12 **
state-owned	33.89 **	26.51 **	38.47 **	62.75 **	97.27 **	64.98 **	13.23	14.88 *	26.35 **	31.91 **	47.02 **
foreign owner	12.37	7.21	6.13	15.83 *	26.31 **	22.23 **	12.26	9.80	19.80 **	3.57	7.58

Table 10: Labour demand equations: short-run model, all firms

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.53 **	0.64 **	0.54 **	0.53 **	0.44 **	0.42 **	0.40 **	0.46 **	0.48 **	0.40 **	0.38 **
diff of log labour cost	-0.72 **	-0.66 **	-0.57 **	-0.56 **	-0.45 **	-0.24 **	-0.20 **	-0.19 **	-0.12 *	-0.23 **	-0.27 **
import penetration	0.02	0.00	-0.02	-0.01	0.03	0.00	-0.01	-0.03 *	-0.02 *	-0.03 **	-0.03 **
market share	0.14 *	0.01	0.00	0.02	0.01	-0.03	-0.02	-0.03 *	-0.04 *	0.01	0.02 **
export share	0.06 *	0.08 **	0.06 **	0.05 **	0.10 **	0.05 **	0.06 **	0.06 **	0.03 **	0.06 **	0.03 **
constant	0.03 **	-0.01	-0.02 **	-0.06 **	-0.05 **	0.00	0.01 **	0.00	-0.01 **	-0.01 *	-0.02 *
Nob	2883	6098	7677	8468	8995	10217	13012	13306	13543	14801	14600
Mean of dep. variable	-0.15	-0.05	-0.01	-0.02	-0.02	0.01	0.04	0.01	-0.02	-0.03	-0.05
S.dev of dep. variable	0.43	0.48	0.40	0.38	0.35	0.36	0.34	0.35	0.32	0.35	0.32
R ²	0.60	0.60	0.52	0.49	0.43	0.33	0.31	0.35	0.37	0.30	0.33
SEE	0.27	0.30	0.28	0.27	0.27	0.30	0.28	0.28	0.26	0.29	0.27
Overidentification test	7.49 **	7.21 **	7.94 **	10.42 **	7.52 **	8.13 **	6.68 **	8.11 **	7.26 **	11.27 **	15.17 **
Wald test for market structure	16.99 **	26.13 **	19.05 **	14.67 **	90.08 **	19.75 **	36.06 **	41.13 **	22.25 **	47.74 **	27.55 **
Break at $q_t > q_{t-1}$	21.10 **	11.26 **	13.86 **	6.58 *	22.43 **	27.18 **	21.25 **	14.37 **	19.93 **	27.15 **	69.15 **
Break at foreign ownership	9.09 *	3.40	4.54	32.34 **	13.54 **	5.65	3.76	0.81	7.44 *	11.30 **	18.05 **
Break at majority for. own.	8.96 *	3.56	9.40 **	31.08 **	8.67 *	3.05	1.94	2.40	10.58 **	10.50 **	15.41 **
Break at private own.	1.07	8.03 *	25.25 **	34.38 **	7.97 *	11.53 **	23.05 **	12.71 **	1.75	14.88 **	24.11 **
Break at 'other' own.	13.26 **	7.95 *	9.42 **	15.77 **	5.88	13.68 **	8.22 *	14.73 **	2.60	4.93	6.43 *
Break at state own.	18.82 **	2.42	11.10 **	2.74	8.03 *	7.62 *	5.35	41.57 **	13.96 **	9.69 **	9.89 **
Break at small firms	20.55 **	18.56 **	28.93 **	2.69	9.88 **	5.38	11.52 **	7.38 *	6.40 *	22.87 **	50.72 **
Break at medium-sized firms	4.20	28.28 **	20.93 **	0.78	12.30 **	1.62	1.64	3.28	10.05 **	11.80 **	54.37 **
Break at large firms	11.53 **	7.88 *	7.81 *	3.25	2.27	6.94 *	18.66 **	21.87 **	10.62 **	35.22 **	19.35 **

Table 11: Labour demand equations: short-run model, manufacturing

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.59 **	0.62 **	0.57 **	0.57 **	0.50 **	0.53 **	0.46 **	0.50 **	0.45 **	0.45 **	0.44 **
diff of log labour cost	-0.74 **	-0.68 **	-0.70 **	-0.59 **	-0.60 **	-0.48 **	-0.16	-0.27 **	-0.24 **	-0.33 **	-0.38 **
import penetration	0.02	0.01	-0.04	-0.01	0.04	0.01	-0.01	-0.02	0.01	-0.03 *	-0.05 **
market share	0.17	-0.08	-0.11 **	-0.06 *	0.01	-0.04	-0.03	-0.06 **	-0.02	-0.01	0.01 *
export share	0.03	0.05 *	0.07 **	0.05 **	0.10 **	0.03 *	0.02	0.02 *	0.03 **	0.05 **	0.01
constant	0.05 **	0.01	0.00	-0.05 **	-0.05 **	0.00	0.02 *	0.02 **	-0.02 **	0.01	0.02
Nob	1043	2026	2649	2934	3123	3490	4254	4468	4564	4740	4707
Mean of dep. variable	-0.12	-0.01	0.01	0.02	0.01	0.02	0.06	0.02	0.00	-0.02	-0.05
S.dev of dep. variable	0.42	0.42	0.37	0.37	0.34	0.37	0.34	0.32	0.28	0.31	0.31
R ²	0.63	0.63	0.57	0.53	0.51	0.47	0.34	0.41	0.39	0.34	0.36
SEE	0.26	0.25	0.24	0.26	0.24	0.27	0.28	0.25	0.22	0.26	0.25
Overidentification test	3.68 **	1.70 *	3.79 **	2.14 **	5.56 **	3.12 **	2.22 **	4.44 **	3.74 **	5.61 **	4.86 **
Wald test for market structure	6.05	10.86 *	33.25 **	14.10 **	65.26 **	11.72 **	5.61	11.25 *	13.62 **	19.67 **	25.88 **
Break at $q_t > q_{t-1}$	17.15 **	3.22	2.20	4.02	15.91 **	3.90	3.79	5.15	8.39 *	21.48 **	15.18 **
Break at foreign ownership	2.29	1.39	3.60	3.40	2.66	4.54	2.86	3.24	9.33 **	1.49	0.93
Break at majority for. own.	7.35 *	1.18	4.50	4.13	3.50	2.94	2.76	2.89	13.77 **	3.65	0.45
Break at private own.	0.06	1.91	13.00 **	5.37	1.15	2.10	1.41	1.30	8.26 *	2.97	4.26
Break at 'other' own.	2.45	1.91	1.44	6.22 *	4.50	3.82	1.67	5.26	3.09	6.50 *	4.51
Break at state own.	10.18 **	0.59	9.98 **	0.28	4.92	1.00	0.39	2.80	6.70 *	4.95	2.86
Break at small firms	9.74 **	6.58 *	25.64 **	1.62	5.49	1.06	1.47	10.04 **	11.03 **	9.29 *	13.43 **
Break at medium-sized firms	1.52	3.34	6.30 *	2.78	8.96 *	1.05	0.10	1.69	6.05 *	14.49 **	16.33 **
Break at large firms	10.75 **	8.54 *	7.95 *	4.44	15.31 **	4.99	1.96	11.21 **	4.30	2.58	4.20

Table 12: Labour demand equations: short-run model, engineering

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.52 **	0.59 **	0.52 **	0.55 **	0.50 **	0.48 **	0.35 **	0.55 **	0.46 **	0.42 **	0.37 **
diff of log labour cost	-0.57 **	-0.64 **	-0.60 **	-0.69 **	-0.47 **	-0.48 **	0.05	-0.59 **	-0.20	-0.44 **	-0.37 **
import penetration	0.01	0.03	-0.01	-0.03	0.03	-0.01	0.00	-0.04	0.02	-0.03	-0.01
market share	-0.16	-0.09	-0.08 *	-0.05	-0.01	0.04	-0.03	-0.06	-0.02	0.00	-0.01
export share	0.11	0.09 **	0.07 **	0.07 *	0.12 **	0.03	0.06 *	0.04 *	0.05 **	0.07 **	0.02
constant	0.01	-0.03	-0.02	-0.05 **	-0.05 **	0.01	0.00	0.05 **	-0.03 *	0.03	0.00
Nob	343	704	907	1013	1074	1266	1528	1636	1674	1788	1777
Mean of dep. variable	-0.12	-0.01	0.01	0.04	0.02	0.04	0.07	0.02	0.02	0.00	-0.05
S.dev of dep. variable	0.41	0.45	0.37	0.36	0.37	0.36	0.34	0.35	0.30	0.32	0.30
R ²	0.64	0.61	0.50	0.46	0.53	0.38	0.18	0.49	0.40	0.30	0.31
SEE	0.25	0.28	0.27	0.27	0.26	0.29	0.31	0.25	0.23	0.27	0.25
Overidentification test	2.08 **	0.93	1.27	1.05	2.67 **	3.11 **	1.28	3.08 **	1.99 **	2.44 **	2.65 **
Wald test for market structure	5.77	10.61 *	11.30 *	6.91	34.91 **	3.63	6.71	8.78 *	12.57 **	16.00 **	1.25
Break at $q_t > q_{t-1}$	6.83 *	3.46	2.22	6.22 *	17.39 **	18.09 **	6.62 *	14.40 **	1.78	11.13 **	9.06 *
Break at foreign ownership	7.12 *	1.95	3.08	1.02	2.22	6.14 *	1.86	1.57	10.94 **	4.56	7.42 *
Break at majority for. own.	11.50 **	2.26	2.97	0.72	0.48	3.97	2.12	11.56 **	7.92 *	3.50	7.37 *
Break at private own.	4.55	2.16	7.25 *	1.50	3.89	7.01 *	2.35	8.70 *	2.77	3.44	5.92
Break at 'other' own.	3.83	0.33	1.21	2.19	3.89	1.49	1.17	2.70	1.05	0.20	1.24
Break at state own.	8.60 *	0.23	7.52 *	3.45	3.45	2.14	1.90	0.19	2.21	2.46	2.27
Break at small firms	4.74	1.40	11.76 **	0.92	5.97	0.27	3.81	4.21	0.19	1.77	1.85
Break at medium-sized firms	9.80 **	0.31	0.44	1.21	4.52	3.58	1.37	3.76	1.41	3.39	2.32
Break at large firms	6.77 *	1.82	5.56	0.46	6.65 *	5.82	3.47	3.07	0.80	0.50	2.18

