

## **Dividend Taxation in Slovakia and Its Impact on FDI Inflow**

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**Abstract:** *Dividends taxation is important for both, corporate finance managers as well as for external investors who take care about their net investment return. Dividends taxation represents cost of capital and on the other hand, it influences investors' decisions to invest and provide financial resources to public limited company. Dividend taxation causes double economic taxation, which rise cost of capital and has adverse effect on foreign direct investment inflow. There are several possible systems how to tax dividends, overall they can be classified to classical, extreme and hybrid systems. To attract foreign investors, improve business environment and enhance fairness of taxation, Slovak government adopted rule under which since 2004 dividends have not been taxed anymore. However, in times of financial crisis potential tax revenues coming from taxation of dividends could improve total government tax revenues and assist in cutting government budget deficit. The purpose of this study is to find out whether dividend taxation is statistically significant determinant of foreign direct investment inflow to Slovak republic. We analyze potential impact of imposition of tax on dividends on foreign direct investment inflow to Slovakia. To fulfil our research task, we employ system of linear equations. Our research suggests that if Slovak government adopts other than extreme system of taxing dividends making them subject to tax, it will have statistically significant adverse effect on foreign direct investment inflow to country. Based on our research results we do not recommend any change to dividend taxation in Slovakia.*

**Keywords:** *dividends, tax rates, foreign investment, system of linear equations.*

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### **1. INTRODUCTION**

The issue of taxation system of profit sharing is an integral part of the systems questions of corporate profits tax. In this paper we investigate the system of taxation of profit sharing in the Slovak Republic (hereinafter SR) and its impact on the foreign direct investment inflows (hereinafter FDI) to the Slovak republic. Profit shares in redemption phase to shareholders, we can name as dividends, these terms are here considered like synonyms. Dividends taxation is important for both, corporate finance managers as well as for external investors who take care about their net investment return (Collins, et al, 2000), (Darren, 2011). Dividends taxation represents cost of capital and on the other hand, it influences investors' decisions to invest and provide financial resources to public limited company (Dhaliwal, et al, 2005). Dividend taxation causes double economic taxation, which rise cost of capital and has adverse effect on foreign direct investment inflow (Hartman, 1985) (McDonald, 2001) (Bradford, 1981).

During development several systems of taxation of profit were arisen (Graetz, et al, 2007). Historically, the first is the classical double layer system profit taxation, at which profit is taxed at the level of corporate tax and then it is possible profit after taxation by corporate tax to distribute to shareholders - to physical entity or to legal persons. At the shareholders' level, the share in profit is taxed either by a personal income tax or by a corporate tax – depending on whether the ultimate owner of the received dividends is physical entity or to legal person. The advantage of the classical double layer system of profit taxation is that the profit is taxed at both levels – at the level of the corporation, which *de iure* artificial person is created by shareholders; they created a holding corporation as an artificial person for its undisputed advantages<sup>1</sup>. We incline to the assessment that

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<sup>1</sup> One of the advantages of doing business through a legal entity is a complete separation of the property of such person from its shareholders or members. Legal entity is responsible for the claims of creditors only to the extent of its assets.

this system properly taxing profits at both levels, it is based on the logic that the both levels of taxation of profits creates one unified system of taxation of profit. The indisputable advantage of the classical system is the inability to circumvent the taxation of profit in case of generating profits by non-residents in the territory of the host state. The classical double layer system ensures that the profit generated by a non-resident in the host country will be taxed at least a corporate tax, and in the its second part – shares in profit after taxation by a corporate tax paid by non-resident into abroad – may be taxed in the State of residency of real owner of the received profit-sharing. Article 10 of the OECD Model Convention (hereinafter MC OECD) is referring to the logic of classical double layer system of taxation of corporate profits, which states the method of allocating the right to tax dividends between State residency of the real owner of dividends received and source State of the paid off dividends.

Critics of the classical double layer system oppose that the system of taxation of the corporate profits evokes economic double taxation and they propose its modification, hybrid systems or extreme systems of the taxation of corporate profit. Modified classical double layer system of taxation of corporate profits reduces the problem of double economic taxation of corporate profits, so that the nominal tax rate for the taxation of dividends at the shareholder level is lower than tax in other categories of personal income such as wages, received interest, royalties and others, which are also taxed by personal pension tax, we're talking about a specific tax rate.

