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Survey research on whether taxes affect decisions of Slovak managers on cross-border financial restructuring operations

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Abstract. This paper main question is whether decisions of Slovak companies about cross-border financial restructuring are affected by taxes. Using a questionnaire survey we investigated the opinions of Slovak companies' managers on the selected tax provisions related to cross-border transactions. The aim was to determine whether taxes represent a major obstacle for cross-border financial restructuring. We have extracted the factors by means of exploratory factor analysis, then we have verified the differences in the identified factors between the companies of different size and level of indebtedness, and by employing logistic regression we have investigated the dependence between performing cross-border restructuring and the identified tax factors. We concluded that Slovak companies perform cross-border restructurings that are currently also tax-motivated. The intended changes of tax provisions that facilitate international tax planning will have adverse impact on motivation to perform cross-border financial restructuring operations by Slovak companies.

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1. INTRODUCTION

One of the methods companies can use to improve their performance is to carry out fundamental redesign of business processes and perform financial restructuring.

The tools of financial restructuring include mergers, acquisitions, leverage buyout, cash pooling, assets sales, employees´ securities, equity carve out and spin-off. In today's globalised world these methods of enterprise financial restructuring are often used not only within national but also within cross-border

context. In this case, financial restructuring carried out by adopting either of the above methods have tax aspects as well, because companies operate within the scope of several tax jurisdictions, whose tax laws govern income and assets tax in different ways. From the viewpoint of corporate finance, taxes are expenses that reduce the after-tax profit. If the goal of financial restructuring is the increase in enterprise performance when applying any of its tools, it is obvious that when deciding on whether to carry out such restructuring or not, the finance managers have also to consider the potential costs such as income and property taxes; particularly their amount, which affects the after-tax profit, as well as tax compliance requirements in the countries where such methods of financial restructuring are applied. In carrying out such transactions, enterprises face the challenges posed through international taxation of income and property.

Carrying out M&As may provide enterprises with benefits in the form of higher economies of scale, reduced transaction costs, or access to new resources. Thus, such benefits can significantly increase enterprise performance (Bertrand & Betschinger, 2012; Stiebale & Trax, 2011; Capron, 1999).

Consequences of leveraged buyout can also lead to an increase in enterpise performance (Zahra, 1995; Bae, Hendershott, & Jo, 2000). The leverage buyout structure itself, which is set out of owners, may lead to more effective monitoring by means of which contributing to higher performance; especially in less performing companies (Jensen, 1989).

The employee ownership (Poutsma & Nijs, 2003), can also have a positive effect on the performance of an enterprise, since employees who own shares of their company can more easily acquire its shares, increase their productivity and have interest to contribute to company's better results (Conte, 1998; Sengupta, 2008).

According to Schipper and Smith (1986), the equity carve out may have a positive effect on share price. The positive effect of equity carve out on enterprise performance was also proved by Hulburt, Miles, and Wooldrige (2002) and Hovakimian (2000).

A spin off may bring a long-term increase in total factor productibility related to costs saving (Chemmanur & Krishnan a Nandy, 2014) and its positive effect on increasing the performance of a mother company was proved by Daley, Mehrotra and Sivakumar (1997). Desai and Jain (1999) proved the same.

Another tool of how to improve the companies' performance is the sale of asset itself. The company management may sell assets not only for achieving operational efficiency but also in order to obtain the cheapest means to accomplish their objectives and Lang, Poulsen and Stulz (1995) confirmed the increase in the performance of companies whose performance was low prior the assets sales. Improved operational performance of an enterprise in selling of non-financial assets was also confirmed by Hillier, McColgan, and Werema (2005).

The last tool that is the subject of our research is cash pooling. It is a specific tool that is a means of finance control and management of a group of economically related companies the aim of which is to achieve the effective finance management and reduce interest expense and fees concerning bank services (Polster-Grull, 2004). Cash pooling may be used by companies to optimise a company financial situation or the situation of the whole group of companies (Jansen, 2011) to improve the performance.

Companies can improve their performance applying any of the methods of financial restructuring. These include mergers, acquisitions, leverage buyout, cash pooling, sale of assets, employees securities, equity carve out and spin-off. In todays globalised world and integration structures of European Union, these types of restructuring are carried out within a cross-border context, and they also have special tax aspects and consequences. This is particularly the issue of the international taxation of income and property, which the enterprises face within the cross-border context, because they generate revenue in two tax jurisdictions at least. Here we briefly describe such elements of a tax regime that occur in the income tax of enterprises that carried out any of the cross-border reorganizations.