Table 13: Labour demand equations: short-run model, chemical industry

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.76 **	0.64 **	0.52 **	0.55 **	0.50 **	0.52 **	0.69 **	0.65 **	0.44 **	0.40 **	0.40 **
diff of log labour cost	-0.79 **	-0.72 **	-0.88 **	-0.49 **	-0.70 **	-0.65	-0.55 **	-0.16	-0.41 *	-0.10	-0.52 **
import penetration	0.00	-0.01	-0.06	-0.04	-0.02	-0.14	0.10	0.09	-0.07	-0.08	-0.14 **
market share	0.16	0.01	-0.04	-0.18 *	-0.09 *	-0.09 **	0.05	-0.04	-0.19 *	-0.15 **	0.06
export share	0.17	0.02	0.05	0.03	0.13 **	0.02	-0.02	0.03	0.06	0.11 **	-0.04
constant	0.15	0.06	0.04	-0.01	-0.01	0.11 *	-0.01	-0.04	0.02	0.02	0.12 **
Nob	92	194	244	276	290	315	411	413	431	440	444
Mean of dep. variable	-0.08	0.10	0.03	0.04	0.05	0.03	0.09	0.04	-0.01	0.00	-0.04
S.dev of dep. variable	0.39	0.49	0.30	0.33	0.28	0.27	0.44	0.35	0.29	0.25	0.25
R ²	0.59	0.62	0.56	0.38	0.50	0.42	0.75	0.54	0.43	0.27	0.48
SEE	0.26	0.31	0.21	0.27	0.20	0.20	0.22	0.24	0.22	0.22	0.18
Overidentification test	0.64	0.97	0.65	1.29	1.19	1.02	0.97	1.35	0.89	0.91	0.64
Wald test for market structure	4.00	0.10	1.96	7.66	31.34 **	26.46 **	1.04	4.17	7.64	19.36 **	10.78 *
Break at $q_t > q_{t-1}$	2.26	0.77	1.34	0.34	0.86	1.40	2.09	1.91	0.94	0.78	0.46
Break at foreign ownership	1.06	6.16 *	5.97	2.61	3.17	3.65	7.12 *	0.84	1.85	10.47 **	0.66
Break at majority for. own.	1.04	5.66	3.08	1.97	0.69	5.21	8.75 *	0.38	1.27	6.63 *	0.45
Break at private own.	1.50	4.87	4.59	3.90	3.38	2.89	4.01	1.01	0.10	7.40 *	0.93
Break at 'other' own.	0.63	1.97	0.58	0.71	2.46	1.57	0.35	3.85	0.37	0.22	1.51
Break at state own.	0.01	0.92	0.29	0.70	0.69	0.13	4.18	1.16	2.18	1.69	0.43
Break at small firms	1.15	8.66 *	1.77	1.76	4.30	4.49	3.77	0.76	5.10	5.73	0.07
Break at medium-sized firms	1.35	5.78	1.07	3.23	2.14	1.09	2.16	0.38	0.75	3.55	2.23
Break at large firms	0.02	8.00 *	1.31	0.84	2.66	2.46	3.40	1.44	5.62	3.05	1.33

Table 14: Labour demand equations: short-run model, food industry

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.57 **	0.67 **	0.73 **	0.48 **	0.36 **	0.47 **	0.44 **	0.42 **	0.41 **	0.45 **	0.48 **
diff of log labour cost	-0.50 **	-0.65 **	-0.77 **	-0.46 *	-0.37 **	-0.39 *	0.10	-0.10	-0.14	-0.21	-0.35 *
import penetration	-0.60	0.27	-0.43 *	-0.03	-0.03	-0.09	-0.04	0.03	0.11	0.00	-0.09
market share	-0.31	-0.18	-0.20 **	-0.22 *	-0.17 *	-0.14	0.03	-0.05	-0.02	-0.09 *	-0.06
export share	0.09	-0.10	0.09	0.11	0.05	0.11	0.00	-0.07	0.05	0.08 *	-0.01
constant	0.11 **	0.03	0.04 *	-0.03	-0.03	0.01	0.01	0.02	-0.04 **	0.00	0.04
Nob	127	267	423	493	525	590	711	717	716	737	765
Mean of dep. variable	-0.03	-0.03	0.04	0.04	-0.01	0.00	0.04	0.02	-0.02	-0.01	-0.02
S.dev of dep. variable	0.27	0.43	0.46	0.34	0.26	0.32	0.33	0.29	0.23	0.30	0.30
R ²	0.58	0.74	0.61	0.45	0.40	0.45	0.24	0.31	0.37	0.34	0.31
SEE	0.18	0.22	0.29	0.25	0.20	0.24	0.29	0.24	0.18	0.25	0.25
Overidentification test	1.18	0.72	2.96 **	1.76 *	1.19	1.21	1.43	1.45	2.59 **	0.81	1.44
Wald test for market structure	7.87 *	4.71	11.85 **	7.39	8.30 *	6.37	0.49	3.19	7.70	7.52	5.81
Break at $q_t > q_{t-1}$	2.90	1.69	0.22	1.03	4.39	1.85	1.82	2.37	6.73 *	1.90	0.22
Break at foreign ownership	1.74	6.08 *	9.08 *	2.26	4.79	1.85	3.26	7.60 *	3.95	3.33	1.29
Break at majority for. own.	0.25	4.88	5.84	3.01	5.24	1.89	3.51	13.84 **	5.61	4.68	1.64
Break at private own.	2.86	4.36	4.10	3.27	3.10	2.24	4.02	11.48 **	5.43	5.05	0.74
Break at 'other' own.	0.07	5.13	3.46	1.92	1.08	0.15	0.82	0.82	0.72	1.43	0.82
Break at state own.	1.12	0.24	3.51	6.30 *	1.51	1.95	0.36	1.31	1.52	1.60	0.04
Break at small firms	7.76 *	0.32	5.01	10.97 **	2.56	1.84	9.39 **	4.22	5.50	6.52 *	2.60
Break at medium-sized firms	3.74	8.01 *	5.77	3.47	0.31	1.48	5.90	1.66	3.56	3.93	0.89
Break at large firms	2.47	10.02 **	0.64	8.54 *	4.44	3.52	3.10	9.06 *	0.99	3.91	3.83

Table 15: Labour demand equations: short-run model, textile, clothing and footwear

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.65 **	0.57 **	0.54 **	0.52 **	0.51 **	0.63 **	0.49 **	0.46 **	0.44 **	0.54 **	0.55 **
diff of log labour cost	-0.93 **	-0.64 **	-0.75 **	-0.56 **	-0.75 **	-0.49 **	-0.24 *	-0.21	-0.31 **	-0.33 **	-0.46 **
import penetration	0.21 *	0.00	-0.05	0.02	0.01	0.11 *	-0.03	-0.03	-0.01	-0.03	-0.06 *
market share	0.54 **	-0.20	-0.16	0.12	0.03	0.05	-0.05	-0.04	0.01	-0.01	0.02 *
export share	-0.02	0.05 *	0.08 **	0.08 **	0.10 **	0.02	0.01	0.01	-0.01	0.02	0.03
constant	0.00	0.01	0.00	-0.09 **	-0.06 *	-0.04 *	0.03 *	0.03	0.00	0.01	0.00
Nob	412	735	915	966	1025	1106	1362	1438	1471	1497	1455
Mean of dep. variable	-0.14	-0.03	0.01	-0.02	0.00	0.01	0.05	0.01	-0.02	-0.04	-0.08
S.dev of dep. variable	0.48	0.30	0.34	0.31	0.35	0.42	0.34	0.30	0.26	0.33	0.34
R ²	0.70	0.52	0.65	0.47	0.45	0.56	0.33	0.39	0.41	0.39	0.45
SEE	0.27	0.21	0.20	0.22	0.26	0.28	0.28	0.24	0.21	0.26	0.25
Overidentification test	2.03 **	1.37	2.39 **	1.30	2.37 **	1.51	1.52	2.39 **	1.48	2.88 **	2.65 **
Wald test for market structure	15.84 **	8.28 *	19.07 **	18.17 **	20.34 **	11.73 **	3.61	1.61	1.42	1.35	23.49 **
Break at $q_t > q_{t-1}$	6.66 *	13.73 **	0.42	4.43	7.60 *	2.48	3.65	16.17 **	4.93	10.78 **	19.08 **
Break at foreign ownership	0.94	0.14	6.86 *	3.34	9.99 **	0.40	3.08	11.94 **	6.27 *	4.79	8.51 *
Break at majority for. own.	3.22	5.62	10.79 **	4.07	9.81 **	0.31	2.39	11.17 **	6.74 *	8.47 *	6.82 *
Break at private own.	1.51	6.78 *	7.77 *	9.22 *	6.20 *	0.20	1.80	10.88 **	3.52	7.42 *	6.52 *
Break at 'other' own.	2.74	1.48	1.50	5.59	1.22	0.55	1.26	2.43	2.51	2.84	2.06
Break at state own.	4.54	6.70 *	0.37	9.31 **	1.87	0.13	1.75	1.28	4.69	1.26	2.37
Break at small firms	11.97 **	10.26 **	4.51	1.99	5.49	2.97	4.54	2.15	2.62	1.82	6.68 *
Break at medium-sized firms	8.44 *	0.42	8.07 *	4.30	5.37	3.49	4.19	0.53	1.89	4.98	7.50 *
Break at large firms	2.96	12.08 **	3.23	13.42 **	8.20 *	2.71	0.83	5.72	6.56 *	8.69 *	0.11