Extreme systems of taxation of corporate profits are those which completely eliminate the taxation of profits at one of two levels. Either the corporate tax is unapplied or dividends are not taxed by personal pension tax at the shareholder level. The system of non-taxation of dividends at the shareholder level (no shareholder taxation of dividends, NST) belongs to the extreme systems when corporate profit is not subject of any other taxes, except corporate tax.

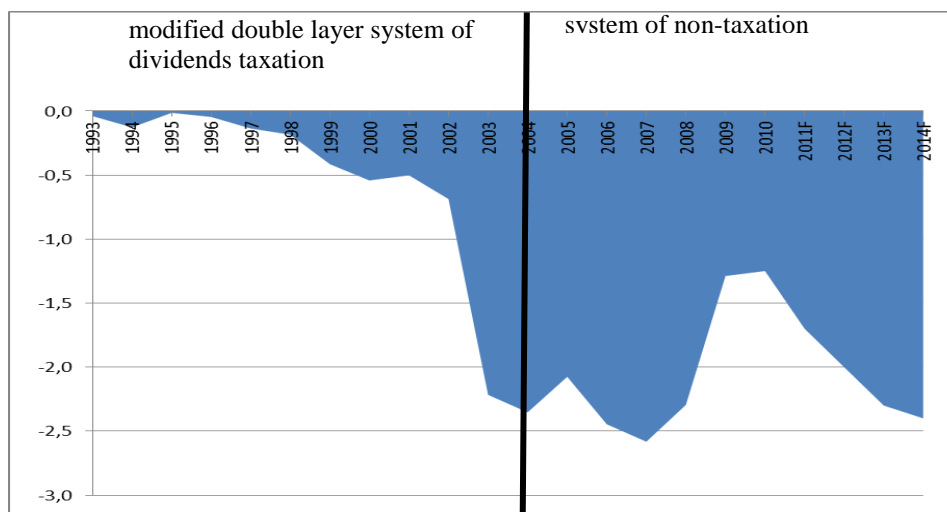
The objective of hybrid systems of taxation of corporate profits is achieve simultaneously preserving of the double layer system of taxation of profits, but also to reduce or eliminate economic double taxation which is its result. Profit taxation by means of the corporate tax and by personal income tax is combined with appropriate techniques that lead to the elimination of double taxation as a result of economic double layer taxation or at least mitigating of the rate of the double economic taxation. Through complicated way they seek to achieve a preservation of the double layer taxation of the profits, and simultaneously the elimination of double economic taxation. This includes a system of total or partial imputation, partial inclusion of dividends into taxable income of the shareholder and a system of deduction of dividends for calculation the tax base of corporate tax, as is the case of interests, on the corporate level.

Up to tax reform, which is effective since the 1<sup>th</sup> January, 2004, in the Slovak Republic was applied *modified* double layer system of taxation of corporate profits. Dividends were a subject of taxation with a specific tax rate at the level 15 %, while other categories of personal income tax were covered by the nominal tax rate on personal income, which was progressive, in average about 36 %, and in the case of the corporate tax rate it was 25 % of the corporation tax. Since the 1<sup>th</sup> January, 2004 in the Slovak Republic was introduced an *extreme* system of taxation of corporate profits – dividends are not subject of the income tax at the level of shareholders (no shareholder taxation of dividends, NST). SR so along with Estonia creates between a pair of states of the OECD countries, which has introduced a system of NST. System of taxation of dividends in the SR goes beyond the rules of taxation of dividends, which are covered by Council Directive 90/435/EEC of 23<sup>rd</sup> July, 1990 on the common system of taxation applicable in the case of parent companies and subsidiaries in the different Member States.

Proponents of NST system of profit taxation argued, firstly, by the need to eliminate double economic taxation in particular with aim to increase the attractiveness of Slovakia for foreign investors because dividends payout to non-residents into abroad is one of the forms through which foreign investors can repatriate profits generated by their investments in Slovakia as host State (State source). If dividends payouts are not subject of the withholding tax at source, it may reduce the effective rate of taxation of profits. Secondly, the argument in favor of NST system consisted of a need to simplify the tax system by removing many exceptions, including differences in the level of standard and specific nominal tax rates for different categories of income. The system of progressive personal income taxation was changed to proportional system, it was introduced proportional taxation and with it also one unified level of the tax rate of corporation and individuals at the level 19 %.

