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RISK ESTIMATION OF ROMANIAN LARGE TAXPAYERS BASED ON TRANSFER PRICING ANALYSIS

Abstract. *The research on risk estimation probability in the area transfer pricing is a continuous challenge both for practitioners and for academics. By verifying the risk probability that an entity would have in the area of related party transactions, the management could make better financial decisions and adjustments in order to comply with the "free market" (independent and non-related party transactions).*

The present research analyzes the operating profit margins from 70 large taxpayers from Romania from 3 main markets: retail sale of automotive fuel in specialized stores, retail sale in non-specialized stores with food, beverages or tobacco predominating (supermarkets) and manufacture of electrical/ electronic equipment, other parts and accessories for motor vehicles; and compares them to operating profit margins of independent entities that have no direct affiliations with other companies.

The analysis looks at the risk related to some financial performance indicators that an entity has, such return on total cost or return on sales to the same performance indicators of independent companies in the field the company belongs.

The operating margins best suited for activity of the large taxpayers taken into consideration, will be compared with an interquartile range calculated from the operating margins obtained by independent entities in order to conclude the risk probability, revealing if that entity has an operating margin similar to the "free market".

Key words: *transfer pricing, large taxpayers, risk probability, Romania, operating margins, interquartile range.*

JEL Classification*:* **C10, C13, C46, G10, G32, H20**

INTRODUCTION

The reliability of data encountered in intragroup transactions related with transfer pricing is frequently disputed both by companies, consultants and fiscal authorities. Transfer pricing is the most important problem in international taxation that the governments and the international entities have to deal with (Olibe and Rezaee, 2008).

As the amount of global data used in transfer pricing is increasing, the ability of fiscal administrators to track down income flows and outflows between an entity and its related parties becomes increasingly difficult. According to OECD the increasingly integrated nature of the global economy and the ongoing importance of Multinational Enterprises (MNEs) in that economy mean that questions of transfer pricing are some of the most significant tax issues that MNEs and tax administrations have to manage. These issues are significant not just because large amounts of tax can be involved but also because they can be complex and their resolution is dependent on a good understanding of the facts and specific commercial context of the case.

Transfer pricing risks are among the largest tax risks that tax administrations are managing but rates of tax recovery resulting from audits and enquiries vary significantly that is why effective risk assessment is an essential first step in the process both for MNEs and for the fiscal administration.

Based on a strategy to find independent companies from Romania the comparability analysis presented in this paper, we could say that this is a good start to risk assess a MNE company in the area of transfer pricing.

The rest of the paper is structured as follows: the first part reveals the literature review that is correlated with national and international regulation. The second section specify the methodology of the search strategy and data base use to identify comparable entities with a high grade of independence that we took into consideration. The third section presents the data obtained from the database and the comparability analysis with the 70 large taxpayers from Romania. The paper ends with a section of conclusions and the presentation of the limits of the research.

1. LITERATURE REVIEW

The Romanian regulation is in line with OECD regulation regarding transfer pricing for multinational entities and for fiscal administrative. It also complies with

the line established by the European Union Joint Transfer Pricing Forum (EUJTPF).

The first regulation that was implemented in Romania regarding the file of transfer pricing was the 222 Order from February 8, 2008. Starting with 2016, the transfer pricing activity is laid on 422 Order from January 22, 2016. This order is in accordance with the regulation found in article 108, point 2 from Fiscal Procedure Code which stipulates that during a fiscal inspection, when the fiscal authority requests, the entity is required to provide the information from transfer pricing documentation file. Unlike the old regulation, , the new one imposes that the transfer pricing file has to be compulsory drawn up, in order to reflect the market value found in related parties transactions. The market value/arm's length principle is used for all the related parties' transactions, including those that are between a foreign entity and a company set up in Romania. In case the value of the operating margin found in related parties transactions is different from length' arm, the fiscal authority can adjust the revenues or the expenditures that come from related parties transaction until they fit the market value. The adjustment of revenues obtained from related parties' transaction could be done considering the prescription term that each state has which in Romania, the prescription term is 5 fiscal years. The prescription term can not be taken into consideration if a tax audit is in progress by the fiscal administration.

