



Social Results of Domestic and Foreign Firms: Case Manufacture of Transport Equipment in Russia

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ABSTRACT

The article studies the impact of creation of foreign enterprises on social indicators in the developing countries. We compare social results of foreign and joint enterprises foreign and joint ownership (FJO) and domestic enterprises Russian ownership (RO) in manufacturing of transport equipment in various regions of Russia. The multivariate statistical analysis is applied to compare the social results. Using the variance analysis, we find that the level of the average salary and growth rates of employment and payroll of FJO enterprises are higher compared to the RO enterprises. At the same time, FJO enterprises are characterized by a lower labor intensity and payroll-output ratio. The clustering into three pairs of factorial indicators of Russian regions is performed separately for RO and FJO enterprises. The clustering displayed statistically significant differences in the social results among the groups of regions.

Keywords: Domestic and Foreign and Joint Enterprises, Manufacture of Transport Equipment, Employment and Payroll, Multivariate Statistical Analysis

JEL Classifications: C100, J210, J310, L620

1. INTRODUCTION

Trade liberalization and internationalization make a significant impact on domestic markets. Foreign investments, new technologies, the high level of competition and international business integration are powerful incentives for the industry development. Nevertheless, domestic and foreign enterprises often find themselves in unequal positions. They may use different business approaches, management techniques and have an asymmetric access to the international markets what naturally creates market differentiations (Buys, 2010; Antonescu, 2015). Moreover, social factors such as differences in corporate cultures and business philosophies are considered to make an impact on performances of domestic and foreign firms (Bellak, 2004).

Some studies discuss a negative influence of these distinctions on the domestic industry. Buys (2010) reveals a better innovative performance and productivity of foreign enterprises of the South-African automotive industry. Bellak (2004) states that

“yet, foreign-owned firms reveal an excellent performance in comparison with their counterparts in developed countries.” Barnes et al. (2004) also support this point of view by saying that domestic firms cannot usually compete with their foreign rivals. Identified positive influences of the foreign presence are the improvement of outputs and real wages of firms, overcoming the technological gap, a better communication between international and domestic players and positive spillovers (Javorcik, 2004; Myachin et al., 2015; Wang and Wang, 2015).

In the modern economic science, the influence made by foreign business owners on various indicators of the national labor market has been studied in detail (Temouri, 2008; Chen et al., 2011). The researchers analyzed the statistical information at the level of a company, region or country in the main branches of goods production and services. The studies resulted as follows:

- Foreign enterprises hire the most qualified employees; nearly all salaries in those companies are higher than in national enterprises.

- The high-tech competitors negatively influence the labor productivity of national enterprises and employment rate in the country, but positively influence the level of goods quality and commodity saturation of the national market.

Since 2006, the significant change in the structure of the Russian transport equipment manufacturing sector has been seen. This change is caused by the introduction of foreign-owned enterprises to the industry. The transport equipment manufacturing sector is the subsection DM according to NACE (Statistical Classification of Economic Activities in the European Community) Rev. 1.1 or C29+C30 according to NACE Rev. 2 (Eurostat, 2015). This sector provides about 11.0% (more than 2800 billion rubles) of the total production and 13.5% (more than 1 million employees) of the total employment in the Russian manufacturing industry (UniSIS, 2015).

The production volumes of foreign and joint ownership (FJO) enterprises reached 42% in 2013 and are now comparable to the production volumes of domestic enterprises (Russian ownership [RO]). However, this dramatic increase has not led to a faster growth of production volumes of the subsection DM in general. FJO enterprises are focused on a particular part of the Russian market and start competing with the domestic enterprises. The created enterprises were focused on a fixed volume of the Russian market and began to compete with the Russian enterprises. Under these circumstances, it is important to compare the results of RO and FJO enterprises for the Russian economy. It is obvious that foreign manufacturers provide better products. But what economic, territorial, social and technological effects do they form in the Russian economy?

In this paper, we investigate and compare social results of performances obtained for RO and FJO enterprises in the transport manufacturing industry in various Russian regions in the period of 2010-2013.