## Dividend Taxation in Slovakia and Its Impact on FDI Inflow

Dividend payout to foreign beneficiaries of non-resident SR are recorded in the balance of investment income, which together with the balance of workers' compensation, it creates balance of income and it is a part of the current account balance<sup>2</sup>. As it is shown in figure 1, that since 2004 the negative balance of payments of investment income from Slovakia to abroad is continuously increasing.



**Fig1.** The balance of investment income in the current account of the balance of payments in Slovakia (mil. SKK)

**Source:** Author. Based on data from the National Bank of Slovakia

**Note:** Data are presented according to data revisions in December 2005 and February 2007. Data from 1st January 2009 are recalculated in euro through exchange rate 1 EUR = 30.126 SKK.

Our motivation for this research builds on the this intuition: The preferred system of taxation of dividends, when in Slovakia is not applied withholding tax at source, may motivate to increasing of dividends payout to non-residents into abroad, which are reflected in the balance of payments by growth of negative balance of revenues from investment income. Therefore, the current system of taxation of dividends could act as a positive factor for the inflow of foreign direct investment into Slovakia. This assumption additionally is strengthened by the fact that at international tax planning, the tax jurisdiction that does not tax dividends is popular as complementary tax jurisdiction to tax jurisdictions with high tax burdens. In this case there can be created such tax and business structures, which lead to a reduction in tax liabilities or also to international tax avoidance due to the international double non-taxation. With regard to necessity to find other options for increasing government budget revenues appear votes of politicians and economists, who as an option to increase tax revenues propose *reinstating the taxation of dividends*. Therefore it is subject to our research to analyze, whether the reintroduction of the taxation of dividends in SR, which would increase tax revenues to the government budget, would not adversely affect to inflow of foreign direct investment to Slovakia.

## 2. METHODOLOGY AND RESULTS

The objective of this paper is to identify the influence of taxation of dividends to inflow of FDI in Slovakia. Through applying the method of linear equations we examine the impact of implicit capital income tax rate change on FDI inflows into Slovak republic. For concise explanation of multi-equation linear models see for example Lopez (2013).

The *model* is equation or group of equations, which together describe the relationships between sets of variables. Equations in the model may come from different resources: they may be simple identities, or may be the result of estimation stochastic equation.

In the model we can see two types of variables: endogenous and exogenous. The *endogenous* variables are the variables that are determined by model, *exogenous* variables are the variables, which are determined outside of the model. In general, a simple model we can enter:

<sup>2</sup> Current account balance further includes trade balance, services balance and the balance of current transfers.

$$F(x,y) = 0 \quad (1)$$

where  $y$  is the vector of endogenous variables,  $x$  is a vector of exogenous variables, and  $F$  is the vector of the actual values of the functions  $f_i(x, y)$ . In order to have a model solution, in general, should be composed of as many equations as the number of endogenous variables. Every equation in the model we should be able to enroll in the form:

$$y_i = f_i(x,y) \quad (2)$$

where  $y_i$  is an endogenous variable assigned to the variable  $i$ . Any variable that is not identified as the endogenous variable is considered to be an exogenous variable in the model.

Two types of equations can be in the model: stochastic and identities. Identities are those equations in which, if they are applied to real data, we expect full force. Stochastic equations are also expected to have validity only to random error. Stochastic equations are usually the result of statistical estimation methods, while accounting identities are an expression of the relationships between variables (Quantitative Micro Software, LLC., 2009 : 512).

## 2.1. Data

In linear equations our model consists of there are employed several macroeconomic indicators.

*Gross domestic product and its components.* The individual components of the gross domestic product are significant macroeconomic aggregates. We assumed that on the competitiveness of the economy as well as on the amount of tax revenue and efficiency of taxation will have a statistically significant effect a creation of the gross domestic product and its components. We were thinking that net exported goods could be a variable that can represent the competitiveness of the Slovak economy, or by statistically significant way to affect an inflow of the foreign direct investments. Due to above mentioned reasons, we include into our linear model well-known equation/identity, which is gross domestic product and its components. Data sources are national accounts on an annual basis for the period 1995-2009.

