Exporting, FDI, and Labour Demand Adjustment: Evidence from the UK Manufacturing

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Abstract

This paper documents evidence of differential speed of labour demand adjustment among exporters, foreign multinationals (henceforth MNEs) and domestic non-exporting firms from the UK manufacturing industry. Our findings show that MNEs exhibit the fastest speed of employment adjustment to its optimal level, followed by exporters and then domestic non-exporters. Interestingly, the long-run adjustment of labour demand with respect to factor price and demand shocks is less pronounced amongst MNEs and exporters, consistent with the view that firms engaged in international commerce activities generate more skilled jobs that are more costly to dispose of. Moreover, exporting intensity also seems to matter; MNEs with limited export-market commitment are found to have more rigid labour adjustment in response to output and wages shocks in the long run. These findings may allay fears on the footloose nature of MNEs in the sense that jobs in MNEs (followed by exporters) are expected to be more secure on average in response to any shocks affecting long-run labour demand.

Keywords: foreign direct investment (FDI); exports; employment adjustment

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1. Introduction

There is now a growing body of empirical evidence that captures a strong and positive relationship between multinationality, exporting and business performance[1]. The stylised facts documented in the empirical literature are consistent with a number of recent theoretical models [e.g. Melitz, 2003; Helpman *et. al.*, 2004] that predict firms engaged in foreign direct investment (FDI) activities are more efficient/productive than those serving foreign markets through arms-length exporting alone, while the least efficient/productive firms will operate only in the indigenous market[2]. This apparent empirical and theoretical consensus goes some way to explaining why governments over the world intervene to encourage exports and FDI [Blomström and Kokko, 2003]. For example, *UK Trade & Investment*, the government organisation that supports companies investing in the UK as well as domestic exporters, has active branches in over 200 countries across the world.

[1] For the exports-performance nexus, see for instance, Bernard and Jensen (1995, 1999, 2004) for the US; Bernard and Wagner (1997) for Germany; Clerides *et. al.* (1998) for Columbia, Mexico and Morocco; Delgado *et. al.* (2002) for Spain; Baldwin and Gu (2003) for Canada; Girma *et. al.* (2004) and Greenaway and Kneller (2004) for the UK. For the positive impact of (inward) FDI on firm performance, see Harris and Robinson (2003) for a review of the literature, and in particular, Doms and Jensen (1998), Aitken and Harrison (1999), Conyon *et. al.* (2002), and Griffith and Simpson (2004).

[2] Most recently some studies attempt to empirically test Helpman *et. al.*'s hypothesis (*op. cit.*) and have found supporting evidence: the productivity distribution of FDI firms dominates that of exporters, which in turn dominates that of domestic non-exporters, such as Girma *et. al.* (2005) for the UK; and Wagner (2006) for Germany.

One prominent motivation for encouraging inward FDI and international trade is based on the presumption that multinational and exporting firms stimulate aggregate productivity and employment, either directly through their own productivity and employment growth, and reallocations of resources [e.g. Bernard and Jensen, 2004][3]; or through an indirect spillover effect [e.g. Driffield and Taylor, 2000]. Nevertheless, in light of the labour-market impact of international trade and investment, there also has been widespread public concern regarding the "footloose" nature of multinational firms [e.g. Görg and Strobl, 2003], suggesting higher job insecurity associated with cross-border investment vis-à-vis foreign expansion of domestic firms. This must be worrying from policy makers' perspective given that substantially more public funds are used to attract MNEs than are devoted to encouraging domestic firms to enter export markets. For instance, between 1991 and 1995, about half a billion pounds was paid in grants for internationally-owned companies by the UK government under the *Regional Selective Assistance* scheme[4], costing around £17,500 per net job created. While it is of public interest to determine the optimal mix of resources allocated to encourage exporting and FDI, it appears that there is a dearth of work analysing the relative labour-adjustment

[3] In particular, they are able to show that increased export opportunities are associated with both intra- and inter-industry reallocations that account for 40 per cent of TFP growth in the US manufacturing. Thus, the higher productivity levels and faster growth rates found in exporters provide an important reallocative channel for explaining aggregate productivity growth.