Our research objectives are:

- To identify the relevant social and economic indicators.
- To verify the correlation between economic and social indicators of RO and FJO enterprises.
- To find differences in mean values of the independent indicators (factors) of RO and FJO enterprises.
- To conduct the cluster analysis of regions and estimate the social results of RO and FJO enterprises in terms of the obtained regional clusters.

The research is based on the federal and regional statistical data of Russia (StatSoft, 2015; UniSIS, 2015).

2. RESEARCH METHODOLOGY

Nine indicators (Table 1) were used for the analysis.

The average values of indicators No. 1-6 were taken for the period of 2010-2013. The growth rates of indicators No. 7-9 were calculated for the period of 2010-2013.

The statistical analysis is carried out at the level of the Russian regions. Two samples of the regions for the subsection DM are formed:

- The sample of regions in which foreign and joint enterprises produced significant volumes of products.
- The sample of regions in which domestic (Russian) enterprises produced significant volumes of products.

The following regions are excluded:

- Regions with the average annual volume of shipped products of the subsection DM being <1 billion rubles by the analyzed ownership form for the period of 2010-2013.
- Regions with insufficient data for the analysis or irregular values of the relative indicators.

The following samples of the regions with different ownership forms of enterprises were received:

- Russian enterprises (RO) - 58 regions
- Foreign and joint enterprises (FJO) - 18 regions.

Each sample of the regions covers more than 90% of the total employment and payroll fund of the subsection DM by the same ownership form.

Research methods: The following methods of the multivariate statistical analysis are applied: The correlation, cluster and factor analysis of indicators and the cluster analysis of regions (Hill and Lewicki, 2007; StatSoft, 2015).

3. RESULTS OF STATISTICAL ANALYSIS

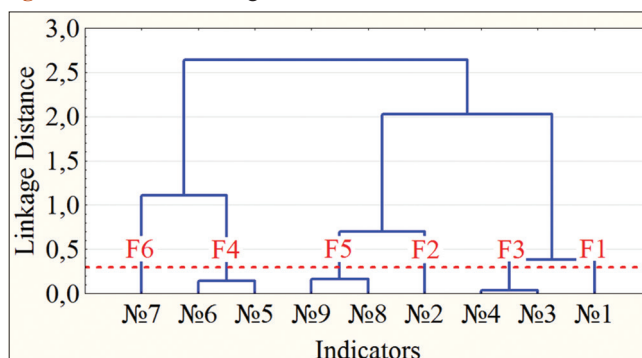
3.1. The Correlation and Cluster Analysis of the Indicators

The dendrogram based on the tree clustering is built in order to conduct the correlation analysis of 9 indicators, According to the dendrogram, the groups of correlated indicators are allocated

Table 1: Indicators and their calculations

| No | Indicators |
|----|---|
| 1 | Production value |
| 2 | Average monthly salary |
| 3 | Number of employees |
| 4 | Annual payroll fund |
| 5 | Labor intensity (number of employees/production value) |
| 6 | Payroll-output ratio (annual payroll fund/production value) |
| 7 | Growth rate of the average monthly salary |
| 8 | Growth rate of number of employees |
| 9 | Growth rate of annual payroll fund |

Figure 1: Vertical dendrogram of the correlation matrix of indicators



depending on the linkage distance d (Figure 1). The value of $d = 0.3$ corresponds to the group of 6 correlated indicators F1-F6. As the correlation analysis shows significant correlations of the indicator pairs, the correlation distance is measured. Ward's method was used to identify the rules of the clusters' union. This method is different from all other methods by using the variance analysis to evaluate distances between the clusters.

The correlation analysis reveals a strong positive linear relationship with the high values (close to 1) of the Pearson correlation coefficient (r , parametric) and Spearman coefficient (R , rank) between the groups of indicators at the level of DM:

- Number of employees and annual payroll fund ($r = 0.96$ and $R = 0.97$).
- Labor intensity and payroll-output ratio ($r = 0.86$ and $R = 0.83$).
- Growth rate of number of employees and growth rate of annual payroll fund ($r = 0.84$ and $R = 0.92$).

