CHARACTERISTICS OF SUBSIDIARIES AND TNC GROUPS OF EU REGIONS

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Key words:	ABSTRACT
	This paper presents the main indicators of the activities of corporate groups across the European regions, which are the most highly competitive ones in attracting foreign direct investments (FDI), such as assets, revenues, profitability, unit labor costs, capital-labor ratio, labor productivity and total factor productivity. The geographical location of a group and its subsidiaries, as well as the total number of units of foreign TNCs, the complexity of internal hierarchies and the degree of diversification within groups are considered by authors. The study also includes the verification of the connection between the institutional features of the regions and the development of foreign operations of TNCs located there. The findings of the analysis results indicate that regions with better institutional environment attract investments of TNC groups with high efficiency, and foreign subsidiaries in these regions operate more efficiently. For measuring the quality of the institutional environment, the authors used a standardized measure of institutional quality (INST), which is calculated as a weighted average of the variables: the rule of law, government effectiveness, corruption and regulatory quality.

ХАРАКТЕРИСТИКИ ДОЧІРНІХ КОМПАНІЙ І ТНК ГРУП РЕГІОНІВ ЄС

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У статті представлено основні показники діяльності корпоративних груп 12 регіонів Європи, які є найбільш конкурентоспроможними у залученні ПІІ: активи, доходи, рентабельність, прибуток, вартість одиниці робочої сили, капіталоозброєність, продуктивність праці та сукупна продуктивність факторів виробництва. Проаналізовано географічне розташування групи і дочірніх компаній, загальна кількість зарубіжних підрозділів ТНК, складність внутрішніх ієрархій, а також ступінь диверсифікації виробництва в межах груп.

Обґрунтовано зв'язок між інституційними особливостями регіонів і розвитком зарубіжних підрозділів ТНК, розташованих там. Отримані в ході аналізу результати свідчать, що регіони з якісним інституційним середовищем залучають інвестиції ТНК груп з високою продуктивністю, зарубіжні дочірні компанії в таких регіонах працюють краще. Для вимірювання якості інституційного середовища використано стандартний показник якості інститутів (INST), який розраховується як середньозважене змінних: верховенство закону, ефективність роботи уряду, рівень корупції і якість регулювання.

Ключові слова: *ТНК, зарубіжні підрозділи, дочірні компанії, регіони Європейського Союзу, корпоративні групи, лінійна модель.*

Introduction. Nowadays the global economy is facing new challenges, related to the global production systems in which the trade in intermediate goods and services consolidates the fragmented and separated production processes between different countries. Abolition of restrictions and boundaries, ultimately, is a consequence of the internationalization of the economies. Under such circumstances, main activities of TNCs deserve special attention. Therefore, we wish to underline that TNC is a dynamic institution that can influence the development of national economies, both nationally and internationally, and to interact with them through their own organizational, economic, technical and social leverage.

Brief literature review. The issue of the development of TNC groups and their role in the global economy has become increasingly important area of investigation in recent years. Many research groups all over the world are involved in the characterization of the main factors of the TNCs' development and the evaluation of the basic stages of their formation and accommodation. The key directions and strategies of the investment activities of TNCs are defined in the numerous scientific papers, written by famous Ukrainian researchers: Soroka I., Avanesova I., Medinskaya T. Turovtseva I., Skopenko N. et al. The role of TNCs in the contemporary global economy is also considered by the well-known foreign scientists (Shaub R., Handley R., Virzikovskaya M.) with various academic research backgrounds. Despite these scientific advances, it should be noted that the behavior of TNCs in the global market is constantly changing. That is why all of these issues require further study and extension of this scope.

Unresolved earlier parts of general problem. The analysis of the published works, devoted to the study of the problem of the activities of TNCs in the global economy showed that there are still many unexplored theoretical issues and unresolved practical problems, related to the activities of foreign entities, subsidiaries and affiliates of TNC groups.

