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Staying home or moving away?

**The effect of restructuring on employment in
multinational headquarters and their affiliates**

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Abstract

This paper analyzes employment growth in Belgian multinational enterprises' headquarters relative to their affiliates. We find that headquarters have on average 2.5% more employment growth than their affiliates. When they go through restructuring headquarters reduce employment by 4.4% less than their affiliates and affiliates located further away from their headquarters suffer more. This effect almost doubles for firms that operate in manufacturing.

Key words: employment growth, multinational enterprises, headquarters, affiliates

1. Introduction

Globalization has changed the nature of production drastically resulting in an increased number of global firms and increased international fragmentation of production. While much of the literature so far has documented that multinational enterprises tend to pay higher wages, are more productive and generate technological spillovers, far less attention has been devoted to the process of employment creation and destruction by multinationals¹. The purpose of this paper is to compare the employment performance of multinational enterprises at their headquarters with their foreign subsidiaries.

This is of particular relevance in view of the recent global crisis as especially multinational enterprises that are embedded in a global supply chain have been forced to speed up restructuring, which is often associated with increased employment reductions. However, casual observation suggests that such restructuring efforts are not always proportionately distributed across all plants of the same multinational enterprise. For instance the recent restructuring of Opel at General Motors implied closure of one plant in Belgium, employment reductions in Germany, while expansion in South Korea. Politicians are also concerned about the issue as is clear from a recent interview with Lord Mandelson in the Wall Street Journal², where he states that "*Denuding a country of any headquarters has important consequences*", especially for the "*associated investment in local charities and infrastructures*".

The observation that firms which are geographically dispersed transmit shocks differently across plants has recently been investigated for the US by Landier, Nair and Wulf (2007). In particular, they find that geographically dispersed firms are less employee friendly and that there is a bias towards protecting proximate employees when the firm engages in divestments. Similarly, Cappariello, Federico and Zizza (2009) use Italian multinational enterprises to show that home-country effects of FDI tend to be biased in favor of the headquarters investing firms.

There are various reasons why geographic dispersion and corporate decision making might be related. First, imperfect information and agency costs may result in a home bias. In particular, if monitoring and control of valuable assets, such as R&D, is difficult, multinational enterprises may want to concentrate their most valuable assets at or close at headquarters to avoid 'leakage' (e.g. Chang and Taylor, 1999; Petersen and Rajan, 2002). Second, there may be certain advantages investing more at home due to better knowledge about language, culture and local customs than at more distant locations (e.g. Brakman and Garretsen, 2008). A third reason is that managers are more concerned about proximate employees, with whom they have more frequent social interactions. In addition, managers may also care more about their social standing in

¹ A number of papers have analyzed how employment is substituted between affiliates of the same multinational in response to wage cost differentials. Braconier and Ekholm (2000), Gordon, Mataloni and Slaughter (2001), Konings and Murphy (2006) find that employment substitution in response to wage cost differentials between plants occurs mainly between similar plants, located in high income countries, rather than between high income and low income countries.

² Wall Street Journal, March 3, 2010, page 2.

geographically concentrated firms. Glaeser, Sacerdote and Scheinkman (1996) and Glaeser (2004) recognize a relation between proximity and social interactions in studies of individual decisions such as residence in cities and aggregate outcomes such as crimes.

To analyze employment performance of multinational enterprises we make use of a panel dataset of Belgian firms active in manufacturing as well as in non-manufacturing. The data include information of total employment at headquarters as well as employment at their affiliates. By analyzing what happens within the same multinational firm, we can control for all the unobservable specificities that may affect the strategy of the particular multinational enterprises. Furthermore, we control for shocks affecting plants of the same multinational enterprise. This allows us to control for potential selection issues.

Our results indicate that the employment performance at headquarters is superior than at their affiliates. Furthermore, we find that multinational enterprises that engage in restructuring protect more the employment at headquarters than at their affiliates. Finally, we also find evidence that restructuring hurts most in affiliates located further away from their headquarters.

The rest of the paper is structured as follows. In section 2 we describe the data and the econometric approach we pursue. Section 3 provides and discusses the results and section 4 concludes.