[4] See http://www.dti.gov.uk/regional/evaluationRSA91-95.pdf

behaviour of multinational subsidiaries and exporters on which to base informed policy decisions.

The purpose of this paper, therefore, is to contribute to the effort to bridge this gap in the literature. In particular, it examines the relative role of distinct international commerce activities in moderating the employment adjustment of firms. The empirical setting of this paper is the UK manufacturing industry, which represents an interesting case study given that the UK is the top inward investment destination in Europe and the fifth largest exporter in the world.

The rest of the paper is organised as follows. Section 2 provides a brief discussion of the related literature; Section 3 describes the empirical model and the dataset employed in the analysis is presented in Section 4; Section 5 discusses the estimation results and the last section concludes.

2. Literature Review

It is often felt that international trade and investment are exerting an increasingly significant impact on the labour market (particularly as far as the source country is concerned), as part of the inevitable process of globalisation. For instance, Driffield and Taylor (2000) and Gaston and Nelson (2002) provide reviews of the empirical and theoretical literature of inward FDI and its labour-market impact in the host country, particularly in light of wage-inequality, skill-upgrading as well as the deterioration of labour-market conditions for unskilled workers; Girma (2005) examines the acquisition FDI and its impact on employment dynamics in the UK manufacturing industry. On the other side, turning to trade, Bernard and Jensen

(1995, 1997) provide plant-level evidence from the US manufacturing, of the labour-market outcomes of exporting, mainly in the context of technology differentials, wage gap, and within plant skill-upgrading. From a microeconomic perspective, despite a relative abundance of work looking at the role of FDI and exporting in transforming some features of the workforce, there is a deficiency of research focusing on the dynamic adjustment process of labour demand *per se* in firms engaged in international commerce activities and therefore facing demand shocks from international markets.

Traditional international trade theory suggests that international trade can increase the equilibrium elasticity of labour demand. This is hypothesised to occur by means of increasing the product-demand elasticity for the industry as well as the constant-output elasticity of substitution between labour and other variable factors of production [e.g. Hamermesh, 1993]. Therefore, this theory would imply that labour demand elasticities are higher in MNEs and exporters, relative to domestic non-exporters [Hatzius, 2000; and Slaughter, 2001]. By contrast, human capital theory suggests a different story. This theory assumes that firms tend to invest in the development of firm-specific human capital, since higher skilled personnel usually brings about higher returns to both the firms (in terms of higher profits) and the employees (in terms of higher wages). Therefore, employment may turn out to be more rigid and the level of separation between employers and employees lower for high skilled workers than for low skilled ones. As MNEs and exporters tend to

employ a more skilled workforce relative to domestic (non-exporting) firms[5], one might expect jobs in these firms engaging in international commence activities to last longer and their labour demand to be more rigid and stable. Indeed, Görg and Strobl (*op. cit.*) have found some evidence in line with this view and conclude that MNEs seem to be more likely to create new jobs only if they expect them to last in the long run; while domestic plants base their recruitment decisions more on shorter term considerations. Also Fabbri *et. al.* (2003) estimate labour demand equation for production and non-production labour for the UK plants, and find that over time wage elasticity of the demand for production labour is rising more rapidly in multinational subsidiaries. Moreover, Naveretti *et. al.* (2003) provide a cross-European perspective to compare the adjustment process of employment between MNEs and national firms; and their results show that employment adjusts significantly faster in MNEs although they tend to have a more rigid labour demand in response to wage shocks. Nevertheless, it is surprising that there is a distinct lack of studies comparing the effects of inward FDI and exporting activities on employment adjustment in a unified framework.

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[5] On the use of more skilled labour in MNEs, for more detailed discussions, see Driffield and Taylor (*op. cit*.); Gaston and Nelson (*op. cit.*); and Griffith and Simpson (*op. cit.*). From the perspective of trade, see Bernard and Jensen (1999); Yeaple (2005); and Roper *et. al.* (2006) for a most recent discussion of a higher demand for skilled workers (and thus a higher average skill level of the workforce) in exporting firms, as a result of adopting technologies favouring the highly skilled.