Determination of the problem. The purpose of the current undertaking is to identify the possible differences in the activities of the foreign affiliates of TNCs, depending on their belonging to a particular corporate group. This, in turn, forces us to consider and appropriately revise the impact of the geographical location of TNCs, the total number of their subsidiaries, the complexity of their hierarchical structure, diversification of production process, as well as institutional features within a certain region.

Results. Estimated characteristics of a great number of TNCs indicates their impact on the inflow of FDI (foreign direct investment) of the host economies and the further performance of such an important economic determinants as the technology gap between domestic and foreign firms, the ownership structure of investment projects [6, 7], and the degree of the financial markets' development [1]. The magnitude of the impact of regional differences can be considerable, because TNCs' investment projects result in varied speeds of productivity growth across regions [2].

On the basis of theoretical statements of Colpan A.M. and Hikino T. [3] we have identified that TNCs' subsidiaries and a wide network of foreign affiliates are developing successfully, despite the limited diversification of business activities and the scope of institutional features across the regions.

To explain this statement we could use the following algorithm:

- characteristic of the company, in particular: the total number of foreign operations, their geographical location, the degree of diversification within the TNC group (taking into account the institutional settings and the share of their production in each region);

- general description of the parent groups;

- assessment methodology and results;

- institutional characteristics;

- the final results and conclusions.

The data set used in the paper come from "Amadeus" and "Orbis" databases, provided by "Bureau van Dijk" [4], a company that collects and provides firm-level balance sheet data. It is worthwhile to note that "Amadeus" database contains mainly financial information on almost 20 million firms across the whole of Europe, observed over a period of several years, while "Orbis" contains information on the firm's ownership structure and control chains all over the world. The most reliable data, collected by these firms for a long time, allowed more appropriate and reliable statistic analysis conclusions. The procedure is performed using the following parameters: the name and the location of TNCs' headquarters, a list of all the subsidiaries of TNCs, indicating the level of control of each firm, as well as a sphere or field of their activity.

In order to carry out an accurate and appropriate analysis of research findings it is necessary to use the nomenclature of territorial units — the standard of the Organization for Economic Co-operation and Development (OECD), which is known as the standard of the division of the countries for statistical purposes [11]. The characteristics of 12 regions across Europe that are most competitive in attracting FDI are presented in the Table 1. These regions are as follows: the Capital Region of Brussels in Belgium, Île-de-France and Rhône-Alpes in France, Baden-Württemberg, Bayern and Brandenburg in Germany, Leinster in Ireland, Cataluña and Madrid in Spain and finally Inner and Outer London in United Kingdom.

The above-mentioned OECD standard has been applied to identify foreign affiliates in the selected European regions, i.e. firms with a foreign shareholder owning at least 10 per cent of the voting stock. In addition, the number of firms is limited in size in order to exclude small firms, which are not of primary interest for

the purposes of the given thesis. Unlike other regions identified within NUTS2, Lombardy in Italy has been split into Milan's province and its other provinces. The reason is that Lombardy is much larger in terms of geographical area, population and GDP than the other regions under analysis.

Table 1. **Geographical distribution of foreign affiliates of the largest TNCs across European regions**

Regions	Total number of foreign affiliates
Brussels Capital Region	780
Baden-Württemberg	1155
Bayern	1623
Brandenburg	115
Madrid	3475
Cataluña	3626
Île-de-France	12565
Rhône-Alpes	6817
Leinster	1507
Lombardy (Milan)	12982
Lombardy (No Milan)	15012
Inner London	6902
Outer London	2429
Total	68988

Source: [4]

Of the total of 68988 of TNCs' foreign affiliates, we took the decision to select only those firms that are majority-owned by a corporation, i.e. subsidiaries owned by a corporation. This criterion is appropriate because it enables a better partition of the TNCs' affiliates into mutually exclusive corporate groups, avoiding the problem of affiliates which could be evenly connected to two or more TNCs' headquarters. We have also excluded TNCs' foreign affiliates controlled by individuals. The analysis is also conducted to examine the firms with headquarters in the same country. Thus, of the 20815 TNCs' subsidiaries, only 15699 are actually majority-owned by a foreign corporation (See Table 2).

