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Global firms and wages: is there a rent sharing channel?

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Summary

In this paper we explore the scope of international profit sharing of firms engaged in international trade and FDI activities. We extend the approach proposed in the literature by allowing not only for differences between domestic and foreign owned firms, but also between firms with outward FDI, importers and exporters. We argue that firms engaged in international trade enhance their performance through knowledge spillovers and technology upgrading similarly to what happens for companies which are part of multinational groups, and that this superior performance can translate into substantial wage premia to workers through profitability. Using a unique dataset for Slovenian firms for the period 1994-2002, we confirm the existence of positive profit sharing for foreign firms, firms that engage in outward FDI and two-way traders, but not for firms which only import or export.

Keywords: firm heterogeneity, multinational firms, wage determination, profit-sharing.

JEL Classification: F23, J31, J50.

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<p>The working paper series has been produced to stimulate debate on the economic transformation of central and eastern Europe and the CIS. Views presented are those of the authors and not necessarily of the EBRD.</p>

Introduction

Over the course of the last three decades, globalisation characterised by free movements of capital and goods has changed the shape of the world economy. Trade theory justifies the necessity for free movements of goods between countries on the account of the gains from trade. These gains may arise from an improvement in the terms of trade, better utilisation of resources through specialisation along the comparative advantage or, more recently, from an increase in the number of varieties of goods available in the country and a decrease of prices on average. At the same time, ever since the statement of the Stolper-Samuelson theorem¹, it is clear that these gains may be unevenly distributed across production factors, so that the global positive welfare effect of trade may hide important adjustments on the use of and return to factors. This phenomenon is magnified by the emergence of movement in factors, which is embodied by multinational corporations. Recent evolutions in trade theory and in data availability have allowed discussion and testing of the existence of heterogeneous responses of factors to internationalisation not only across sectors, but also across firms and plants.

In this paper we aim to contribute to the growing literature linking globalisation with changes in the return to the labour factor. Economic research on wage premia of internationalisation is quite extensive and encompasses the response of wages to both foreign ownership and trade in light of their complementarities. Studies show that foreign affiliates perform better than domestic firms on a number of parameters including wages.² Almeida (2007), in an insightful review of the literature, points out that these foreign wage premia can be motivated by the increase in productivity and skill level achieved thanks to the utilisation of a better foreign technology, or because foreign firms, lacking the ability to attract the best workers, must offer higher wages than domestic firms for the same quality of workers. A similar effect is noted for importing and exporting firms, suggesting that firms need a higher average skill content of the workforce when deciding to serve foreign markets and exploit imported inputs of higher technological content. Similar phenomena have been discussed by others in the literature.³

Our paper, however, does not focus on the wage premium related to the change in firm skill mix imposed by internationalisation, but instead explores the second channel of profit sharing. According to this literature, a firm making positive profits may be required to share them with its employees if the bargaining power of the latter is strong enough. For a given level of profits, the higher the bargaining power, the more important the profit share employees can extract from employers. On the other hand, it is also true in this framework that for a given bargaining power of employees, more profitable firms will offer higher wages. We follow on this path the sem-

¹The SS theorem explains how a change in the price of goods due to international trade affects the prices of factors used in the production of such goods. As factor endowments differ between countries, international trade impacts the return to labour and capital differently in different countries. More recently the literature has proved the robustness of these conclusions to the relaxation of some assumptions, in particular the number of goods and factors used in production.

²We refer to Aitken et al. (1996); Feenstra and Hanson (1997); Sjöholm and Lipsey (2006); Girma and Gorg (2007); Matthias Arnold and Javorcik (2009).

³See, for instance, Bernard and Jensen (1997) and, more recently, Goldberg and Pavcnik (2007) in their review of literature on inequality, Irarrazabal et al. (2009) for Norway, and Hanson and Harrison (1995), Verhoogen (2008) and Frias et al. (2012) for Mexico

inal papers of Abowd and Lemieux (1993) for Canada; Blanchflower et al. (1996) for the US; Van Reenen (1996) for the UK; Margolis and Salvanes (2001) for Norway and France. We will offer a stylised theoretical model trying to describe the rent sharing behaviour.

This paper contributes to the debate by taking into account different modes of internationalisation in an unified approach, and linking them to rent sharing. In particular, we are interested in pointing out the differences in rent sharing behaviour by trading and ownership status of firms. We derive the intuition of our empirical specification from a simple model of profit sharing, and we interpret our results in terms of changes in relative bargaining power of employees due to the firm internationalisation process. In particular, we ask whether trading firms consistently differ in terms of profit sharing from firms that only transfer part of their production abroad. Moreover, we explore the degree of profit sharing for firms that do both activities. These aspects have so far been ignored by the relevant literature, which, to our knowledge, has only recently investigated the rent sharing behaviour of exporters in theory (Cosar et al. (2010); Helpman et al. (2010, 2011)) and empirics (Macis and Schivardi (2012)). As far as the rent sharing behaviour of multinationals is concerned, we refer to the works by Budd et al. (2005) for the European context and Martins and Yang (2010) for 47 world countries.

To assess the impact of internationalisation of firms on rent sharing, we make use of a unique dataset for Slovenian firms for the period 1994-2002. Slovenia was chosen both for the high quality and availability of the panel data on trade and foreign investment at the firm level and its extensive trade openness. To quantify the effects of the firm international status, we investigate the evolution of wages at the firm level conditional on firm skill composition and other determinants of wages. Our main specification controls for possible omitted variable biases using firm and time fixed effects. Out of concerns for possible endogeneity of profits and wages, we also estimate the empirical model with System-GMM, thus exploiting lags of the independent variables as instruments for the variables themselves. We confirm that profit sharing in Slovenian firms is more important for foreign firms and firms engaged in outward foreign direct investment than for domestic firms. This suggests that employees in companies which are part of multinational groups (as either parent or affiliate) are able to extract a greater share of profits, thus benefiting from the greater product-market power of the company. Two-way traders engaged in both importing and exporting also display a higher degree of rent sharing. Being part of an international supply chain obliges firms to offer higher wages (through profits) in order to keep the production process undisrupted. An interruption in the production within a GSC can have costly repercussions on other stages of the production outside the country of reference, which increases the workers' bargaining power with respect to their employers. Lastly, our best specification suggests that importing only firms also offer higher wages than the others through the rent sharing mechanism while exporting only firms do not.

Our paper contributes to two main streams of literature. On the one hand, it confirms the existence of wage premium for internationalising firms and, on the other, it provides further evidence in support of the profit sharing theory in an international context.

The first and second sections of the paper contain our theoretical model and its empirical derivation, as well as the empirical problems which we will take into consideration in the analysis. The third section presents the data and some descriptive statistics. The results of the empirical

estimations and robustness checks are discussed in the fourth and fifth section. Our concluding remarks follow.

1 Theoretical background

In a standard competitive labour market model, differences in wages across firms and industries (besides differences in working conditions which need to be compensated) do not exist. As soon as the assumption of perfect competition in the labour market is relaxed, however, wage differentials have been explained through several mechanisms, such as efficiency wages or models of “fairness” in the labour market, for instance. We present here a very simple model where wages will be determined by a bargaining process between workers and employers. Wages in an equilibrium with frictions will lie in between the marginal product of labour (which would reduce firm’s profits to zero, as in the perfectly competitive labour markets) and the outside option for the workers (that is to say, their reservation wage), depending on the relative bargaining power of workers and employers. We believe that this setting is consistent with the labour market institutions in Slovenia and in developed countries in general, where wages are negotiated between unions and the employers. In Slovenia negotiations take place at national, sectoral and firm level. National bargaining focuses on differences between public and private employees, while the sectoral level adjusts wages on the basis of educational and effort requirements of each occupation in the sector. Lastly, negotiations at the firm level can adjust the salary upwards with respect to the provisions in the industry.⁴ Union density is approximately 50 percent, but the coverage is estimated to 90 percent, which makes bargaining an interesting channel to explore for the understanding of wage dynamics in Slovenia.