2. Data and Econometric Approach

Our data are derived from a commercial database named Amadeus, collected by Bureau van Dijk. The data consists of company accounts of European companies for which at least one of the following criteria is satisfied: total turnover or assets at least \$12 million, or total employment of at least 150. The database is organized by country with records for firms within each country. In addition to the financial and operational information of the company, the records include information on whether the company is owned by another company and whether it has an ownership stake in another affiliate. Information on direct and on indirect ownership is available. In addition, the name and a unique identification number of the parent company and its affiliates is available. We will restrict our analysis to companies which have headquarters in Belgium and affiliates elsewhere in Europe. We focus on Belgian multinational enterprises as all incorporated companies in Belgium are required, by law, to submit full company accounts to the Central Bank. We define a headquarter as a global ultimate owner with at least 50% direct ownership in its affiliates.

We have information for 1996 through 2005 and we retrieve all companies for which unconsolidated accounts were available for the Belgian parent headquarters and its affiliates located elsewhere in Europe. Matching parent companies to foreign affiliates yields an unbalanced panel of 447 Belgian parents and 3020 affiliates over 10 years. This results in

roughly 23,000 firm-year observations. Table 1 shows the country distribution of affiliates in our panel, where each parent has an average of 25 affiliates. The parents are clustered around some of the major cities in Belgium, being Antwerp, Brussels and Ghent, and their foreign affiliates are mainly located in France, the Netherlands, Germany and the United Kingdom. The data cover firms active in manufacturing (about 30% of the sample) and non-manufacturing. We provide summary statistics in table 2, where the variable of interest is employment. Headquarters employ on average more people, have more sales, higher total assets and have a higher average employment growth than their affiliates

Table 1: Distribution of affiliates

Country	Number of affiliates	Frequency	Country	Number of affiliates	Frequency
Austria	32	0.011	Ireland	12	0.004
Belgium	1,469	0.486	Italy	63	0.021
Bulgaria	1	0.000	Liechtenstein	1	0.000
Suisse	24	0.008	Lithuania	1	0.000
Czech Republic	31	0.010	Luxemburg	6	0.002
Germany	202	0.067	Latvia	2	0.001
Denmark	26	0.009	Netherlands	209	0.069
Estonia	2	0.001	Norway	17	0.006
Spain	94	0.031	Poland	40	0.013
Finland	10	0.003	Portugal	3	0.001
France	510	0.169	Romania	30	0.010
United Kingdom	171	0.057	Republic of Serbia	1	0.000
Greece	10	0.003	Russia	3	0.001
Croatia	5	0.002	Sweden	33	0.011
Hungary	6	0.002	Slovakia	6	0.002