The number of employees is related to the annual payroll fund, but the average monthly salary does not make a strong influence on the annual payroll fund. There is also a weak correlation between the shipped products, number of employees and annual payroll fund ($r \approx 0.73$ and $R = 0.88$).

3.2. The Factor Analysis of the Indicators

As there is a correlation between the indicators, the factor analysis is applied. The factor analysis allows to reduce the number of indicators and to define the relation structure of indicators (classification of indicators). The factor analysis is a method of classification based on the correlation estimates (factor loadings) of initial indicators and factors (or "new" factorial indicators) within the selected factor model. It also estimates the significance of each factor and allows explaining most of the variance by a relatively small number of factors.

With the use of the factor analysis, the 6-factor model of indicators was formed (Table 2).

As shown in Table 2, the most significant (basic) rotated factor loadings (partial coefficients of correlation of indicators and factors) are highlighted in bold. This permits to interpret the relevant factors by the population of indicators attributing them the most significant features of significant indicators. The bottom line shows the explained variance (Δ) of each factor (or weighted factor). The cumulative explained dispersion for the first 6-factors is about 99%.

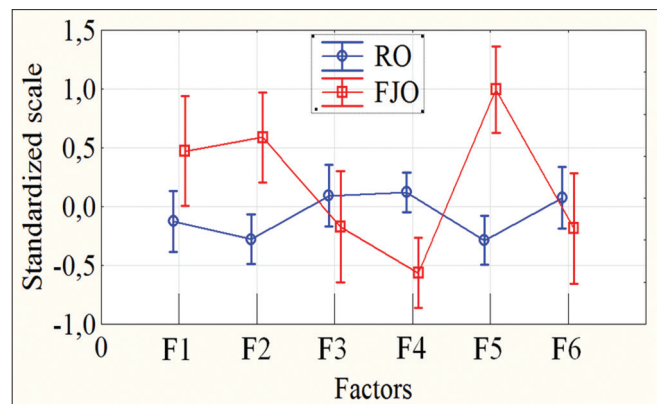
The background: Free factorial indicators are formed and investigated for the reasons of economic interpretation. The factor F1 has a corresponding indicator No. 1, F2 - No. 2, F6 - No. 7 and factors F3-F5 are defined as the weighted average of the relevant substantive indicators.

The mean values for the samples of the regions with RO and FJO enterprises of the subsection DM are compared based on six generated factorial indicators (Figure 2).

Table 2: The matrix of 6-factor structure of indicators

| No. | F3 | F4 | F5 | F6 | F2 | F1 |
|----------|--------|--------|--------|--------|--------|--------|
| 1 | 0.711 | -0.256 | 0.195 | -0.066 | 0.311 | 0.536 |
| 2 | 0.158 | -0.041 | 0.289 | -0.140 | 0.928 | 0.065 |
| 3 | 0.989 | 0.009 | -0.081 | 0.058 | -0.034 | 0.008 |
| 4 | 0.980 | -0.009 | -0.067 | 0.023 | 0.149 | 0.003 |
| 5 | -0.100 | 0.927 | -0.202 | 0.075 | -0.251 | 0.060 |
| 6 | 0.016 | 0.960 | -0.133 | 0.038 | 0.145 | -0.137 |
| 7 | 0.048 | 0.079 | 0.025 | 0.987 | -0.119 | -0.017 |
| 8 | -0.057 | -0.205 | 0.911 | -0.255 | 0.218 | 0.066 |
| 9 | -0.042 | -0.151 | 0.935 | 0.271 | 0.143 | 0.013 |
| Δ | 0.276 | 0.213 | 0.211 | 0.127 | 0.127 | 0.035 |

Figure 2: Standardized mean values of Russian ownership (blue) and foreign and joint ownership (red) enterprises with 95% confidence intervals for six factorial indicators



The parametric F-test shows that the differences between RO and FJO enterprises are highly significant (at the level of $0.0005 > P$) by a combination of factors due to the highly significant difference between RO and FJO enterprises for F2, F4, F5, statistically significant ($0.05 > P \approx 0.03 > 0.005$) for F1 and insignificant (at $P > 0.10$) for the other factors F3, F6. The smallness of the sample of the regions with FJO enterprises requires to control the results of the Kruskal-Wallis test by ranks, which transforms the differences between the RO and FJO enterprises of F2 to a statistically significant ($0.05 > P \approx 0.007 > 0.005$) and to insignificant for F1.