An important tax element is a **corporate income tax rate**, which indirectly relates to any transaction concerning the financial restructuring. The tax rate itself can significantly influence the decision of an enterprise whether to carry out such transactions or not; on one side it is an income tax (Norbäck, Vlachos, & Persson, 2009), on the other side it can be a capital income tax (Ayers & Lefanowicz a Robinson, 2007), (Devereux a Griffith, 2003). The Slovak tax legislation only recognises proportional tax for legal entities, currently amounting to 22 %, which has been altered several times in recent years, mostly it has been raised.

When carrying out transactions such as mergers, acquisitions or division of companies, there are two important tax elements, income **taxation based on different asset valuation approaches and taxation of goodwill.** Within the EU, the tax legislation related to such transactions has been adjusted by means of Council Directive on income taxation related to cross-border company reorganisations. The Directive has been transposed into Slovak legislation. It allows taxpayers to carry out individual transactions in two ways. The first method is a transaction in nominal values, which is tax neutral. The second method is a transaction in real values, in which there is a quantification of valuation difference and its taxation. The given tax element may be offset by the other tax element, goodwill, which over the specified period can be depreciated and is a tax deductible item. Specially, the possibility to deduct goodwill is in practice a tax incentive for such transactions (Ayers & Lefanowicz a Robinson, 2007), since it allows companies to reduce the tax base significantly.

Taxation of dividends. A tax element of dividends taxation or dividends tax regime is closely linked to acquisition and leveraged buyout. The possibility of tax-exempt dividends is an important tax incentive to carry out such acquisition or leveraged buyout and this also affects the decision on the location of a successor company (Huizinga & Voget, 2009). This type of income may be taxed on through its inclusion in the tax base for income tax or capital gains tax and through a withholding tax as well. Avoidance of double taxation treaties and Directive 2011/96/EU on the common taxation system applicable in parent companies and subsidiaries in different member countries regulate the right of countries to apply a withholding tax and set its maximum. The specific feature of the Slovak tax legislation by the end of 2016 was non-taxation of received or paid dividends, which means no tax is imposed on any dividends, however, exceptions exist, and under certain circumstances, the tax is imposed on dividends. Specifically, the dividends considered tax expenditures by a paying taxpayer and also the dividends related to transactions aimed at law abuse are subject to tax.

Withholding tax. Another important tax element related to cross- border restructuring operations is a withholding tax on interest. In tax systems of many countries the interest paid abroad are subject to withholding tax. The tax rate is specified by law but it may be modified in favour of a taxpayer through double taxation treaty. In this case, specific agreements may modify the single states legislation on taxation of interest and set the maximum tax rate. The EU Member States in the interest taxation follow Council Directive 2003/49/EC of 3 June 2003 on the common taxation system applicable to the interest and royalty payments between related companies of different member states, which introduced the possibility to exempt interest from the withholding tax payment subject to certain conditions. Lack of options to reduce a tax rate could negatively affect cross-border transactions, as it would increase companies' tax expenditures (Howell, 1998).

Tax deductibility of interest. The interest taxation is directly related to the issue of their tax deductibility and opportunity to create interest tax shield. The interest tax shield represents tax savings that can be achieved by the companies through the recognition of paid interest on acquired foreign resources as tax expenditure. The amount of interest tax shield is a tax incentive to carry out transactions in which foreign capital is used (Roden & Lewellen, 1995; Newbould & Chatfield a Anderson, 1992). There could be acquisitions, leveraged buyout and cash pooling. The rules of thin capitalisation as measures against tax

motivated transactions, though these may have direct negative effect on the efficiency of funding (Kubicová, 2012). These rules limit tax deductibility, and in Slovakia they limit tax deductibility up to 25% of achieved EBITDA value in the case of related companies.

The interest on loans the enterprise used to finance the acquisition is the specific case of tax deductibility of interest. Since these expenditures do not meet the basic definition of tax expenditures pursuant to Slovak law on income tax, it cannot be tax deductible, thus they will not contribute to the creation of the interest tax shield. On the other hand, the expenses incurred in providing the employees with securities and also the costs of acquiring shares meet the conditions for the tax deductibility.

ALP principle and transfer pricing. Last but not least, the rules for transfer pricing are a very important tax element. The companies that carry out transactions with related parties have an obligation to apply arms´ s length principle (Grubert & Mutti, 1991) and prepare documentation for transfer pricing. The objective of conducting such duties was to prevent the abuse of transfer prices between related companies that used to transfer profits through such transactions to the tax jurisdictions with lower tax rates (Weichenrieder, 1996). Arm´s length principle is based on the comparison of conditions of business/financial relationship between related entities with the conditions the independent entities would agree on in similar relationships and under comparable circumstances. It follows that companies cannot unreasonably increase, as the case may be, reduce profits when carrying out in-house transactions. For transactions between related companies, this principle must be adhered to, which means it must be applied to paid interest and other in-house transactions. In setting the prices pursuant to arm´s length principle the OECD Guideline on transfer pricing should be considered.

