correspond a different technology and then a slightly different production process (Latruffe, 2008).

The relationship between *Size* and technical efficiency has been for long debated in the literature, but in many recent empirical work results appear to be contradictory. On the Italian situation recent works seems to confirm the relevance of size effect in the manufacturing sector (Pieri and Zaninotto, 2011). Larger firms are more able to exploit scale and scope economies and this enhance performances, especially under the DEA framework , strongly focused on the technical ability of combining inputs to obtain outputs. From previous descriptive statistics a different size emerge for the two subgroups, then some differences in terms of productivity can be due to a different dimensional distribution across MNEs and domestic firms. The variable SIZE, given by the log of the average (2007-2009) own capital assets, is then included as a control. From the logarithmic features of the variable, differences in the log scale are much more smaller than in the Euro scale: micro firms and big MNEs are more far than SIZE variable says. For this reason also an additional square term *Size sq.* is included to catch non-linear relationship with size and to control for larger dimension.

The *Ownership* variable, the key point of present work, is included. Following the approach by Bottasso and Sembenelli (2004), ownership issue is analysed by including a dummy variable in the model, but here the ownership variable reflect a foreign versus domestic ownership status, rather than the inclusion in an industrial group. In the present analysis as a dummy variable equal to unity in case of foreign owned firms is defined.

The strategy of entrance on the local market is identified by a dummy variable *Greenfield*, that indicate if the FDI is pursued through a direct investment in building a new plant, in contrast to cross-border M&A.

3 EMPIRICAL RESULTS

3.1 Firms efficiency

Linear problems in the form of equation 1 are solved for each firm and for each year using R, while the bootstrap procedure by Simar and Wilson (1998) is applied using the routine in the package FEAR. Given the heterogeneity of firms involved, efficiency and bootstrap are run separately for each sector, following the approach by section 1. Outliers are detected using the routine in the package FEAR and to refine results, only those firms for which bias correction was computed are included in the final results.

The estimated efficiency scores are showed in table 2, reporting the median, less dependent from the presence of outliers or un-reliable results, for the total sample and for the subgroup of multinationals.

Both for MNEs and for domestic firms, very good possibility of increasing production arise: in all the years considered output could be more or less doubled if the best technology was applied by each firms. Of course this results must be interpreted with care, due to the nature of DEA that is born to compare small sample of homogenous firms producing physical quantity of outputs and implying physical quantity of inputs. In the present work, physical quantities are replaced by monetary proxies from balance sheet data.

Table 2 – DEA bias corrected efficiency score, median over sectors

Sector	Domestic firms			Multinationals firms		
	2007	2008	2009	2007	2008	2009
Advanced services	5.442	7.924	4.969	5.471	8.971	5.227
Automotive Manuf.	1.850	1.652	1.486	1.790	1.624	1.443
Manufacturing	2.257	2.249	2.531	2.263	2.062	2.262
Services	2.197	2.051	2.871	1.788	1.819	2.235
Wholesale & retail	1.952	2.016	1.589	1.916	2.208	1.713
Total	2.100	2.242	2.196	1.974	1.965	1.960