We find that the growth rates of employment and payroll and the level of the average salary of FJO enterprises are statistically significantly higher than those for RO enterprises (F5 and F2). At the same time, FJO enterprises are characterized by a lower labor intensity and payroll-output ratio (F4). With the fixed volumes of the sales market (Russia), the substitution of RO enterprises by FJO enterprises will lead to a decrease in the total employment in the subsection DM. These findings are generally consistent with the results of the study (Spitsin et al., 2015).

Note that Figure 2 shows the lower employment, payroll (F3) and growth rate of the average monthly salary (F6) for FJO enterprises, but these differences are not statistically significant.

3.3. The Cluster Analysis of the Regions

Clustering of the Russian regions was carried out in accordance with Figure 1 and Table 2 in the background-free factor space (F1-F6) separately for the RO and FJO enterprises.

The clustering is made for three pairs of factorial indicators:

1. F1 and F3 (Figure 3)

Figure 3: Scattering of region clusters with Russian ownership and foreign and joint ownership enterprises by the factors F1 and F3*. *Here in after, the number of the regions in each cluster is indicated in parentheses

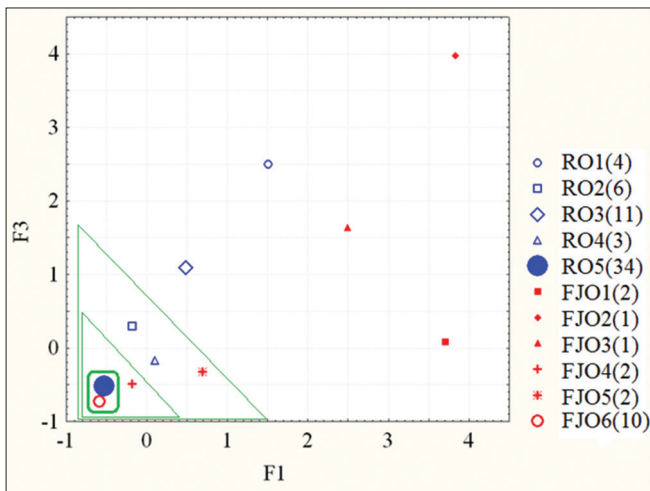


Figure 4: Scattering of region clusters with Russian ownership and foreign and joint ownership enterprises by the factors F3 and F5

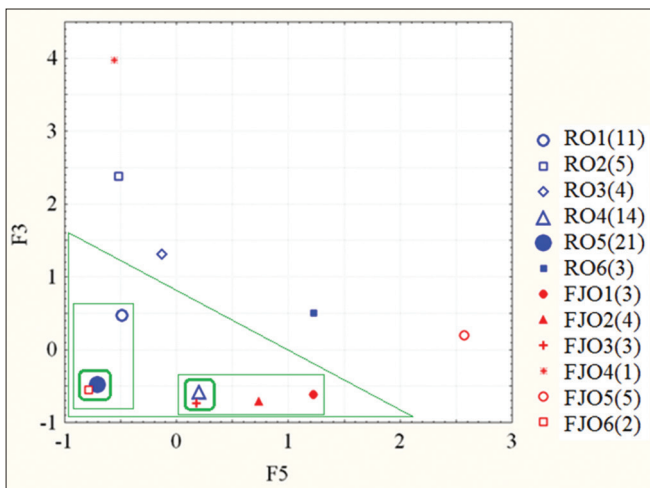
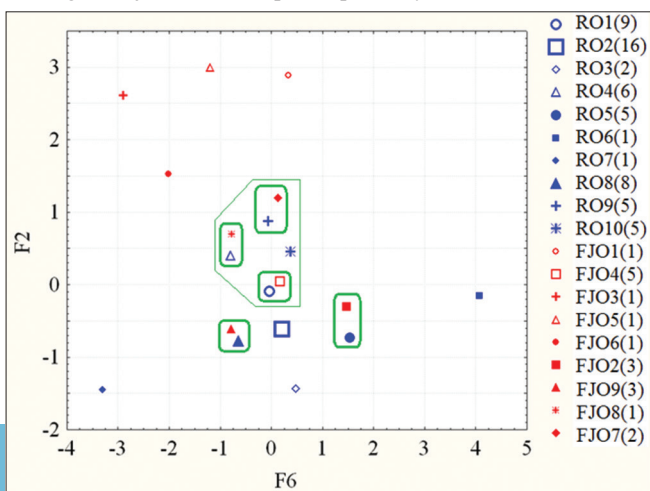