We hence follow Blanchflower et al. (1996), Margolis and Salvanes (2001), and Abraham et al. (2009), and assume that wages are determined at the firm level through a Nash bargaining process in which unions maximise the expected gains of their members:

$$u(w, \bar{w}) = u(w) - u(\bar{w}) \tag{1}$$

Where u is the concave utility function of individual workers or of unions, w is the workers’ salary and \bar{w} is the reservation wage of workers in case the bargaining process fails. Firms, on the other hand, maximise their profit function:

$$\pi = pf(n, k) - wn - rk \tag{2}$$

⁴In 1997 a labour market reform removed the limitations to firm upward salary adjustments, as well as the possibility of downward adjustments for firms displaying negative performance.

Where p is the price of output, n is employment, k is capital, $f(n, k)$ is the production function concave in n , r the return to capital. The outside option for the employer is assumed to be zero profits. The solution to the Nash bargaining process maximises:

$$\operatorname{argmax}_{(w,n)} \left\{ [u(w, \bar{w}) n]^\phi [\pi]^{1-\phi} \right\} \quad (3)$$

Where ϕ is the parameter expressing the bargaining power of the worker and has value between 0 and 1. The first order conditions for wage and employment read, respectively:

$$\frac{u'(w)\phi}{[u(w) - u(\bar{w})]n} - \frac{1 - \phi}{\pi} = 0 \quad (4)$$

$$\frac{\phi}{n} + \frac{(1 - \phi) [f'(n) - w]}{\pi} = 0 \quad (5)$$

Re-elaborating equation(4) and using the approximation $u(w) - u(\bar{w}) \cong (w - \bar{w})(u'(w))$, one obtains:

$$w \cong \bar{w} + \frac{\phi}{1 - \phi} \frac{\pi}{n} \quad (6)$$

or, more generally,

$$w \cong c(w^0, Z) + \frac{\phi}{1 - \phi} \frac{\pi}{n} \quad (7)$$

The equation displays the three fundamental channels affecting the bargaining process (Kramarz (2003)): the firm financial condition, captured by its profitability; the bargaining power of employees relative to employers ϕ ; the threat point by workers in the bargaining process, i.e. the industry wage w^0 which they would obtain in case of failure of the wage negotiations, as determined by a number of conditions (Z) at the institutional or company level affecting both w^0 and the bargaining process. In the current specification, capital, not entering the utility function of unions or workers, does not impact the outcome of the bargaining process, hence it is not present in equation(7).

2 Empirical model and econometric issues

Equation(7) in the simple model described in the previous paragraph suggests the following empirical specification:

$$w_{it} = \bar{w} + \beta_1 \frac{\pi_{it}}{n_{it}} + \beta_2 Z_{it} + \varepsilon_{it} \quad (8)$$

where w_{it} is firm's i wage at time t , and \bar{w} is the reservation wage (w^0 in the theoretical model, but it needs not always be the industry wage); $\beta_1 = \frac{\phi}{1-\phi}$ is the relative bargaining power of workers which is assumed constant in time, $\frac{\pi_{it}}{n_{it}}$ the firm's profitability per employee in the firms, Z a vector of regressors affecting the company's wages, and ε_{it} an error term. Most articles linking the wage bargaining process with rent sharing (for instance Margolis and Salvanes (2001); Martins and Yang (2010)) test this baseline specification. In this paper we augment equation(8) with dummies indicating foreign ownership, outward FDIs, export and import decisions of the firm, and interacting them with the profit per employee variable.⁵ We hence estimate:

$$w_{it} = \bar{w} + \beta_1 \frac{\pi_{it}}{n_{it}} + \beta_2 D_{it}^s + \beta_3 \frac{\pi_{it}}{n_{it}} D_{it}^s + \beta_4 Z_{it} + \varepsilon_{it} \quad (9)$$

Where D stands for an indicator (dummy) variable, and superscript s stands for foreign ownership, outward FDI, import only, export only, both exporting and importing. β_2 identifies the straight-forward wage premium to the internationalisation mode, but we are most interested in the sign of β_3 . We expect it to be significantly different for different dummies, thus identifying differences in rent sharing for different types of internationalised firms. In higher specifications, we also include more than one dummy variable and interaction effect at the same time:

$$w_{it} = \bar{w} + \beta_1 \frac{\pi_{it}}{n_{it}} + \beta_2 D_{it}^s + \beta_3 D_{it}^r + \beta_4 \frac{\pi_{it}}{n_{it}} D_{it}^s + \beta_5 \frac{\pi_{it}}{n_{it}} D_{it}^r + \beta_6 Z_{it} + \varepsilon_{it} \quad (10)$$

with $s \neq r =$ foreign ownership, outward FDI, export only, import only, twoway trade. In order to be consistent with the findings in the theoretical model, we estimate our baseline equations using both wages and profits in levels, so that β_1 is the euro-increase in wages when the firm earns an extra euro of profits.⁶ In our estimations Z_{it} includes mainly: i) the firm-specific ratio of capital to labour (fixed assets over employment); ii) a set of industry and time-specific dummies and iii) in higher specifications, a set of unobservable company-specific fixed effects to capture

⁵The rationale for doing this is explained in greater detail in Section 4.

⁶In view of the number of observations displaying strictly negative profits (33.6 percent of all available observations), taking the logarithm of profits would censor our sample and bias the coefficient for the main independent variable of interest. We therefore exclude this possibility and include profits in level only.

firm unobserved heterogeneity which might affect wages. We include i as an proxy for the firm's labour skill composition, in light of the positive correlation between capital intensity and skill level of the labour force (Griliches (1969); Duffy et al. (2004); Yasar and Morrison Paul (2008)). Despite the imperfection of this proxy for skill composition, omitting it would bias our results if one believes that changes in profits affect wages through changes in the composition of the firm's workforce. The impact of skill composition on the average salary would not be captured by the dummies for internationalisation modes, nor by productivity, which we include in our robustness estimation in the form of total factor productivity (TFP). Time fixed effects are included in order to control for unobserved characteristics which are in common to all firms but varying over time, such as business-cycle related phenomena (economic trend or shocks, skill biased technical change). We also include industry- and firm- fixed effects to control for unobserved heterogeneity such as firm efficiency, workers features, or preferences of unions and workers over the reservation wages. Last, we correct for heteroskedasticity and serial correlation by clustering the errors at the firm level and by netting the error from their AR(1) component.⁷

With regards to the potential endogeneity of profitability to wages, it is possible that firms solicit effort from workers offering efficiency wages, so that wages determine profits and not the vice versa. In this case, the coefficient on profits which we would estimate with OLS would be biased downwards. A shock in product demand may also affect the marginal product of labour and firm profitability simultaneously. A third form of endogeneity is introduced by measurement error, which can be especially sizeable in this context, where profits per employee and wages are both retrieved from the balance sheet records of the firm. In presence of a fixed effect estimation, measurement error would bias the estimated coefficient for profit per employee towards zero, especially if variables tend to be persistent and data are differenced (Griliches and Hausman (1986)). We address these three sources of bias by estimating equation(10) in differences through GMM. Once the fixed effect is netted out, and in absence of first order serial correlation in errors, we can exploit appropriately lagged values of the regressor (here: profit per employee starting from time $t - 2$ and earlier) as instruments for the regressor itself in the equation in differences (Arellano and Bond (1991); Arellano and Bover (1995); Blundell and Bond (1998)); the standard errors are obtained using the Windmeijer (2005) correction for finite samples. We check for the joint validity of the chosen instruments and the absence of second order serial correlation in errors by looking, respectively, at the Hansen and Arellano Bond tests. The endogeneity of profit per employee makes the cross products between these and the dummies for international status of the firm endogenous as well. What is more, the dummies themselves are endogenous, if the error of equation(10) contains a phenomenon which simultaneously impacts the level of wages and the international status of the firm. One such example is workers' ability, which is reflected in the worker's salary and is also most likely taken into account by foreign companies when deciding

⁷We test the presence of autocorrelation in the error in two ways: a) we use the user-written command *xtserial* which performs a Wooldridge F test for autocorrelation in panel data and b) we run an OLS regression of wages on profit per employee and industry and time dummies, we retrieve the estimate of the residuals and we run a second regression of the residual over the lagged residual, wages, profit per employee and dummies. The F test for the equality to zero of the coefficient for the lagged residual (positive and significant) is rejected. This is unsurprising, especially in view of the usual persistence of wages from year to year (Hildreth and Oswald (1997)). The correlation of current and lagged wages in our panel varies from 0.70 to 0.81, depending on the year of observation. The correction of the errors from their AR(1) component in the panel setting is achieved using the Stata command *xtregar* and the option "fixed effect". This command first transforms the data so as to eliminate the AR(1) component of the error term, and then transforms it again (by taking differences) to purge the fixed effect.

to invest in Slovenia⁸, but which is not observed by the researcher. As a consequence, dummies and cross products are also instrumented by taking appropriate lags.