3. The Empirical Model

In order to assess the speed and magnitude of employment adjustment, we consider a dynamic labour demand model that can be derived from a Cobb-Douglas production function. In the absence of adjustment costs, a price-setting and cost-minimising firm facing a constant-elasticity demand function would choose to set employment according to the following log-linear conditional labour demand equation:

$$n_{it}^{*} = \beta_1 + \beta_2 w_{it} + \beta_3 y_{it} + D_t + f_i + \varepsilon_{it} \qquad (1)$$

where n^{*} is the log of desired level of employment for firm i at time t ; w is the log of real wages; y is the log of real output; D is a vector of time dummies; f represents the firm-specific fixed effects and $\varepsilon_{.}$ the disturbance term. The time dummies account for factors such as technical changes in government regulatory and/or tax policies that are common to all firms and that affect labour demand[6]. If employment adjustment is costly, then in the short run actual employment, say n_{it}, will deviate from n_{it}^{*}, the desired level of employment. In a framework of dynamic optimisation, under quadratic adjustment costs (e.g. Hamermesh, *op. cit.*), a reduced form of the dynamic labour demand equation with AR(2) representation can be written as:

$$n_{it} = \beta_1 + \sum_{l=1}^{2} \alpha_l n_{it-l} + \beta_2 w_{it} + \beta_3 y_{it} + D_t + f_i + \varepsilon_{it} \qquad (2)$$

[6] Theory suggests that the price of capital also has an impact on employment. However, due to the presence of time dummies, this is not included in the current model, assuming that all firms face the same price of capital at any given time and it will only change through time.

The speed of employment adjustment is measured by $1-\sum_{l=0}^{2}\alpha_l$, and the long run elasticity of labour demand with respect to wages, for example, is $\frac{\beta_2}{1-\sum_{l=0}^{2}\alpha_l}$. To allow for differential speed of labour adjustment and demand elasticities across firms grouped by international commerce activities, we introduce two dummy variables, viz., *MNE* and *EXP* , where *MNE* takes the value of 1 if the firm being considered is a foreign multinational, and 0 otherwise; and *EXP* is equal to 1 for an exporter, and 0 otherwise. These two dummies are then interacted with the lagged dependent and independent variables.

The problems arising from estimation of dynamic models such as that represented by Equation (2) (particularly prevalent in short panels) are frequently discussed in the econometric literature [e.g. Anderson and Hsiao, 1982; Arellano and Bover, 1995]. In particular, in the presence of fixed effects and lagged dependent variables, the OLS estimator will no longer be consistent as a result of the well-documented endogeneity problem. We therefore adopt the estimation technique of generalised method of moments (GMM) developed by Arellano and Bond (1991). This would entail first-differencing Equation (2) and employing lagged levels of employment, wages and output as instruments. Meanwhile, care should be taken to check the validity of those instruments via the Sargan test of overidentifying restrictions and the serial correlation test as suggested in Arellano and Bond (*op. cit.*).

4. The Data

This paper draws on the *OneSource* data, a large electronic database derived from the accounts that companies are legally required to deposit at Companies House[7]. These data contain information on firm-level employment, physical capital, output and wages in a consistent way across time and across firms. Companies with employees less than 50 and those are dissolved or in the process of liquidation are excluded[8]. The data were also screened to keep only those firms for which there exists a complete set of information on output and factors of production. Our analysis is restricted to firms whose main activity is manufacturing, and they are classified into three groups, viz. MNEs, domestic exporters, and domestic non-exporters[9]. For each of them, we have from 957 up to 3540 observations each year during the period 1990-1998, adding up to 51598 observations in total. The panel is unbalanced both in the sense that there are differentiated numbers of observations amongst enterprises, and that these observations correspond to different points in time.

[7] The *OneSource* CD-ROM entitled "U.K. companies, Vol. 1" (for Oct., 2000) was used for this study. Further details of this dataset can be found in Oulton (1998) and Girma (2005).

[8] Note, although firms with less than 50 employees are under-represented in this non-stratified sample, this may not be problematic in current analysis since larger domestic firms are compared with MNEs and exporters, which are generally found to be large as well.