Source: Amadeus & authors' calculations

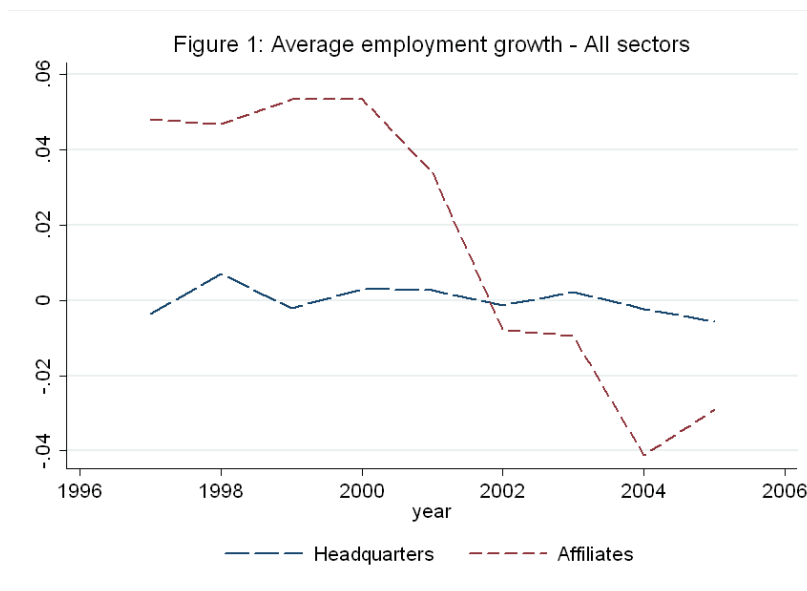
Table 2: Summary statistics

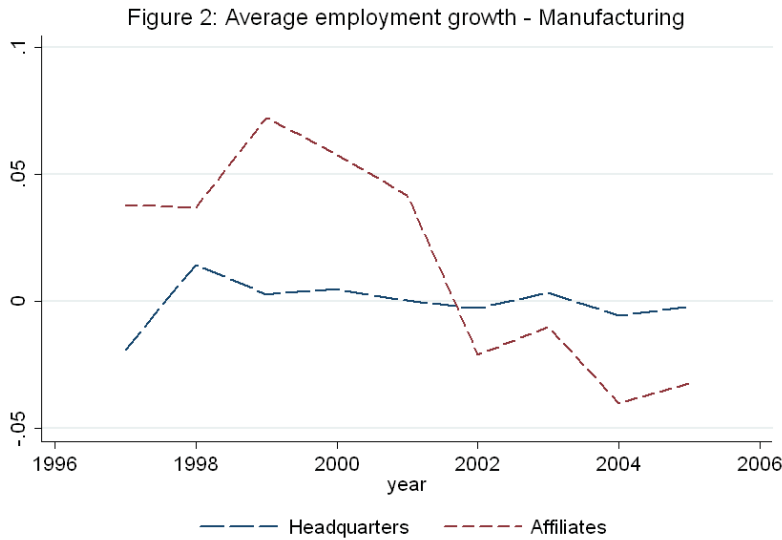
Variables		Headquarters	Affiliates	Total
Number of firms		447	3,020	3,467
% in manufacturing		0.28	0.296	0.294
Employment	Mean	205.341	139.532	149.740
	Std. Dev.	885.111	1120.075	1087.206
Employment growth	Mean	0.047	0.032	0.034
	Std. Dev.	0.340	0.443	0.428
Total assets	Mean	130,817	89,771	90,334
	Std. Dev.	507,725	1,727,842	1,594,836
Sales	Mean	90,334	38,369	46,684
	Std. Dev.	332,922	260,273	273,852

Source: Amadeus & authors' calculations

Notes: Total assets & sales in thousands of euro

Figure 1 shows the average evolution of employment growth for parents and their affiliates. To avoid attrition bias, we only report in Figure 1 employment growth for a balanced sample of firms that we observe over the entire sample period 1996-2005. Figure 2 shows the same, but only for firms active in manufacturing. The pattern in both Figures are comparable: the employment growth remains quite stable for the headquarters, whereas affiliate employment starts with a positive growth rate, but starts to decrease towards the end of our observation period.





To analyze the evolution of employment in multinational headquarters relative to their affiliates we will use a standard firm level employment growth equation, where we take into account that various affiliates may belong to the same multinational enterprise. By controlling for the multinational fixed effects, γ_{jt} , we are able to capture various unobservable factors, such as similar technology or management practices that is shared by the same MNE across its affiliates. It also controls for unobservable self-selection effects. To estimate whether headquarters behave differently in terms of their employment decisions we control in our specification for a headquarter dummy, $headq$, equal to 1 if the firm is a headquarter and zero else. This results in the following specification for firm i , belonging to MNE j in year t , located in country c and n denoting employment:

$$n_{it}^{jc} = \rho n_{it-1}^c + \beta_1 headq + \gamma_{jt} + \varepsilon_{it}^c \quad (1)$$

In (1) we take into account that firm level employment is persistent over time by adding lagged employment and ε_{it}^c is a white noise error term. When we subtract from both sides lagged employment (1) boils down to estimating a standard firm level employment growth equation, controlling for lagged size, which will form the basis of our analysis³.

³ Similar approaches have been used in the firm growth literature, see for instance Sutton (1997); Konings (1995).

3. Results

3.1. Basic Results

Table 3 reports the baseline results, where in column (1) we pool both manufacturing and non-manufacturing firms together. All equations include year dummies and standard errors are adjusted for heteroskedasticity within the same multinational enterprise. From the first column in Table 3, we can note that employment growth in headquarters is on average 2.5% higher than in its corresponding affiliates. Note also that large firms on average grow less than small firms, a standard result in the firm growth literature.