Table 2. **Foreign direct investments across EU regions**

Classification	Description	Total number of firms
Foreign affiliates	≥10% participation by foreign firm	68988
Corporation's foreign affiliates	≥10% participation by foreign firm + UO (50 %, corporate)	20815
Foreign subsidiaries	Majority owned by foreign corporate UO	15699

Source: [4]

For further analysis of the subsidiaries we focused on the key variables covering different dimensions of firm-level performance, which are used in the contemporary economic literature. In summary they are as follows: total assets, total number of employees, operating revenues (turnover) and value added. Moreover, the main standard summary measures of profitability were considered, namely return on equity (ROE) and earnings before interest and tax (EBIT). Another essential dimension of the

data set is the industry in which a firm operates. This dimension is classified according to the NACE Revision 2 code of the European Commission.

In order to be able to operate the information on the industry of activity, avoiding the needless disaggregation of the sectors, we made use of a bit modified version of the Pavitt taxonomy, aggregating the sectors into such a broad categories, as the economies of scale industries, traditional industries, specialized industries, high-tech industries, services, and wholesale & retail [10]. In order to create the framework of the accurate analysis, Lorenzo Saggiorato and Alessandro Sforza add the following measures of the firm-level productivity: unit labor cost (ULC), labor productivity (LP) and total factor productivity (TFP).

Unit labor cost is measured as the ratio between the cost of employees and value added. Labor productivity is obtained by dividing value added by the number of employees. Total factor productivity is derived as a residual after the contributions of capital and labor have been carefully accounted for. In this case, the factors of production are weighted by their observed shares and contribution to growth in the volume of the product. In order to obtain consistent estimates, Carlo Altomomte, Lorenzo Saggiorato and Alessandro Sforza adopted the semi-parametric methodology, suggested by Levinsohn and Petrin, applied by the industrial sector [9]. Before we start the analysis, it would be useful to give a brief overview of the possibility of the selection bias in the indicators. Table 3 shows us the average of the core indicators used in the further analysis.

It is obvious that the foreign affiliates of the TNC groups, owned by minority-owned by corporations, are much smaller than those that are majority corporate-owned, with the attitude to the above-mentioned measures. An exception is ROE, but this is not extraordinary because the majority of the large firms have much higher paid-in equity reserves, thus driving the ratio downwards.

Considering the regional distribution, we also identified the heterogeneous distribution of the indicators, which once again displays the influence of the TNC's location on its activities (Table 4).

According to the Table 4, it should be mentioned that foreign affiliates of TNCs, located in Germany are much larger than the average ones with respect to the number of employees and total revenues. Conversely, foreign affiliates of TNCs, located in Lombardy are often much smaller in size and profitability measures, which is consistent with typical features of the Italian industrial structure.

Table 3. **Characteristics of foreign affiliates of TNCs***

Ownership	Numner of firms	Numner of emplo-yees	Assets, in mil-lions of euros	Revenues, in mil-lions of euros	ROE, %	EBIT, in mil-lions of euros	K/L	LP	ULC	TFP
Majority corporate-owned	20815	129,32	217	41	15,79	1,8	706,98	124,20	0,70	3,78
Minority corporate- owned	48173	28,09	7	7	19,05	0,3	375,70	81,91	0,67	2,34
Total	68988	57,99	70	16	18,11	0,75	473,42	93,35	0,68	2,73

* all the indicators in the given table are averages

Note. Total some parameters do not match, because many TNC groups have units in more than one region.
Source: [4].