Table 1 below summarises the tax consequences in terms of the Slovak tax legislation relating to cross-border transactions by which the companies can improve their performance.

Table 1

Presence of the Slovak tax law provisions applicable on the income arising from cross-border financial restructuring transactions

	Merger	**Acquisition**	**Leveraged buyout**	**Cash pooling**	**Sale of Assets**	**Employees 'securities**	**Equity carve out**	**Spin-off**
Withholding tax		**x**	**x**	**x**				
Tax deductibility of interest		**x**	**x**	**x**				
Thin capitalisation rules			**x**	**x**				
Dividend taxation		**x**	**x**					
Transfer pricing			**x**	**x**	**x**			
Valuation difference taxation	**x**							**x**
Amortisation of goodwill	**x**				**x**			**x**
Income tax rate	**x**			**x**			**x**	
Tax deductibility of expenses						**x**	**x**	

Source: authors' own work

The aim of our research in this article is to determine whether income tax affect the decisions of managers of Slovak companies to carry out financial restructuring through selected methods of financial restructuring. This paper aims to investigate, whether taxes on income and property affect the decisions of

managers of Slovak enterprises to carry out financial restructuring through selected methods of financial restructuring. To reach our main research goal we have formulated *three hypotheses* and test them. They are:

1. There are tax factors that are important for financial managers of Slovak limited liability companies in making decisions on cross-border transactions in order to increase their financial performance.

2. There are statistically significant differences in the perception of tax factors affecting decision-making based on the selected characteristics of the company.

3. Tax consequences of individual restructuring operations represent statistically significant obstacles to their practical application in business entities in Slovakia.

The structure of an article is as follows: part two provides review of results of the empirical literature concerning effects of taxes on various financial restructuring operations. It follows by the part three where it is placed description of methodology applied in the research, and data used. We built on knowledge of tax law in Slovakia and explain the structure and goals questionnaire used in the field research. Here there is description of a sample size and measured variables, explanation of the methodology applied in our research, namely an exploratory factor analysis, variance analysis and binary logistic regression. Part four presents empirical findings of our research and the part five interprets them in terms of three hypotheses mentioned above. Finally, there are the conclusion and discussion about potential implications of our research on tax policy in Slovakia.

2. REVIEW OF LITERATURE

This section provides an overview of the most important results of empirical research the subject of which was a tax context or consequences arisen from financial restructuring carried out by means of mergers or acquisition, leverage buyout, cash pooling, sales of assets, employees´ securities, equity carve out, and spin-off.

Corporate income tax as a tax incentive that can lead to mergers or acquisitions (M&As) was the subject matter of Norbäck and Vlachos a Persson (2009) studies. According to them, the company in a decision making process follows mainly tax objectives and when they decide to carry out M&As for tax reasons at the expense of non-tax reasons, it may lead to inefficient M&A. At the same time according to their conclusions, possible deductibility of goodwill is the next tax incentive that may affect the decision to implement M&A. In general, we can say that considerable difference in tax rates between two separate tax jurisdictions may motivate the company to merge and become a tax resident in the country with lower tax rate in order to tax profits at a lower tax rate.

Huizinga and Voget (2009) studied the option to exempt received dividends from taxation in M&A tax incentives. They noted that taxation/exemption of dividends may have considerable impact on the decision with regard to a successor company.

Foreign authors in their studies not only deal with M&As tax incentives that will mainly develop after M&As implementation, but they also examined tax incentives/impacts that relate direct to the transaction itself. Ayers, Lefanowicz and Robinson (2007) state that one of the factors which may influence the decision on M&As is the capital gains tax. In their research, they focused on the effects of the capital gains tax on the volume of implemented M&As with regard to traded companies in the USA, since they assumed that tax on capital gains is an additional cost of M&As implementation. Their assumption that the higher tax on capital gains, the higher cost of M&As implementation leading to a decrease in M&As volume was proved.

Kubicová (2012) believes that some rules related to the taxation of income within the cross-border cash pooling have negative impacts on the effectiveness of funding, e. g. thin capitalisation rules and the obligation to apply a market price in the valuation of interest.

Newbould, Chatfield and Anderson (1992) directly deal with the tax deductibility of interest. In their study their emphasised that tax deductibility of interest payments can be an important potential source of gains valuation with regard to LBO. Debt management issues and the resulting tax shield were elaborated by Roden and Lewellen (1995). The authors state that the amount of tax shield may be a motivation factor in LBO implementation.

