Rent Sharing and Foreign Ownership

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Abstract: Rent sharing is perceived as an important explanation for the stylised fact that foreign firms pay higher wages. Using a matched panel of large firms based in Portugal, we find rent sharing to be insignificant for foreign firms, unlike for their domestic counterparts.

Keywords: Wage Differentials, Rent Sharing, Foreign Direct Investment, Portugal.

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1. Introduction

A clear stylised fact in the empirical literature on Foreign Direct Investment is that foreign firms pay higher wages. Many contributions, including Aitken et al. (1996) and Feenstra and Hanson (1997), have shown, using OLS, that foreign firms pay between about 5% and 30% more to equivalent workers, depending on the country, period and, in particular, the set of firm and/or worker controls considered.[2] Explanations for this important phenomenon abound, including increased labour demand due to entry of foreign firms, workers' unobserved heterogeneity, and rent sharing. This paper focuses on the rent sharing view and is one of the first to examine empirically its soundness.

Explanations based on rent sharing typically draw on the insight from the OLI model of Dunning (1977) that foreign firms must have advantages over domestic firms in a host economy in order to be able to profitably compete in what will be a new market from the point of view of the foreign firms. These advantages are typically perceived as the ownership of a special type of asset, including patents, production processes or brands.

The use of such assets will generate rents, which may then be shared with workers via a bargaining process, resulting in above-market wage rates for workers in multinational firms. Paying such wages may also be profitable from the point of view of the firm if it prevents worker turnover. Indeed, such turnover will be costly when it erodes the multinational's ownership advantages as former workers transmit such information to other firms.

Our examination of the role of rent sharing in explaining the wage differentials between domestic and foreign firms is based on a previous paper (Martins, 2003a) that examines the extent of rent

sharing in the Portuguese labour market. This earlier paper draws on comprehensive panel data (presented in Section 2) for large exporting firms based in Northern Portugal and examines the impact on wages of the proxy for rents used, profits gross of the wage bill. The endogeneity of profits is tackled by considering worker fixed effects and by instrumenting profits using interactions between the export share of each firm and the exchange rate of the year. In the preferred specifications, Lester ranges[3] are bound between 22% and 56%, suggesting a substantial role for rent sharing in wage determination.

In the present contribution, we examine in Section 3 whether there are any differences between domestic and foreign firms as to their degree of rent sharing, using the sample from the previous paper. Although the theoretical explanation for the wage premium predicts that foreign firms would exhibit higher levels of rent sharing, we find the opposite.

2. Data

We draw on a sub-sample obtained from the "Quadros de Pessoal" data set, matched with information on profits and exports produced by "Jornal de Notícias". The former data set is a compulsory survey administered by the Portuguese Department of Employment including all firms with at least one employee. Extensive information about the firms and their workers is available, including identifiers that allow both firms and workers to be followed across different years. The "Jornal de Notícias" data set is a ranking of large firms (defined in terms of sales) that are based in Northern Portugal, available only for the period 1993-1995, the period under consideration here.

[2] Our recent research (Martins, 2003b) has, however, cast some doubts on this finding, as the use of other methods than OLS, including propensity score matching, produces results indicating insignificant foreign-firm wage premia.

[3] Lester ranges are a measure of the sensitivity of wages to profits frequently used in the rent sharing literature. They are defined as $4*\varepsilon*CV$, in which ε is the elasticity of wages with respect to profits and CV is ratio between the standard deviation of profits and average profits.

After cleaning the data set, we are left with more than 57,000 workers and 197 firms-year. (More details about each data set and the construction of the final data set used here can be found in Martins, 2003a.)

It is important to underline that this data set is not representative of all firms, but only of large firms based in a specific region. We regard this as an advantage given our goal of comparing domestic and foreign firms, as these two types of firms typically exhibit very different characteristics.[4] This is confirmed in Tables 1a and 1b, where we present descriptive statistics for domestic and foreign firms, in terms of workers and firms, respectively. (We follow the same definition as in Martins, 2003b, in which "foreign firms" have at least 50% of their equity owned by foreign parties.) For instance, we find that domestic firms are larger than their foreign counterparts (averages of 460 and 409 workers, respectively) and that workers in domestic firms are as schooled as workers in foreign firms (both exhibiting an average of 5.41 years of schooling[5]). These results stand in clear contrast to those obtained when a representative sample of all domestic and foreign firms is considered (Martins, 2003b).