Table 16: Labour demand equations: short-run model, other industries

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.45 **	0.83 **	0.49 **	0.74 **	0.67 **	0.74 **	0.44 **	0.50 **	0.47 **	0.52 **	0.37 **
diff of log labour cost	-0.67 **	-0.88 **	-0.32 **	-0.67 **	-0.82 **	-0.78 **	-0.29	-0.69 **	-0.47 **	-0.52 **	-0.39 *
import penetration	-0.12	-0.06	-0.09 *	0.09	0.08	0.11 *	0.06	-0.01	-0.05	0.07	0.04
market share	-0.15	-0.04	0.05	-0.21 *	0.08	-0.22 **	-0.03	0.00	-0.11	0.01	0.07 **
export share	0.21 *	-0.01	0.02	-0.10	0.13 **	0.02	-0.01	0.05	0.12 **	0.07 *	-0.04
constant	0.06	0.05	-0.02	-0.04 **	-0.07 **	-0.06 **	-0.01	-0.01	-0.02 *	-0.01	-0.03
Nob	119	234	323	364	410	443	521	547	547	553	538
Mean of dep. variable	-0.16	-0.03	-0.01	0.03	-0.04	-0.02	0.00	-0.02	-0.02	-0.05	-0.05
S.dev of dep. variable	0.40	0.55	0.28	0.53	0.38	0.38	0.26	0.23	0.24	0.31	0.23
R ²	0.70	0.77	0.45	0.80	0.73	0.62	0.37	0.40	0.50	0.43	0.41
SEE	0.22	0.27	0.21	0.24	0.20	0.23	0.21	0.18	0.17	0.24	0.18
Overidentification test	1.16	1.66 *	3.14 **	1.70 *	1.35	1.36	0.83	1.45	0.84	1.32	2.79 **
Wald test for market structure	6.23	1.08	6.20	7.39	29.11 **	12.20 **	1.75	3.76	9.13 *	16.29 **	17.73 **
Break at $q_t > q_{t-1}$	4.41	8.08 *	7.81 *	8.30 *	0.47	0.06	4.96	3.51	3.43	0.92	7.88 *
Break at foreign ownership	0.98	11.55 **	12.05 **	0.77	0.12	3.04	2.86	2.18	5.20	5.31	5.61
Break at majority for. own.	0.04	1.72	5.40	0.41	4.50	3.19	5.03	1.09	3.60	4.06	5.08
Break at private own.	1.62	4.51	6.64 *	2.56	1.77	2.82	0.81	5.55	0.30	3.71	5.95
Break at 'other' own.	4.18	0.34	2.45	1.67	0.55	4.99	2.46	2.16	0.22	2.57	1.84
Break at state own.	6.00	4.70	4.49	2.90	3.37	0.91	0.99	4.53	0.54	0.90	2.29
Break at small firms	1.00	0.21	1.85	2.68	0.95	3.87	0.10	7.06 *	3.93	0.61	10.63 **
Break at medium-sized firms	4.55	4.88	2.95	3.60	2.29	0.60	0.40	0.96	2.93	0.10	7.42 *
Break at large firms	2.75	10.07 **	0.73	10.54 **	2.83	3.94	5.99	8.89 *	3.02	2.22	1.74

Table 17: Labour demand equations: short-run model, agriculture

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.53 **	0.75 **	0.54 **	0.49 **	0.36 **	0.33 **	0.30 **	0.43 **	0.48 **	0.49 **	0.42 **
diff of log labour cost	-0.50 **	-0.74 **	-0.50 **	-0.77 **	-0.28 *	-0.26	-0.42 **	-0.18	-0.33 **	-0.47 **	-0.29 **
import penetration	0.10	0.15	0.17 *	0.05	-0.10	0.01	0.05	0.03	0.04	0.16 *	0.14 *
market share	1.36	-0.84	0.36	1.14 **	0.32	0.87	0.25	-0.07	0.09	0.20	0.12
export share	-0.30	-0.19	0.14	-0.01	0.11 *	0.18 *	0.08 *	0.10	0.06	0.05	0.06
constant	-0.02	-0.06 **	-0.10 **	-0.15 **	-0.05 **	-0.03 **	0.00	-0.05 **	-0.05 **	-0.05 **	-0.03
Nob	609	1021	1295	1407	1441	1473	1489	1361	1346	1336	1303
Mean of dep. variable	-0.23	-0.26	-0.13	-0.09	-0.05	-0.04	-0.02	-0.07	-0.08	-0.11	-0.07
S.dev of dep. variable	0.32	0.47	0.41	0.35	0.27	0.27	0.24	0.31	0.30	0.36	0.30
R ²	0.52	0.63	0.49	0.50	0.26	0.24	0.33	0.36	0.42	0.49	0.37
SEE	0.22	0.29	0.30	0.25	0.23	0.24	0.20	0.25	0.23	0.26	0.24
Overidentification test	2.18 **	2.85 **	3.04 **	3.79 **	3.68 **	3.70 **	2.10 **	3.63 **	2.47 **	3.49 **	2.42 **
Wald test for market structure	4.94	3.72	6.93	9.70 *	15.49 **	8.99 *	11.11 *	5.15	8.11 *	10.99 *	7.39
Break at $q_t > q_{t-1}$	6.42 *	8.88 *	2.48	6.39 *	5.73	5.62	2.91	1.67	1.00	9.26 *	0.04
Break at foreign ownership	1.82	2.78	4.05	0.52	5.91	1.86	1.35	2.78	2.97	3.89	4.48
Break at majority for. own.	3.82	1.36	5.63	0.42	3.66	0.47	1.20	1.86	2.69	5.17	5.49
Break at private own.	3.36	1.83	0.34	3.58	2.78	2.21	1.27	6.14 *	3.37	5.50	2.94
Break at 'other' own.	0.57	2.06	2.69	4.01	3.67	3.00	3.01	4.88	1.04	0.28	3.44
Break at state own.	15.79 **	0.22	3.21	4.87	3.17	5.06	2.69	7.59 *	0.48	1.45	11.67 **
Break at small firms	4.80	23.74 **	16.81 **	5.03	15.13 **	5.88	5.34	4.51	4.63	0.03	5.01
Break at medium-sized firms	3.23	16.36 **	16.45 **	6.20 *	14.12 **	1.18	1.74	8.31 *	8.89 *	0.08	6.04 *
Break at large firms	10.25 **	1.55	5.42	3.84	4.44	74.83 **	4.16	7.77 *	2.18	3.60	2.88