Remuneration of employees plays important role in performance of companies and in restructuring decisions - it was shown by several authors, among them Gąsior (2015), Atanassov, and Kim (2009), Lettau (2003), and Osterman (2006).

As stated above, this paper aims to investigate, whether taxes on income and property affect the decisions of managers of Slovak enterprises to carry out financial restructuring through selected methods of financial restructuring. To reach our main research goal we have formulated three hypotheses and test them. They are listed in the introduction. To verify each hypothesis, we have drawn up a questionnaire in which we asked questions designed to determine whether a financial manager when deciding which tool of financial restructuring to use also considers its tax consequences.

3. DATA AND METHODOLOGY

Research tool

Our research has been conducted during the first quarter of 2016 using a sample of Slovak limited liability companies. Using an electronic field questionnaire survey we have collected responses from managers working in such companies. The questionnaire was voluntary and anonymous, and the companies we addressed were selected randomly. The questionnaire comprises of identification questions, questions on the national and cross-border transactions, and questions aimed at seeking opinions among the companies on single tax implications for cross-border transactions. We have formulated our questions based on our knowledge of tax impacts brought about after applying specific transactions pursuant to tax legislation of the Slovak Republic.

Sample

Our sample size is 216. Such sample sizes for the purpose of factor analysis comply with the recommendations of Comrey and Lee in terms of a minimum sample size according to an absolute indicator. Comrey and Lee (1992) present the scale referring to sample size as follows: 100 – poor, 200 – reasonable, 300 - good, 500 – very good. Gorsuch (1983) simultaneously states that the minimum sample size for the factor analysis purposes is given by evaluative determination of a sample size so that the number of observations should be 5 times the number of items in a questionnaire at least (Kubicová & Valková, 2016). The sample comes from the following population: the limited liability companies registered in a Commercial register that actively operate in Slovakia and at the same time their main economic activities pursuant to SK NACE classification is not mining and quarrying, financial or business activities, public administration and defence; compulsory social security insurance and arts, or entertainment and recreation.

Measured variables

We have analysed the views of managers of the limited liability companies through the answers to questions that were prepared in the form of Likert scale. We have applied 5- level scale of options from "absolutely disagree" to "absolutely agree". Prior to distribution of the questionnaire we conducted pilot

survey. The sample was 81 students of the University of Economics in Bratislava, including distant students already employed or running their business. Based on the pilot survey results we revised wording of some questions.

Table 2 below shows the structure of the field questionnaire questions that aimed at determining the respondents' views on tax context and implications in terms of cross-border restructuring. It presents computed mean and standard deviation of answers that were measured in a Likert scale.

Table 2

Questions in the questionnaire, mean and standard deviations of answers measured in Likert Scale

Abb.	Items	Mean	SD
T1	Should due to a cross-border transaction a withholding tax be imposed, our company will not carry out such transaction.	3,65	1,123
T2	If a withholding tax applied to tax income was compensated by other higher tax incentive, our company would not consider a withholding tax an obstacle to the completion of a cross-border transaction.	3,96	,937
T3	Our company would consider the reduction or complete elimination of a withholding tax on income a sign of removing an obstacle in the path of a cross-border transaction.	4,05	1,079
T4	Our company considers interest tax deductibility a positive tax effect of a cross-border transaction.	4,19	,870
T5	Provided the paid interest could not be recognised as tax expenses in full, our company would not prefer financing by means of foreign capital.	3,72	1,074
T6	The interest of our company to finance corporate reorganisation (e. g. acquisitions) by means of foreign capital would be lower if the interest costs attributable to the loan to finance acquisition were not recognised a tax deductible item.	3,73	1,026
T7	If due to a merger in real values the valuation difference was taxed on, our company will not carry out a merger.	3,68	1,010
T8	If there were not sufficient amount of goodwill in the merger process in real values, our company would prefer a merger in nominal values.	3,55	,839
T9	If the sufficiently high goodwill existed, our company would not consider the valuation difference taxation an obstacle to carry out a cross-border transaction.	3,52	,979
T10	We consider taxation on transfer of shares through income tax an obstacle to such transfer.	4,00	,972
T11	An opportunity to deduct tax expense in a cross-border transfer of shares will support the idea to carry out such transfer.	3,97	,881
T12	We consider taxation on income from the sale of assets through income tax an obstacle to the sale of assets.	3,70	1,023
T13	An opportunity to deduct tax expense in a cross-border sale of assets would support our decision to carry out such sale.	3,91	,890
T16	In our company, we would appreciate tax deductibility of expense associated with provision of employees' stock options.	3,66	,886
T17	In case of our transaction with a foreign associated company, we consider the obligation to quantify a market price an obstacle to such transaction.	3,51	1,104
T18	We do not consider the requirement to use prices common on the market in cross-border transactions with related companies an obstacle to such transactions. .	3,38	1,114
T19	The obligation to prepare a transfer pricing documentation if the company carries out transactions with associated companies is not considered an obstacle to such transaction by us.	3,09	1,238
T20	Our company would consider any taxation on received dividends due to the fact they arose as a result of tax planning an obstacle to make acquisition.	3,75	1,017
T21	Our company would consider any taxation on received dividends due to the fact they are not a tax expense for a taxpayer paying such dividends an obstacle to the acquisition.	3,76	,991
T22	The exemption of dividends from taxation is considered by us one of the factors supporting an acquisition.	4,13	,977

