FIW Research Reports 2009/10 N° 06
January 2010

Policy Note

The Extent, Characteristics and Impacts of FDI and Multinational Firm Activities A Firm Level Analysis

Martin Falk, Yvonne Wolfmayr

Abstract

The study examines the impact of Austrian outward foreign direct investments (FDI) on home based parent company employment. The analysis is based on the AMADEUS firm-level database and an improved methodology by applying matching methods and the difference in difference estimator. In this way we are able to overcome the major shortcomings of earlier studies on the home market effects of Austrian outward FDI, which included data on foreign direct investors only leading to biased estimates and preventing the deduction of causal relationships. Overall the results indicate that investing abroad strengthens the employment performance in the home country. This is also true for Austrian foreign direct investments in Eastern European locations. We also analyse the major factors determining the firms' decision to invest abroad as well as decisions on the degree of multinationality, which we measure by the number of foreign affiliates owned. Firm size, firm age, the capital intensity and the number of shareholders are significant determinants for the number of subsidiaries. The analysis also corroborates theoretical results establishing the fact that foreign direct investment activities are driven by firm specific advantages and a superior productivity performance in the pre-investment period. Thus, firms that start foreign activities are ex-ante different from non-investing purely domestic firms.

The FIW Research Reports 2009/10 present the results of four thematic work packages 'Microeconomic Analysis based on Firm-Level Data', 'Model Simulations for Trade Policy Analysis', 'Migration Issues', and 'Trade, Energy and Environment', that were commissioned by the Austrian Federal Ministry of Economics, Family and Youth (BMWFJ) within the framework of the 'Research Centre International Economics" (FIW) in November 2008.

Policy Brief

The Extent, Characteristics and Impacts of FDI and Multinational Firm Activities: A Firm-Level Analysis

Authors: Martin Falk, Yvonne Wolfmayr

Abstract

This study examines the impact of Austrian outward foreign direct investment (FDI) on domestic parent-company employment. The analysis is based on the AMADEUS firm-level database and an improved methodology involving the application of matching methods and the difference-in-difference estimator. Overall, the results indicate that investing abroad strengthens a company's employment performance in its home country. This is also true of Austrian foreign direct investment in Eastern European locations. We also analyse the major factors determining firms' decisions to invest abroad – as well as their degree of multinationality, which we measure by the number of foreign affiliates owned. The analysis also corroborates theoretical results establishing the fact that foreign direct investment activities are driven by firm-specific advantages and superior productivity performance in the pre-investment period. Thus, firms that start foreign activities are ex-ante different from non-investing, purely domestic firms. Finally, we find that few Austrian firms have subsidiaries abroad; those that do have a limited number and operate in few geographical areas (i.e. Western and Eastern Europe).

Introduction

Since the beginning of the nineties, Austrian foreign direct investment (FDI) has accelerated rapidly, increasing the share of outward foreign direct investment relative to GDP from a mere 3 per cent in 1990 to 37.9 per cent in 2007. This development has been driven by Austria's entry into the EU in 1995, as well as by Central and Eastern European countries opening up and joining the EU. On the policy side, the growing internationalisation of Austrian firms via cross-border investments has been viewed as mainly positive: FDI is seen as an impetus behind the internationalisation process and an important source of competitive gains, firm growth, and restructuring. On the other hand, the growing importance of labour-rich, low-cost destinations for Austrian FDI has also spurred public concerns of possible negative repercussions on the domestic labour market. The theoretical predictions on the home market effects are far from clear-cut; they depend on the type of and the motive for outward foreign direct investment and the very specific relationships between the parent company and its foreign affiliates. With the considerable diversity of integration strategies across firms, the empirical literature so far also reveals a very heterogeneous picture of the employment relationships between parent companies and their foreign affiliates across countries and industries (see *Pain - Molnar et al.*, 2007).

Based on the AMADEUS firm-level database, we investigate the characteristics of Austrian multinational firms compared to domestic firms and analyse the major factors determining the firms' decisions to invest abroad – as well as their degree of multinationality, which we measure by the number of foreign affiliates owned. We also present new evidence of the effects of outward foreign direct investment on parent-company employment. The new results are based on an improved methodology involving the application of matching methods and the difference-in-difference estimator. This enables us to overcome the major shortcomings of earlier studies on the home market effects of Austrian outward FDI, which only included data on foreign direct investors and led to biased estimates and prevented inference of causal relationships.