According to OECD (2010), there is a gap between the data needed and the data available for comparison. This resides in difficulties in establishing the arm's length value. It is said that due to the abilities of managers to manipulate transfer pricing, the multinational enterprises can conduct their activity (Gordon and Mason, 1994).

At global level, there are several methods that can be used for transfer pricing. In Romania, the enterprises can use traditional methods for quantifying the transfer pricing such as Comparable Uncontrolled Price, Resale Price Method and Cost Plus. There are also two profit methods: Transactional Net Margin Method and Profit-split method. Considering the field of activity to which the entities belong to, there are significant differences between data, so the comparison of data cannot be properly applied.

Across OECD countries the focus is on traditional transaction methods due to the fact that there is a more direct way to establish the transfer price. There are also

other countries, among them USA, that do not provide a regulation regarding the priority of methods. (Lohse et al, 2012).

The transfer pricing risk probability has to be correlated with the process and the business context and this research adds to the literature the possibility to evaluate the transfer pricing risk based on public and private databases and also quantitative data.

2. METHODOLOGY OF RESEARCH

The purpose of this research is to facilitate and to increase the efficiency of a primary analysis regarding the risk probability in transfer pricing by identifying if the tested entity has profitability similar to other independent entities in the same market and economic conditions. This could be achieved by setting a strategy which identifies independent companies with a high grade of comparability to the tested entity. Based on this, the research aims to establish limits, also known as an interquartile range, in order to find out if a company that has intragroup transactions has a correct approach regarding the transfer prices used with affiliated companies.

The main objective of the research is to find out how many large taxpayers do not have a profit margin similar to other independent companies from three major markets: retail sale of automotive fuel in specialized stores, retail sale in non-specialized stores with food, beverages or tobacco predominating (supermarkets) and manufacture of electrical/ electronic equipment, other parts and accessories for motor vehicles; and compares them to operating profit margins of independent entities that have no direct affiliations with other companies.

The research of independent companies was made with the database TPSoft. According to the description of TPSoft, this is the only on-line database in Romania constructed to help, in any moment, minimize the risk associated with transfer pricing files for any commercial entity and to prepare it for an audit from the fiscal administration.

The database contains financial information for over a hundred thousand of companies (with a minimum turnover of 150000 EUR in 2015) that is automatically processed to give users profit margins specifically for the markets in which an entity operates.

The first research had the purpose of finding independent comparables for the NACE codes *2931 Manufacture of electrical and electronic equipment for motor vehicles* and *2932 Manufacture of other parts and accessories for motor vehicles.*

Using TPSoft we used the following search steps:

NACE codes	2931, 2932
Geographical area:	Romania
Exclusion of companies which are owned more than 25% by a legal entity?	yes
Exclusion of companies which own subsidiaries more than 25%?	yes
Exclusion of companies which are owned more than 25% by a person?	no
Include companies that are part of a group?	no
Include only active companies?	yes
Minimum turnover (RON)	1,000,000.00
Maximum turnover (RON)	none
Minimum number of employees	50.00
Maximum number of employees	none
Profit indicator	ROTC
Research period	2011 - 2015
Exclude companies that registered operational losses	none

After using the search steps, the database returned 19 companies.

Furthermore a qualitative screening was made on the 19 companies using the following criteria:

- No companies with extreme results for more than a year was accepted. Extreme results means that the profit indicator chosen must not exceed a lower limit of -50% or a higher limit of 50%.
- Companies that did not have financial information on all years of the research was rejected from the final comparative sample.

After the qualitative screening no companies was rejected, leaving the final comparative sample with a total of 19 companies.