[9] Notably this grouping is based on different degree/intensity of internationalisation (assuming different skill composition of labour and distinct wage shocks between national and foreign markets), from indigenous non-exporters (the baseline group), domestic exporting firms, to subsidiaries of multinational firms. Admittedly, MNEs may also engage in exporting activity; nevertheless, these are classified as FDI firms only so as to ensure these three groups are mutually exclusive, given multinationality being the most distinguishable feature of MNEs (as opposed to arms-length exporting alone).

Table 1 provides the frequency of distribution of the companies by type of international commerce activities and Table 2 gives summary statistics of some variables of interest. It seems apparent that MNEs are on average larger than their domestic counterparts and enjoy higher level of employment and output. It is equally worth noting that, as indicted by the log of labour cost per employee, the level of wages is invariably the highest in foreign subsidiaries[10], which may be taken as a proxy for the highest skill intensity, although the skill mix unfortunately cannot be directly measured for lack of information in our dataset. Meanwhile, these statistics also echo the consensus in the literature of trade in that exporters are generally larger, have a higher level of output and pay higher wages[11].

(*Table 1 and 2 about here*)

5. Main Findings

In Table 3 we report the estimated parameters using the dynamic panel data methods. The interpretation of the results is based on the GMM estimate, but here we also report the OLS and within-group estimates for comparison purposes. The interacted terms of $MNE \ / \ EXP$ and the adjustment coefficients (the α s) are negative and statistically significant, indicating firms engaged in international commerce adjust their labour demand significantly faster than their solely national

[10] Similar empirical findings are also available in Aitken *et. al.* (1996) for Mexico, Venezuela and the US; and Driffield and Taylor (*op. cit.*) for the UK. Also Gaston and Nelson (*op. cit*.) provide a theoretical treatment on this skill-FDI linkage.

[11] See for example, Bernard and Jensen (1995); Girma *et. al.* (2004); Baldwin and Gu (2004); and more recently, Silvente (2005).

counterparts. The ranking of the speed of adjustment here is perhaps not surprising: MNEs adjust their labour demand to its optimal level most rapidly, and domestic exporters adjust significantly faster than non-exporters. The adjustment advantages conferred by multinationality are intuitively appealing: having the option of relocating activities or shifting employment in their affiliates across countries can substantially reduce MNEs' costs associated with hiring and firing personnel; meanwhile, given that MNEs tend to enjoy more benefits from governments and unions in host countries, they are able to bargain with labour from a more privileged position and are therefore less constrained[12]. As to domestic exporting enterprises, being frequently larger than non-exporters[13], they may also have more resources and flexibility to adjust with lower costs and more ease than firms operating solely in domestic market, given the well-documented evidence on the superior performance of exporters [see Footnote 1 for more details]. To put it another way, the fact that exporters have successfully overcome entry barriers into more competitive international markets (often proxied by sunk costs in the microeconomics literature

[12] In addition to these cost advantages, other distinctive characteristics of MNEs as documented particularly in the business management literature, which may also contribute (at least indirectly) to their faster speed of labour adjustment, include better risk diversification strategies, more and better investment opportunities, as well as some other firm-specific assets such as technological know-how, superior managerial capability, brand names, etc. [e.g. Shaked, 1986].

[13] Size advantage of exporters is frequently documented in the micro literature, for instance, Aw and Hwang (1995), Bernard and Jensen (1999), Bernard *et. al.* (2003), Baldwin and Gu (2004), and Gourley and Seaton (2004).

related to trade), is a manifestation *per se* of their pronounced cost advantages over non-exporting firms.[14]

(Table 3 about here)

With respect to the extent of employment adjustment to output and wage shocks, the GMM results indicate that exporters have higher short-run elasticities, therefore less rigid labour demand. By contrast, neither the output nor the wage elasticity for MNEs is statistically different from that of domestic non-exporters in the short run.