Table 4. **Characteristics of foreign affiliates of TNCs by several regions ***

Regions	Nummer of firms	Nummer of employees	Revenues, in millions of euros	ROE, %	EBIT, in millions of euros	K/L	LP
Brussels Capital Region	780	113,79	48,02	15,81	2,23	1106,17	182,93
Baden-Württemberg	1155	240,43	51,01	15,42	3,55	350,90	98,90
Bayern	1623	210,51	43,41	12,33	3,16	526,05	116,77
Brandenburg	115	187,44	38,04	14,41	3,27	346,19	80,15
Madrid	3475	97,34	30,64	19,39	1,41	545,16	99,12
Cataluña	3626	64,41	17,44	16,10	0,72	330,97	75,85
Île-de-France	12565	45,72	15,12	23,20	0,62	383,27	107,07
Rhône-Alpes	6817	29,20	7,42	23,78	0,31	223,44	79,14
Leinster	1507	105,32	38,17	25,82	2,42	983,12	73,56
Lombardy (Milan)	12982	42,83	12,81	12,49	0,55	550,36	92,87
Lombardy (No Milan)	15012	27,01	6,45	11,81	0,31	412,95	72,29
Inner London	6902	107,35	27,63	25,73	1,30	885,30	146,34
Outer London	2429	154,08	31,75	28,72	1,18	518,20	92,42
Total	68988	57,99	16,73	18,11	0,75	473,42	93,35

* all the indicators in the given table are averages
Note. Total some parameters do not match, because many TNC groups have units in more than one region.
Source: [4].

It turns out that the determinants of this heterogeneity in performance, linking to the global features of the parent groups to which the TNCs' subsidiaries belong. When analyzing subsidiaries, we consider them as an integral part of the complex framework of the created corporate group rather than as a stand-alone entity. Nevertheless, from an empirical point of view, switching from an exactly firm-level approach to the parent group level is not a simple way. It becomes necessary to define the TNC group's boundaries. Following the scientific approach, suggested by Carlo Altomonte [3], it should be noted that a certain TNC group is defined through the criterion of "full control", involving an equity participation of more than 50,01 per cent at every stage of the control chain. This procedure, despite being demanding and possibly excluding some relevant group of TNCs' foreign affiliates existing with lower levels of participation, guarantees the originality of the ultimate owner of each FDI.

We carried out a three-step algorithm to combine information of TNC groups with the above-mentioned data base, i.e. to link each foreign subsidiary with the TNC group it belongs to. Firstly, the location of the ultimate owner and all the foreign subsidiaries were identified, according to the OECD 2009, known as the

"List of Unco-operative Tax Havens", which made it possible to identify TNC groups, located directly in a tax haven. Secondly, we were able to determine the total number of foreign subsidiaries, as well as the number of countries, where the certain TNC group has its own subsidiaries. Thirdly, we used an indicator, which measures whether the TNC group's subsidiaries are spread over more than one continent in the planet. Fourthly, in terms of industry diversification, we created a variable, able to define the share of TNCs' foreign subsidiaries active in sectors outside the core business of the TNC group. And finally, to consider the group in complex, we retrieved the necessary information on the hierarchical level of control of each TNC's subsidiary that is the number of control participations that divide one subsidiary from its main owner, and introduce a variable indicating the maximum level of the existing control. In Table 5 below the data set with respect to the group specific variables introduces above, is described.

The table 5 shows the heterogeneity of TNC groups across European regions. The third column of the table contains the number of TNC groups owning the subsidiaries listed in the second column of the table. The following characteristics support the diversification of production of those firms that have at least one subsidiary located in another continent, where production activity is not observed as the core business. If we pay attention, for instance, to the size of the TNC groups, evaluated both in terms of total number of foreign subsidiaries all over the world and geographical spread, we can see enormously heterogeneous picture.

The number of TNCs' foreign subsidiaries ranges from the value of 71.1 subsidiaries (that is, a group that has a subsidiary in Inner London has, on average, 71.1 subsidiaries in the group), to the higher values reached in Brandenburg and Brussels, adequately of 233.6 and 226.7 subsidiaries per TNC group.

More than half of the groups have at least one subsidiary located in a tax haven. With respect to the presence of finance related firms within the TNC, the percentage of groups that own at least one finance-related subsidiary ranges from 60 to 90 per cent across the European regions. The feature is relevant given the significant role played by internal capital markets in the activity of analyzed TNC groups.