Table 18: Labour demand equations: short-run model, construction

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.43 **	0.62 **	0.39 **	0.47 **	0.34 **	0.28 **	0.34 **	0.30 **	0.22 **	0.22 **	0.23 **
diff of log labour cost	-0.69 **	-0.55 **	-0.58 **	-0.37 *	-0.52 **	-0.05	-0.52 **	-0.15	0.14	0.02	-0.23 *
import penetration	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00
market share	-0.86	0.35	0.22	0.93	0.59	-0.02	-0.32	0.21	-0.09	0.47	0.58
export share	0.14	0.11 *	0.01	-0.01	-0.05	-0.17	0.19 *	0.01	0.07	0.14 **	0.02
constant	-0.03	-0.01	-0.03 **	-0.05 **	-0.11 **	0.00	0.02	0.01	-0.01 *	-0.02	-0.03
Nob	266	594	738	785	838	938	1225	1383	1420	1561	1574
Mean of dep. variable	-0.12	-0.04	0.01	-0.07	-0.07	0.00	0.04	0.01	-0.02	-0.01	-0.05
S.dev of dep. variable	0.39	0.53	0.40	0.41	0.40	0.38	0.40	0.34	0.25	0.33	0.32
R ²	0.48	0.55	0.44	0.43	0.36	0.16	0.39	0.21	0.12	0.12	0.25
SEE	0.28	0.36	0.30	0.31	0.32	0.35	0.32	0.30	0.24	0.31	0.28
Overidentification test	3.00 **	1.89 **	2.42 **	2.32 **	1.79 *	1.94 **	2.77 **	2.23 **	2.20 **	1.96 **	4.57 **
Break at $q_t > q_{t-1}$	6.86 *	7.83 *	2.03	3.38	4.79	5.37	9.64 **	1.28	10.01 **	0.23	11.53 **
Break at foreign ownership	3.70	1.35	5.45	4.16	3.63	0.08	0.47	2.59	2.61	3.81	7.15 *
Break at majority for. own.	4.55	1.55	3.32	4.83	2.25	5.17	0.26	2.20	2.58	1.08	10.37 **
Break at private own.	3.17	3.61	0.47	3.20	1.33	0.14	2.46	3.10	4.87	4.27	5.72
Break at 'other' own.	16.35 **	5.66	2.19	2.89	2.29	2.34	1.73	2.45	3.94	3.02	1.43
Break at state own.	4.29	6.18 *	4.30	5.24	1.21	5.41	5.63	1.81	1.77	1.51	0.59
Break at small firms	5.50	10.04 **	11.96 **	2.68	5.26	6.03 *	18.63 **	4.93	3.25	4.57	2.14
Break at medium-sized firms	4.13	5.70	4.58	2.07	4.50	5.18	11.27 **	2.33	3.37	7.02 *	9.93 **
Break at large firms	3.95	5.40	10.45 **	4.03	2.72	5.27	3.26	11.11 **	0.67	1.08	9.28 *

Table 19: Labour demand equations: short-run model, trade

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.50 **	0.60 **	0.55 **	0.54 **	0.48 **	0.41 **	0.37 **	0.51 **	0.60 **	0.41 **	0.40 **
diff of log labour cost	-0.76 **	-0.64 **	-0.57 **	-0.55 **	-0.51 **	-0.19 *	-0.08	-0.23 *	0.02	-0.24 **	-0.28 **
import penetration	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.54	-1.08	-6.30	2.29
market share	0.08	0.05	-0.05	-0.03	-0.06	0.02	0.02	-0.04	-0.18	0.06	0.18 *
export share	0.13	0.10	-0.01	-0.03	0.08 **	0.01	0.07 *	0.14 **	0.03	0.02	0.05 *
constant	0.06 **	0.01	0.01	-0.03 **	-0.03 **	0.02 *	0.02 **	0.01	0.00	0.00	-0.02
Nob	790	2004	2410	2668	2856	3437	4902	4962	5069	5931	5806
Mean of dep. variable	-0.15	0.00	0.02	-0.01	-0.02	0.01	0.04	0.02	-0.03	-0.03	-0.04
S.dev of dep. variable	0.51	0.52	0.43	0.42	0.38	0.39	0.35	0.39	0.39	0.37	0.35
R ²	0.67	0.58	0.53	0.50	0.48	0.31	0.24	0.36	0.40	0.30	0.34
SEE	0.29	0.34	0.30	0.30	0.28	0.33	0.31	0.32	0.30	0.31	0.28
Overidentification test	3.60 **	4.50 **	3.67 **	3.90 **	2.78 **	4.87 **	4.56 **	7.82 **	3.81 **	3.45 **	8.21 **
Break at $q_t > q_{t-1}$	4.79	1.87	0.72	2.09	4.27	5.12	14.64 **	21.91 **	7.32 *	3.51	31.54 **
Break at foreign ownership	6.04 *	7.10 *	5.29	12.15 **	2.38	9.41 **	1.59	0.15	9.18 *	12.16 **	13.25 **
Break at majority for. own.	1.37	13.28 **	8.26 *	12.25 **	2.39	6.90 *	7.90 *	2.84	3.18	11.36 **	6.24 *
Break at private own.	5.57	26.46 **	15.55 **	13.33 **	8.61 *	21.91 **	25.06 **	0.19	6.94 *	8.94 *	8.01 *
Break at 'other' own.	0.87	3.58	0.97	4.20	5.20	3.71	4.27	5.68	3.05	4.14	12.55 **
Break at state own.	9.60 **	8.46 *	7.65 *	5.15	3.26	3.13	4.58	3.76	5.98	3.15	6.18 *
Break at small firms	12.65 **	0.52	4.98	11.41 **	0.79	15.51 **	29.76 **	31.97 **	4.10	25.06 **	24.80 **
Break at medium-sized firms	1.68	10.07 **	9.37 **	6.87 *	1.22	3.09	9.86 **	13.13 **	6.48 *	16.95 **	17.28 **
Break at large firms	8.81 *	19.31 **	1.78	14.68 **	2.28	6.34 *	22.84 **	57.34 **	8.73 *	20.26 **	19.64 **

Table 20: Labour demand equations: short-run model, services

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
diff of log production	0.56 **	0.59 **	0.60 **	0.47 **	0.36 **	0.33 **	0.40 **	0.51 **	0.44 **	0.47 **	0.45 **
diff of log labour cost	-0.50 **	-0.60 **	-0.52 **	-0.42 **	-0.07	-0.22 *	-0.12	-0.49 **	-0.22	-0.23 **	-0.03
import penetration	0.00	-132.92	-53.02	5.15	0.00	0.00	-0.21	-5.61	-19.66	-0.45	1.35 **
market share	0.11	0.00	0.04 *	0.04	-0.02	-0.04	-0.02	-0.02	-0.01	0.00	-0.03
export share	0.08	0.14 *	-0.04	0.01	0.14 **	0.11 *	0.07 *	0.09 *	0.07 *	0.13 **	0.13 **
constant	0.00	-0.02	-0.02	-0.04 *	-0.04 *	-0.01	0.01	0.02	-0.02 *	-0.01	-0.06 *
Nob	125	345	422	496	536	649	863	849	869	958	938
Mean of dep. variable	-0.06	-0.01	0.00	-0.01	-0.03	0.02	0.04	0.03	-0.01	-0.02	-0.03
S.dev of dep. variable	0.42	0.39	0.40	0.30	0.31	0.33	0.30	0.32	0.28	0.34	0.32
R ²	0.40	0.52	0.57	0.44	0.29	0.25	0.28	0.48	0.36	0.28	0.24
SEE	0.33	0.27	0.26	0.22	0.26	0.29	0.25	0.23	0.23	0.29	0.28
Overidentification test	0.80	1.04	0.54	0.58	0.81	1.40	1.16	1.74 *	1.26	1.59 *	1.26
Break at $q_t > q_{t-1}$	5.45	2.28	4.24	2.22	2.00	4.82	3.66	0.36	10.91 **	2.80	14.10 **
Break at foreign ownership	3.06	3.09	6.78 *	2.74	2.69	3.61	5.21	0.88	4.92	6.49 *	4.25
Break at majority for. own.	3.49	2.56	4.51	1.82	2.47	4.37	4.96	0.62	4.48	4.72	3.88
Break at private own.	9.72 **	3.43	7.59 *	1.54	1.67	7.61 *	2.38	7.06 *	1.05	0.25	3.25
Break at 'other' own.	1.23	3.29	1.94	1.18	1.15	2.00	3.50	5.09	2.10	2.74	2.57
Break at state own.	8.04 *	2.01	2.65	0.03	1.95	2.42	2.85	3.18	2.97	3.43	0.35
Break at small firms	4.54	4.43	5.31	3.91	6.81 *	5.18	0.97	10.77 **	4.39	4.32	1.23
Break at medium-sized firms	3.40	6.70 *	5.76	0.43	2.54	4.96	3.25	0.88	1.60	0.99	1.35
Break at large firms	2.78	4.31	0.36	4.36	4.17	1.97	0.97	24.78 **	3.87	13.51 **	0.77

Appendix 4: Tables for Section C

Table 21: Augmented wage equations: Overidentification test

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	3.11 **	3.34 **	2.64 **	6.29 **	3.53 **	6.66 **	6.76 **	8.76 **	13.92 **	9.52 **	10.52 **
manufacturing	3.36 **	1.92 *	1.57	1.77 *	1.91 *	4.54 **	2.31 **	5.60 **	5.85 **	6.29 **	2.72 **
engineering	0.30	0.57	1.15	1.97 **	0.89	1.71 *	0.67	1.83 *	0.43	1.23	0.61
chemical industry	0.60	0.66	0.50	0.60	0.88	0.76	1.35	0.73	0.22	1.01	0.68
food industry	0.53	0.42	0.31	0.48	1.11	0.77	1.71 *	0.69	0.89	0.77	0.83
TCF	0.56	0.65	0.99	0.46	0.37	0.78	0.43	1.22	1.22	1.26	0.99
other industries	0.27	0.94	0.81	1.22	1.00	0.50	0.75	1.37	1.85 *	1.45	1.46
agriculture	0.89	0.65	1.36	0.53	1.49	1.07	2.25 **	0.70	2.00 **	1.26	0.61
construction	0.46	0.53	1.02	0.67	1.15	0.65	0.40	0.61	1.72 *	0.97	1.38
trade	1.19	3.13 **	1.39	2.46 **	0.42	1.70 *	1.83 *	1.77 *	1.60	1.15	5.06 **
services	0.45	0.23	0.37	0.27	0.33	0.95	0.32	1.44	0.23	0.31	0.25
domestic private ownership	1.69 *	3.84 **	1.45	4.39 **	3.37 **	4.15 **	4.41 **	7.15 **	11.08 **	6.97 **	9.30 **
state-owned	2.98 **	0.98	0.78	1.83 *	1.22	1.20	2.21 **	2.09 **	3.26 **	1.78 *	0.83
foreign owner	1.11	1.91 *	1.92 *	0.51	2.19 **	2.83 **	2.81 **	2.83 **	2.99 **	4.08 **	1.81 *
other ownership	2.06 **	1.99 **	1.68 *	1.66 *	1.34	2.09 **	2.43 **	0.76	0.47	1.87 *	1.22
small firms	1.47	1.23	1.05	1.53	2.08 **	2.72 **	2.61 **	2.81 **	5.43 **	2.87 **	6.90 **
medium-sized firms	2.48 **	2.42 **	0.69	4.01 **	2.18 **	2.18 **	1.47	4.55 **	7.26 **	1.78 *	4.31 **
large firms	1.42	1.33	1.25	0.94	1.66 *	1.68 *	2.10 **	2.07 **	1.64 *	2.08 **	1.42