[Tables 1a and 1b approximately here.]

Variables that exhibit differences between the two sub-samples are the proportion of women, the share of exports in total sales and profits, all of them larger in foreign firms. The two first results are explainable by the over-representation of foreign firms in the clothing industry, in which most workers are female and which has a strong export orientation.

[4] Indeed, Heckman et al. (1997), in the context of evaluation studies, point out that differences in the support and distribution of explanatory variables may induce a larger bias than selectivity. In the context of the present paper, by restricting our analysis to comparable, large firms, we are implicitly controlling for many of such differences along observable variables.

[5] This statistic is not surprising as average schooling is very low in Portugal. The compulsory school leaving age was only 10 until the mid-1960's.

3. Results

We start by running standard wage regressions, considering as the dependent variable the log real hourly wage and controlling for a large set of variables. These are: dummies for education levels, a quartic in (Mincer) experience, a quadratic in tenure, a gender dummy, log number of workers, log real sales, and dummies for industries, regions and years. We present results for all three years pooled. Focusing on the results for the foreign-firm coefficient[6] (see Table 2), we find a significantly positive premium of 4.3%.

[Table 2 approximately here.]

Having established, consistently with most of the literature, that foreign firms pay higher wages to equivalent workers, we now investigate whether this differential may be explained by differences in rent sharing. We do this by considering the specification in Martins (2003b), in which we add to the previous specification worker fixed effects and instrument gross profits using interactions between exchange rates and export shares. We consider the full sample and a sub-sample of workers whose firms increase their profits over each two periods. (As explained in Martins, 2003b, this is motivated by the constraints imposed by the Portuguese labour law on pay adjustments, in that nominal pay cannot be cut unless firms are on the verge of bankruptcy.)

In the first row of Table 3, we find that the instrument has for both types of firms (and their workers) the predicted significantly negative impact (as an appreciation of the currency impacts more negatively the greater the firm exposure to the international market, as measured by the ratio between exports and total sales). However, while the coefficient is statistically positive for domestic

[6] The results for the remaining regressors are available upon request.

firms, the sign is reversed for their foreign counterparts. This results in a Lester range of 59% for domestic firms and –161% for foreign firms.

[Table 3 approximately here.]

This difference between the two types of firms is however considerably attenuated if one focus on the sub-set of firms whose profits increase over time. Although the instruments exhibit the same sign, the rent-sharing coefficient for domestic firms increases while that for foreign firm decreases (in absolute terms) and, although still negative, becomes insignificant. Lester ranges are now 76% and –19%.

4. Conclusion

We find evidence that rent sharing may not explain why foreign firms apparently pay higher wages to equivalent workers. Controlling for unobserved heterogeneity via fixed effects and instrumenting profits, there is substantial evidence of rent sharing for domestic firms but not for foreign firms. Overall, these results are consistent with the hypothesis that foreign firms do not pay higher wages but that they have instead different characteristics from the standard domestic firms. Those characteristics may be the ones that explain the foreign-firm "premium", not "foreigness" *per se*.

Finally, we wish to highlight two related issues left for further research. The first is that transfer pricing may bias the comparison of profits between domestic and foreign firms. A second issue is that rent sharing in multinational firms may operate at an international level (Budd and Slaughter, 2004, find supporting evidence), and not only at the domestic level, as assumed here.