Table 5. **Descriptive statistics of TNC groups characteristics across European regions**

Regions	Number of firms	Number of firms, that are majority-owned by a corporation	Number of TNC groups	Average number of subsidiaries	Average number of countries	Subsidiaries, located in a Tax Haven	Global	Financial branch	Diversification
1	2	3	4	5	6	7	8	9	10
Brussels Capital Region	745	668	420	226,70	33,30	1,00	0,92	0,91	0,72
Baden-Württemberg	768	678	520	136,30	23,30	0,80	0,88	0,72	0,69
Bayern	1041	926	706	131,10	21,90	0,80	0,83	0,71	0,68
Brandenburg	77	67	56	233,60	24,10	0,73	0,82	0,71	0,68
Madrid	1926	1777	1186	148,10	24,30	0,86	0,87	0,79	0,69

1	2	3	4	5	6	7	8	9	10
Cataluña	1316	1239	942	129,30	21,80	0,80	0,87	0,72	0,67
Île-de-France	3636	2838	1749	119,20	21,30	0,82	0,89	0,75	0,68
Rhône-Alpes	894	576	433	144,00	21,00	0,75	0,81	0,73	0,65
Leinster	1300	1034	733	174,70	24,50	0,74	0,88	0,85	0,65
Lombardy (Milan)	2521	1955	1285	127,40	22,30	0,76	0,82	0,73	0,65
Lombardy (No Milan)	1149	660	507	97,40	15,90	0,53	0,61	0,61	0,56
Inner London	4431	3690	2448	71,10	10,50	0,50	0,86	0,58	0,51
Outer London	1011	890	635	114,10	18,50	0,65	0,88	0,64	0,63
Total	20815	16998	6653*	57,80	10,90	0,55	0,77	0,58	0,55

* Note. Total some parameters do not match, because many TNC groups have units in more than one region.
Source: [4].

All the analysis presented so far on TNCs has to be checked against the question of whether the geographic location of the subsidiaries can influence the development of TNCs.

The framework of analysis is a linear model, as in equation below [3]:

$$\Pi_{igt} = a + \overline{\beta} X_{igt} + \overline{\gamma} Z_g + \overline{\delta} E + \varepsilon_{igt}, \tag{1}$$

where the dependent variable is the natural logarithm of TFP, of ROE, or of EBIT;

X_{igt} — is a set of firm-specific variables controlling for the number of employees and the capital-labor ratio;

E — is a set of industry and regional fixed-effects;

Z_g — is a matrix of the time invariant set of group-specific variables presented above.

The given model is estimated by standard least squares and the error terms (ε_{igt}), clustered by group identifier.

Table 6 provides the results of the estimates adequately on TFP, ROE and EBIT.

Table 6. **Results of the evaluation of core indicators of the TNC groups' activity**

Variables	TFP	ROE	EBIT
1	2	3	4
Number of subsidiaries	-0,0392*** (0,0133)	0,0126 (0,0390)	0,00450 (0,0254)
Number of countries	0,114*** (0,0156)	0,115*** (0,0389)	0,112*** (0,0310)
Global	0,0516 (0,0355)	-0,0289 (0,0714)	0,0390 (0,0684)
Financial branch	0,364*** (0,0824)	0,446*** (0,140)	0,481*** (0,133)
Diversification	-0,0805* (0,0446)	-0,372*** (0,121)	-0,255*** (0,0857)
Subsidiaries in Tax Haven	-0,0183* (0,0604)	0,0172 (0,126)	-0,0386 (0,124)
Headquarter in Tax Haven	-0,0247 (0,0183)	-0,0730* (0,0401)	-0,0855** (0,0386)
Max number of hierarchical levels	-0,00221 (0,00463)	0,00487 (0,0124)	-0,00572 (0,00829)

1	2	3	4
Constant	-1,311*** (0,168)	3,268*** (0,380)	-1,134*** (0,273)
Observations	45299	29429	30138
R-squared	0,422	0,068	0,658
Region FE	YES	YES	YES
Sector FE	YES	YES	YES
Year FE	YES	YES	YES

Robust standard errors in parentheses: *** p<0,01; ** p<0,05; * p<0,1*

Table 6 shows that there are some group specific characteristics that greatly influence the performance of TNCs' subsidiaries, with respect to all the considered indicators. As a result, the geographical spread has an important and positive impact on the firm's performance and on the level of their profitability and productivity. Another variable which seems great in the development of firm-level performance is the availability of finance-related subsidiaries within the TNC group.