T23	If the corporate income tax rate is in a foreign country significantly lower than in Slovakia, our company would consider (or make) a transfer of business activities abroad.	3,43	1,233
T24	It the corporate income tax rate in Slovakia increases, our company would consider (or make) a transfer of business activities abroad.	3,49	1,228
T25	When deciding on any of the aforementioned cross-border transactions, a company would not decide in favour of it provided even a single tax implication would be perceived negatively.	3,32	,943
T26	When deciding on any of the aforementioned cross-border transactions, a company would not decide in favour of it provided two or more tax implications would be perceived negatively.	3,62	,971
T27	When deciding on at least one of the aforementioned cross-border transactions, our company would compute tax costs and future tax impacts.	4,05	,911
T28	When deciding on at least one of the aforementioned cross-border transactions, our company would discuss tax context with a tax consultant.	4,16	,922

Description of the research methods

To evaluate data gathered through the questionnaire, we have applied factor analysis. The factor analysis is one of the methods of multidimensional analysis and Charles Spearman and L. Thurstone are believed to be its main founders (Hendl, 2006). Spearman is the author of two-factor theory of intelligence according to which there is a common hidden - latent factor that is the cause of correlation between different variables, and he also assumed there are specific hidden factors that do not correlate with each other. Thustone extended Spearman´s model and, inter alia, he proposed criteria of simple structure for determining new factor system of equations. Other psychologists and statisticians also contributed to the development of a factor analysis (see Mulaik, 1987). Factor analysis is a statistical method aimed at describing the variance between observed correlated variables through a small number of latent variables. The aim of factor analysis is to demonstrate the relationship between measured and hidden variables and estimate the hidden ones. In our research, we applied exploratory factor analysis, the essence of which is to identify the smallest number of interpretable factors needed to explain the correlation between variables.

Prior the factor analysis itself, we conducted the test on correlation matrix, KMO and Bartlett´s test to confirm the suitability of our data obtained from the questionnaire survey. Then we performed the factor analysis, where we used the method of main components as an extraction method. The number of factors was determined by Kaiser´s rule (Kaiser, 1974). Finally, we performed the rotation of factors by means of Varimax method.

The method we applied following the results of factor analysis is a one-way analysis of variance (ANOVA). We used this method to identify the existence of differences in the perception of factors defined through factor analysis, based on different characteristics of a company. One-way analysis of variance serves to verify the existence of statistically significant differences between mean values of 3 and more independent groups. The basic assumption is homogeneity of variance.

We used the results of factor analysis when applying the last method of our research, a binary logistic regression. The binary logistic regression is to estimate the probability of our observations to belong to one or two categories of dichotomous predicted variable. We applied binary logistic regression in our research to verify statistical significance of extracted tax factors.

4. RESEARCH FINDINGS

Results of the exploratory factor analysis

To verify the adequacy of the data collected through the questionnaire responses in the field survey, we conducted KMO and Bartlett´s spherical test. The KMO test value is 0.863. According to Kaiser (1974), it is a commendable value. The Bartlett´s test is important at the Chi square = 2,914.940, p<0,000. The correlation matrix of items itself has shown there is a significant number of statistically significant correlation, and that there is strong correlation among the items.

Table 3 shows the results of factor analysis through the method of main components with Varimax rotation. The aim of rotation was to optimise the results for a final interpretation. Seven factors fulfilled the condition of Kaiser´s rule, which reads that its own number (eigenvalue) is higher than 1, and these factors explain cumulative 67.520 % of the total variance.