So far we've identified that MNEs adjust their labour demand at a faster speed on the one hand; and nevertheless, they do not seem to have a more elastic labour demand in the short run on the other hand. To reconcile this apparent inconsistency, we investigate long-run responses and our main findings are reported in Table 4.[15]

(Table 4 about here)

Despite the insignificant discrepancy between MNEs and non-exporters in the short run, domestic non-exporters exhibit the highest long-run elasticity with respect to output whilst MNEs show the lowest one. A similar pattern emerges when comparing long-run values of the labour demand elasticity with respect to wages. To check the robustness of our results, two labour demand functions have also been estimated for exporters and MNEs separately and we find that the rank orders of all the parameters of interest are in agreement with those reported in Tables 3 and 4.[16]

[14] Here the notion of sunk costs is extensively investigated in both theoretical and empirical research, such as Roberts and Tybout (1997), Melitz (2003), Girma *et. al.* (2004), to name just a few.

[15] Here the asymptotic standard errors of long-run elasticities are calculated by means of delta method.

[16] To save space, these results are not reported here but are available upon request.

With regard to the long-run magnitude of adjustment as measured by factor price and output elasticities, we conjecture that the heterogeneity among different groups may be accounted for by their different market power and most importantly, distinct skill composition of their workforce[17]. Overall labour demand may be most rigid in MNEs, which may be partly explained by their highest level of market power[18] and most rigid product demands; moreover, they enjoy the highest intensity of skilled labour: skilled jobs are created on a long-term basis and are costly to be disposed of. The evidence here is in accordance with the theory discussed by Hamermesh (*op. cit*.) and the conclusion drawn by Görg and Strobl (*op. cit.*). In a similar vein, since exporting enterprises have higher skill intensity relative to non-exporters, they exhibit a more rigid labour demand.

Thus far, our analysis has not distinguished between the exporting intensity of exporters and exporting multinationals[19]. However, it can be argued that the extent of export-market participation might matter for the adjustment of domestic labour demand. For example, a multinational company with limited exports and greater commitment to serving the domestic market is likely to be less footloose. It follows that the last empirical question we seek to answer is whether exporting intensity matters amongst different modes of internationalisation.

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[17] Refer to Footnote 5 for a discussion and evidence on the use of more skilled workforce in FDI and exporting firms respectively. Meanwhile, this skill-upgrading could also be contributable/attributable to wage inequality, and technology advancement in MNEs and exporters, all of which are explicably interrelated [Driffield and Taylor, op. cit.].

[18] A discussion of the firm-specific advantages associated with multinationality is available in Footnote 12.

[19] See Footnote 9 for an explanation of the grouping criteria.

Nevertheless, we are not aware of any theoretical work that provides a prediction on the employment adjustment effects of exporting intensity among domestic exporters or MNEs. To explore these issues empirically, we re-estimate the dynamic labour demand models by interacting the regressors with exporting intensity. The findings are given in Table 5, which seem to indicate the importance of accounting for the firm-level exporting intensity (again based on the GMM results). For ease of interpretation, Figures 1 and 2 chart the implied long-run output and wages against exporting intensity, for both exporters and multinationals. Consistent with our conjecture, multinationals with limited export-market commitment have more rigid labour adjustment schedules: their long-run (domestic) labour demand elasticity with respect to output and wages[20] is inversely proportional to exporting intensity. Domestic firms with higher propensity to export have also a less elastic wage elasticity. However, in contrast to MNEs, domestic exporters with higher exporting intensity exhibit faster labour adjustment in response to output shocks.

6. Conclusion

This paper provides microeconometric evidence of differential labour demand adjustment patterns amongst exporters, foreign multinationals and indigenous non-exporters for the UK manufacturing sector. It is found that FDI firms exhibit the fastest speed of employment adjustment to its optimal level, followed by exporters, which could possibly be attributed to a diminishing level of adjustment costs from MNEs, exporters to domestic non-exporting firms. Interestingly, turning to its long-

[20] Here we are referring to the absolute values of the wage elasticities.

run magnitude in terms of elasticities, the adjustment of labour demand with respect to factor price and demand shocks is less pronounced amongst MNEs and exporters, consistent with the view that firms engaged in international commerce activities have more market power, more rigid product demands; and perhaps most importantly, generate more skilled jobs that are more costly to dispose of. Lastly, our findings also suggest that it is important to control for exporting intensity of the firms with international-market exposure; for instance, MNEs with limited export-market commitment are found to have more rigid labour adjustment in response to output and wages shocks in the long run.