To check for asymmetric responses in employment growth we distinguish in columns (2) and (3) between multinational enterprises that grow as a group versus those that decline as a group. We consider that the group grows if total employment in all the affiliates and the headquarter of a particular multinational increased on average for the period 1996-2005. A group declines if the reverse holds. Interestingly, in both cases headquarters' employment growth outperforms that of its affiliates, but the effect is only half as strong when the group grows as a whole compared to a multinational group that declines over the sample period. From column (3) we can note that multinationals that on average are declining do so less intensively in its headquarters than in its affiliates. In contrast, when there is expansion, the increase in employment is more moderate at headquarters. The results in table 3 are based on an unbalanced panel of Belgian MNEs. Some firms we only observe for a few consecutive years, while others we observe for the full sample period. The attrition in the data is mostly related to missing observations due to differences in reporting requirements across countries. To check whether this attrition would bias our results we ran the same regression for a balanced panel for which we observed data for the full 10 year sample period. We report these results in table A1 in appendix 1. While the overall headquarter dummy remains positive, it only is statistically significant for MNEs that decline. And the coefficient is comparable to the one reported in table 3, column (3). Headquarters have on average 4% less employment decline than their affiliates.

Table 3: Basic Results: All sectors

	(1)	(2)	(3)
	All observations	Group grows	Group declines
Log (Employees) _{t-1}	-0.0482 ^{***} (0.00381)	-0.0487 ^{***} (0.00422)	-0.0450 ^{***} (0.00639)
Headquarter Dummy	0.0255 ^{**} (0.0118)	0.0193 [*] (0.0131)	0.0441 [*] (0.0269)
Constant	0.186 ^{***} (0.0121)	0.239 ^{***} (0.0166)	0.174 ^{***} (0.0322)
N	18787	16215	2572

*, **, *** reports significance at the 10%, 5%, 1% level. Heteroskedasticity robust standard errors adjusted for group clusters in parentheses. Year dummies are included in all regressions.

Tables 4 and 5 repeat the same analysis, but for multinational enterprises for which their headquarters' activities are in manufacturing versus those in non-manufacturing. Note that their affiliates can either be active in manufacturing, non-manufacturing or both. Comparing the results in Tables 4 and 5 indicate that the main result is driven by firms active in manufacturing. From table 4 it is clear that the effect of headquarters on employment growth now more than doubles. Furthermore, in declining multinationals, i.e. those going through restructuring, the effect is stronger and even 8%. In contrast, in table 5, the non-manufacturing firms, the headquarter effect is small and statistically not significant different from zero.

Table 4: Manufacturing

	(1)	(2)	(3)
	All observations	Group grows	Group declines
Log (Employees) _{t-1}	-0.0514 ^{***} (0.00855)	-0.0526 ^{***} (0.0103)	-0.0478 ^{***} (0.00803)
Headquarter Dummy	0.0726 ^{***} (0.0223)	0.0721 ^{***} (0.0244)	0.0861 [*] (0.0522)
Constant	0.198 ^{***} (0.0248)	0.244 ^{***} (0.0323)	0.177 ^{**} (0.0667)
N	5465	4668	797

*, **, *** reports significance at the 10%, 5%, 1% level. Heteroskedasticity robust standard errors adjusted for group clusters in parentheses. Year dummies are included in all regressions.

Table 5: Non-Manufacturing

	(1)	(2)	(3)
	All observations	Group grows	Group declines
Log (Employees) _{t-1}	-0.0479 ^{***} (0.00373)	-0.0486 ^{***} (0.00409)	-0.0442 ^{***} (0.00880)
Headquarter Dummy	0.00409 (0.0149)	-0.00191 (0.0169)	0.0336 (0.0290)
Constant	0.230 ^{***} (0.0172)	0.242 ^{***} (0.0193)	0.156 ^{***} (0.0298)
N	13322	11547	1775

*, **, *** reports significance at the 10%, 5%, 1% level. Heteroskedasticity robust standard errors adjusted for group clusters in parentheses. Year dummies are included in all regressions.