These findings are related with a model of international trade (production), in which global value chains play a significant role. In other words, geographical diversification of a TNC group allows its subsidiaries to take numerous competitive advantages. It is also known that a critical role is played by internal capital markets – the availability of internally generated liquidity reinforces firms' investment capacity in those environments where open access to external funds is limited.

With respect to the profitability measures, we can determine the presence of a negative impact, suggesting that a high dispersion of the activities of the certain TNC group is negatively related with the profitability of its subsidiaries. In this context it should be mentioned that these firms with the headquarters, located in tax havens, tend to report, if everything else being equal, some 8 per cent lower profits. Nevertheless, an expected effect of tax distortion, caused by the presence of subsidiaries in tax havens, does not seem to be significant neither in terms of productivity nor of their profitability. Thus, table 6 indicates that TNC groups' characteristics matter for the subsidiary-level performance, according to the general trend in the organization of international production and trade aimed at the creation of global value chains.

The question remains as to whether these characteristics of TNC groups can account for the differences in the average performance of foreign subsidiaries across the European regions. Probably, the one difficulty in the estimation is that the vast majority of the analyzed TNC groups invest in more than one region. To explore this issue further, we have compared the regional fixed-effects received from the estimate of previously presented equation (1) with those received from the regression of the identical equation without the matrix containing the TNCs' characteristics. If the regional fixed-effects evaluated in such an equation with groups' characteristics are lower than the ones estimated only with firm-level variables, it means that the group characteristics of TNCs' subsidiaries differ across the European region, and are able to explain the variation in the level performance of foreign subsidiaries.

Instead, it is the institutional quality that has an important impact on the performance of the TNCs' foreign subsidiaries in the region. In addition, the regression results suggest that TNCs' group characteristics that are associated with better performance of the subsidiaries are connected to the regional institutional quality. Absolutely this issue requires further scientific research, but the obtained results are consistent with the fact that a region with quality institutions usually attracts investment from TNC groups that reveal the characteristics of high performance. As a result, the foreign subsidiaries of TNCs in such a region are seen to be operating much better.

To make a conclusion in the framework of a whole group of TNC is quite arguable, because economic performance are different across European regions and a large number of TNCs have affiliates in more than one region.

In order to examine this issue, in the table 7, we compare the regional-fixed effects from the estimate of equation (1) with and without the matrix Z_g, which contains the wide range of characteristics.

Table 7. **Comparative characteristics of the fixed-effects of TNC groups across the European regions**

Variables	(1) ln TFP	(2) ln TFP	(3) ln TFP	(4) ln TFP
1	2	3	4	5
Baden-Württemberg	-0,186*** (0,0319)	-0,180*** (0,0318)	-0,559*** (0,106)	-0,503*** (0,0571)
Bayern	-0,153*** (0,0314)	-0,172*** (0,0307)	-0,587*** (0,121)	-0,529*** (0,0644)
Brandenburg	0,388*** (0,0757)	0,413*** (0,0802)	0,340*** (0,0764)	0,270*** (0,0648)
Madrid	0,621*** (0,0277)	0,607*** (0,0267)	0,382*** (0,0658)	0,347*** (0,0386)
Cataluña	0,639*** (0,0277)	0,644*** (0,0268)	0,436*** (0,0567)	0,388*** (0,0349)
Île-de-France	0,455*** (0,0270)	0,442*** (0,0262)	-0,0556 (0,136)	0,0281 (0,0687)
Rhône-Alpes	0,320*** (0,0311)	0,326*** (0,0300)	0,156*** (0,0525)	0,211*** (0,0330)
Leinster	-1,231*** (0,422)	-1,094** (0,431)	-1,275*** (0,422)	-1,120*** (0,333)
Lombardy (Milan)	0,778*** (0,0275)	0,775*** (0,0261)	0,512*** (0,0685)	0,494*** (0,0369)
Lombardy (No Milan)	0,475*** (0,0305)	0,542*** (0,0300)	0,209*** (0,0697)	0,229*** (0,0370)
Inner London	-0,309*** (0,0304)	-0,294*** (0,0299)	-0,414*** (0,0437)	-0,437*** (0,0326)
Outer London	-0,288*** (0,0339)	-0,290*** (0,0355)	-0,420*** (0,0504)	-0,495*** (0,0352)
INST			-0,452 (0,0320)	0,0476*** (0,0146)
Constant	-1,053*** (0,0488)	-1,365*** (0,167)	-0,989*** (0,0704)	-1,175*** (0,0396)