Table 3

Explanatory factor analysis results

	1	2	3	4	5	6	7
T25	,745						
T1	,734						
T26	,645						
T7	,640						
T5	,622						
T6	,586						
T17	,494						
T3	,443						
T21		,790					
T20		,765					
T22		,666					
T13			,691				
T10			,679				
T11			,661				
T12			,579				
T2			,529				
T16			,406				
T28				,826			
T27				,817			
T24					,879		
T23					,862		
T9						,755	
T8						,614	
T4						,460	
T19							,849
T18							,836
% of Variance	14,569	11,292	10,619	9,285	8,201	7,530	6,023
Cumulative % of Variance							67,520

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

We have tested the internal consistency of our results though the Cranach's Alpha test. The coefficient of Cronbach´ s Alpha test is 0.905, which means our data are intrinsically consistent. The value of this coefficient is in line with the recommendations of Eckstein (2012) and Carmines-Zelller (1979).

Results of the variance analysis

We have verified the existence of differences in the perception of the extractions of tax factors in terms of company size and debt ratio through ANOVA (variance analysis). The basic assumption of this method is the existence of homogeneity of individual factors. By means of homogeneity test, we have proved the existence of homogeneity of individual factors on the level of significance $\alpha = 0.05$. One-way analysis of variance revealed to us there are differences in the perception of factors 1 and 3 in the companies of different size. The companies with different level of indebtedness perceive factor 1 differently (see Table 4).

Table 4

ANOVA results

	Factor 1	**Factor 2**	**Factor 3**	**Factor 4**	**Factor 5**	**Factor 6**	**Factor 7**
Different size of a company							
F	6,738	1,543	2,773	,575	1,885	,569	2,366
Sig.	,000	,204	,042	,632	,133	,636	,072
Different level of indebtedness							
F	4,036	,839	,323	2,100	2,069	,602	1,868
Sig.	,004	,502	,862	,082	,086	,661	,117

By means of Tukey's post hoc test, we have identified statistically significant difference at significance level of α=0.05. There exist differences in the perception of Factor 1, comparing micro companies and medium-sized/large companies, or small and medium-sized/large companies. In terms of Factor 3, there are differences between small and medium-sized companies. We have identified statistically significant differences in the perception of Factor 1 by companies with different level of indebtedness; there are differences between the companies with the lowest and highest level of indebtedness.

Results of the logistic regression

For the purpose of verifying whether a tax factor identified though a factor analysis may be considered statistically crucial in deciding on the potential cross-border transaction, we used the method of binary regression where independent variables (F_1....F_7) are factor scores of identified factors and independent variable (Y) is a binomial variable (0-cross-border transaction has not been carried out, 1 – cross-border transaction has been carried out) and ε is a random component.

For these purposes, we have set the basic model as follows:

$$\text{Logit } (Y) = \beta_0 + \beta_1 F_1 + \beta_2 F_2 + \beta_3 F_3 + \beta_4 F_4 + \beta_5 F_5 + \beta_6 F_6 + \beta_7 F_7 + \varepsilon. \quad (1)$$

Applying a binary logistic regression through the method of reverse elimination we have obtained a model which provided us with statistically significant Factor 1. The process of reverse elimination took place in seven steps. Through the Omnibus test (Chi-square = 5.974, p = 0.015), at the level of significance α=0.05

we have proved that our model is statistically better than a zero model. At the same time, a high value of Hosmer - Lemeshow´s test (Chi-square = 4.996, p = 0.758) proves that this model is suitable to our data.

Table 5 shows the results of a binary logistic regression within which only Factor 1 appeared to be statistically significant.

Table 5

Logistic regression results

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 7[a]	F1	-,479	,196	5,973	1	,015	,619
	Constant	-1,989	,217	84,309	1	,000	,137

Substituting variables in the equation of a logistic model we get the following equation for a point estimate model:

$$\text{Logit}(Y) = \ln(p(Y=1)/p(Y=0)) = -1{,}989 - 0{,}479F1 \quad (2)$$

5. INTERPRETATION OF RESULTS

In this part there are shown findings linked to the three hypotheses that were formulated in the introduction of this paper.

Interpretation of extracted factors

The first hypothesis states: "*There are tax factors that are important for financial managers of Slovak limited liability companies in making decisions on cross-border transactions in order to increase their financial performance*." By means of exploratory factor analysis we have extracted seven tax factors that could pose a barrier to limited liability companies in carrying out cross-border transactions. These factors are outlined below and they are organised by their significance:

1. *Changes in the international tax planning measures;* this factor explains 14.569 % of the variance and consists of eight items. It is saturated by items which are subject to international tax planning in practice. Specifically it is a withholding tax, deductibility of interest, transfer pricing, valuation difference taxation, and the perception of a negative tax effect in legislation in a decision making process to carry out cross-border transactions within international tax planning. A withholding tax as a saturating factor is used for tax planning purposes in practice. By means of treaty shopping the companies are entitled to claim the benefits of particular double tax treaty (DDT), even though they are not residents of either contracting state. The companies try to be classified as entities entitled to use specific DTT, in particular, to benefit from the reduced tax rates, as the case may be no withholding tax on interest, licence fees or dividends (Grady, 1983; Li, 2012). Transfer pricing is also a tool of international tax planning by means of which the companies may transfer their profit to the tax jurisdictions with lower tax rates. To do so, they use modified transfer prices for transactions between related parties, which are contrary to arm´s length principle (Gravelle, 2015). Next important item saturating this factor are interest expenses which may be tax deductible. Graham (2006) based on empirical studies proved that the amount of the interest tax shield affects a tax planning strategy.