Figure 5: Scattering of region clusters with Russian ownership and foreign and joint ownership enterprises by the factors F2 and F6



2. F3 and F5 (Figure 4)

3. F2 and F6 (Figure 5).

Table 3 shows the distribution of the Russian regions by clusters.

The clustering for each pair of factors was made using the k-means method and methods of hierarchical classification separately for the regions with RO and FJO enterprises. Different methods of clustering show similar results of cluster models for 58 regions of RO enterprises and 18 regions of FJO enterprises (Figures 3-5). The number of the regions in each cluster is indicated in parentheses and defines the size of the cluster marker in the figures. The quality of the constructed cluster models is estimated by the statistical criteria. The F-test shows that the differences between the average values of region clusters in their entirety are highly significant for each factor of each type of ownership. The smallness of the cluster samples assumes controlling the results of the Kruskal–Wallis test by ranks, which a bit looser confirms the findings of the F-test.

The set of 5 cluster regions of RO and 6 of FJO regions differs highly significantly (at the level of $0.0005 > P$) both in F3 and F1 according to the parametric F-criterion, which is confirmed by the Kruskal–Wallis test by ranks. At the same time, a part of it, which is isolated in the large green triangle {RO2, RO4, RO5, FJO4, FJO5, FJO6} also differs highly significantly both on F3, and F1 according to the parametric F-test and Kruskal–Wallis test by ranks. The clusters isolated in the small green triangle {RO5, FJO4, FJO6} differ strongly significantly on F3 and F1, according to the F-test. The Kruskal–Wallis test confirmed the differences for F3 and reduced them to the statistically significant ($0.05 > P \approx 0.018 > 0.005$) for F1. The clusters allocated in the green rectangle {RO5, FJO6} are homogeneous. They differ insignificantly (at $P > 0.10$) both on F3 and F1 according to the parametric F-test and the Kruskal–Wallis test by ranks.

Authors believe that these factors (F1 and F3) reflect the main economic (shipped product) and social (employment and payroll) results. It is found that the regions with FJO enterprises are characterized by a higher economic performance and lower social results (right-hand lower triangle in Figure 3). Clusters FJO2 and FJO3 (Samara region and the Republic of Tatarstan) show good social results. The cluster FJO1 (St. Petersburg and Kaluga region) demonstrates very high economic results and lower social results. It should be noted that the joint-owned enterprises predominate in the Samara region and the Republic of Tatarstan. They might have been formed on the basis of the Russian enterprises (domestic property). By contrast, the newly established foreign-owned enterprises predominate in St. Petersburg and the Kaluga region.