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Tables to be inserted in the text:

Table 1a - Descriptive Statistics, Workers in Domestic and Foreign Firms

	Domestic Firms				Foreign Firms			
Variable	**Mean**	**St. Dev.**	**Min**	**Max**	**Mean**	**St. Dev.**	**Min**	**Max**
Schooling	5.41	2.67	0	16	5.41	2.58	0	16
Experience	26.65	11.99	0	77	23.16	11.42	0	70
Tenure	16.73	11.41	0	76.1	16.50	11.42	0	56.4
Age	38.06	11.10	14	87	34.57	10.55	16	77
Female	0.38	0.49	0	1	0.69	0.46	0	1
Firm Size	1054.6	779.9	33	2907	662.6	345.4	34	1099
Hourly Wage	593.5	538.3	104.1	9127.8	538.0	420.7	109.1	5859.5
Log Hourly Wage	6.21	0.51	4.65	9.12	6.15	0.46	4.69	8.68
Sales	12165	11797	1093	40512	7660	4769	1281	20794
Export Share	0.441	0.323	0.000	0.997	0.734	0.281	0.001	0.983
Net Profits	254.2	920.6	-1487.0	2983.9	307.5	-996.1	717.0	4468.0
Gross Profits	2.05	1.47	1.47	27.58	2.27	2.23	0.30	11.57
N. Obs.	49,506				8,025			

Notes:

All variables are measured in real terms, in 1995 escudos.

Gross profits are measured in per worker terms.

Table 1b - Descriptive Statistics, Domestic and Foreign Firms

	Domestic Firms				Foreign Firms			
Variable	**Mean**	**St. Dev.**	**Min**	**Max**	**Mean**	**St. Dev.**	**Min**	**Max**
Schooling	5.78	1.33	1.37	12.21	5.98	1.60	3.42	9.39
Experience	24.54	5.48	12.85	36.72	24.40	6.25	16.50	36.10
Tenure	13.92	5.60	2.85	27.79	16.51	6.64	4.78	28.46
Age	36.31	5.36	24.51	47.85	36.35	5.84	29.12	46.80
Female	0.35	0.21	0.03	0.98	0.48	0.35	0.04	0.91
Firm Size	459.5	546.0	33	2907	408.7	314.8	34	1099
Hourly Wage	638.3	287.6	346.3	2201.0	654.8	229.3	397.9	1200.8
Log Hourly Wage	6.23	0.33	5.76	7.51	6.30	0.31	5.91	6.91
Sales	5936	7373	1093	40512	5799	4932	1281	20794
Export Share	0.380	0.347	0.000	0.997	0.570	0.346	0.001	0.983
Net Profits	126.3	505.3	-1487.0	2983.9	283.2	955.0	-717.0	4468.0
Gross Profits	2.33	2.38	-1.47	27.58	2.74	2.23	-0.30	11.57
N. Obs.	169				28			

Notes:

All variables are measured in real terms, in 1995 escudos.

Gross profits are measured in per worker terms.

Table 2 - Wage Differentials Between Domestic and Foreign Firms
Dependent variable: Log real hourly wages.

	All Years
Foreign Firm	0.043
	[0.006]**
Observations (Workers)	57,531
R2	0.435

Notes:

Robust standard errors in brackets (firm-level clustering).

+ significant at 10%; * significant at 5%; ** significant at 1%

Several controls for worker and firm characteristics are included: see main text.

Table 3 - Rent Sharing in Domestic and Foreign Firms
Dependent variable: Log real hourly wages.
Worker fixed effects are included.

	Full Sample		Sub-Sample	
	Domestic	**Foreign**	**Domestic**	**Foreign**
Auxilliary regression				
Instrument	-0.017	-0.017	-0.064	-0.028
	[0.001]**	[0.002]**	[0.002]**	[0.002]**
Main regression				
Gross Profits	0.101	-0.18	0.12	-0.03
	[0.015]**	[0.022]**	[0.001]**	[0.015]
Observations	49,506	8,025	31,920	3,686
Workers	31,351	4,423	19,137	2,406
Elasticity	0.207	-0.409	0.248	-0.061
Lester range	59.3%	-160.6%	76.0%	-18.5%

Notes:

Robust standard errors in brackets.

+ significant at 10%; * significant at 5%; ** significant at 1%

The sub-sample is made of workers in firms whose profits increase.

Several controls for worker and firm characteristics are included: see main text.