Because the activity researched consists in producing/manufacturing of goods and accessories, we chose as operating profit indicator the Return On Total Cost (ROTC) which has the following formula:

$$\text{Return on total cost} = \frac{\text{EBIT}}{\text{Operating Revenue} - \text{EBIT}}$$

For every company resulted from the database was calculated the return on total cost for every year from the period 2011-2015 and the average of the period. In order to identify if the large taxpayers selected have an ROTC margin similar to the entities resulted we calculated the interquartile range as well as the lower limit, upper limit and the median.

In descriptive statistics, the interquartile range (IQR), also called the midspread or middle 50%, or technically H-spread, is a measure of statistical dispersion, being equal to the difference between 75th and 25th percentiles, or between upper and lower quartiles, IQR = Q3 − Q1. In other words, the IQR is the 1st quartile subtracted from the 3rd quartile; these quartiles can be clearly seen on a box plot on the data. It is a trimmed estimator, defined as the 25% trimmed range, and is the most significant basic robust measure of scale.

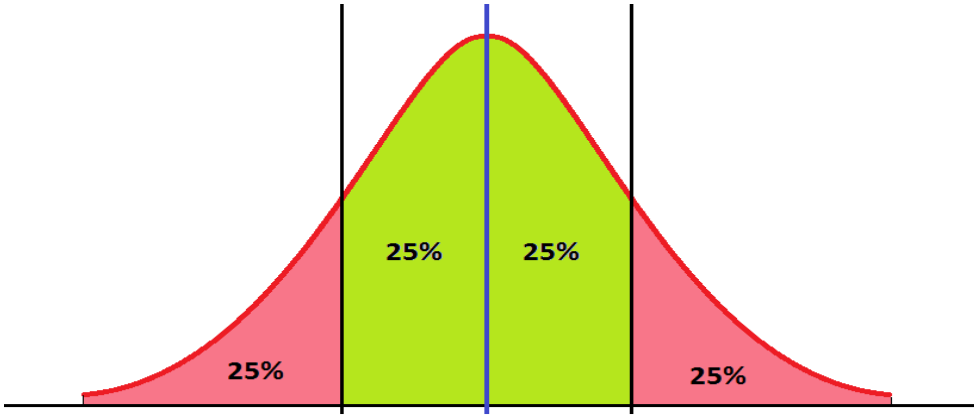
The results are presented in the table below:

Table1: IQR for ROTC of the entities resulted from TPSoft

	ROTC 2011	**ROTC 2012**	**ROTC 2013**	**ROTC 2014**	**ROTC 2015**	**ROTC 2011 - 2015**
Lower limit	2.32%	1.59%	0.81%	-12.72%	-5.41%	-0.97%
Quartile 1	4.30%	5.44%	4.37%	2.29%	3.56%	3.72%
Median	9.36%	8.87%	5.69%	4.29%	4.62%	6.40%
Quartile 3	21.15%	22.95%	20.36%	19.16%	13.34%	19.32%
Upper limit	46.33%	35.72%	44.15%	35.15%	45.89%	40.61%

In probability theory, the normal (or Gaussian) distribution is a very common continuous probability distribution. Normal distributions are important in statistics and are often used in the natural and social sciences to represent real-valued random variables whose distributions are not known. The normal distribution is sometimes informally called the bell curve because the data can be easily and concise represented under the form of a bell as follow:

Figure 1: Representation of the IQR for Average ROTC of 2011-2015



Lower limit	1st Quartile	Median	3rd Quartile	Upper limit
-0.97%	3.72%	6.40%	19.32%	40.61%

After the IQR was settled for every year of the period examined, as well as for the average of the whole period, we compared this values with the values obtained by 50 large taxpayers identified, as being part of MNE groups or that were owned for more than 25% by legal entities, making them affiliated entities according to the national law, that have as main activities codes *2931 Manufacture of electrical and electronic equipment for motor vehicles* and *2932 Manufacture of other parts and accessories for motor vehicles.*

The results are set up in 3 categories:

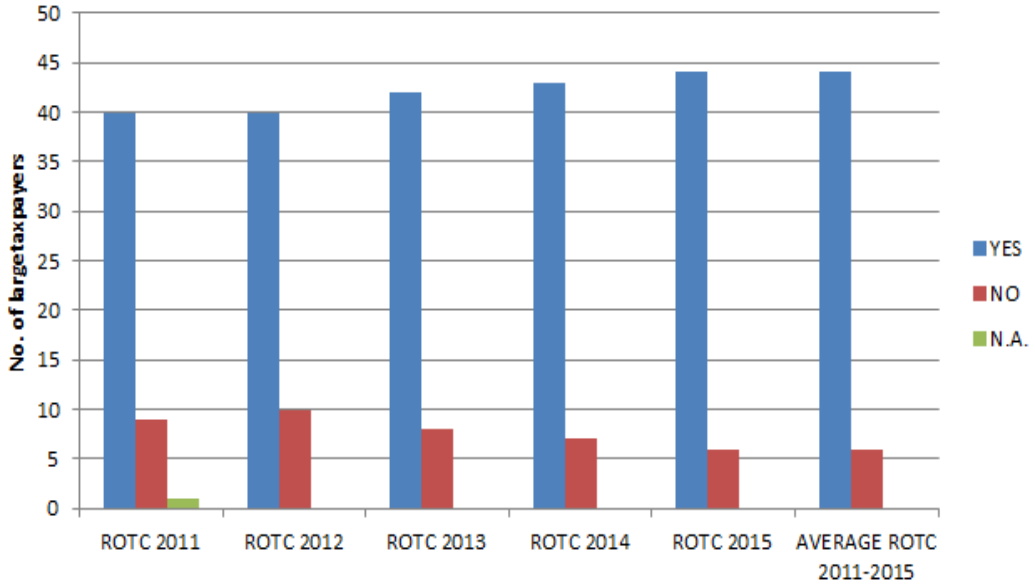
- YES = stands for the operating margin – ROTC of the entity is in the IQR;
- NO = stands for the operating margin – ROTC of the entity is not in the IQR;
- N.A. = stands for the operating margin – ROTC could not be calculated for the year;

Table2: Results for comparison of ROTC of large taxpayer with IQR resulted

	ROTC 2011	**ROTC 2012**	**ROTC 2013**	**ROTC 2014**	**ROTC 2015**	**ROTC 2011 - 2015**
YES	40	40	42	43	44	44

NO	9	10	8	7	6	6
N.A.	1	0	0	0	0	0

Figure 2: Representation of the comparison results with the IQR



The second research had the purpose of finding independent comparables for the NACE code 4711 - Retail sale in non-specialized stores with food, beverages or tobacco predominating.

Using TPSoft we used the following search steps:

NACE code	4711
Geographical area:	Romania
Exclusion of companies which are owned more than 25% by a legal entity?	yes
Exclusion of companies which own subsidiaries more than 25%?	yes

Exclusion of companies which are owned more than 25% by a person?	no
Include companies that are part of a group?	no
Include only active companies?	yes
Minimum turnover (RON)	1,000,000.00
Maximum turnover (RON)	none
Minimum number of employees	100.00
Maximum number of employees	none
Profit indicator	ROS
Research period	2011 - 2015
Exclude companies that registered operational losses	none

After using the search steps, the database returned 33 companies.

Furthermore a qualitative screening was made on the 33 companies using the following criteria:

- No company with extreme results for more than a year was accepted. Extreme results mean that the profit indicator chosen must not exceed a lower limit of -50% or a higher limit of 50%.
- Companies that did not have financial information on all years of the research were rejected from the final comparative sample.

After the qualitative screening no companies were rejected, leaving the final comparative sample with a total of 33 companies.