The set of 6 clusters of RO regions and 6 of FJO regions differs highly significantly (at the level of $0.0005 > P$) both on F3 and F5 according to the F-test and Kruskal–Wallis test by ranks. The clusters fall into the green triangle {RO1, RO4, RO5, FJO1, FJO2, FJO3, FJO6} and even a part of {RO1, RO4, RO5, FJO3, FJO6} also differ highly significantly both in F2 and F6 according

Table 3: Distribution of the Russian regions by clusters

| No | Regions | FO | F1, F3 | F3, F5 | F2, F6 | No | Regions | FO | F1, F3 | F3, F5 | F2, F6 |
|----|---------------------------|-----|--------|--------|--------|----|----------------------------|----|--------|--------|--------|
| 1 | St. Petersburg | FJO | FJO1 | FJO5 | FJO1 | 21 | Bryansk region | RO | RO4 | RO4 | RO5 |
| 2 | Samara region | FJO | FJO2 | FJO4 | FJO4 | 22 | Novosibirsk region | RO | RO2 | RO1 | RO1 |
| 3 | Kaluga region | FJO | FJO1 | FJO5 | FJO3 | 23 | Altai region | RO | RO5 | RO5 | RO2 |
| 4 | Republic of Tatarstan | FJO | FJO3 | FJO5 | FJO4 | 24 | The Republic of Mordovia | RO | RO5 | RO5 | RO2 |
| 5 | Moscow | FJO | FJO5 | FJO1 | FJO5 | 25 | Leningrad region | RO | RO5 | RO5 | RO4 |
| 6 | Leningrad region | FJO | FJO5 | FJO5 | FJO6 | 26 | Kemerovo region | RO | RO5 | RO4 | RO1 |
| 7 | Nizhny Novgorod region | FJO | FJO4 | FJO6 | FJO2 | 27 | Voronezh region | RO | RO2 | RO1 | RO2 |
| 8 | Sverdlovsk region | FJO | FJO4 | FJO5 | FJO2 | 28 | Krasnoyarsk region | RO | RO2 | RO1 | RO4 |
| 9 | Saratov region | FJO | FJO6 | FJO2 | FJO9 | 29 | Karachay-Cherkess Republic | RO | RO5 | RO4 | RO7 |
| 10 | Ivanovo region | FJO | FJO6 | FJO3 | FJO2 | 30 | Saratov region | RO | RO5 | RO5 | RO2 |
| 11 | Chelyabinsk region | FJO | FJO6 | FJO3 | FJO8 | 31 | Kaluga region | RO | RO5 | RO5 | RO1 |
| 12 | Moscow region | FJO | FJO6 | FJO2 | FJO7 | 32 | Smolensk region | RO | RO5 | RO5 | RO5 |
| 13 | Krasnodar region | FJO | FJO6 | FJO2 | FJO4 | 33 | Udmurtia | RO | RO5 | RO4 | RO5 |
| 14 | Khabarovsk region | FJO | FJO6 | FJO1 | FJO7 | 34 | Krasnodar region | RO | RO5 | RO5 | RO1 |
| 15 | Krasnoyarsk region | FJO | FJO6 | FJO1 | FJO4 | 35 | Kurgan region | RO | RO5 | RO5 | RO2 |
| 16 | Yaroslavl region | FJO | FJO6 | FJO6 | FJO9 | 36 | Astrakhan region | RO | RO5 | RO5 | RO8 |
| 17 | Amur region | FJO | FJO6 | FJO2 | FJO4 | 37 | Omsk region | RO | RO5 | RO1 | RO2 |
| 18 | Astrakhan region | FJO | FJO6 | FJO3 | FJO9 | 38 | Kirov region | RO | RO5 | RO4 | RO2 |
| 1 | Nizhny Novgorod region | RO | RO1 | RO2 | RO2 | 39 | Tyumen region | RO | RO5 | RO5 | RO4 |
| 2 | Moscow | RO | RO1 | RO2 | RO9 | 40 | Tambov Region | RO | RO5 | RO4 | RO2 |
| 3 | Moscow region | RO | RO1 | RO2 | RO9 | 41 | Vladimir region | RO | RO5 | RO5 | RO2 |
| 4 | St. Petersburg | RO | RO3 | RO3 | RO9 | 42 | Orenburg region | RO | RO5 | RO5 | RO8 |
| 5 | Sverdlovsk region | RO | RO3 | RO3 | RO10 | 43 | Kostroma region | RO | RO5 | RO5 | RO8 |
| 6 | Samara region | RO | RO1 | RO2 | RO2 | 44 | Kursk region | RO | RO5 | RO5 | RO8 |
| 7 | Republic of Tatarstan | RO | RO3 | RO1 | RO2 | 45 | Penza region | RO | RO5 | RO4 | RO2 |
| 8 | Rostov region | RO | RO3 | RO3 | RO1 | 46 | Volgograd region | RO | RO5 | RO5 | RO8 |
| 9 | Irkutsk region | RO | RO3 | RO1 | RO9 | 47 | Oryol Region | RO | RO5 | RO4 | RO2 |
| 10 | Chelyabinsk region | RO | RO3 | RO3 | RO1 | 48 | Stavropol region | RO | RO5 | RO5 | RO3 |
| 11 | Primorsky Krai | RO | RO3 | RO1 | RO10 | 49 | Tula region | RO | RO5 | RO5 | RO8 |
| 12 | Kaliningrad region | RO | RO4 | RO5 | RO4 | 50 | Ivanovo region | RO | RO5 | RO4 | RO5 |
| 13 | Yaroslavl region | RO | RO3 | RO1 | RO1 | 51 | Mari El Republic | RO | RO5 | RO4 | RO8 |
| 14 | Republic of Bashkortostan | RO | RO3 | RO6 | RO5 | 52 | Novgorod region | RO | RO5 | RO4 | RO6 |
| 15 | Ulyanovsk region | RO | RO3 | RO1 | RO8 | 53 | Vologda Region | RO | RO5 | RO5 | RO2 |
| 16 | The Republic of Buryatia | RO | RO4 | RO6 | RO4 | 54 | Kamchatka Krai | RO | RO5 | RO5 | RO9 |
| 17 | Arkhangelsk region | RO | RO3 | RO2 | RO10 | 55 | Transbaikal region | RO | RO5 | RO4 | RO4 |
| 18 | Tver region | RO | RO2 | RO1 | RO1 | 56 | The Republic Of Dagestan | RO | RO5 | RO5 | RO3 |
| 19 | Khabarovsk region | RO | RO2 | RO1 | RO10 | 57 | Pskov region | RO | RO5 | RO4 | RO2 |
| 20 | Perm region | RO | RO2 | RO6 | RO1 | 58 | The Republic of Khakassia | RO | RO5 | RO4 | RO10 |