Table 22: Augmented wage equations: Wald test for market structure

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	22.72 **	19.21 **	10.06 *	13.75 **	93.28 **	80.79 **	13.17 *	14.27 **	51.98 **	34.89 **	14.48 **
manufacturing	16.59 **	15.16 **	21.28 **	18.71 **	39.31 **	14.48 **	3.96	8.87	8.96	2.12	10.71 *
engineering	6.54	4.76	10.13 *	10.53 *	6.67	8.23	6.02	18.93 **	5.76	4.31	9.94 *
chemical industry	7.37	3.06	3.03	2.87	3.58	6.84	9.74 *	11.66 *	9.66 *	6.27	25.23 **
food industry	12.13 *	2.34	6.18	12.19 *	12.75 *	1.71	2.68	3.59	4.51	9.29	5.31
TCF	1.20	18.19 **	4.62	6.34	9.22	6.90	3.37	7.15	4.46	3.84	9.43
other industries	3.88	4.43	5.46	2.74	11.82 *	14.99 **	4.21	4.32	5.73	20.15 **	38.41 **
agriculture	5.50	1.75	10.66 *	9.90 *	2.39	30.17 **	7.75	2.23	6.98	38.87 **	2.34
construction	5.93	10.55 *	7.24	15.49 **	2.17	16.08 **	22.03 **	8.72 *	13.60 **	13.61 **	1.63
trade	2.16	4.92	0.26	2.94	1.60	9.16 *	4.98	18.33 **	6.19	7.20	4.70
services	4.27	9.20	9.08	9.65 *	4.80	3.07	1.43	2.33	7.60	8.90	2.50
domestic private ownership	4.65	34.30 **	7.40	17.16 **	56.24 **	66.76 **	14.05 **	13.19 *	47.51 **	30.08 **	10.38 *
state-owned	16.07 **	15.36 **	3.71	9.50	12.77 *	3.64	0.28	11.62 *	2.47	4.75	4.54
foreign owner	4.24	5.65	5.91	2.48	30.88 **	7.42	2.12	5.09	14.82 **	12.73 *	5.84
other ownership	9.56 *	33.92 **	2.00	9.27	5.90	9.54 *	5.49	8.24	2.47	2.75	2.15
small firms	3.21	1.42	1.82	4.26	23.26 **	39.66 **	6.58	9.31	17.45 **	11.56 *	7.49
medium-sized firms	22.16 **	13.58 **	13.43 **	11.75 *	30.48 **	8.61	10.45 *	6.32	35.18 **	2.89	2.54
large firms	19.11 **	2.46	6.11	11.65 *	17.11 **	7.07	2.77	1.65	18.45 **	9.58 *	9.58 *

Table 23: Augmented wage equations: Wald test for ownership

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	11.79 **	14.13 **	32.72 **	12.38 **	17.53 **	36.91 **	22.82 **	4.59	25.15 **	23.55 **	10.53 *
manufacturing	8.53 *	7.54	13.89 **	3.91	23.18 **	5.55	5.98	9.80 *	1.98	18.92 **	7.71
engineering	5.85	1.28	1.70	1.17	4.01	5.99	6.69	2.25	0.72	4.20	4.74
chemical industry	1.76	2.10	10.55 *	8.78 *	4.14	1.09	0.87	0.88	0.89	4.61	1.69
food industry	3.41	5.77	7.42	9.21 *	2.14	2.87	1.55	14.92 **	3.71	2.60	0.49
TCF	7.29	1.98	1.21	1.81	5.70	4.77	2.03	2.16	8.02 *	9.93 *	4.67
other industries	10.06 *	7.53	12.58 **	0.59	0.57	11.54 **	4.25	4.52	3.08	1.48	13.65 **
agriculture	0.91	0.42	4.46	3.37	0.37	8.25 *	1.55	0.19	0.98	3.53	5.82
construction	11.85 **	4.25	3.44	3.78	5.53	14.14 **	10.33 *	9.90 *	16.97 **	6.98	4.81
trade	1.49	5.57	6.79	2.73	5.45	11.04 *	7.87 *	8.11 *	11.94 **	3.29	5.42
services	6.21	12.21 **	2.37	1.33	1.88	16.55 **	1.04	5.11	4.59	6.49	0.85
small firms	8.98 *	8.42 *	8.86 *	3.55	12.11 **	35.75 **	16.11 **	6.00	18.47 **	11.32 *	3.60
medium-sized firms	10.98 *	12.98 **	20.64 **	21.40 **	12.98 **	14.01 **	40.85 **	10.42 *	19.21 **	11.11 *	8.04 *
large firms	1.23	1.88	7.78	5.66	0.90	5.37	1.12	4.52	6.91	15.20 **	9.36 *

Table 24: Augmented wage equations: Chow test for productivity

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	3.50	0.13	4.28	6.72	6.00	25.97 **	2.94	9.69 *	5.36	27.72 **	19.37 **
manufacturing	0.55	4.55	9.53 *	4.93	10.99 *	1.71	6.71	12.32 **	2.04	18.71 **	3.18
engineering	1.29	3.14	2.62	1.12	6.37	1.89	2.72	2.04	4.22	0.50	3.11
chemical industry	1.57	2.78	6.57	2.38	3.57	4.28	0.70	4.10	2.32	14.58 **	4.49
food industry	4.99	6.21	13.25 **	7.25	2.33	3.14	3.65	5.01	0.29	3.41	0.57
TCF	1.61	2.68	1.09	9.98 *	5.41	4.51	8.83 *	0.51	2.10	8.22 *	0.62
other industries	3.21	1.32	5.54	3.61	5.71	13.55 **	1.31	11.59 **	1.59	10.96 *	2.32
agriculture	2.34	2.15	3.71	3.26	1.98	4.80	3.53	5.80	3.70	5.52	6.71
construction	20.26 **	5.00	3.93	2.23	3.53	2.94	1.49	3.63	0.66	4.69	1.55
trade	0.46	0.79	1.09	7.45	2.10	8.20 *	5.11	3.94	6.74	12.59 **	16.28 **
services	9.65 *	3.50	4.52	0.67	3.86	5.75	3.62	5.29	3.35	4.23	2.55
domestic private ownership	2.27	2.64	0.43	3.09	0.36	3.01	3.83	1.61	2.38	10.93 **	6.03 *
state-owned	14.34 **	10.35 **	16.87 **	8.52 **	1.56	0.70	0.13	0.02	0.32	0.04	1.14
foreign owner	0.05	0.93	2.86	0.66	3.52	4.37	3.61	3.80	0.35	1.31	4.08
other ownership	0.25	0.69	0.03	0.23	0.63	1.32	0.00	0.32	0.20	0.33	0.21
small firms	3.76	7.04	1.42	2.04	11.40 *	20.98 **	9.62 *	3.49	10.36 *	15.60 **	16.76 **
medium-sized firms	0.96	4.46	6.98	5.50	3.50	12.94 **	9.62 *	8.72 *	8.46 *	4.47	4.70
large firms	2.07	0.80	4.99	6.95	3.21	4.51	0.38	2.47	3.56	10.63 *	6.62

Table 25: Augmented wage equations: Joint test for ownership

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
all firms	23.53 **	23.07 **	35.28 **	28.72 **	31.19 **	72.06 **	35.31 **	29.37 **	40.68 **	61.08 **	34.74 **
manufacturing	9.49	15.31 *	16.95 **	10.18	25.55 **	7.60	20.62 **	31.39 **	7.21	27.75 **	12.84 *
engineering	8.34	4.41	5.76	3.48	24.64 **	14.90 *	6.87	7.08	7.92	11.39	10.13
chemical industry	3.22	3.88	17.88 **	11.47	9.27	7.50	1.14	7.87	3.86	14.95 *	11.89
food industry	9.32	9.78	19.22 **	11.00	7.56	4.15	4.14	17.81 **	8.01	13.36 *	2.25
TCF	12.08	2.79	2.85	12.87 *	11.95	5.88	19.05 **	2.86	8.35	17.84 **	5.22
other industries	11.18	8.29	19.70 **	8.57	10.08	15.24 *	4.75	11.81	9.60	11.74	15.49 *
agriculture	3.73	3.76	5.44	7.64	4.16	14.40 *	8.06	7.85	23.96 **	10.77	7.74
construction	27.66 **	12.54	6.37	10.33	6.61	20.09 **	17.04 **	12.83 *	20.82 **	14.16 *	7.66
trade	7.12	11.01	13.01 *	14.88 *	8.80	17.40 **	11.97	16.31 *	18.57 **	26.53 **	24.54 **
services	16.19 *	14.41 *	8.60	2.03	5.36	20.89 **	5.99	6.38	7.39	8.16	4.93
small firms	25.63 **	16.24 *	11.23	10.55	17.90 **	58.35 **	23.84 **	22.74 **	28.01 **	28.08 **	21.66 **
medium-sized firms	12.67 *	14.66 *	21.45 **	25.02 **	25.10 **	18.13 **	41.75 **	13.19 *	21.18 **	34.32 **	12.40
large firms	12.22	8.22	11.40	9.46	10.81	10.87	2.89	6.37	14.52 *	26.86 **	11.54