*Labor market.* Before the final assembling of the basic linear model, we examined several hypotheses about the possible impact of labor market indicators on the competitiveness of the Slovak economy as measured through inflow of foreign direct investments. We examined the possible impact of the average nominal and real wages, employment, unemployment, labor productivity per unit of labor input, unit labor costs to inflow of direct foreign investments, these influences in combination with the tax variables did not show as statistically significant.

*Inflation.* Before the final formulation of the model, we examined the sensitivity of direct foreign investments to indicators of price stability. We examined the consumer price index (CPI), net inflation, the harmonized index of consumer prices (HICP), and the producer price index (PPI).

*The external environment.* We included also indicators of the external environment in the preliminary examination of the sensitivity of foreign direct investments and efficiency of taxation. We examined the possible sensitivity of FDI to export of goods and services, import of goods and services, trade balance, balance of income, current transfers and balance of the current account of payment balance.

*Inflow of foreign direct investments.* Competitiveness of the Slovak economy is one of the objectives to be achieved or maintained at the present-day level. Our research is built on the assumption, that one of the most appropriate indicator of the competitiveness of the Slovak economy is the inflow of foreign direct investments.

*Taxes.* Effectiveness of taxation in practice is monitored through several tax indicators, of which the most important are tax quota one and tax quota two. Taxation on production and imports are a part of the calculation of the tax quota one, where we include value added tax, further a group of taxes on income and property and capital taxes. To estimate possible effect of changes in dividend taxation on FDI inflow we employed the implicit tax rate on capital. As there is opposite relationship between savings and consumption, in addition to capital income taxation we employed also the implicit tax rate on consumption – in both cases a unit of measure are percentages.

After a preliminary examination, the sensitivity of foreign direct investments on various economic variables, we have compiled a basic model with application variables presented in Table 1.

## Dividend Taxation in Slovakia and Its Impact on FDI Inflow

**Table1.** Variables in the model

Indicator	Label	Period	Source
gross domestic product at constant prices	HDPSC	95 - 09	Eurostat, SO SR, IFP
final consumption of households, including NPISH's	CONSHSC	95 - 09	Eurostat, SO SR, IFP
gross fixed capital formation	CAPSC	95 - 09	Eurostat, SO SR, IFP
government final consumption	GOVSC	95 - 09	Eurostat, SO SR, IFP
export of goods and services at constant prices	EXPSC	95 - 09	Eurostat, SO SR, IFP
import of goods and services at constant prices	IMPSC	95 - 09	Eurostat, SO SR, IFP
change in inventories	STCKSC	95 - 09	Eurostat, SO SR, IFP
inflow of foreign direct investments	FDI_SK	95 - 09	UNCTAD
tax quota 1	DKV1	95 - 09	Ministry of Finance of the Slovak Republic
producer price index	PPI	95 - 09	Eurostat, SO SR, IFP
Implicit tax rate on consumption (%)	TXRIMPCONS	95 - 09	Eurostat , IFP
Implicit tax rate on capital (%)	TXPIMPLCAP	95 - 09	Eurostat, IFP

**Notes:** SO SR is the Statistical Office of the Slovak Republic, IFP is the Institute for Financial Policy in the Ministry of Finance.

### 2.2. Basic Model

Based on the review of the topic of avoiding on income and wealth tax, but also taking into account the real possibilities to measure the presence of such measures, we assembled a basic model:

$$\text{HDPSC} = \text{CONSHSC} + \text{CAPSC} + \text{GOVSC} + (\text{EXPSC} - \text{IMPSC}) + \text{STCKSC} \quad (3)$$

$$\text{FDI\_SK} = C(1) + C(2) \cdot \text{DKV1} + C(3) \cdot \text{PPI} \quad (4)$$

$$\text{DKV1} = C(1) + C(2) \cdot \text{TXRIMPCONS} + C(3) \cdot \text{TXPIMPLCAP} \quad (5)$$

Keep to the assumption that the stochastic equations in the basic model are linear, so we estimated by a linear regression analysis method. The results of estimation are presented in table 2 and 3.