3 Data and descriptive statistics

3.1 Data

In this paper we exploit an unbalanced panel of Slovenian manufacturing firms for the years 1994-2002. The database contains information on firm balance sheet collected by AJPES (Agency of the Republic of Slovenia for Public Legal Records and Related Services), which was then matched with data on trade and FDI flows by firm, as collected by the Statistical Office of the Republic of Slovenia. Data are expressed in euros which we deflated using the Slovenian producer price index at 2 digit level for value added, profits, wages and sales, and the consumer price index for capital stock. We also experimented with the gross output price index and the gross fixed capital formation price index for Slovenia from the EUKLEMS database, which leave the results substantially unchanged.

In the considered years, no minimum threshold for the reporting of trading transactions was in place and therefore the database contains the sum of all trade flows involving the observed company. We know if the firm has one or more affiliates abroad and where these affiliates are located, and if the firm is foreignly owned, but we do not observe the share of foreign control.⁹ By the same token, the dataset does not contain hourly wages, hence we construct our main dependent variable by dividing the total firm-level annual wage bill by the number of employees working for the firm¹⁰. Lastly, in our baseline estimations we exploit the accounting measure of profits which is reported in the dataset, but we also experiment with profits defined as the value of sales from which material costs and total wage bill were subtracted, a concept which intuitively corresponds to the rents to be shared among workers (Blanchflower et al. (1996), Budd et al. (2005)).¹¹ Our results are similar using either of the two measures.¹²

⁸The tendency of MNEs to buy the best performing domestic companies is well known in the literature exploring wage premia of foreign ownership, and goes by the name of “cherry picking”. Read, for instance Matthias Arnold and Javorcik (2009).

⁹This was found to be of some importance in previous studies, such as Budd et al. (2005).

¹⁰Hourly wages are preferred in the profit sharing literature, since they are more likely to be the object of negotiations between worker and employer, and they suffer less from noise in the measurement due to non-salary worker compensations. On the other hand, as long as this measurement error is constant in time, taking equation(10) in difference should milden the problem.

¹¹Reported profits may in fact be an unreliable measure of true firm profitability, due to the firms discretionary power in reporting profits in different years.

¹²Tables available upon request.

3.2 Descriptive statistics

We clean our dataset by discarding firms with negative values for sales, tangible assets, employment and material costs, but allowing both negative value added and profits. We are then left with 37,261 firm-year observations, corresponding to 3,542 to 4,224 firms operating each year between 1994 and 2002. These represent on average 22 percent of total Slovenian firms operating in manufacturing, but also 86 percent of the country's employment, total wage bill and revenues from sales in the same sectors.¹³ These companies are heterogeneous in wages and profits, depending on both ownership and trade status. Figure 1 displays the distribution of firms by deflated profits in our sample: foreign firms displaying average profits are much fewer than the domestic ones while the distribution for this category of companies is much more dispersed. Firms which both import and export also have a more dispersed distribution than firms which only import or export. Similar differences are found when looking at average (deflated) wages: the distribution for foreign owned firms is moved to the right of that for domestic firms, as is the distribution of two-way trading firms with respect to one-way trading ones.

The evolution in time for profits and wages is also different for firms of different ownership and trading type, as displayed in Figure 2. Foreign and two-way trading firms earn consistently higher profits than domestic and one-way trading firms, and the difference is increasing in time.¹⁴ The same ranking is found for average wages: if foreign firms offer consistently higher wages than domestic firms, so do two-way traders with respect to firms engaged in import or export only. Exploring the rent sharing behaviour by type of firm may help understanding such heterogeneity in profits and wages.

Further differences among these types of firms are summarised in Table 1 and 2. In line with the literature, foreign firms are on average bigger and more capital intensive than domestic firms; they sell more and produce a higher total value added. Foreign firms which only export represent an exception, as they are on average smaller, less capital intensive and profitable than the domestic ones. Firms which only export are in fact smaller and worse performing even than the average firm, no matter what the ownership status. In comparison, firms which only import do better in all respects, though they still report one tenth of the sales and value added than two-way traders. It is therefore clear that two-way traders perform better than one-way traders, while the picture is less clear-cut when it comes to the ownership of the firm, with foreign companies performing on average better than domestic ones.

4 Empirical hypotheses and results

This section presents our main results. We first report the specifications where the issue of potential endogeneity is ignored, and then move to the System GMM estimates. Lastly, we describe

¹³Data for aggregate turnover, cost of personnel, employment, number of firms in the concerned years are taken from Eurostat and the Statistical Office of the Republic of Slovenia.

¹⁴It should not surprise that two-way trading firms in 1995 made negative profits on average, as in 1995 the aggregate profits of all Slovenian firms were negative, a result of transition recession.

the results of our robustness checks. For each result we present the implied wage elasticity to profits, and the so called Lester range, after Lester (1952). This is defined as the elasticity of wages with respect to profits multiplied by four times the ratio between the standard deviation of profits and mean profits. It is interpreted as the wage increase a worker would experience if she moved from a firm with profits two standard deviations below the mean to a firm with profits two standard deviations above the mean, everything else held constant.

4.1 Ownership status - OLS and FE

We first estimate equation(10) with OLS and firm-level fixed effect, where we include the dummies for foreign ownership and outward FDI. If profit sharing truly takes place, we expect the coefficient on profits per employee to be generally significant and positive. We also hypothesise that the coefficient on the interaction term between profits per employee and the dummy for foreign ownership is significantly different from the one on the average profit per worker. Rodrik (1997) pointed out that if workers in the domestic and foreign country are substitute for one another, the bargaining power of domestic workers is lower for more international firms. On the other hand, Budd et al. (2005) find a positive impact of parent profitability on the affiliate's wages, and vice versa, that is to say evidence of international profit sharing. A positive sign in the cross product of profits and the foreign dummy would imply that workers are able to appropriate a share of the profits of the international group. This is especially true if the relevant product market for wage setting goes beyond the national borders as in Budd and Slaughter (2004). We remain similarly agnostic on the sign of the coefficient on the dummy for outward FDI: a positive sign would be further proof of the international rent sharing behaviour described by Budd et al. (2005), for which the gains in efficiency created by the parent while offshoring translate into higher profitability; a negative sign would reflect the higher bargaining power of employers in the headquarters, who can threaten to move away further parts of the production.

Table 3 contains our first answer to these questions. The coefficients on Π/N (that is to say, profit per employee) suggest that higher profits are shared with the employees and this has a positive impact on wages. This is true even if we simultaneously control for our proxy of skill content of the firm, or the ratio of capital to the number of employees (K/N). The coefficient on this variable is in itself positively and significantly correlated with wages, since a higher average level of capital in the firm is reflected in a higher average wage. However, the baseline specification in columns 1 and 4 ignores the issue of potential heterogeneity in the rent sharing behaviour due to the existence of different types of firms, and the impact of such diversity on wages. Columns 2 and 5 investigate the possibility of differences in profit sharing between domestic and foreign firms. We find confirmation of the existence of a wage premium of foreign ownership, as the coefficient on the foreign ownership dummy (D_f) is always positive and significant, although at different levels across specifications. The coefficient on our variable of interest, the cross product between the dummy for foreign ownership and profit per employee ($D_f * \Pi/N$), is positive and significant, suggesting that a foreign company shares its profits more than a domestic firm in the form of higher salaries for its workers. The elasticity of wage to profits is also positive and greater for foreign firms than the average firm, ranging from 0.0006 to 0.0022.