FJO: Foreign and joint ownership, RO: Russian ownership

to the parametric F- test and Kruskal–Wallis test by ranks. The clusters isolated in the green rectangle {RO1, RO5, FJO6} differ highly significantly on F3 and weakly significantly ($0.10 > P \approx 0.08 > 0.05$) on F5 according to the F-test and Kruskal–Wallis test by ranks. The clusters isolated in the green rectangle {RO4, FJO1, FJO2, FJO3} differ strongly significantly ($0.005 > P \approx 0.001 > 0.0005$) on F5 according to the F-test (or statistically significantly $0.05 > P \approx 0.013 > 0.005$ by the Kruskal–Wallis test) and insignificantly (at the level of $P > 0.10$) on F3. Finally, 2 pairs of clusters marked in the green squares: {RO4, FJO3} and {RO5, FJO6} are homogeneous. They are insignificantly different (at the level of $P > 0.10$) both on F3 and F5 by the F-test, and Kruskal–Wallis test by ranks.

The regions with FJO enterprises (Figure 4) have lower absolute values of employment and payroll (F3), but significantly higher growth rates of these indicators (F5). Five out of the 18 regions with the FJO enterprises form the cluster FJO5 (St. Petersburg, Republic of Tatarstan, Kaluga, Leningrad, Sverdlovsk regions) with very high growth rates. In contrast, 46 out of 58 regions with the FJO enterprises form RO1, RO4, RO5 clusters with low growth rates. The cluster FJO4 (Samara

region) is the exception. It shows the high employment (F3) but decline in employment (F5). Originally, the largest Russian enterprise (Av to VAZ) is located here. Now it has become a joint enterprise, but many features of the Russian enterprises had remained.