2. Tax Regime of Dividends; this factor explains 11.292 % of the variance and consists of three variables. The factor was given a name based on the fact that all variables that make it up fall in the dividends. This factor is saturated with the allegations about dividends, which show that any possible taxation (lack of taxation) of dividends may affect the decisions of a company; as the case may be taxation of dividends could constitute a barrier to limited liability companies to carry out a cross-border transaction.

3. Assets Tax Regime; this factor explains 10.619 % of the variance and consists of six variables. It is saturated with items aimed at the taxation of different types of assets. The wording of individual items suggests that companies may consider a property tax a barrier to a cross-border transaction.

4. Knowledge of tax consequences; this factor explains 9.285 % of the variance and is saturated with two items that aim to find out whether the companies when deciding on their transactions have sufficient and correct information on tax implications.

5. Income Tax Rate; this fifth factor explains 8.201 % of the variance and is saturated with two items that aim at the perception of a tax rate in Slovakia and abroad. This factor is well founded since the effect of a tax rate on the motivation to carry out certain transactions was also proved in empirical studies.

6. Tax expenditures; this factor explains 7.530 % of the variance and consists of two items. It is saturated with items that emphasise a potential tax deductibility of expenditures in case there should be a certain taxable income. Therefore, the lack of possibility to deduct tax expenditures may create an obstacle to carrying out a cross-border transaction.

7. Transfer Pricing; this seventh factor explains 6.023 % of the variance and consists of two items that both aim at the transfer pricing issues, namely the obligation to apply prices normal for transactions between related entities and the obligation to prepare documents on transfer pricing.

Interpretation of differences in the perception of extracted factors

The second hypothesis states: "*There are statistically significant differences in the perception of tax factors affecting decision-making based on the selected characteristics of the company*." To verify our second hypothesis, we have used a variance analysis. We have proved the existence of differences in companies of different size and companies with different indebtedness level.

With regard to the companies of different size, we identified significant differences in Factors 1 and 3, and regarding the companies with different indebtedness level we have identified the differences in Factor 1. Based on the statistical results, we can say that as for Factor 1, the bigger company, the less negative perception of this factor. It follows that micro and small companies perceive Factor 1 (*Changes in the international tax planning measures)* as a tax barrier or an obstacle to a cross-border transaction stronger.

With regard to the differences between small and medium-sized companies we can say that small companies perceive factor 3 (*Assets Tax Regime*) stronger as a potential obstacle to a cross-border transaction. That means assets tax regime is a potential barrier the small companies to carry out cross-border transactions.

In view of the existing difference according to indebtedness, we have identified differences between the most and least indebted companies in terms of factor 1 perception (*Changes in the international tax planning measures*). The companies with lower than 20% indebtedness perceive this factor more negatively than the companies whose indebtedness is higher than 80 %. In this case the least indebted companies perceive Factor 1 (*Changes in the international tax planning measures)* as a barrier to cross border-transactions.

These findings of our research have also been proved by the outcomes of a questionnaire survey that aimed to obtain responses of Slovak entrepreneur and family business to a questions "What is the biggest obstacle to conducting business within the international context in your opinion?", where the respondents

opted for one of eight areas including tax risks, lack of knowledge of foreign market business environment, financing the business overseas, and other. Up to 25% of respondents opted for tax risks arising from legislation (changing tax laws, the combination of various tax regimes) as the biggest barrier (PWC, 2014).

Interpretation of binary logistic regression results

The third hypothesis states: "*Tax consequences of individual restructuring operations represent statistically significant obstacles to their practical application in business entities in Slovakia."* Based on the verification of the extracted factors statistical significance by means of binary logistic regression, we can present the results proving that from among tax factors that we had identified through exploratory factor analysis only Factor 1– *Changes in the international tax planning measures* - is statistically significant. As the value of Exp (B) in Factor 1 is 0.619, i. e. it is less than 1, it means that the chance to carry out a cross-border transaction gets lower with higher values in Factor 1. It follows that there is 95 % probability that Factor 1 – *Changes in the international tax planning measures* is very important in deciding on cross-border transactions of limited liability companies. We can say that Factor 1 will significantly affect (reduce) the possibility that a company is to carry out a cross-border transaction. It follows that the limited liability companies will reduce their interest to use cross-border transactions for the purposes of financial restructuring if the anti-tax-avoidance measures recently proposed by OECD and EU are introduced in the Slovak legislation as a part of the fight against tax evasion.