Unsurprisingly, coefficients estimated by OLS on both profit sharing and profit sharing of foreign companies (columns 1 to 3) are systematically biased upwards, as OLS suffers from omitted variable bias despite our attempt to control for industry and time fixed effects. When applying the firm level fixed effects specifications (columns 4 to 6), we only exploit the information carried by firms switching status, and the coefficients on both profits per employee and the cross product decrease up to one third of the OLS ones.¹⁵ A firm switching from domestic to foreign ownership increases its average wage by 0.03 euros for each extra euro of profits. Our estimates are in line with those reported in the international rent sharing literature, with a Lester range associated to foreign ownership going from 18 to 26 percent.¹⁶

Our results do not change qualitatively when we further include dummies for outward FDI (columns 3 and 6). Although the elasticity of wages to profits for foreign firms (and, accordingly, the Lester range) slightly decreases in magnitude, the sign and significance persist. A Slovenian firm which engages in outward FDI is found to offer a wage premium to its workers through profit sharing. This evidence is coherent with the idea that having an affiliate abroad does not decrease the bargaining power of workers, and that on the contrary the latter benefit of higher infra-group profitability.

4.2 Trade status - OLS and FE

We now turn to the examination of the rent sharing behaviour of trading firm. We first estimate equation(10) with dummies indicating that the firm is importing only (D_i or Imp), exporting only (D_e or Exp) or importing and exporting at the same time (D_b or $Both$). We might expect the sign on the import-only cross-product to be negative: a firm engaged in importing may more easily substitute away its employees with imported inputs, thus undermining the bargaining power of the workers. On the other hand, if the number of employees and the skill ratio in the firm does not change when starting to import, the number of imported variety and their quality may require the firm's workers to exert more effort, which would translate into a higher relative bargaining power of the workers. The same outcome is obtained if workers are specific to some imported inputs, since the absence of one worker would interrupt the production chain. The expected sign on the import-only cross product is therefore ambiguous. Brock and Dobbelaere (2006) argue that export competition increases the tightness of the labour market, thus increasing the bargaining power of workers relative to the company. Similarly, export competition further decreases the bargaining power of the firm by making the latter more dependent on its workforce for efficient and regular production. Exporters are then expected to have positive profit sharing behaviour. Macis and Schivardi (2012) find that exporters display strong and positive rent sharing behaviour. The hypotheses for one-way traders may also hold for two-way traders, but *a priori* we cannot say which between the effect (importing and exporting) may dominate. On the other hand, the labour substitution hypothesis stands in contrast to the evidence that these firms have ten times the turnover and value added of a firm which is only importing, and are making on average

¹⁵Results are obtained using the command *xtregar*, in view of the time persistency of wages which we mentioned in section 3. These estimates are also usually lower than the ones obtained simply clustering the errors, so that if we are wrong, we are understating the importance of the rent sharing phenomenon rather than overstating it.

¹⁶The estimates of elasticity may appear small. This statement, however, does not take into account the high volatility of profits, which can significantly change from one year to the other (Hildreth and Oswald (1997))

consistently higher wages starting from 1996 onwards. Moreover, firms both importing and exporting are likely to be part of an international supply chain, making it more costly to interrupt production, in light of the repercussions which these interruptions may have on different stages of the production chain. This would suggest a positive sign on the cross product for two way trader and profit per employee.

Our preliminary answers are reported in Table 4. Signs reflect the expectations in the formulated hypotheses: switching to exporting or to two-way trading affects the degree of rent sharing positively, as opposed to importing only. Looking at columns 7 and 8 also suggests that the elasticity of wages to profits is higher in firms which start both exporting and importing. On the other hand, these conclusions may be affected by the existence of firms which are trading but also part of a multinational group. That is why in Table 5 we augment equation(10) adding indicators for both foreign ownership and trading status of the firm.

Including further controls worsens the significance of some of the estimates in fixed effects, which does not come as a surprise, as international activities are often correlated to one another: a foreign firm is more likely to be engaged in outward FDI and/or trade than a domestic one, for instance. Wages for workers in firms which start importing but not exporting are lower, the higher the level of profits.¹⁷ The sign of the coefficient is consistent with our hypothesis of reduced bargaining power of workers when employment can be substituted away with imports. Accordingly, both the elasticity of wages to profits per employee and the Lester range are negative when the coefficient for D_i is significant. Exports only, on the other hand, seem to generate positive rent sharing once again (columns 2 and 4 in Table 5). Turning to the rent sharing behaviour of two-way trading firms (columns 3 and 4), the sign is positive and robust across all specifications. While switching to both import and export at the same time, firms increase their profits relatively to firms which are not doing so.

4.3 Treating endogeneity: GMM

Until now, our results did not take into account the possibility of measurement error in our covariates, as well as of the endogeneity of profits per employee. To address both issues we revert to System-GMM, whose results are presented in Table 6. To dispel doubts on the validity of our instrumenting technique and overfitting of the variable of interest, we also report the p-value of the Hansen and Arellano-Bond tests and the number of used instruments.

Although the direct profit sharing on wages when dummies for internationalisation are included sometimes disappears, the existence of heterogeneity in profit sharing behaviour by internationalisation mode is confirmed. All signs are the same as in the FE specification without correcting for endogeneity for ownership and two-way trade (columns 5 and 6), but not for one-way traders (columns 3 and 6). This evidence is consistent with the complementarity between the firm's workers and imported inputs, which makes the former fundamental for the continuity of the pro-

¹⁷Note that a positive significant coefficient on D_i associated with a negative coefficient on $D_i * \Pi/N$ would not be contradictory. Even when controlling for the firm's skill composition and rent sharing behaviour, some wage premia may pass through other channels which are not explicitly observed.

duction process, and increases their bargaining power with respect to employers. The coefficient on the cross product for one-way exporters switches sign, but it is insignificant in both specifications (columns 4 and 6), making it impossible to draw a clear inference on the underlying phenomenon.

The magnitude of the elasticities generally increases, which is consistent with the existence of endogeneity in the OLS and FE estimation, where the causal effect of profits is downward biased. The same increase in coefficients is reported in the literature, when endogeneity is corrected by either GMM (Budd et al. (2005); Martins and Yang (2010)) or IV (Abowd and Lemieux (1993); Arai and Heyman (2009); Card et al. (2010)).

5 Robustness checks

Overall, the presented evidence suggests the existence of profit sharing for both foreign and trading firms with respect to domestic and/or non-trading firms. In order to assess the robustness of our results and support our claims, we present in this section other different specifications of equation(10).

In a first set of robustness tables we experiment with different controls for firm performance (see Table 7). We introduce, alternatively, total factor productivity estimated using Levinsohn and Petrin (2003) algorithm (column 1) and a proxy for firm size, that is to say employment (column 2). Each regression is estimated with firm fixed effect correcting for AR(1) serial correlation in errors. TFP is found to have a positive impact on wages, as per economic intuition: more productive firms can afford to pay higher wages, or simply more productive firms are such because their workers are more productive and are therefore paid more (endogeneity is not controlled for in this specification and we do not control for skill composition). Size in terms of employment is negatively correlated with wages, as in a standard model of perfectly competitive labour market.

The sign of the interaction terms of interest are coherent with previous estimations: changing ownership (inward and outward FDI) and two-way trade status is found to impact wages positively and so does starting to export without importing. Importing only, on the contrary, are found to impact wages negatively. Although elasticities and Lester ranges are not computed for these tables, the magnitude of the coefficients is comparable between with Tables 3 and 5.

In Table 8 we then restrict the analysis to firms displaying negative profits. Firms with negative profits cannot redistribute them to workers and therefore we expect the coefficients to the cross products between firms international status and profits to be insignificant. The estimation results support this intuition. On the other hand, were firms able to freely reduce wages in times of operational losses, we would expect a positive and significant coefficient on the cross products. This may not happen, however, if the capability of the firm to reduce wages is limited by institutional provisions (such as the one mentioned in Section 1), or by sectoral agreements. These two factors may explain the negative coefficient on the level of rent sharing in completely domestic firms: salaries still increase even if profits do not. This result may also reflect the willingness of the firm to keep its workers from switching company, especially if the operational loss is believed to be

temporary.