Continuation of table 7

1	2	3	4	5
TNC characteristics	YES	NO	YES	NO
Observations	45299	45299	45299	185408
R-squared	0,384	0,422	0,385	0,367

Robust standard errors in parentheses: *** p<0,01; ** p<0,05; * p<0,1

The institutional quality can be adequately measured by standard indicator, calculated as a weighted average of World Bank variables such as the rule of law, government effectiveness, corruption level and regulatory quality.

Comparing the date from the first and the third columns of the table below, it could be argued that institutional characteristics of the coefficients change indicators by region. At the same time, the institutional variable (INST) in the second column of the table is not significant, i.e. institutional indicator is correlated with the TNCs' characteristics, it is also included in the assessment and confirms the heterogeneity of corporations depending on the region.

In the fourth column we estimate the same regression as in column (3), but on the whole sample, including all affiliates. We notice that the regional fixed effects remain almost the same as the previous specification while the institutional variable acquires significance and it shows the correct sign, thus adding support to the previous explanation.

Conclusions

Generally, the aim of the research was to consider the performance of foreign affiliates located in twelve "top" European regions, which attract the highest number of FDI projects. Technique, based on the mathematical formalism and financial indicators of TNC groups, leads to the conclusion that the regional characteristics have a significant impact on the performance of TNCs. We received evidence that the affiliates of TNC groups owned by minority-owned by corporations, are much smaller than those that are majority corporate-owned, with respect to almost all the measures considered.

The results show that the quality of firms within TNCs, which in addition to the core business, are involved in the financial sector, is higher, thus exposes TNC groups to the capital markets. In addition, the geographic distribution of TNC into several regions, simplifies access to the new markets, reducing marketing costs and, ultimately, the results of subsidiaries increase.

Coming to the conclusion, it should be mentioned that European regions with better institutional environment attract TNC investment groups with a high performance and foreign subsidiaries in these regions operate more efficiently. The study of the quality and characteristics of the institutional environment is beyond the scope of our study, however, would deepen our analysis and give a proper assessment of the relationship between the institutional features of the country and the characteristics of the core indicators of TNCs.

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ХАРАКТЕРИСТИКИ ДОЧЕРНИХ КОМПАНИЙ И ТНК ГРУПП РЕГИОНОВ ЕС

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В статье представлены основные показатели деятельности корпоративных групп 12 регионов Европы, являющимися наиболее конкурентоспособными в привлечении ПИИ: активы, доходы, рентабельность, прибыль, стоимость единицы рабочей силы, капиталовооруженность, производительность труда и совокупная производительность факторов производства. Анализируется географическое расположение группы и дочерних компаний, общее количество зарубежных подразделений ТНК, сложность внутренних иерархий, а также

степень диверсификации производства в рамках групп. Исследование включает обоснование связи между институциональными особенностями регионов и развитием зарубежных подразделений ТНК, расположенных там. Полученные в ходе анализа результаты свидетельствуют, что регионы с качественной институциональной средой привлекают инвестиции ТНК групп с высокой производительностью, зарубежные дочерние компании в таких регионах работают лучше. Для измерения качества институциональной среды использован стандартный показатель качества институтов (INST), который рассчитывается как средневзвешенное переменных: верховенство закона, эффективность работы правительства, уровень коррупции и качество регулирования.

Ключевые слова: *ТНК, зарубежные подразделения, дочерние компании, регионы Европейского Союза, корпоративные группы, линейная модель.*