The firm sample covers 31,373 Austrian firms in 2009, of which 1,325 are multinational firms with about 4,000 foreign subsidiaries. The sample does not include firms in banking, insurance, or real estate.

Importance and development of multinational activities

Only few Austrian firms hold foreign direct investments. Within our sample, the share of multinational firms in 2009 reached only 4.2 per cent. Since very small firms are underrepresented in the AMADEUS database, the true share of multinational firms must be even lower. While the share is low and similar to other euro-area countries (*Geishecker - Görg – Taglioni*, 2009), these multinational firms account for a relatively high share of domestic economic activity: 24.3 per cent of total sales, 20.4 per cent of total employment, 30.2 per cent of fixed assets, and 10.6 per cent of intangible assets.

It is interesting that the number of foreign subsidiaries increased much more rapidly than the number of multinationals. At the same time, the share of direct investors with four or more foreign affiliates is rising fastest, and the number of subsidiaries per multinational enterprise – amounting to an average of 3.3 – is higher than in other European countries. The number of subsidiaries per multinational enterprise is highest in Western European and North American locations. These results are an indication that the dynamic development of Austrian FDI since the nineties has been driven mainly by an expansion and intensification of activities on the intensive margin rather than the entry of new foreign investors (extensive margin). New investors prefer closer locations – that is, places in Western and Eastern Europe. Compared to the manufacturing sector, Austrian service firms have a higher preference to hold subsidiaries in Eastern Europe.

About half of the multinationals have at least one subsidiary located in Western Europe and no further subsidiaries in other locations. Meanwhile, 22.5 per cent only have a subsidiary in Eastern Europe. The third most frequent form of FDI (14.6 per cent) involves choosing destinations in both Western and Eastern Europe. Locations overseas are hardly ever selected.

Furthermore, the analysis reveals a strong relationship between the magnitude (number of subsidiaries) and location of foreign direct investments and firm size. Larger firms own a higher number of subsidiaries and also invest in more distant and exotic locations. Besides firm size, firm age, capital intensity, and number of shareholders are significant determinants of the number of subsidiaries companies have. This is also true of locations in Eastern Europe, but the impact of firm size and capital intensity is much lower than it is on the number of subsidiaries in Western Europe.

Multinational firms perform better than and are ex-ante different to purely domestic firms

A comparison between multinational firms and firms without foreign direct investments (domestic firms) clearly shows that multinationals are larger and more productive, have a higher share of intangible assets, and are more capital-intensive. An important result is that first-time foreign direct investors are ex-ante different in these characteristics and outperform non-internationalising firms in the period before the decision on foreign direct investment is taken.

Table 1: Differences between domestic firms, domestic and foreign multinationals (MNEs) , median (number of observations in parentheses)

	Domestic firms	Domestic MNEs	Foreign MNEs
		Total	
Number of employees	20	50	100
	(16,512)	(400)	(57)
Sales (mn €)	2.4	11.7	40.3
	(13,912)	(313)	(39)
Sales (1,000s of €) per employee	151	219	315
	(10,342)	(260)	(28)
Fixed assets (1,000s of €) per employee	31	75	125
	(12,449)	(658)	(118)
Ratio of intanglible assets to total fixed assets (%)	(0)	(1)	(1)
	(18,826)	(916)	(162)
Annual labour costs (1,000s of €) per employee	47	56	62
	(1,260)	(217)	(60)