3.2. Does distance matter?

In order to check whether geographic dispersion matters as suggested by Landier, Nair and Wulf (2007) we repeat our analysis but add the log distance of the affiliate to the headquarters. We do this by computing the kilometers distance between the two as we have information on the region where the affiliate is located. The average distance of the affiliates from headquarters in our sample is 1,100 km.

Table 6 and 7 reports results for which we split the sample into two categories. Table 6 reports the results for which the MNE is not restructuring, while table 7 shows the results for the MNE that undergo restructuring. Restructuring is defined as before, where we consider a MNE to restructure when the average annual employment growth of the entire MNE group is shrinking during the entire sample period.

While our earlier results related to headquarters remain robust for the group of MNEs not going through restructuring, the headquarter effect turns statistically insignificant, but still positive, in the group of MNEs that restructures. Moreover, we find that distance matters. In table 6, for the MNEs that do not restructure, i.e. those that overall expand, distance has a positive effect on employment growth, while the opposite holds for those that restructure. In other words, when MNEs expand they seem do so more in their headquarters and in affiliates that are more distantly located. This is consistent with the idea to explore new market opportunities when demand is rising. But it is also those further located affiliates that suffer more when a MNE is reducing overall employment., especially for the MNE that is restructuring as is clear from table 7. In particular, we find a strong and statistically negative effect of distance with an elasticity of distance estimated at 0.038 in manufacturing.

While the effect of distance is statistically significant, the effect of headquarters is no longer significant in table 7. This can be explained by the correlation between distance and headquarters. Since Belgium is a small country, with Brussels only 100 km away from the border

of France, Germany and the Netherlands, nearby locations, such as those in France or Germany, where a relative large fraction of the affiliates are located, may pick up the headquarter effect. The effect of distance plays more likely a bigger role for distant locations.

To check this we make a distinction between affiliates located in the same country as the headquarter, Belgium, versus affiliates abroad. About 50% of the affiliates in our sample are located in Belgium. The institutional setting of those affiliates is the same and the proximity to headquarters may also be important especially when monitoring is important or when control over intangible assets matters. In table 8 for the full sample and table 9 for manufacturing we therefore show results where in addition to a headquarter dummy, we also include a dummy equal to 1 if the affiliate is based in Belgium and zero else. We find that the effect is similar to the effect of distance. In particular, focusing on firms that restructure, we find that in addition to a positive headquarter effect (3rd column of table 8 and 9) also affiliates located in the same country as the headquarter, Belgium, suffer less from restructuring. Moreover, the coefficients are similar in magnitude. This is evidence consistent with theories that indicate that geographic dispersion and proximity to headquarters matters for employment restructuring. Our data, however, do not allow us to distinguish between different theories that are consistent with this pattern, such as reasons of control of intangible assets or social interactions and social capital or both.

Table 6: Regression results: No restructuring in group

	(1)	(2)	(3)
	All sectors	Manufacturing	Non-Manufacturing
Log (Employees) _{t-1}	-0.0491 ^{***} (0.00419)	-0.0530 ^{***} (0.0102)	-0.0493 ^{***} (0.00409)
Headquarter Dummy	0.0326 ^{**} (0.0140)	0.0857 ^{***} (0.0254)	0.0115 (0.0175)
Log(Distance)	0.0140 ^{***} (0.00430)	0.0107 (0.00722)	0.0168 ^{***} (0.00536)
Constant	0.171 ^{***} (0.0275)	0.188 ^{***} (0.0565)	0.162 ^{***} (0.0302)
Observations	16215	4668	11547

*, **, *** reports significance at the 10%, 5%, 1% level. Heteroskedasticity robust standard errors adjusted for group clusters in parentheses. Year dummies are included in all regressions.