**Table2.** Results of linear regression analysis of equation (4) of the basic model

Dependent Variable: FDI_SK				
Method: Least Squares				
Sample (adjusted): 1995 2009				
Included observations: 15 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7551.321	2507.970	3.010930	0.0108
DKV1	-324.0239	127.3749	-2.543860	0.0258
PPI	236.8742	83.90063	2.823271	0.0154
R-squared	0.514285	Mean dependent var		2167.358
Adjusted R-squared	0.433333	S.D. dependent var		1627.024
S.E. of regression	1224.780	Akaike info criterion		17.23577
Sum squared resid	18001033	Schwarz criterion		17.37738
Log likelihood	-126.2682	Hannan-Quinn criter.		17.23426
F-statistic	6.352924	Durbin-Watson stat		2.216107
Prob(F-statistic)	0.013131			

**Table3.** Results of linear regression analysis of equation (5) of the basic model

Dependent Variable: DKV1				
Method: Least Squares				
Sample (adjusted): 1995 2009				
Included observations: 15 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.075882	1.019267	4.979934	0.0003
TXRIMPCONS	0.351817	0.074482	4.723527	0.0005
TXPIMPLCAP	0.310648	0.031366	9.903966	0.0000
R-squared	0.985573	Mean dependent var		19.72000
Adjusted R-squared	0.983169	S.D. dependent var		2.594555
S.E. of regression	0.336602	Akaike info criterion		0.837028
Sum squared resid	1.359614	Schwarz criterion		0.978638
Log likelihood	-3.277707	Hannan-Quinn criter.		0.835519
F-statistic	409.9004	Durbin-Watson stat		2.216417
Prob (F-statistic)	0.000000			

We solved the basic model by method of the static-deterministic simulation according to the Gauss-Seidel. Stability of the model can be verified by examining its ability to sufficiently accurately predict the development of endogenous variables for at least one period ahead. The results of the basic model can be assessed on the basis of visual inspection - through a graphical representation and comparison of actual data with the estimated results of the basic model (Fig). On the basis of graphs we can compare the predictive ability of our basic model. In the case of the endogenous variable *DKV1 (tax quota one)* is the ability of the basic model very good, the trend of current and estimated data is the same and there is no considerable variation between them. In the case of the second endogenous variable, inflow of foreign direct investments into the Slovak Republic, the efficiency of the basic model that we assessed on the basis of a comparison of actual and estimated results is less satisfactory, since in the two sub-periods during the period 1995 - 2005 we failed to achieve a convincing level of correlation and covariance of actual and estimated data. The coefficient of determination estimated equation indicates that 50 % of inflow of foreign direct investments is explained by two exogenous variables. Because from point of view of our research, it is essential that endogenous variable tax quota one is in equation for foreign direct investments significant, we decided to continue in modeling with this system of equations.