The set of 10 clusters of RO regions and 9 of FJO regions differs highly significantly (at the level of $0.0005 > P$) both on F2 and F6 by the F-test and Kruskal–Wallis test by ranks. The clusters isolated in the green hexagon {RO1, RO4, RO9, RO10, FJO4, FJO7, FJO8} differ also highly significant both on F2 and F6 according to the F-test. But the Kruskal–Wallis test by ranks reduces these differences to the strongly significant ($0.005 > P \approx 0.0017 > 0.0005$) for F6. A part of the clusters, for example, {RO4, RO9, FJO7, FJO8} also differs highly significantly both on F2 and F6 according to the F-test. But the Kruskal–Wallis test by ranks reduces the differences to the statistically significant ($0.05 > P \approx 0.015 > 0.005$) for each factor. Finally, 5 pairs of clusters marked in the green rectangles {RO1, FJO4}, {RO4, FJO8}, {RO9, FJO7}, {RO8, FJO9} and {RO5, FJO2} are homogeneous. They are insignificantly different (at $P > 0.10$) both on F2 and F6 by the F-test and the Kruskal–Wallis test by ranks.

The regions with FJO enterprises (Figure 5) possessing high salaries (F2) have lower salaries growth rates (F6) (FJO5, FJO3, FJO6 clusters correspond to Moscow, the Kaluga region and Leningrad region respectively). The high salary and the average rate of its growth are demonstrated in the cluster FJO1 (St. Petersburg). The Samara region, Republic of Tatarstan and some other regions with the FJO enterprises form the FJO4 cluster with the average salary level and average rate of its growth. Most regions with RO enterprises form the clusters RO1 and RO2, which are characterized by lower salaries and the average rates of its growth.

4. CONCLUSION

Based on the analysis of the social results of RO and FJO enterprises in the subsection DM, the conclusions are following:

1. The correlation analysis revealed a strong positive linear relationship between the indicators:
 - Number of employees and Annual payroll fund
 - Labor intensity and Payroll-output ratio
 - Growth rate of the number of employees and Growth rate of the annual payroll fund.
2. Comparison of the mean values of the factor indicators showed the following statistically significant differences. The growth rates of employment and payroll and the level of the average salary of the FJO enterprises are higher than those for the RO enterprises (F5 and F2). However, this positive fact is overlapped by the lower labor intensity and payroll-output ratio of the FJO enterprises (F4).
3. The clustering of the regions showed statistically significant differences in the social results among the groups of regions. The regions with large RO enterprises form a single cluster, characterized by the high social results (employment, payroll). Regions with large FJO enterprises are different. The Samara region and the Republic of Tatarstan (joint ownership) occurred to be good social results. St. Petersburg and the Kaluga region (foreign ownership) demonstrated very high economic results and low social results. We found that declines in employment were registered for the majority of the regions with RO enterprises, while the increase in employment was obtained for the majority of the regions with FJO enterprises. On the other hand, there were low growth rates of salaries but the high level of salaries in the regions with FJO enterprises.

To summarize we would like to point out that in case of the created foreign enterprises being focused on the Russian market, the substitution of RO enterprises by FJO enterprises will reduce the employment in the subsection DM. Joint enterprises seem to be preferable from the standpoint of social results as compared with foreign enterprises. The models of creation of large foreign enterprises (Saint-Petersburg and the Kaluga region) appear to be ineffective for Russia from the standpoint of the social results. Nevertheless, they can generate other effects (large amounts of investment, high-quality products, taxes, etc.).

Globalization generates both positive and negative effects for the developing countries and some developed countries. One of the

negative effects is the decline in employment of some countries and industry sectors. In this paper it was revealed that the problem of employment decline takes place in the country if the branches of large foreign enterprises or joint enterprises focus their production on the domestic market. At the same time, it was shown that the developing countries have competitive advantages (in particular, lower salary), which allow to rely on the export of products to the foreign markets. However, foreign enterprises have a little interest in increasing the production localization and manufacturing products for export to the foreign markets. It requires government incentives and regulations of these processes.

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