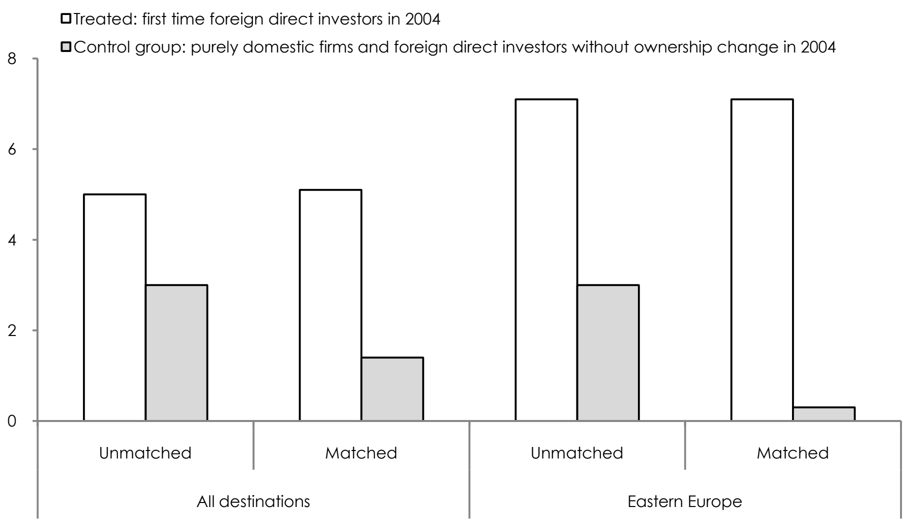
Source: AMADEUS database, WIFO-calculations. Note: The v ariables refer to the year 2006. The difference between (Austrian and foreign) MNEs and domestic firms are significant at the 1% lev el (Kwallis test). Differences between Austrian and foreign MNEs are not significant.

The analysis thus corroborates theoretical and empirical results for other countries (*Girma et al*, 2004; *Wagner*, 2006; *Arnold - Hussinger*, 2006), which established that foreign direct investment activities are driven by firm-specific advantages and superior performance in the pre-investment period. Furthermore, we find that Austrian firms investing in Eastern Europe exhibit higher productivity than those investing in Western Europe. This difference could possibly be explained by additional costs related to investing in low-cost, less developed countries, which only the most productive firms are able to cover.

Positive employment effects of investing abroad

Overall, the evidence on the effects of Austrian investments abroad on parent-company employment growth indicates a positive relationship. Applying the standard propensity score matching estimator, we find a positive and marginally significant impact of outward foreign direct investment on parent-company employment growth in the post-investment period. This is a clear indication that employment in the parent company has risen faster than it would have if the firm had not invested abroad. In applying the difference-in-difference estimator, we find that the impact on the difference in employment growth rate between the pre- and post-investment period is positive, but not significant. The employment effects of becoming a multinational in Eastern Europe are similar; the FDI coefficient is clearly positive, but not significant in both the standard matching approach and the difference-in-difference method. Overall, however, the results can be taken as an indication that investing abroad strengthens employment performance in a company's home country and should thus not be viewed as a threat to home market performance.

Figure 1: Difference in post-investment employment growth (average annual percentage change, 2005/2007



Source: AMADEUS database, WIFO-calculations.

Policy implications

These results have a number of policy implications. First, the analysis suggests considerable heterogeneity across different firm types that need to be accounted for by policy makers. Firms investing abroad exhibit superior performance and a productivity premium over purely domestic firms that do not invest. More importantly, investing firms already outperform domestic firms in the pre-investment period. Moreover, there are higher productivity premiums for firms that invest in low-cost Eastern European countries. For public policies intended to motivate domestic firms to invest abroad, the more broadly based policy measures to enhance firms' efficiency (e.g. promotion of R&D, learning and education, deregulation of products and the labour market) might thus be well suited to promote foreign direct investment.

Furthermore, new investors concentrate on geographically closer locations, meaning that public FDI support directed towards increasing new investors should concentrate on these markets. The strong relationship between firm size and the magnitude and location of investment abroad also calls for a strong differentiation and scaling of public measures and public support by firm size and internationalisation status (incumbent investors, new investors). Small firms seeking to go global are at a disadvantage, even in geographically close markets (*Janger – Horvath*, 2008).

Finally, the finding that foreign direct investment has rather positive than negative employment effects in the home countries of multinational parent companies constitutes an important justification for public internationalisation programs.

Literature

Arnold. J. M. and Hussinger K. (2006), Exports versus FDI in German manufacturing: firm performance and participation in international markets, Deutsche Bundesbank Discussion Paper, 4/2006.

Geishecker, I., Görg, H., Taglioni, D., Characterising Euro Area Multinationals, The World Economy, 32(1), January 2009, 49-76.

Girma, S. Goerg, H. Strobl E. (2004), Exports, international investment, and plant performance: evidence from a non-parametric test, Economics Letters, 83, 3, 317-324.

Janger, J., Horvath, G. Th., Zwischenbilanz der Internationalisierungsoffensive "Go International", Update 2008, WIFO-Studie, Wien, August 2008.

Wagner J. (2006), Exports, foreign direct investment, and productivity: evidence from German level data, Applied Economics letters 13, 6, 347-349.