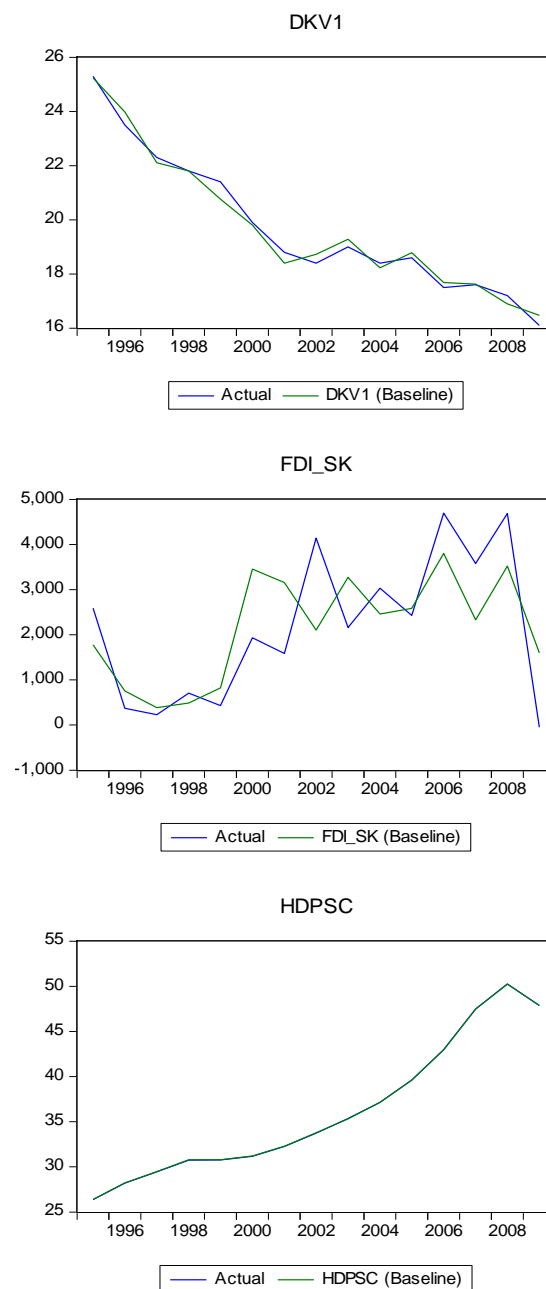
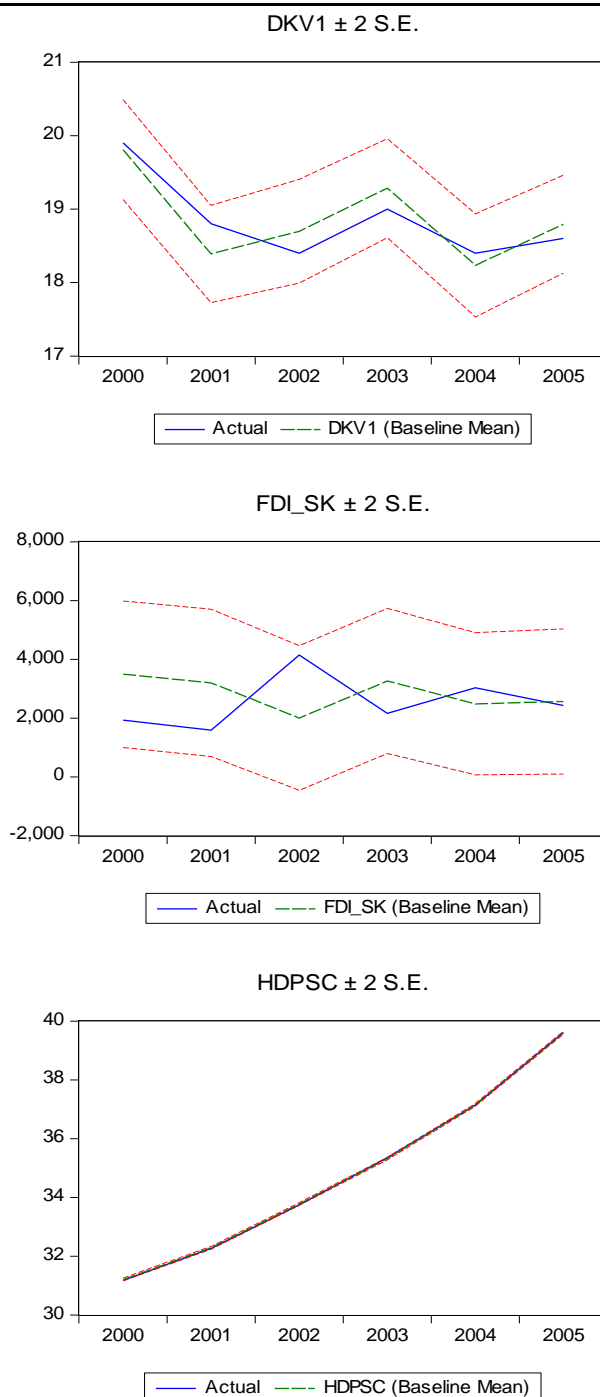


Fig2. Assessment of the predictive ability of the basic model

Source: author



**Fig3.** Assessment of the predictive ability of the basic model, taking into account uncertainty (stochastic simulation)

**Source:** author

Another way to assess the quality of the basic model is to assess the predictive ability of the basic model, if we include into the prognosis an element of uncertainty. In this case it is necessary to carry out stochastic simulation with a dynamic solution by method of Gauss-Seidel. Results of stochastic simulation and prediction of the basic model of endogenous variables of the model with the inclusion of uncertainty presumption are presented in Fig.