Table 7: Regression results: Restructuring in group

	(1)	(2)	(3)
	All sectors	Manufacturing	Non-Manufacturing
Log (Employees) _{t-1}	-0.0453 ^{***} (0.00642)	-0.0454 ^{***} (0.00905)	-0.0445 ^{***} (0.00880)
Headquarter Dummy	0.0172 (0.0273)	0.0211 (0.0501)	0.0220 (0.0320)
Log(Distance)	-0.0293 ^{***} (0.00996)	-0.0387 ^{***} (0.00807)	-0.0155 (0.0174)
Constant	0.316 ^{***} (0.0566)	0.385 ^{***} (0.106)	0.229 ^{**} (0.0863)
Observations	2572	797	1775

*, **, *** reports significance at the 10%, 5%, 1% level. Heteroskedasticity robust standard errors adjusted for group clusters in parentheses. Year dummies are included in all regressions.

Table 8: Regression results: All sectors

	(1)	(2)	(3)
	All observations	Group grows	Group declines
Log (Employees) _{t-1}	-0.0480 ^{***} (0.00373)	-0.0490 ^{***} (0.00426)	-0.0457 ^{***} (0.00638)
Headquarter Dummy	0.0189 (0.0127)	0.00883 (0.0136)	0.0929 ^{***} (0.0326)
Belgian affiliate	-0.00707 (0.01000)	-0.0187 [*] (0.00983)	0.0832 ^{***} (0.0263)
Constant	0.234 ^{***} (0.0166)	0.252 ^{***} (0.0185)	0.116 ^{***} (0.0263)
Observations	18787	16215	2572

*, **, *** reports significance at the 10%, 5%, 1% level. Heteroskedasticity robust standard errors adjusted for group clusters in parentheses. Year dummies are included in all regressions.

Table 9: Regression results: Manufacturing

	(1)	(2)	(3)
	All observations	Group grows	Group declines
Log (Employees) _{t-1}	-0.0514 ^{***} (0.00863)	-0.0531 ^{***} (0.0104)	-0.0455 ^{***} (0.00852)
Headquarter Dummy	0.0735 ^{***} (0.0220)	0.0629 ^{***} (0.0233)	0.118 [*] (0.0589)
Belgian affiliate	0.00220 (0.0209)	-0.0229 (0.0185)	0.115 ^{***} (0.0241)
Constant	0.197 ^{***} (0.0286)	0.257 ^{***} (0.0354)	0.122 [*] (0.0643)
Observations	5465	4668	797

^{*}, ^{**}, ^{***} reports significance at the 10%, 5%, 1% level. Heteroskedasticity robust standard errors adjusted for group clusters in parentheses. Year dummies are included in all regressions.

4. Conclusions

This paper analyzed employment growth in multinational enterprises, where we distinguished between employment growth in headquarters versus employment growth in their affiliates. To this end we used a panel data set of Belgian income statements of headquarter firms matched to their affiliates. By analyzing what happens within the same multinational firm, we can control for all the unobservable specificities that may affect the strategy of the particular multinational enterprises. Furthermore, we are able to control for shocks affecting plants of the same multinational enterprise and hence this allowed us to control for potential selection issues.

Our results indicate that the employment performance at headquarters is better compared to their affiliates. Furthermore, we find that multinational enterprises that engage in restructuring protect more the employment at headquarters than at their affiliates. Finally, we also find evidence that restructuring hurts most in affiliates located further away from their headquarters.

While this paper has not tested explicitly for theories that explain such a home bias in employment when MNEs restructure, our results are consistent with some of the recent theories. These include theories of imperfect information and agency costs which can explain a home bias for employment in MNEs as well as theories that focus on social capital and social interactions to explain the home bias for employment.

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Appendix 1

Table A1: Balanced sample

	(1)	(2)	(3)
	All observations	Group grows	Group declines
Log (Employees) _{t-1}	-0.0323 ^{***} (0.00438)	-0.0330 ^{***} (0.00463)	-0.0291 ^{**} (0.0120)
Headquarter Dummy	0.0147 (0.0153)	0.00761 (0.0180)	0.0461 ^{**} (0.0225)
Constant	0.158 ^{***} (0.0176)	0.115 ^{***} (0.0178)	0.0629 (0.0380)
N	9324	7911	1413

*, **, *** reports significance at the 10%, 5%, 1% level. Heteroskedasticity robust standard errors adjusted for group clusters in parentheses. Year dummies are included in all regressions.