These empirical findings can address some of the public concerns on the footloose nature of MNEs: jobs in MNEs are expected to be more secure on average in that they adjust more easily and less costly to wage changes; also they are more reluctant to change the composition of their workforce in response to any shocks affecting their long-run labour demand. Nevertheless, a caveat of this study is that it does not explicitly control for the skill mix within firms given limitations of the dataset. It is hoped that suitable data would be available in the future to address this issue.

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Table 1: Number of firms by type of international commerce orientation

Firm type / Year	Non-exporters	Exporters	Multinationals	Total
1990	2,609	1,040	957	4,606
1991	2,890	1,238	1,007	5,135
1992	3,094	1,393	1,035	5,522
1993	3,319	1,550	1,090	5,959
1994	3,428	1,677	1,133	6,238
1995	3,540	1,809	1,178	6,527
1996	3,392	1,850	1,166	6,408
1997	2,493	2,175	1,057	5,725
1998	2,386	2,081	1,011	5,478
Total	27,151	14,813	9,634	51,598

Table 2: Summary statistics

Firm type	Statistics	Log employment	Log wages	Log output
Non-exporters	mean	4.35	2.67	8.56
	median	4.25	2.68	8.36
	std. dev.	1.32	0.44	1.38
	skewness	0.64	-0.12	0.75
Exporters	mean	4.63	2.69	8.88
	median	4.54	2.71	8.74
	std. dev.	1.14	0.39	1.13
	skewness	0.41	-3.48	0.69
Multinationals	mean	5.12	2.77	9.54
	median	5.06	2.78	9.43
	std. dev.	1.28	0.34	1.37
	skewness	0.39	-2.81	0.49

Source: the *OneSource* (authors' own calculations)

Table 3: Estimation results for the employment equation

	OLS	**Within group**	**GMM**
Employment (t-1)	0.942	0.412	0.849
	(0.026)***	(0.006)***	(0.049)***
Employment (t-2)	-0.094	-0.053	-0.229
	(0.019)***	(0.005)***	(0.023)***
Employment (t-1)*EXP	-0.007	-0.011	-0.575
	(0.042)	(0.010)	(0.049)***
Employment (t-2)*EXP	-0.005	0.010	0.412
	(0.031)	(0.009)	(0.032)***
Employment (t-1)*MNE	0.015	0.030	-0.665
	(0.037)	(0.012)**	(0.056)***
Employment (t-2)*MNE	-0.028	0.003	0.328
	(0.026)	(0.010)	(0.036)***
Wages	-0.177	-0.478	-0.471
	(0.017)***	(0.007)***	(0.040)***
Wages* EXP	-0.023	-0.016	-0.130
	(0.022)	(0.009)*	(0.038)***
Wages* MNE	-0.017	0.086	0.060
	(0.027)	(0.015)***	(0.101)
Output	0.139	0.523	0.470
	(0.013)***	(0.004)***	(0.023)***
Output* EXP	0.012	0.001	0.123
	(0.017)	(0.006)	(0.027)***
Output* MNE	0.011	-0.049	0.048
	(0.017)	(0.009)***	(0.045)
No. of observations	36,525	36,525	29,714
R-squared	0.97	0.66	
Sargan test (p-value)			0.793
AR(1) test (p-value)			0.000
AR(2) test (p-value)			0.880

Notes: (i) robust standard errors in parentheses; (ii) time and industry dummies included in all models to control for time and industry effects; (iii) ***significant at 1%, ** significant at 5%, *significant at 10%.