In order to assess the importance on our results of the change in wage policy introduced by the Slovenian government in 1997, we estimated equation(10) separately for the period before and after 1997. In 1997, the government reduced the social contributions rate for employees while introducing the payroll tax. The payroll tax was differentiated according to the wage bill, starting with zero for the lowest bracket and putting the highest rate at 14.8 per cent for the highest salary bracket. This in turn changed the wage policy of firms shifting aggregate wages in favor of lower wage brackets. Net effects of these policy interventions depended on skill structure of firms, but could potentially increase profit sharing in labour-intensive industries.

The results are included in Table 9, where in the first column “POST” is an indicator having value 1 from year 1997 onwards while in column 2 it has value 1 from the following year. Neither after the introduction of the policy (column 1) nor in case the change in policy was anticipated (column 2), are all the coefficients insignificant before or after the reform. If it is the case that rent sharing changes sign for some firm status after 1997, the change is not always the same for all types of firms, which is sufficient to confirm that pooling information over the entire sample is not biasing our results in a specific direction.

Lastly, we ask whether rent sharing is not affected only by the international status, but also by the value of international transactions. As our database contains the value of exports and imports at the firm level, we interact the shares of trade in total revenues of the firm with the profit per capita variable. It may indeed be the case that workers’ bargaining power with respect to employers increases with the value of the traded goods, independently on the size of profits. This may be the case, for instance, if interruptions of production are especially costly for the employer who is exporting high value goods. Also, if imports are especially valuable (in relative terms to revenues from sales) they may be embodying higher technological contents or quality. This may require workers to input more effort in the production (given a fixed skill content of labour in the firm in the short run) which would translate into higher bargaining power for the workers. The positive sign on the cross product between profits and import shares in Table 10 would confirm this theory. On the other hand, rent sharing seems to be unaffected by an increase in the value of exports relative to sales.

Conclusions

Until now, the economic literature has explored the differences in rent sharing between domestic and foreign firms, whether they be affiliates or headquarters of a multinational group. We contribute to this stream of literature by extending the analysis to firms engaged in international trade, distinguishing between one-way and two-way traders. We formulate the hypothesis that engaging in trade influences the rent sharing behaviour of firms both by changing the relative bargaining power of employers and employees, and by increasing the firm's profitability. We test our hypotheses on a panel of Slovenian manufacturing firms from 1994 to 2002.

Our estimation takes into account the presence of autocorrelation in the errors, possible omitted explanatory variables and the endogeneity in the relation between profits and wages. Our estimation confirms the existence of international rent sharing as in Budd et al. (2005), showing that profit sharing results in a higher wage premium if a firm is either a foreign affiliate or a parent within an international group. We also find that profit sharing is positive and significant for firms which are both importing and exporting at the same time, once the change in capital-labour ratio has been controlled for. If a firm only imports or exports, on the other hand, our evidence is less clear cut, as the sign of the profit sharing for this kind of firms switches sign once correcting for endogeneity. Our findings are robust to the introduction of different controls and subsampling with only negative profits.

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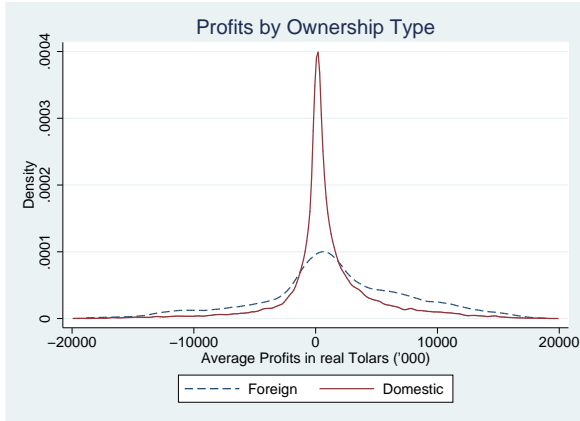
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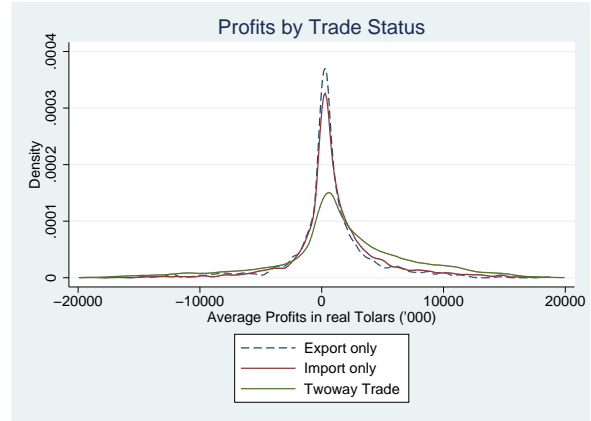
Appendix of tables and figures

Figure 1: Distribution of deflated profits and wages, by firm type.

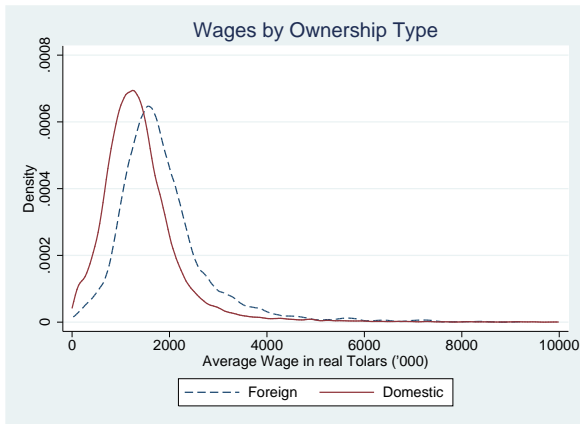
(a) Profits distribution (Ownership)



(b) Profits distribution (Trade)



(c) Wage distribution (Ownership)



(d) Wage distribution (Trade)

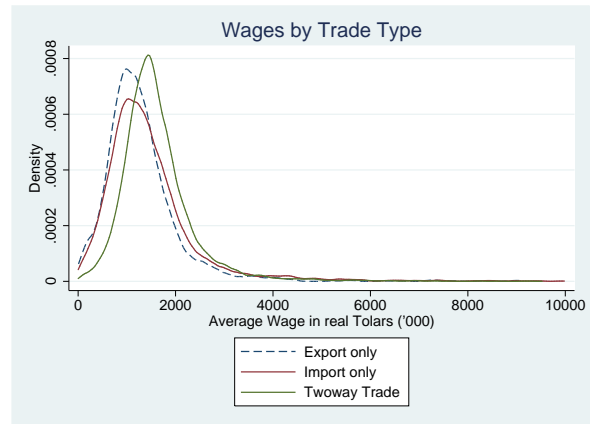
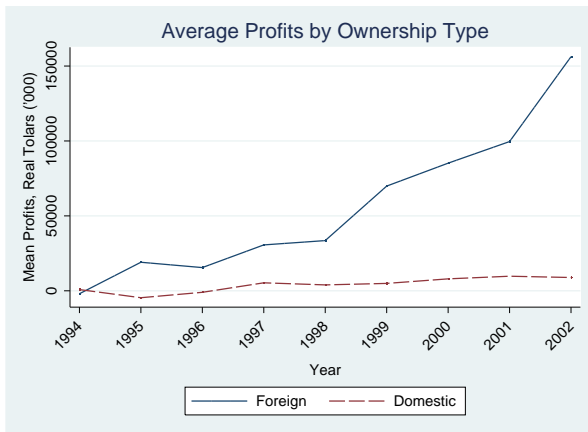
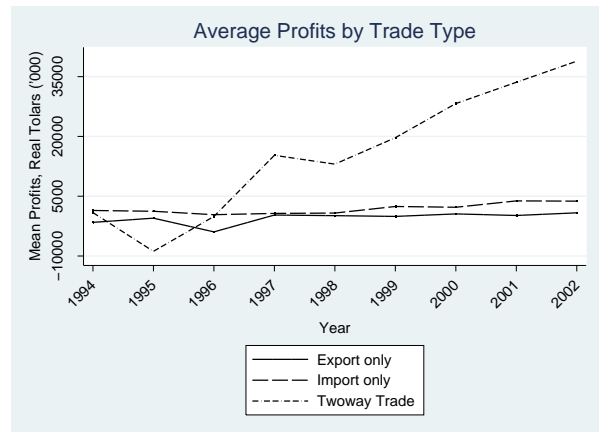


Figure 2: Time trend for mean deflated profits and wages, by firm type.