Table 26: Wage equations: all firms

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.69 **	0.79 **	0.94 **	0.95 **	0.99 **	0.94 **	0.96 **	0.94 **	0.97 **	0.90 **	0.91 **
log of employment	-0.01	0.00	0.03 **	0.02 **	0.02 **	0.02 **	0.01 **	0.01 **	0.01 **	0.00	0.01 **
log of productivity	0.44 **	0.61 **	0.47 **	0.48 **	0.44 **	0.42 **	0.37 **	0.34 **	0.36 **	0.40 **	0.25 **
log of lagged productivity	-0.34 **	-0.54 **	-0.47 **	-0.47 **	-0.44 **	-0.39 **	-0.35 **	-0.31 **	-0.35 **	-0.38 **	-0.23 **
import penetration	0.06 **	0.05 **	0.02	0.00	0.09 **	0.07 **	0.01	0.01	0.05 **	0.06 **	0.01
unemployment	-0.99 **	-0.58 **	-0.19	-0.17	-0.13	0.02	0.09	-0.11 *	-0.06	-0.19 **	-0.09 *
constant	-0.26 **	-0.23 **	-0.17 **	-0.21 **	-0.14 **	-0.21 **	-0.10 **	-0.07 **	-0.10 **	-0.03	-0.02
long-run productivity elast.	0.31 **	0.32 **	0.15	0.19 *	0.47	0.41 **	0.47 **	0.60 **	0.57 **	0.26 **	0.27 **
Nob	2357	3835	6061	7292	8076	9109	11299	12303	12833	14017	13948
Mean of dep. variable	-1.48	-1.34	-1.26	-1.37	-1.44	-1.47	-1.45	-1.40	-1.40	-1.30	-1.16
S.dev of dep. variable	0.44	0.52	0.56	0.57	0.60	0.64	0.67	0.68	0.71	0.67	0.63
R ²	0.72	0.78	0.81	0.83	0.85	0.85	0.89	0.90	0.92	0.85	0.89
SEE	0.24	0.25	0.25	0.24	0.24	0.25	0.23	0.22	0.21	0.26	0.21
Overidentification test	5.41 **	6.59 **	5.01 **	7.48 **	5.71 **	7.38 **	6.71 **	7.91 **	13.76 **	9.31 **	8.80 **
Wald test for sectors	25.15 **	32.43 **	45.77 **	55.37 **	18.92 **	40.60 **	114.44 **	82.66 **	222.51 **	62.00 **	91.36 **
Test for differenced form	65.98 **	38.75 **	9.94 **	7.08 *	0.28	16.70 **	15.42 **	78.12 **	24.74 **	95.92 **	135.48 **
Test for Error Correction	6.27 *	22.50 **	7.30 **	6.12 *	0.00	0.00	2.76	55.40 **	11.77 **	23.56 **	0.21

Table 27: Wage equations: manufacturing

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.51 **	0.68 **	1.00 **	0.97 **	1.05 **	0.98 **	0.93 **	0.95 **	1.04 **	0.97 **	0.94 **
log of employment	0.00	0.01	0.02 **	0.01 **	0.02 **	0.02 **	0.01 **	0.00	0.00	-0.02 **	0.00
log of productivity	0.42 **	0.59 **	0.49 **	0.59 **	0.60 **	0.50 **	0.48 **	0.38 **	0.36 **	0.55 **	0.19 **
log of lagged productivity	-0.23 **	-0.48 **	-0.50 **	-0.59 **	-0.62 **	-0.49 **	-0.44 **	-0.34 **	-0.38 **	-0.54 **	-0.18 **
import penetration	0.07 *	0.02	0.02	-0.02	0.10 **	0.04 *	0.01	0.00	0.02 *	0.04 **	0.04 **
unemployment	-0.83 **	-0.54 **	-0.09	-0.31 *	-0.02	-0.03	-0.01	-0.15 *	-0.02	0.01	0.08
constant	-0.59 **	-0.41 **	-0.07	-0.14 **	-0.06	-0.11 *	-0.15 **	-0.01	0.07 *	0.09 *	0.00
long-run productivity elast.	0.39 **	0.34 **	-2.33	-0.16	0.32 **	0.52	0.66 **	0.75 **	0.44 **	0.14	0.24 **
Nob	849	1286	2088	2527	2800	3138	3767	4159	4333	4580	4543
Mean of dep. variable	-1.48	-1.33	-1.27	-1.36	-1.41	-1.44	-1.44	-1.39	-1.36	-1.26	-1.15
S.dev of dep. variable	0.46	0.50	0.51	0.54	0.57	0.61	0.63	0.64	0.66	0.63	0.60
R ²	0.79	0.82	0.83	0.83	0.85	0.87	0.90	0.91	0.93	0.87	0.91
SEE	0.21	0.21	0.22	0.23	0.23	0.23	0.21	0.19	0.18	0.24	0.18
Overidentification test	4.36 **	4.69 **	2.55 **	3.10 **	3.55 **	4.25 **	3.12 **	6.87 **	4.54 **	7.31 **	3.32 **
Test for differenced form	29.10 **	73.91 **	2.78	6.87 *	4.07	1.29	36.79 **	29.08 **	6.56 *	7.04 *	34.31 **
Test for Error Correction	0.36	36.16 **	2.08	4.83 *	3.29	0.01	8.39 **	29.45 **	0.61	6.81 **	0.44

Table 28: Wage equations: engineering

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.70 **	0.47 **	0.72 **	0.84 **	1.00 **	0.88 **	1.03 **	0.85 **	0.98 **	0.82 **	1.00 **
log of employment	0.02	0.02	0.03 **	0.02 *	0.03 **	0.03 **	0.00	0.02	0.01 **	0.01	0.00
log of productivity	0.24 *	0.47 **	0.44 **	0.52 **	0.48 **	0.47 **	0.35 **	0.25	0.34 **	0.42 **	0.25 **
log of lagged productivity	-0.14	-0.29 **	-0.36 **	-0.47 **	-0.48 **	-0.44 **	-0.35 **	-0.19	-0.33 **	-0.35 **	-0.26 **
import penetration	0.05	-0.06	-0.02	-0.09 **	0.05	0.03	0.03	-0.03	-0.02	-0.01	0.03
unemployment	-0.02	-0.71 *	-0.47	-0.25	-0.22	0.07	0.08	-0.34 *	-0.09	-0.10	0.24 *
constant	-0.50 **	-0.65 **	-0.41 **	-0.30 *	-0.12	-0.32 **	0.04	-0.15	-0.01	-0.17	0.11
long-run productivity elast.	0.36 **	0.35 **	0.29 **	0.31 **	149.86	0.26 **	-0.11	0.41 **	0.34	0.39 **	3.92
Nob	277	423	727	858	953	1111	1333	1512	1590	1712	1709
Mean of dep. variable	-1.40	-1.23	-1.13	-1.15	-1.17	-1.19	-1.18	-1.09	-1.05	-0.95	-0.85
S.dev of dep. variable	0.45	0.48	0.48	0.52	0.53	0.53	0.55	0.57	0.58	0.56	0.54
R ²	0.73	0.76	0.74	0.77	0.80	0.81	0.88	0.87	0.92	0.85	0.88
SEE	0.24	0.24	0.24	0.25	0.24	0.24	0.20	0.21	0.17	0.22	0.19
Overidentification test	1.22	1.54 *	1.58 *	2.17 **	1.33	2.46 **	2.17 **	2.02 **	1.19	1.72 *	1.38
Test for differenced form	6.84 *	29.98 **	10.59 **	3.60	0.22	3.74	4.00	11.48 **	0.22	15.50 **	2.09
Test for Error Correction	0.72	6.06 *	3.46	1.81	0.16	2.01	3.01	2.30	0.00	0.29	1.82