Table 4: Short-run and long-run elasticities of labour demand

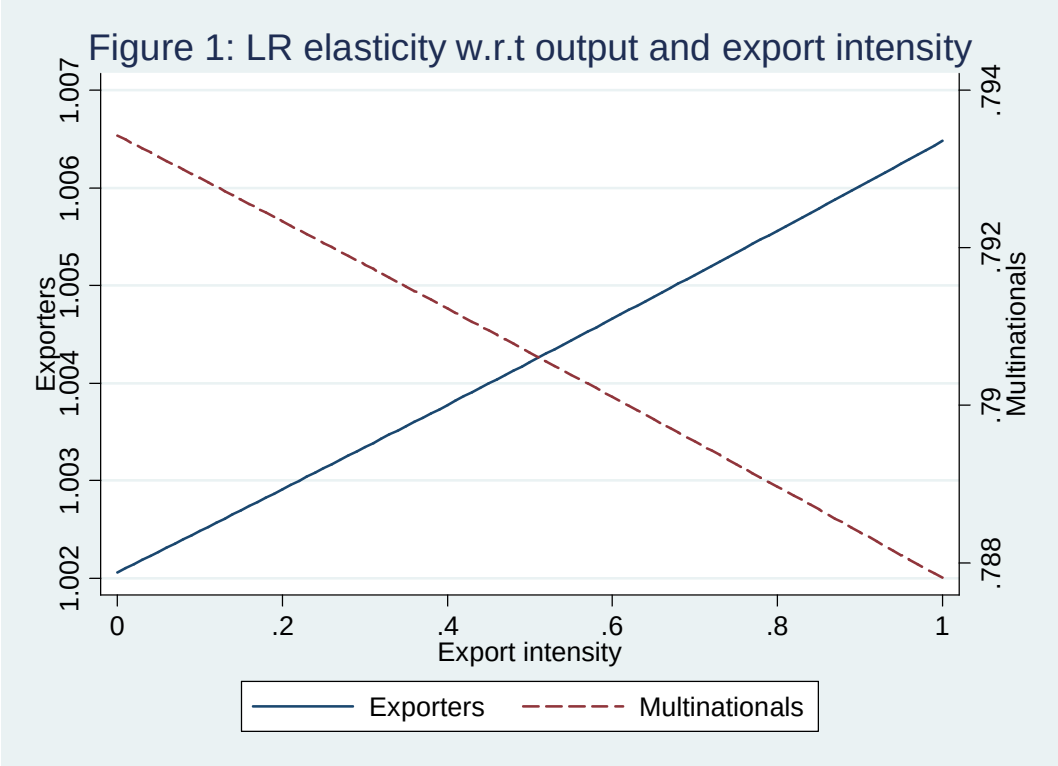
	Non-exporters	**MNEs**	**Exporters**
Adjustment speed	0.380***	0.717***	0.544***
Short-run output elasticity	0.470***	0.518	0.592***
Long-run output elasticity	1.235 ***	0.722***	1.089***
	(0.088)	(0.074)	(0.051)
Short-run wage elasticity	-0.471***	-0.411	-0.601***
Long-run wage elasticity	-1.239***	-0.574***	-1.106***
	(0.123)	(0.132)	(0.070)