Because the activity researched consists in retail sale of consumer goods, we chose as operating profit indicator the Return on sales (ROS) which has the

following formula:

$$\text{Return on sales} = \frac{\text{EBIT}}{\text{Operating Revenue}}$$

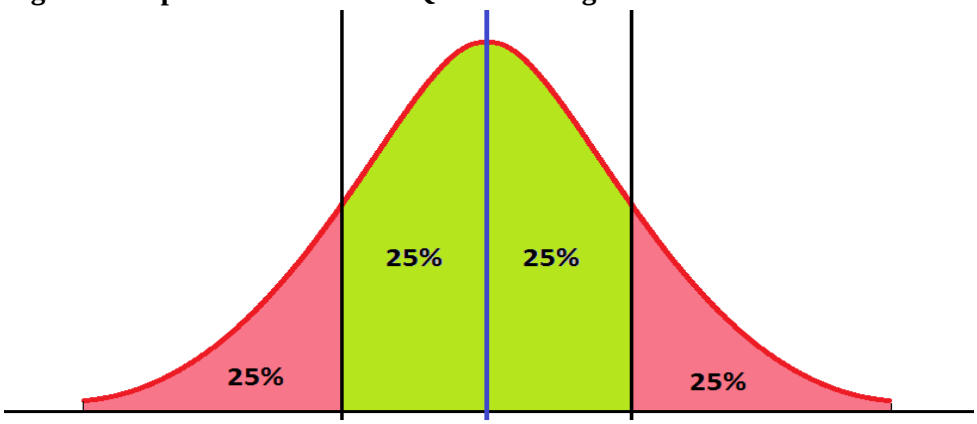
For every company resulted from the database was calculated the return on sales for every year from the period 2011-2015 and the average of the period. In order to identify if the large taxpayers selected have an ROS margin similar to the entities resulted we calculated the interquartile range as well as the lower limit, upper limit and the median.

The results are presented in the table below:

Table 3: IQR for ROS of the entities resulted from TPSoft

	ROS 2011	**ROS 2012**	**ROS 2013**	**ROS 2014**	**ROS 2015**	**ROS 2011 - 2015**
Lower limit	-2.7%	-45.7%	-11.7%	-2.2%	-1.3%	-9.82%
Quartile 1	0.4%	0.3%	0.3%	0.7%	1.5%	0.73%
Median	1.8%	1.4%	1.7%	1.7%	2.3%	1.78%
Quartile 3	3.7%	4.1%	4.0%	3.4%	4.9%	3.46%
Upper limit	10.9%	10.3%	16.9%	15.5%	14.8%	13.68%

Figure 3: Representation of the IQR for Average ROS of 2011-2015



Lower limit	1st Quartile	Median	3rd Quartile	Upper limit
-9.82%	0.73%	1.78%	3.46%	13.68%

After the IQR was settled for every year of the period examined, as well as for the average of the whole period, we compared this values with the values obtained by 10 large taxpayers identified, as being part of MNE groups or that were owned

for more than 25% by legal entities, making them affiliated entities according to the national law, that have as main activity *Retail sale in non-specialized stores with food, beverages or tobacco predominating.*

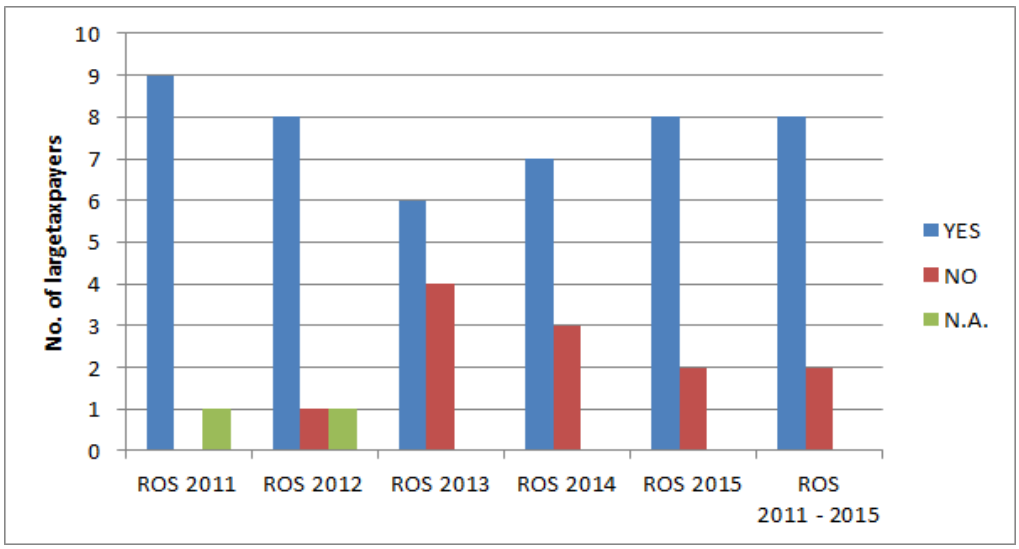
The results are set up in 3 categories:

- YES = stands for the operating margin – ROS of the entity is in the IQR;
- NO = stands for the operating margin – ROS of the entity is not in the IQR;
- N.A. = stands for the operating margin – ROS could not be calculated for the year;

Table 4: Results for comparison of ROS of large taxpayer with IQR resulted

	ROS 2011	**ROS 2012**	**ROS 2013**	**ROS 2014**	**ROS 2015**	**ROS 2011 - 2015**
YES	9	8	6	7	8	8
NO	0	1	4	3	2	2
N.A.	1	1	0	0	0	0

Figure 4: Representation of the comparison results with the IQR



The third research had the purpose of finding independent comparables for the NACE code 4730 - Retail sale of automotive fuel in specialized stores.

Using TPSoft we used the following search steps:

NACE code	4730
Geographical area:	Romania
Exclusion of companies which are owned more than 25% by a legal entity?	yes
Exclusion of companies which own subsidiaries more than 25%?	yes
Exclusion of companies which are owned more than 25% by a person?	no
Include companies that are part of a group?	no
Include only active companies?	yes
Minimum turnover (RON)	1,000,000.00
Maximum turnover (RON)	none
Minimum number of employees	50.00
Maximum number of employees	none
Profit indicator	ROS
Research period	2011 - 2015
Exclude companies that registered operational losses	none

After using the search steps, the database returned 22 companies.

Because the activity researched consists in retail sale of automotive fuel in specialized stores, we chose as operating profit indicator the Return on sales which has the following formula:

$$\text{Return on sales} = \frac{\text{EBIT}}{\text{Operating Revenue}}$$

Furthermore a qualitative screening was made on the 22 companies using the

following criteria:

- No companies with extreme results for more than a year was accepted. Extreme results means that the profit indicator chosen must not exceed a lower limit of -50% or a higher limit of 50%.
- Companies that did not have financial information on all years of the research was rejected from the final comparative sample.

After the qualitative screening 1 company was rejected, leaving the final comparative sample with a total of 21 companies

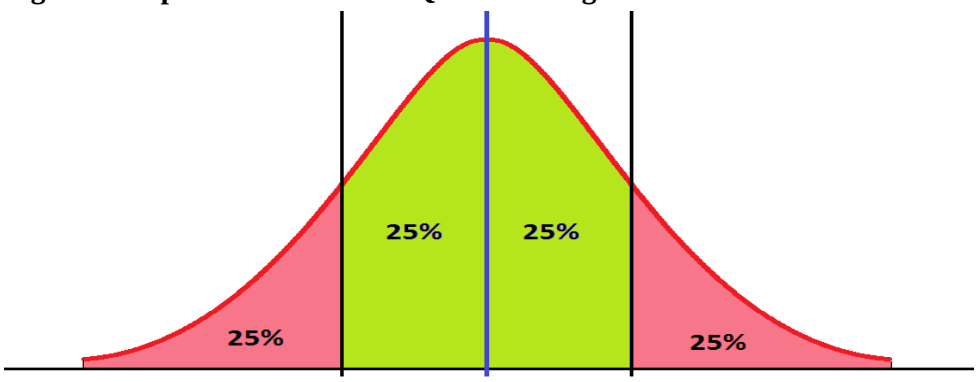
For every company resulted from the database was calculated the return on sales for every year from the period 2011-2015 and the average of the period. In order to identify if the large taxpayers selected have an ROS margin similar to the entities resulted we calculated the interquartile range as well as the lower limit, upper limit and the median.