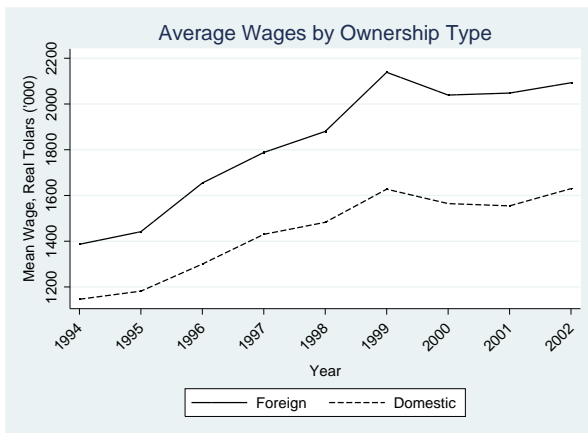
(a) Profits development (Ownership)



(b) Profits development (Trade)



(c) Wage development (Ownership)



(d) Wage development (Trade)



Table 1: Descriptive statistics by ownership and trade type (a)

	Complete Sample					Export					Import				
	Mean	St Dev	n	Mean	St Dev	n	Mean	St Dev	n	Mean	St Dev	n			
All Firms	<i>Wage</i>	2,019.54	1,539.28	37,108	2,229.93	1,521.77	18,104	2,205.00	1,586.03	22,451					
	Π/N	304.93	4,071.64	37,262	436.70	4,041.68	18,125	475.71	4,081.68	22,478					
	<i>K/N</i>	6,889.71	32,823.15	36,590	7,387.60	24,217.54	17,997	7,457.61	29,412.09	22,305					
	<i>N</i>	49.96	191.10	37,262	94.15	260.28	18,125	78.42	236.55	22,478					
	<i>Sales</i>	564,891.40	3,620,556	37,262	1,086,059	5,127,879	18,125	905,451.40	4,626,024	22,478					
<i>Value Added</i>	158,399.40	831,759.40	37,217	302,485.70	1,171,942	18,121	252,729.10	1,059,165	22,471						
Foreign	<i>Wage</i>	2,669.81	1,572.10	1,992	2,701.95	1,540.28	1,801	2,684.62	1,571.41	1,968					
	Π/N	783.55	4,636.36	1,995	774.27	4,420.85	1,803	793.81	4,656.02	1,971					
	<i>K/N</i>	9,496.07	24,612.21	1,981	9,410.33	20,576.83	1,793	9,573.69	24,724.36	1,961					
	<i>N</i>	121.70	269.72	1,995	133.86	280.93	1,803	123.11	271.05	1,971					
	<i>Sales</i>	2,530,034	11,300,000	1,995	2,791,350	11,800,000	1,803	2,560,012	11,400,000	1,971					
<i>Value Added</i>	583,385.70	1,805,958	1,994	643,120.70	1,889,376	1,803	590,210.60	1,815,841	1,970						
Domestic	<i>Wage</i>	1,982.65	1,529.16	35,116	2,177.79	1,510.74	16,303	2,158.92	1,579.82	20,483					
	Π/N	277.86	4,035.72	35,267	399.42	3,995.99	16,322	445.14	4,020.97	20,507					
	<i>K/N</i>	6,740.52	33,225.89	34,609	7,163.79	24,577.61	16,204	7,253.63	29,817.63	20,344					
	<i>N</i>	45.90	184.84	35,267	89.76	257.53	16,322	74.12	232.52	20,507					
	<i>Sales</i>	453,726.30	2,531,454	35,267	897,686	3,652,494	16,322	746,425.80	3,282,473	20,507					
<i>Value Added</i>	134,340.60	731,873	35,223	264,848.40	1,056,760	16,318	220,299.50	949,178.40	20,501						

Notes: All values are expressed in thousands, except for Employment (units).

Table 2: Descriptive statistics by ownership and trade type (b)

	Export Only				Import Only				Twoway Trade			
	Mean	St Dev	n		Mean	St Dev	n		Mean	St Dev	n	
All sample	Wage	1,819.74	1,356.30	1,859	Wage	2,016.86	1,703.82	6,206	Wage	2,276.87	1,532.63	16,245
	Π/N	247.66	3,205.26	1,867	Π/N	520.94	3,962.33	6,220	Π/N	458.41	4,126.42	16,258
	K/N	7,013.52	30,073.50	1,827	K/N	7,530.71	41,159.79	6,135	K/N	7,429.87	23,464.95	16,170
	N	9.00	30.86	1,867	N	11.74	37.15	6,220	N	103.92	272.92	16,258
	Sales	72,069.21	186,806.00	1,867	Sales	129,013	484,136	6,220	Sales	1,202,502	5,401,787	16,258
	Value Added	21,660.85	55,505.46	1,864	Value Added	38,318.05	123,914	6,214	Value Added	334,684.60	1,233,086	16,257
Foreign	Wage	1,455.86	1,098.93	24	Wage	2,366.81	1,822.24	191	Wage	2,718.78	1,538.70	1,777
	Π/N	-59.42	2,457.27	24	Π/N	870.68	6,325.78	192	Π/N	785.52	4,440.74	1,779
	K/N	1,885.82	2,304.17	20	K/N	10,313.84	48,536.03	188	K/N	9,495.20	20,675.63	1,773
	N	6.04	13.18	24	N	7.51	19.15	192	N	135.59	282.42	1,779
	Sales	68,069.13	196,978.30	24	Sales	76,110.93	122,049	192	Sales	2,828,089	11,900,000	1,779
	Value Added	23,181.29	88,129.28	24	Value Added	19,499.98	39,954	191	Value Added	651,484.20	1,900,676	1,779
Domestic	Wage	1,824.50	1,358.94	1,835	Wage	2,005.75	1,698.90	6,015	Wage	2,222.59	1,523.12	14,468
	Π/N	251.66	3,214.17	1,843	Π/N	509.80	3,863.69	6,028	Π/N	418.22	4,084.49	14,479
	K/N	7,070.27	30,233.77	1,807	K/N	7,442.73	40,906.64	5,947	K/N	7,175.52	23,774.08	14,397
	N	9.03	31.02	1,843	N	11.88	37.57	6,028	N	100.03	271.49	14,479
	Sales	72,121.30	186,725.60	1,843	Sales	130,698	491,213	6,028	Sales	1,002,770	3,864,803	14,479
	Value Added	21,641.02	54,989.95	1,840	Value Added	38,914.80	125,617	6,023	Value Added	295,757.50	1,117,953	14,478

Notes: All values are expressed in thousands, except for Employment (units).

Table 3: OLS and FE regressions by foreign and OFDI status

VARIABLES	1	2	3	4	5	6
	OLS1	OLS2	OLS3	FE1	FE2	FE3
Π/N	0.032*** (0.002)	0.031*** (0.002)	0.031*** (0.002)	0.008*** (0.002)	0.010*** (0.002)	0.011*** (0.002)
Foreign		1.974*** (0.140)	1.883*** (0.140)		0.206 (0.265)	0.213 (0.264)
Foreign*Π/N		0.038*** (0.009)	0.038*** (0.009)		0.039*** (0.010)	0.032*** (0.010)
Ofdi			2.547*** (0.157)			0.143 (0.286)
Ofdi*Π/N			0.025** (0.010)			0.074*** (0.010)
K/N	0.010*** (0.000)	0.010*** (0.000)	0.010*** (0.000)	0.012*** (0.000)	0.012*** (0.000)	0.013*** (0.000)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Firm dummies	No	No	No	Yes	Yes	Yes
EL(base)	0.0023	0.0022	0.0022	0.0006	0.0007	0.0008
EL(foreign)		0.0049	0.0049		0.0035	0.0030
EL(ofdi)			0.0040			0.0061
Lester(base)	0.1205	0.1166	0.1169	0.0319	0.0373	0.0401
Lester(foreign)		0.2620	0.2605		0.1849	0.1612
Lester(ofdi)			0.2111			0.3233
Observations	36,458	36,458	36,458	30,585	30,585	30,585
Number of id				5,470	5,470	5,470

Standard errors in parentheses . *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is average wage in all models. *Foreign* is the dummy for Foreign Ownership, *Ofdi* for Outward FDI. *EL(.)* stays for Elasticity of wage to profits per employee, *Lester(.)* for the Lester Range.