Table 29: Wage equations: chemical industry

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.37 **	0.68 **	0.74 **	0.97 **	1.15 **	0.90 **	0.89 **	1.01 **	0.89 **	0.89 **	0.90 **
log of employment	-0.03	0.02	0.02	0.01	0.01	0.01	0.02	-0.01	0.02	0.01	0.01
log of productivity	0.59 **	0.55 **	0.38 **	0.62 **	0.39 **	0.46 **	0.55 **	0.19	0.18	0.55 **	0.12
log of lagged productivity	-0.27 **	-0.44 **	-0.30 **	-0.63 **	-0.43 **	-0.41 **	-0.48 **	-0.19	-0.15	-0.51 **	-0.08
import penetration	-0.14	0.14	-0.10	0.11	0.05	0.06	0.13 *	-0.09	0.22 **	-0.07	-0.08
unemployment	-1.33 *	-0.22	-0.97 **	-0.89 *	0.16	-0.27	-0.09	-0.02	-0.23	-0.12	-0.02
constant	-0.55 **	-0.51 **	-0.26	-0.16	0.12	-0.22	-0.33 *	0.17	-0.36 *	-0.08	0.01
long-run productivity elast.	0.51 **	0.34 **	0.28 **	-0.48	0.24	0.58 **	0.63 **	0.23	0.25	0.37 **	0.37 **
Nob	73	130	203	239	265	292	367	385	412	428	434
Mean of dep. variable	-1.14	-1.07	-1.03	-1.24	-1.30	-1.28	-1.31	-1.26	-1.27	-1.17	-1.04
S.dev of dep. variable	0.50	0.51	0.46	0.45	0.53	0.56	0.61	0.61	0.62	0.59	0.55
R ²	0.88	0.83	0.86	0.78	0.90	0.91	0.91	0.91	0.92	0.88	0.93
SEE	0.18	0.21	0.18	0.22	0.18	0.17	0.19	0.19	0.18	0.21	0.15
Overidentification test	1.19	1.19	0.95	1.10	0.87	1.03	1.32	1.51 *	1.12	1.49	1.39
Test for differenced form	40.07 **	12.94 **	8.84 *	0.97	4.41	3.91	4.80	0.07	9.40 **	3.06	6.08 *
Test for Error Correction	0.93	6.49 *	0.69	0.50	0.73	0.85	0.20	0.00	0.12	1.04	2.37

Table 30: Wage equations: food industry

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.64 **	0.37 **	0.54 **	0.93 **	0.89 **	0.99 **	0.82 **	0.94 **	1.05 **	0.94 **	0.84 **
log of employment	-0.03 *	0.03 *	0.03 *	0.02	0.04 **	0.01	0.03 *	0.00	0.01	-0.03 **	0.01
log of productivity	0.54 **	0.41 **	0.56 **	0.49 **	0.52 **	0.35 **	0.41 **	0.34 **	0.22 **	0.40 **	0.33 **
log of lagged productivity	-0.46 **	-0.23 **	-0.39 **	-0.45 **	-0.50 **	-0.35 **	-0.34 **	-0.29 **	-0.23 **	-0.40 **	-0.27 **
import penetration	0.69	0.47 *	-0.26	-0.20	0.36 *	-0.09	-0.09	0.01	0.02	0.20 **	0.01
unemployment	-0.95	-0.88 **	-0.94 *	-0.79 **	0.06	-0.13	0.02	-0.34 *	0.04	0.10	-0.06
constant	-0.23	-1.04 **	-0.86 **	-0.19	-0.51 **	-0.07	-0.43 **	0.02	0.04	0.03	-0.21 **
long-run productivity elast.	0.21 **	0.28 **	0.36 **	0.52	0.22	0.68	0.42 **	0.85	0.17	0.01	0.35 **
Nob	102	184	309	419	482	543	659	682	687	717	739
Mean of dep. variable	-1.45	-1.39	-1.47	-1.57	-1.72	-1.84	-1.81	-1.72	-1.73	-1.70	-1.59
S.dev of dep. variable	0.27	0.37	0.43	0.48	0.54	0.59	0.58	0.62	0.65	0.60	0.55
R ²	0.70	0.70	0.73	0.81	0.85	0.89	0.89	0.91	0.93	0.89	0.92
SEE	0.15	0.21	0.23	0.22	0.21	0.20	0.19	0.19	0.17	0.20	0.15
Overidentification test	1.36	0.95	1.37	0.90	1.56 *	1.47	1.55 *	1.56 *	1.11	1.29	1.24
Test for differenced form	10.57 **	53.74 **	21.61 **	1.30	3.62	0.04	11.79 **	8.49 *	2.97	9.49 **	31.28 **
Test for Error Correction	4.24 *	9.41 **	4.16 *	0.02	2.35	0.03	0.00	9.59 **	0.03	6.86 **	0.07

Table 31: Wage equations: TCF

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.46 **	0.42 **	0.99 **	0.89 **	0.80 **	0.87 **	0.80 **	0.84 **	0.91 **	0.68 **	0.84 **
log of employment	0.03 **	0.01	0.02 *	0.02 *	0.04 **	0.03 *	0.02 **	0.01	0.02 *	0.02 *	0.02 *
log of productivity	0.54 **	0.56 **	0.47 **	0.50 **	0.61 **	0.44 **	0.55 **	0.43 **	0.43 **	0.60 **	0.22 *
log of lagged productivity	-0.31 **	-0.33 **	-0.47 **	-0.48 **	-0.52 **	-0.39 **	-0.45 **	-0.36 **	-0.39 **	-0.50 **	-0.18 *
import penetration	-0.08	-0.17 **	-0.01	0.05	0.07 *	-0.06	0.00	0.00	0.03	0.04	0.03
unemployment	-0.93 **	-1.10 **	0.08	-0.30	-0.28	-0.29	-0.12	-0.26 *	-0.10	-0.45 **	-0.08
constant	-0.78 **	-0.66 **	-0.08	-0.31 **	-0.52 **	-0.27	-0.43 **	-0.26 **	-0.20	-0.48 **	-0.20 *
long-run productivity elast.	0.42 **	0.40 **	-0.21	0.17	0.43 **	0.39 **	0.51 **	0.45 **	0.44 **	0.33 **	0.26 **
Nob	342	456	725	849	915	995	1186	1326	1384	1452	1400
Mean of dep. variable	-1.66	-1.53	-1.42	-1.52	-1.56	-1.56	-1.61	-1.62	-1.59	-1.45	-1.33
S.dev of dep. variable	0.44	0.49	0.52	0.51	0.53	0.56	0.58	0.57	0.59	0.54	0.50
R ²	0.83	0.85	0.89	0.88	0.83	0.85	0.86	0.90	0.92	0.82	0.86
SEE	0.18	0.20	0.18	0.18	0.22	0.22	0.22	0.18	0.17	0.23	0.19
Overidentification test	1.53 *	1.71 *	1.24	1.19	0.99	1.13	2.01 **	1.82 **	1.71 *	2.42 **	1.48 *
Test for differenced form	42.04 **	37.36 **	0.66	13.10 **	9.42 **	2.71	17.49 **	22.06 **	5.40	41.28 **	18.37 **
Test for Error Correction	3.14	5.54 *	0.49	6.72 *	2.53	0.11	0.24	0.04	0.01	7.67 **	0.25

Table 32: Wage equations: other industries

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.59 **	0.72 **	0.58 **	0.89 **	0.81 **	0.93 **	0.97 **	0.97 **	0.79 **	0.81 **	0.97 **
log of employment	-0.02	0.02	0.04 **	0.02	0.02 *	0.02	0.01	0.02 *	0.03 **	0.01	0.00
log of productivity	0.25	0.75 **	0.53 **	0.50 **	0.68 **	0.57 **	0.42 **	0.46 **	0.62 **	0.45 **	0.14
log of lagged productivity	-0.17	-0.63 **	-0.37 **	-0.48 **	-0.61 **	-0.56 **	-0.42 **	-0.45 **	-0.55 **	-0.39 *	-0.13
import penetration	0.23 *	0.10	-0.02	0.00	0.13 **	0.15 **	0.03	0.03	0.01	0.13 **	0.15 **
unemployment	0.11	0.66	-0.18	-0.37	-0.16	-0.17	-0.11	-0.05	-0.04	-0.25	0.02
constant	-0.37	-0.52 **	-0.75 **	-0.24	-0.40 **	-0.22	-0.07	-0.06	-0.42 **	-0.24 *	0.03
long-run productivity elast.	0.20	0.41 **	0.36 **	0.12	0.38 **	0.21	0.19	0.36	0.35 **	0.30 **	0.58
Nob	102	167	255	316	372	406	478	532	528	538	528
Mean of dep. variable	-1.30	-1.14	-1.11	-1.20	-1.27	-1.29	-1.29	-1.26	-1.23	-1.20	-1.10
S.dev of dep. variable	0.42	0.44	0.45	0.50	0.53	0.53	0.54	0.55	0.58	0.58	0.55
R ²	0.59	0.74	0.82	0.88	0.87	0.88	0.93	0.92	0.91	0.88	0.92
SEE	0.28	0.23	0.19	0.17	0.19	0.18	0.15	0.16	0.17	0.21	0.16
Overidentification test	0.90	1.06	1.69 *	1.54 *	1.31	1.65 *	0.94	2.04 **	2.40 **	2.01 **	1.79 **
Test for differenced form	10.51 **	7.66 *	26.12 **	6.83 *	10.61 **	1.82	0.91	0.26	17.86 **	9.63 **	0.71
Test for Error Correction	0.11	3.73	2.10	4.97 *	3.43	1.44	0.64	0.09	2.73	0.84	0.56