The results are presented in the table below:

Table 5: IQR for ROS of the entities resulted from TPSoft

	ROS 2011	**ROS 2012**	**ROS 2013**	**ROS 2014**	**ROS 2015**	**ROS 2011 - 2015**
Lower limit	-16.29%	-21.52%	-28.36%	-8.68%	-0.70%	-5.48%
Quartile 1	-0.09%	0.09%	0.87%	0.50%	2.28%	1.17%
Median	1.29%	1.19%	1.48%	2.09%	5.78%	1.96%
Quartile 3	3.27%	2.08%	4.06%	3.81%	12.42%	3.50%
Upper limit	17.18%	19.05%	19.03%	70.17%	43.84%	31.69%

Figure 5: Representation of the IQR for Average ROS of 2011-2015



Lower limit	1st Quartile	Median	3rd Quartile	Upper limit
-5.48%	1.17%	1.96%	3.50%	31.69%

After the IQR was settled for every year of the period examined, as well as for the average of the whole period, we compared this values with the values obtained by 50 large taxpayers identified, as being part of MNE groups or that were owned for more than 25% by legal entities, making them affiliated entities according to the national law, that have as main activity code *4730 Retail sale of automotive fuel in specialized store*.

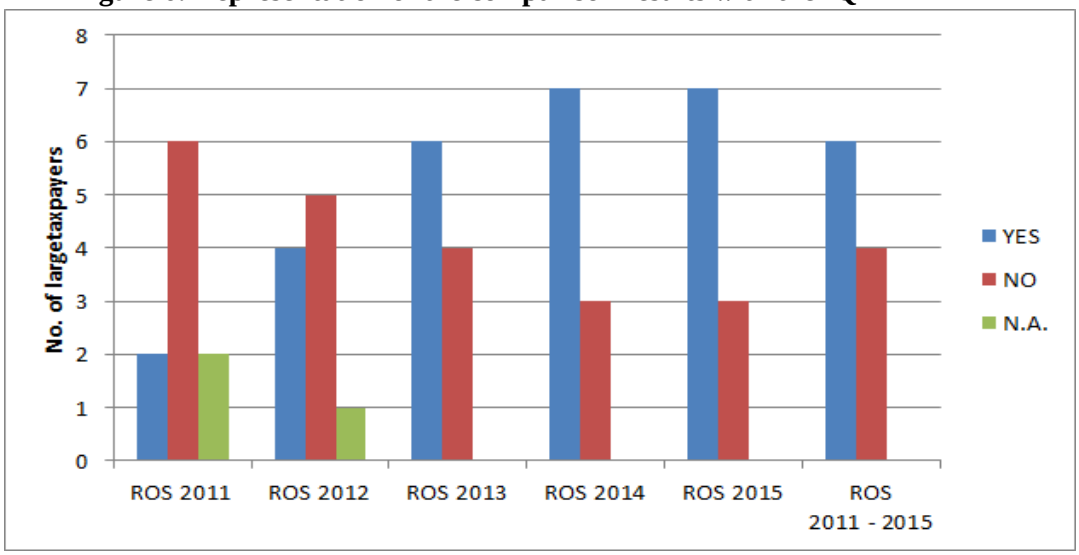
The results are set up in 3 categories:

- YES = stands for the operating margin – ROS of the entity is in the IQR;
- NO = stands for the operating margin – ROS of the entity is not in the IQR;
- N.A. = stands for the operating margin – ROS could not be calculated for the year;

Table 6: Results for comparison of ROS of large taxpayer with IQR resulted

	ROS 2011	**ROS 2012**	**ROS 2013**	**ROS 2014**	**ROS 2015**	**ROS 2011 - 2015**
YES	2	4	6	7	7	6
NO	6	5	4	3	3	4
N.A.	2	1	0	0	0	0

Figure 6: Representation of the comparison results with the IQR



Limits of the research:
- the operating profit indicator was calculated on the whole activity of the entities tested, due to the fact that the values/percentages of the related party transactions are not public;
- the comparables from the final comparative sample were selected with the help of TPSoft database and it was considered that the primary NACE code is the real principal activity of the companies;
- the comparables from the final comparative sample were accepted and presumed that they have the same functions and risks as the large taxpayers tested, according to every market researched.