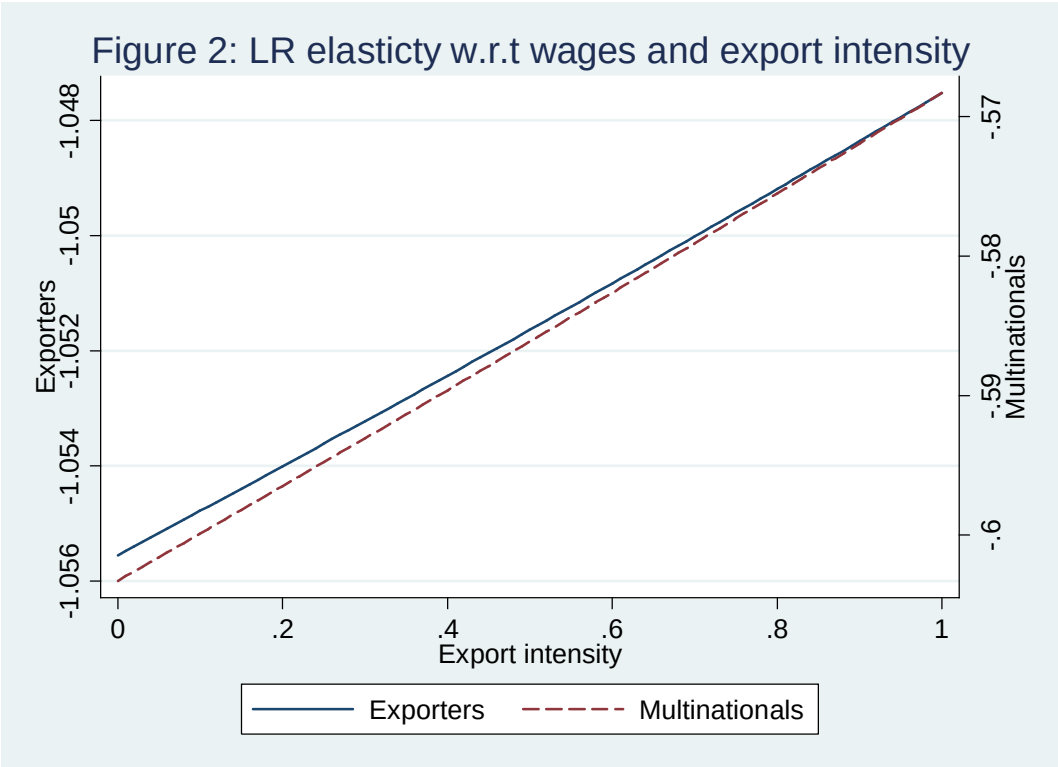
Notes: (i) calculations based on estimated coefficients in the differenced GMM regression reported in Table 3; (ii) for non-linear combinations as in the case of long run elasticities, asymptotic standard errors are included in parentheses; (iii) ***significant at 1%, ** significant at 5%, *significant at 10%.

Table 5: Employment adjustment and exporting intensity

	Exporters			MNES		
	OLS	**Within group**	**GMM**	**OLS**	**Within group**	**GMM**
Employment (t-1)	0.892	0.424	0.914	0.880	0.415	0.919
	(0.061)***	(0.014)***	(0.093)***	(0.040)***	(0.016)***	(0.103)***
Employment (t-2)	-0.068	-0.068	-0.400	-0.090	-0.061	-0.345
	(0.048)	(0.012)***	(0.056)***	(0.025)***	(0.013)***	(0.057)***
Wages	-0.217	-0.517	-0.513	-0.234	-0.397	-0.257
	(0.026)***	(0.016)***	(0.043)***	(0.037)***	(0.016)***	(0.089)***
Output	0.163	0.513	0.487	0.192	0.489	0.338
	(0.020)***	(0.009)***	(0.033)***	(0.023)***	(0.009)***	(0.046)***
Employ (t-1) * EXP_INT	-0.018	0.008	0.151	-0.012	0.000	0.080
	(0.016)	(0.005)	(0.020)***	(0.005)**	(0.002)	(0.011)***
Employ (t-2) * EXP_INT	0.014	-0.010	-0.128	0.006	-0.004	-0.064
	(0.013)	(0.004)**	(0.017)***	(0.004)	(0.002)**	(0.008)***
Wages * EXP_INT	-0.006	0.002	0.028	-0.008	0.006	0.024
	(0.009)	(0.005)	(0.009)***	(0.004)**	(0.002)***	(0.008)***
Output * EXP_INT	0.004	0.000	-0.021	0.006	0.001	-0.015
	(0.006)	(0.003)	(0.006)***	(0.003)**	(0.001)	(0.005)***
No. of observations	11,245	11,245	9,440	7,175	7,175	5,999
R-squared	0.97	0.92		0.97	0.92	
Sargan test (p-value)			0.178			0.274
AR(1) test (p-value)			0.000			0.000
AR(2) test (p-value)			0.604			0.668

Notes: (i) EXP_INT denotes export intensity; (ii) robust standard errors in parentheses; (iii) time and industry dummies included in all models to control for time and industry effects; (iv) ***significant at 1%, ** significant at 5%, *significant at 10%.





Note: Figures 1 and 2 are based on the GMM estimates reported in Table 5.