Table 4: OLS and FE regressions by trade status only

VARIABLES	(1) OLS	(2) FE	(3) OLS	(4) FE	(5) OLS	(6) FE	(7) OLS	(8) FE
Π/N	0.032*** (0.002)	0.007*** (0.002)	0.032*** (0.002)	0.009*** (0.002)	0.035*** (0.002)	0.017*** (0.003)	0.033*** (0.002)	0.016*** (0.003)
Imp	-0.003 (0.085)	0.025 (0.089)					1.362*** (0.093)	0.130 (0.108)
Imp*Π/N	-0.005 (0.006)	-0.022*** (0.006)					0.011 (0.009)	-0.014** (0.006)
Exp			-0.581*** (0.146)	-0.177 (0.137)			0.789*** (0.150)	-0.063 (0.152)
Exp*Π/N			0.004 (0.011)	0.019* (0.011)			0.023** (0.011)	0.025** (0.011)
Both					1.967*** (0.065)	0.152 (0.101)	2.479*** (0.074)	0.201 (0.130)
Both*Π/N					0.031*** (0.004)	0.027*** (0.004)	0.036*** (0.004)	0.026*** (0.004)
K/L	0.010*** (0.000)	0.012*** (0.000)	0.010*** (0.000)	0.012*** (0.000)	0.010*** (0.000)	0.012*** (0.000)	0.010*** (0.000)	0.012*** (0.000)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Firm dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
EL(Base)	0.0023	0.0005	0.0025	0.0006	0.0025	0.0012	0.0024	0.0011
EL(Oneway Import)	0.0019a	-0.0010					0.0031a	-0.0002
EL(Oneway Export)			0.00223a	0.0020			0.0040	0.0029
EL(Twoway)					0.0047	0.0031	0.0049	0.0030
Lester(Base)	0.1217	0.0281	0.1204	0.0329	0.1323	0.0632	0.1272	0.0610
Lester(Oneway Import)	0.1016a	-0.0554					0.1680a	-0.1586
Lester(Oneway Export)			0.1344a	0.1070			0.2134	0.0090
Lester(Twoway)					0.2489	0.1652	0.2629	0.1568
Observations	36,458	30,585	36,458	30,585	36,458	30,585	36,458	30,585
Number of id		5,470		5,470		5,470		5,470

Standard errors in parentheses . *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is average wage in all models. *Imp* is the dummy for Importing only, *Exp* for Exporting only, *Both* for Twoway. *EL(.)* stays for Elasticity of wage to profits per employee, *Lester(.)* for the Lester Range. "a" indicates elasticities and ranges computed with at least one insignificant coefficient.

Table 5: FE regressions, with foreign, OFDI and trading dummies

VARIABLES	1	2	3	4
Π/N	0.010*** (0.002)	0.011*** (0.002)	0.014*** (0.003)	0.013*** (0.003)
Foreign	0.204 (0.264)	0.207 (0.264)	0.203 (0.265)	0.183 (0.265)
Foreign* Π/N	0.026*** (0.010)	0.032*** (0.010)	0.021** (0.010)	0.018* (0.010)
Ofdi	0.142 (0.286)	0.139 (0.286)	0.137 (0.286)	0.132 (0.286)
Ofdi* Π/N	0.075*** (0.010)	0.075*** (0.010)	0.063*** (0.011)	0.065*** (0.011)
Imp	0.026 (0.089)			0.125 (0.108)
Imp* Π/N	-0.018*** (0.006)			-0.015** (0.006)
Exp		-0.179 (0.137)		-0.064 (0.152)
Exp* Π/N		0.024** (0.011)		0.025** (0.011)
Both			0.166 (0.101)	0.211 (0.130)
Both* Π/N			0.013*** (0.005)	0.012** (0.005)
K/N	0.013*** (0.000)	0.013*** (0.000)	0.013*** (0.000)	0.013*** (0.000)
EL(Base)	0.0007	0.0008	0.0010	0.0009
EL(Foreign)	0.0025	0.0031	0.0025	0.0022
EL(Ofdi)	0.0060	0.0061	0.0055	0.0056
EL(Oneway Import)	-0.0006			-0.0001
EL(Oneway Export)		0.0025		0.0027
EL(Twoway)			0.0019	0.0018
Lester(Base)	0.0362	0.0415	0.0531	0.0504
Lester(Foreign)	0.1352	0.1652	0.1342	0.1190
Lester(Ofdi)	0.3206	0.3279	0.2931	0.2975
Lester(Oneway Import)	-0.0337			-0.0067
Lester(Oneway Export)		0.1331		0.1455
Lester(Twoway)			0.1025	0.0968
Observations	30,585	30,585	30,585	30,585
Number of id	5,470	5,470	5,470	5,470

Standard errors in parentheses . *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is average wage in all models. *Foreign* is the dummy for Foreign Ownership, *Ofdi* for Outward FDI, *Imp* for Importing only, *Exp* for Exporting only, *Both* for Twoway. *EL(.)* stays for Elasticity of wage to profits per employee, *Lester(.)* for the Lester Range. "a" indicates elasticities and ranges computed with at least one insignificant coefficient.

Table 6: System GMM estimates

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Π/N	-0.001 (0.009)	0.011** (0.005)	0.021*** (0.006)	0.011 (0.007)	0.010 (0.006)	0.019 (0.012)
Foreign	2.122*** (0.264)	1.941*** (0.459)	2.052*** (0.535)	1.934*** (0.412)	1.319*** (0.486)	1.290*** (0.433)
Foreign* Π/N	0.071** (0.030)	0.041*** (0.015)	0.071*** (0.013)	0.106* (0.057)	0.049*** (0.016)	-0.027 (0.043)
Ofdi		1.820*** (0.444)	1.614*** (0.396)	1.396*** (0.375)	1.119** (0.486)	0.694* (0.409)
Ofdi* Π/N		0.053** (0.025)	0.003 (0.014)	0.061 (0.087)	0.074*** (0.028)	-0.034 (0.059)
Imp			-0.125 (0.830)			0.882 (0.981)
Imp* Π/N			0.096*** (0.029)			0.062** (0.030)
Exp				-2.393* (1.350)		-1.509 (1.247)
Exp* Π/N				-0.012 (0.010)		-0.103*** (0.070)
Both					1.865*** (0.564)	1.930*** (0.468)
Both* Π/N					0.166*** (0.063)	0.089*** (0.023)
K/N	0.005** (0.003)	0.016*** (0.004)	0.006*** (0.001)	0.012*** (0.002)	0.016*** (0.003)	0.011*** (0.002)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Firm dummies	Yes	Yes	Yes	Yes	Yes	Yes
EL(Base)	-0.00005a	0.0008	0.0015	0.0008a	0.0007a	0.0013a
EL(Foreign)	0.0045a	0.0037	0.0065	0.0083a	0.0042a	-0.0006a
EL(Ofdi)		0.0046	0.0017a	0.0051a	0.0060a	-0.0011a
EL(Oneway Import)			0.0083			0.0058a
EL(Oneway Export)				-0.0111a		-0.0104a
EL(Two-way)					0.0001a	0.0077a
Lester(Base)	-0.0025a	0.0420	0.0791	0.0417a	0.0366a	0.0709a
Lester(Foreign)	0.2660a	0.1962	0.3491	0.4442a	0.2230a	-0.0332a
Lester(Ofdi)		0.2446	0.0922a	0.2726a	0.3185a	-0.0581a
Lester(Oneway Import)			0.4440			0.3081a
Lester(Oneway Export)				-0.5913a		-0.2613a
Lester(Two-way)					0.0074a	0.4089a
AR(2)	0.833	0.832	0.905	0.924	0.909	0.947
Hansen	0.115	0.743	0.181	0.888	0.814	0.392
Number of IV	17	12	57	50	18	84
Observations	36,458	36,458	36,458	36,458	36,458	36,458
Number of id	5,873	5,873	5,873	5,873	5,873	5,873

Standard errors in parentheses . *** p<0.01, ** p<0.05, * p<0.1 . The dependent and independent variables are defined as above. *AR(2)* is the p-value of the Arellano Bond test of absence of serial correlation of order 2. *Hansen* is the p-value of the Hansen test of joint validity of the instruments. *EL(.)* stays for Elasticity of wage to profits per employee, *Lester(.)* for the Lester Range. “a” indicates elasticities and ranges computed with at least one insignificant coefficient.