Table 33: Wage equations: agriculture

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.59 **	0.46 **	0.43 **	0.77 **	0.94 **	0.81 **	1.11 **	0.83 **	0.70 **	0.62 **	0.80 **
log of employment	-0.03	-0.03 **	0.00	0.02 *	0.01	0.02	0.00	0.02 **	0.05 **	0.03 *	0.01
log of productivity	0.46 **	0.46 **	0.43 **	0.47 **	0.34 **	0.37 **	0.30 **	0.29 **	0.48 **	0.39 **	0.25 **
log of lagged productivity	-0.24	-0.29 **	-0.24 **	-0.41 **	-0.34 **	-0.30 **	-0.33 **	-0.22 *	-0.41 **	-0.35 **	-0.23 **
import penetration	0.27 *	0.06	0.18 **	0.18 *	-0.07	0.56 **	0.10	-0.01	0.00	0.62 **	-0.05
unemployment	-0.73 *	-0.36	-0.62 **	-0.25	-0.24	0.09	0.39 *	-0.32 *	-0.32 *	-0.48 **	-0.18
constant	-0.33	-0.60 **	-0.81 **	-0.52 **	-0.15	-0.43 **	0.22	-0.26 **	-0.67 **	-0.61 **	-0.17
long-run productivity elast.	0.53 **	0.32 **	0.33 **	0.27 **	0.13	0.33 **	0.31 *	0.38 **	0.23 **	0.11 **	0.11 *
Nob	584	938	1082	1285	1344	1369	1395	1307	1308	1296	1252
Mean of dep. variable	-1.57	-1.54	-1.52	-1.60	-1.64	-1.60	-1.50	-1.43	-1.54	-1.39	-1.24
S.dev of dep. variable	0.30	0.31	0.33	0.36	0.36	0.41	0.44	0.44	0.42	0.42	0.40
R ²	0.49	0.53	0.64	0.67	0.71	0.76	0.83	0.80	0.76	0.65	0.79
SEE	0.22	0.21	0.20	0.21	0.20	0.20	0.20	0.19	0.21	0.25	0.18
Overidentification test	0.99	0.93	2.05 **	2.21 **	1.31	1.96 **	2.24 **	1.03	3.56 **	2.44 **	1.08
Test for differenced form	8.29 *	34.29 **	27.15 **	5.86	1.11	11.69 **	1.61	20.43 **	32.43 **	32.27 **	17.88 **
Test for Error Correction	0.38	7.34 **	1.96	2.10	0.95	0.20	0.00	1.61	11.00 **	14.28 **	3.92 *

Table 34: Wage equations: construction

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.75 **	0.78 **	0.89 **	1.03 **	1.08 **	0.82 **	0.96 **	0.96 **	0.94 **	0.89 **	0.87 **
log of employment	0.05 *	0.02	0.04 **	0.03 *	0.01	0.05 **	0.04 **	0.02	0.03 **	-0.01	0.02
log of productivity	0.19 *	0.34 **	0.39 **	0.44 **	0.28 **	0.30 **	0.15 **	0.43 **	0.30 **	0.24 **	0.14 *
log of lagged productivity	-0.14	-0.32 **	-0.40 **	-0.44 **	-0.29 **	-0.24 **	-0.15 **	-0.39 **	-0.26 **	-0.20 **	-0.11 *
import penetration	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
unemployment	0.29	-0.74 *	0.25	0.04	0.11	0.08	-0.12	0.26	0.23	-0.19	-0.02
constant	-0.58	-0.23	-0.38 **	-0.17	-0.05	-0.56 **	-0.16	-0.16 *	-0.21 **	-0.07	-0.15
long-run productivity elast.	0.19	0.09	-0.14	-0.04	0.10	0.30 **	-0.23	1.07	0.68 **	0.38 **	0.19
Nob	157	288	525	652	697	793	1023	1246	1329	1455	1490
Mean of dep. variable	-1.50	-1.35	-1.29	-1.41	-1.52	-1.59	-1.57	-1.57	-1.60	-1.54	-1.43
S.dev of dep. variable	0.43	0.42	0.43	0.51	0.58	0.55	0.59	0.63	0.63	0.58	0.54
R ²	0.66	0.58	0.70	0.74	0.79	0.74	0.84	0.86	0.89	0.83	0.81
SEE	0.25	0.28	0.25	0.28	0.27	0.29	0.24	0.25	0.21	0.24	0.24
Overidentification test	1.12	1.50	1.44	2.39 **	0.99	2.96 **	1.75 **	1.67 *	2.78 **	1.98 **	1.41
Test for differenced form	7.37 *	5.12	13.34 **	1.10	2.03	9.13 *	2.56	9.96 **	16.10 **	21.17 **	8.80 *
Test for Error Correction	0.00	3.50	9.14 **	1.06	0.65	0.00	1.20	5.23 *	9.84 **	2.77	0.39

Table 35: Wage equations: trade

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.79 **	0.86 **	0.98 **	0.98 **	0.97 **	1.01 **	0.99 **	0.95 **	0.98 **	0.93 **	0.91 **
log of employment	-0.02	0.00	0.03 **	0.02 **	0.02 **	0.04 **	0.02 **	0.02 **	0.02 **	0.01	0.01 **
log of productivity	0.37 **	0.39 **	0.43 **	0.37 **	0.32 **	0.30 **	0.34 **	0.22 **	0.13	0.35 **	0.26 **
log of lagged productivity	-0.35 **	-0.37 **	-0.44 **	-0.37 **	-0.32 **	-0.30 **	-0.33 **	-0.20 **	-0.12	-0.34 **	-0.25 **
import penetration	0.00	0.00	0.00	0.00	0.00	0.00	0.02	5.16 **	0.19	-4.82	-0.07
unemployment	-1.76 **	-0.88 *	-0.23	0.14	-0.22	0.02	0.00	-0.10	0.04	-0.14	-0.16 *
constant	0.10	-0.02	-0.12 **	-0.21 **	-0.13 **	-0.16 **	-0.05	-0.07 *	-0.09 **	0.01	-0.01
long-run productivity elast.	0.09	0.11	-0.47	0.04	0.03	-0.57	0.95	0.46 **	0.21	0.15 *	0.19 **
Nob	624	1069	1893	2256	2564	3032	4119	4514	4764	5524	5503
Mean of dep. variable	-1.44	-1.22	-1.15	-1.31	-1.39	-1.45	-1.47	-1.39	-1.40	-1.29	-1.12
S.dev of dep. variable	0.53	0.63	0.67	0.68	0.70	0.76	0.78	0.79	0.81	0.76	0.71
R ²	0.77	0.82	0.83	0.86	0.88	0.88	0.89	0.91	0.92	0.86	0.89
SEE	0.25	0.27	0.28	0.26	0.25	0.27	0.26	0.24	0.23	0.28	0.23
Overidentification test	2.19 **	2.92 **	1.76 **	2.32 **	2.67 **	2.47 **	1.67 *	2.16 **	2.15 **	1.92 **	4.31 **
Test for differenced form	30.48 **	7.12 *	5.48	1.06	4.16	3.40	2.49	26.62 **	2.63	42.29 **	69.42 **
Test for Error Correction	10.36 **	6.09 *	4.53 *	1.00	3.03	2.72	2.06	15.72 **	0.15	16.18 **	3.27

Table 36: Wage equations: services

Variable	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
log lagged wage	0.38 **	0.71 **	0.75 **	0.82 **	0.93 **	0.93 **	0.99 **	0.87 **	0.88 **	0.68 **	0.85 **
log of employment	0.01	0.02	0.02 *	0.01	0.03 **	0.02	0.01	0.02 *	0.02 **	0.02	0.02
log of productivity	0.56 **	0.76 **	0.66 **	0.59 **	0.44 *	0.44 **	0.50 **	0.32 **	0.39 **	0.63 **	0.38 **
log of lagged productivity	-0.33 **	-0.66 **	-0.59 **	-0.59 **	-0.42 *	-0.42 **	-0.48 **	-0.28 **	-0.32 **	-0.50 **	-0.34 **
import penetration	0.00	-1404.82 *	-247.73 **	28.45	0.00	0.00	-0.38	6.11	-4.13	-0.83 *	0.60
unemployment	-1.49	-0.94	-0.59	-0.41	0.28	-0.05	0.57 *	-0.22	-0.04	0.05	-0.11
constant	-0.69 **	-0.35 *	-0.33 **	-0.28 **	-0.32 **	-0.22	-0.06	-0.18	-0.28 **	-0.48 **	-0.13
long-run productivity elast.	0.37 **	0.36 **	0.25 **	0.05	0.38	0.33	1.52	0.33 **	0.62 **	0.43 **	0.32 **
Nob	96	180	342	418	484	568	739	799	831	895	893
Mean of dep. variable	-1.30	-1.05	-1.00	-1.13	-1.22	-1.26	-1.24	-1.17	-1.18	-1.06	-0.93
S.dev of dep. variable	0.41	0.61	0.59	0.59	0.62	0.63	0.65	0.67	0.70	0.65	0.62
R ²	0.64	0.79	0.82	0.81	0.81	0.80	0.86	0.88	0.91	0.80	0.86
SEE	0.26	0.28	0.25	0.26	0.28	0.29	0.25	0.23	0.22	0.29	0.23
Overidentification test	1.33	0.87	0.89	0.72	0.67	1.37	0.74	1.43	0.77	1.37	0.38
Test for differenced form	34.48 **	11.85 **	7.39 *	13.89 **	1.20	0.92	1.44	8.47 *	19.64 **	26.36 **	8.66 *
Test for Error Correction	4.01 *	7.45 **	3.73	4.27 *	0.03	0.18	0.51	0.01	4.09 *	2.19	0.75