6. CONCLUSION AND POLICY IMPLICATIONS

In our research we examined the effects of tax factors on decision making process in limited liability companies in terms of cross-border transactions. We conducted the research though a field questionnaire survey within which we developed a questionnaire which we then distributed among the Slovak limited liability companies' managers.

Making the exploratory factor analysis, we extracted seven tax factors the limited liability companies could face with as a barrier to carry out cross-border transactions. Specifically, there are following factors: Changes in the international tax planning measures, Dividends tax regime, Assets tax regime, Knowledge of tax consequences, Income tax rate, Tax expenditures, and Transfer pricing. These factors represent potential obstacles to cross-border transactions aimed at better performance of Slovak companies.

Subsequently, performing the variance analysis we proved the existence of differences among the companies of different size and companies with different level of indebtedness. We found that micro and small companies perceive Factor 1 (*Changes in the international tax planning measures*) as a barrier or tax obstacle to a cross-border transaction stronger.

With regard to the difference between small and medium-sized companies, we can state that small companies perceive Factor 3 (Assets tax regime) as a potential obstacle to carry out a cross-border transaction stronger. In view of the existence of differences by indebtedness, we identified the most and least indebted companies perceive Factor 1 (*Changes in the international tax planning measures*) differently. In this case the least indebted companies perceive Factor 1 (*Changes in the international tax planning measure*s) as an obstacle to cross-border transactions stronger.

Using a binary logistic regression we proved the impact of international tax planning tools on deciding about possible cross-border transactions, since such tools saturate Factor 1, which as the only factor was statistically significant.

Individual items that saturate Factor 1 are the subject of current anti-tax-avoidance initiatives of OECD and EU. The adoption of such measures may cause that limited liability companies will reduce they interest in carrying out cross-border transactions because they perceive such measures as a tax barrier. We have

shown that companies are very sensitive to even one negative change in tax legislation and they tend to change their decision in terms of cross-border transaction related to international tax planning. The companies also respond sensitively to the amount of tax rate that is a precondition of treaty shopping. The initiative of OECD (BEPS) through Action 6 proposes new anti-abuse rules against tax benefits provided under unfair circumstances, specifically determines the need to introduce limitation-of-benefits rule and the principal purposes test rule. Another item that saturates Factor 1 is tax deductibility of interest, in terms of which a rule to tighten their tax deductibility is proposed. EU adopted proposed measures from BEPS programme, the aim of which is to recognise only net interest up to 30% of EBITDA or up to 1 million EURO as tax deductible, whichever is higher. Transfer pricing is the next item saturating the factor 1. In this case it is an item that is the subject of OECD initiative within Actions 8-10 of BEPS plan. Action 8 focuses on quantifying a market value in terms of intangibles, Action 9 focuses on the allocation of risks and profits and Action 10 concentrates on other areas, where the arm´s length principle is not followed. The adoption of more stringent measures with regard to transfer pricing– as a Factor 1 saturating item, may also constitute barriers to cross-border transactions.

It follows that current Slovak legislation setting is good for carrying out cross-border transactions. However, the introduction of OECD and EU measures against international tax planning will result in limited liability companies perceiving such measures as barriers to cross-border transactions aimed at increasing their financial performance, thus reducing such transactions. Smaller companies would perceive the possible adoption of such measures more sensitively than big companies. When comparing small companies with big ones, we can say that big companies carry out cross-border transaction to enhance their financial performance trough international tax planning more often than small companies. Therefore, it is necessary to analyse to what extent the measures against the international tax planning can achieve its purpose and affect specifically the companies that abuse international tax law.

The results of our research are limited since they relate solely to limited liability companies, which are the most common legal form in Slovakia. For the purposes of further research we recommend to add other legal forms, especially joint-stock companies that often carry out cross-border transaction in practice. Our results are at the same time limited to the sample size, which was 216, though meeting the basic recommendations for the purpose of factor analysis. However, for the purposes of further research it would be appropriate the sample size be much higher. Last but not least, the use of a field questionnaire survey means the limits to the research, as the correctness of the results might have been affected by misunderstanding by the respondents over the wording of questions. To minimise such error we have conducted pilot testing of a questionnaire.

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