Table 7: Robustness (1): Alternative controls (FE)

VARIABLES	1a	2a	1b	2b	1c	2c	1d	2d
Π/N	-0.002 (0.002)	-0.003 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.004 (0.003)	-0.001 (0.002)	0.001 (0.003)	0.000 (0.002)
Foreign	0.042 (0.154)	0.171 (0.264)	0.042 (0.154)	0.165 (0.264)	0.046 (0.154)	0.165 (0.265)	0.036 (0.154)	0.144 (0.265)
Foreign*Π/N	0.034*** (0.009)	0.042*** (0.010)	0.033*** (0.009)	0.044*** (0.009)	0.033*** (0.009)	0.036*** (0.010)	0.034*** (0.009)	0.036*** (0.010)
Ofdi	-0.032 (0.162)	0.172 (0.288)	-0.035 (0.162)	0.167 (0.288)	-0.032 (0.162)	0.163 (0.288)	-0.034 (0.162)	0.159 (0.288)
Ofdi*Π/N	0.036*** (0.007)	0.022*** (0.006)	0.039*** (0.006)	0.023*** (0.006)	0.034*** (0.007)	0.015** (0.007)	0.035*** (0.007)	0.016** (0.007)
Imp	0.129*** (0.049)	0.032 (0.089)	0.032 (0.089)	0.032 (0.089)	0.032 (0.089)	0.032 (0.089)	0.163*** (0.059)	0.137 (0.108)
Imp*Π/N	-0.016*** (0.005)	-0.006 (0.006)	-0.016*** (0.006)	-0.006 (0.006)	-0.016*** (0.006)	-0.006 (0.006)	-0.019*** (0.007)	-0.001 (0.006)
Exp			-0.044 (0.076)	-0.138 (0.137)			0.010 (0.084)	-0.018 (0.152)
Exp*Π/N			0.019* (0.010)	0.030*** (0.011)			0.025** (0.011)	0.033*** (0.011)
Both					-0.021 (0.056)	0.154 (0.101)	0.073 (0.072)	0.224* (0.130)
Both*Π/N					0.010* (0.005)	0.010** (0.004)	-0.004 (0.007)	0.011*** (0.004)
TFP	2.622*** (0.047)		2.633*** (0.047)		2.624*** (0.047)		2.622*** (0.047)	
Size		-0.013*** (0.001)		-0.013*** (0.001)		-0.013*** (0.001)		-0.013*** (0.001)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	28,533	31,178	28,533	31,178	28,533	31,178	28,533	31,178
Number of id	5,245	5,575	5,245	5,575	5,245	5,575	5,245	5,575

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is average wage in all models. *Foreign* is the dummy for Foreign Ownership. *Ofdi* for Outward FDI, *Imp* for Importing only, *Exp* for Exporting only, *Both* for Twoway. *TFP* is total factor productivity estimated with the LP algorithm, *Size* the number of employees working in the company.

Table 8: Robustness (2): negative profits only (FE)

VARIABLES	1	2	3	4	5	6
Π/N	-0.020** (0.008)	-0.022*** (0.008)	-0.019*** (0.007)	-0.019** (0.008)	-0.026*** (0.008)	-0.025*** (0.008)
Foreign	1.040*** (0.320)		1.058*** (0.305)	1.024*** (0.320)	0.848*** (0.323)	0.742** (0.317)
Foreign* Π/N	-0.027 (0.032)		-0.025 (0.029)	-0.027 (0.033)	-0.003 (0.035)	-0.006 (0.033)
Ofdi	0.973*** (0.334)		0.962*** (0.330)	0.980*** (0.336)	0.722** (0.333)	0.673** (0.327)
Ofdi* Π/N	0.003 (0.020)		0.002 (0.019)	0.004 (0.021)	0.023 (0.025)	0.020 (0.024)
Imp		0.571*** (0.155)	-0.144 (0.127)			0.548*** (0.156)
Imp* Π/N		-0.018 (0.012)	-0.018 (0.012)			-0.017 (0.013)
Exp		0.793*** (0.224)		0.034 (0.198)		0.766*** (0.224)
Exp* Π/N		0.019 (0.021)		0.022 (0.020)		0.019 (0.021)
Both		1.605*** (0.172)			1.095*** (0.154)	1.486*** (0.179)
Both* Π/N		-0.010 (0.014)			-0.019 (0.017)	-0.015 (0.017)
K/L	0.006*** (0.001)	0.006*** (0.001)	0.006*** (0.001)	0.006*** (0.001)	0.006*** (0.001)	0.006*** (0.001)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Firm dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,190	12,190	12,190	12,190	12,190	12,190
Number of id	4,354	4,354	4,354	4,354	4,354	4,354

Standard errors in parentheses . *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is average wage in all models. *Foreign* is the dummy for Foreign Ownership, *Ofdi* for Outward FDI, *Imp* for Importing only, *Exp* for Exporting only, *Both* for Twoway.

Table 9: Robustness (3): before/after 1997 (FE)

VARIABLES	1	2
Π/N	0.014*** (0.003)	0.011*** (0.003)
Foreign* Π/N	0.013 (0.011)	0.016 (0.012)
Ofdi* Π/N	0.064*** (0.011)	0.067*** (0.011)
Imp* Π/N	-0.022*** (0.007)	-0.022*** (0.007)
Exp* Π/N	0.005 (0.012)	0.015 (0.013)
Both* Π/N	0.012** (0.005)	0.010* (0.006)
$\Pi/N*POST$	-0.012* (0.007)	-0.004 (0.006)
Foreign* $\Pi/N*POST$	0.025 (0.030)	0.005 (0.023)
Ofdi* $\Pi/N*POST$	0.044 (0.064)	0.001 (0.031)
Imp* $\Pi/N*POST$	0.083*** (0.019)	0.050*** (0.016)
Exp* $\Pi/N*POST$	0.118*** (0.028)	0.051* (0.026)
Both* $\Pi/N*POST$	0.053*** (0.015)	0.032** (0.014)
K/L	0.013*** (0.000)	0.013*** (0.000)
Time dummies	Yes	Yes
Industry dummies	Yes	Yes
Firm dummies	Yes	Yes
Observations	30,585	30,585
Number of id	5,470	5,470

Standard errors in parentheses . *** p<0.01, ** p<0.05, * p<0.1. The dependent and independent variables are defined as above, but the coefficients for the dummies are not reported for presentational reasons. *POST* is an indicator for the period after 1997 in column 1, and after 1996 in column 2.

Table 10: Robustness (4): intensive margin

VARIABLES	1a	1b	2a	2b	3a	3b
	OLS	FE	OLS	FE	OLS	FE
Π/N	0.034*** (0.010)	0.014*** (0.002)	0.034*** (0.010)	0.017*** (0.003)	0.034*** (0.010)	0.017*** (0.003)
Share(Exp)	0.191* (0.110)	0.055 (0.081)			0.155 (0.124)	-0.011 (0.094)
Share(Exp)*Π/N	0.006 (0.005)	0.003 (0.003)			0.004 (0.006)	0.001 (0.003)
Share(Imp)			0.151* (0.078)	0.034 (0.089)	0.058 (0.080)	0.037 (0.102)
Share(Imp)*Π/N			0.011** (0.005)	0.020*** (0.005)	0.007** (0.003)	0.020*** (0.006)
K/L	0.011*** (0.002)	0.013*** (0.001)	0.011*** (0.002)	0.013*** (0.001)	0.011*** (0.002)	0.013*** (0.001)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Firm dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	36,305	30,440	36,305	30,440	36,305	30,440
Number of id		5,457		5,457		5,457

Standard errors in parentheses . *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is average wage in all models. *Share(Exp)* stays for the share of export sales in the firm's total sales revenues, *Share(Imp)* for that of import.