Based on the results that we obtained, we can conclude that in what concerns the automotive parts production industry 88% of the 50 large taxpayers analyzed, that are part of MNE's or have at least one legal entity shareholder of over 25%, have a return on total cost similar to independent entities for the period 2011-2015 and only 12% of the 50 does not comply with the market trend in terms of profitability.

The research done on the activity of retail sale in non-specialized stores with food, beverages or tobacco predominating concludes that 80% of the 10 large taxpayers analyzed, that are part of MNE's or have at least one legal entity shareholder of over 25%, have a return on sales similar to independent entities for the period 2011-2015 and only 20% of the 10 does not comply with the market trend in terms of profitability.

The third research done on the activity of retail sale in non-specialized stores with food, beverages or tobacco predominating concludes that 60% of the 10 large taxpayers analyzed, that are part of MNE's or have at least one legal entity shareholder of over 25%, have a return on sales similar to independent entities for the period 2011-2015 and only 40% of the 10 does not comply with the market trend in terms of profitability.

The fact that some large taxpayers do not comply with the market trend could be explained with some of the following reasons:

- the MNE or group is undergoing a structural change in strategy;

- for the production entities, could be a downfall on clients portfolio, in some cases a production facility could rely on a handful of clients which can mean that is has a high risk client portfolio;

- for the wholesale entities, could be a downfall in incomes due to the poor ability of the targeted consumers to spending;
- marketing strategies to rise the market share;
- or profit shifting.

CONCLUSIONS

The present paper proposes a model though which, a company in the markets researched could identify it's potential risk in the area of transfer pricing, properly measured and defined but which is not a substitute for detailed transfer pricing analysis. The model is based both on financial data, that are public, on qualitative data and on the ability of TPSoft database to identify independent comparables, based on the search criteria imputed.

The strategies used are optimize to identify independent comparables that have direct affiliation. The indirect affiliation could not be verified due to the lack of public information. The strategy inputted looks at different quantitative indicators like turnover, no. of employee's, % of shareholders, operating profit and loss and at some qualitative indicators like if a company is active, if it's part of a group or if it

For every independent comparable resulted from the database it was calculated the profit indicator, in accordance with the type of activity carried out, for every year from the period 2011-2015, the average of the period the interquartile range as well as the lower limit, upper limit and the median.

After the IQR was settled for every year of the period examined, as well as for the average of the whole period, we compared this values with the values obtained by the large taxpayers identified, as being part of MNE groups or that were owned for more than 25% by legal entities, making them affiliated entities according to the national law.

The researched has been done on 70 large taxpayers on Romania, as selected in 2016 by the National Fiscal Administration, out of which 10 are in the activity of retail sale of automotive fuel in specialized stores, 10 are in the activity of retail sale in non-specialized stores with food, beverages or tobacco predominating (supermarkets) and 50 are in the activity of manufacture of electrical/ electronic equipment, other parts and accessories for motor vehicles.

The results show that 12% of the entities that belong to production area does not comply with the profitability trend of the market and 20% of the entities from the retail field does not comply with the profitability trend of the market.

The fact that some entities do not comply with the general trend of independent companies can be due to the transfer pricing strategy in relationship with related parties, with microeconomics/ macroeconomics circumstances or group strategies.

The lacks/problems of this research is related with the fact that the profit indicator was calculated on the whole activity of the entities tested, due to the fact that the values/percentages of the related party transactions are not public;

Other possible limitations look at the fact that the research was done only only at national level and it did not took in consideration other regional trend like the EU trend or the international trend but this is going to be an objective of further research.

Additional future research will focus on trying to verify other NACE activities also for large taxpayers but for middle category taxpayers also.

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