### 2.3. Alternative Scenario

Part of the modeling is examination of the results of simulations involving different, dissimilar assumptions about the exogenous variables than those which are considered by the *basic scenario*. Summary of certain specific assumptions about the variables in the model is marked as *scenario of the model*. Scenarios allow you to examine how the results of the basic model are changing, depending on how assumptions about variables in the model are changing.

After we have verified the performance of the basic model, therefore its predictive ability against known historical data, we refer to the fact that we have a basic model used to simulate situations in which we change the selected assumptions of the basic model. Individual changes in assumptions of the basic model we will formulate into scenario. The scenario it means the marked basic model, in which we changed the selected requirements, so that we can examine how changes in the assumptions of the model affect to the results, which were indicated by the basic model. Formulation and examination of the results of several scenarios allows compare results between them. Changes in assumptions in the scenario, within the scope and objective of our research will focus on the introduction of measures against tax avoidance, to determine their potential impacts as well as the size comparison, the significance of their impact on the competitiveness of the Slovak economy. This should allow us to make a choice as to the measures that would have the least negative impact on the competitiveness of the Slovak economy while maintaining or even improving the efficiency of taxation.

*Formulation of alternative scenario.* Change in this scenario in comparison with the basic model consists in increase of the implicit tax rate on capital taxation (TXPIMPLCAP) from the current level of 17.1 % to level of 25 %. Such an increasing could result from the reintroduction of the taxation of dividends. The results of the original basic model indicate a negative sign and statistical significance of the sensitivity of foreign direct investment to changes in the implicit tax rate on capital. After changing the assumption about TXPIMPLCAP we examine the results of this model:

$$HDPSC = CONSHSC + CAPSC + GOVSC + (EXPSC - IMPSC) + STCKSC \tag{6}$$

$$FDI\_SK = C (1) + C (2)*DKV1 + C (3)*PPI \tag{7}$$

$$DKV1 = C (1) + C (2)*TXRIMPCONS + C (3)*TXPIMPLCAP\_1 \tag{8}$$

In Fig there is a comparison of the actual amount and of the proposed implicit tax rate on capital after introduction of the assumed re-taxation of dividends and thin capitalization rules. Consequently in Fig is shown course of the actual and estimated data of observed endogenous variables - inflow of foreign direct investment and tax quota one.

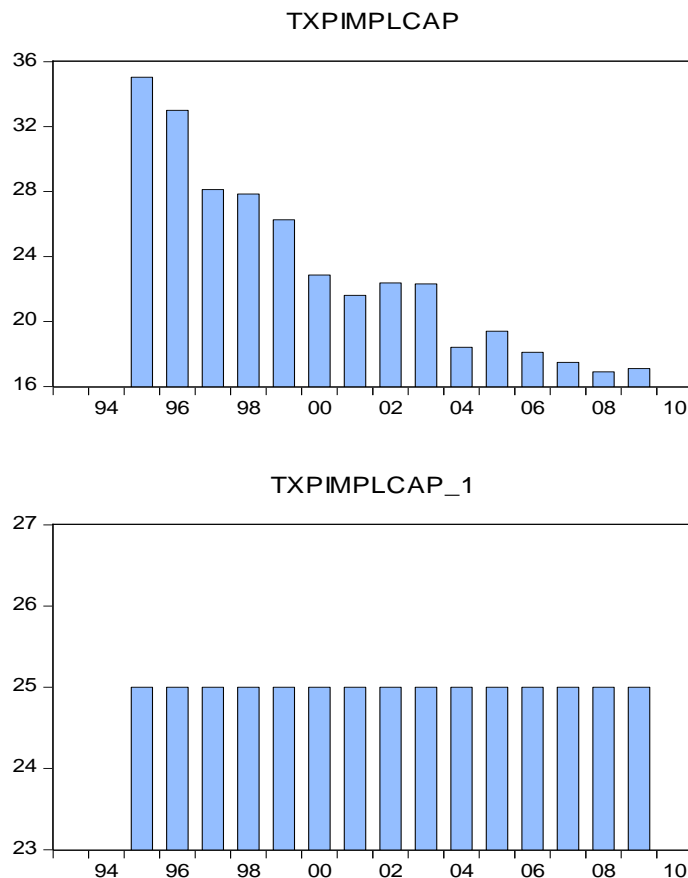


Fig4. Comparison of actual and proposed levels of implicit tax rates on capital

Source: author



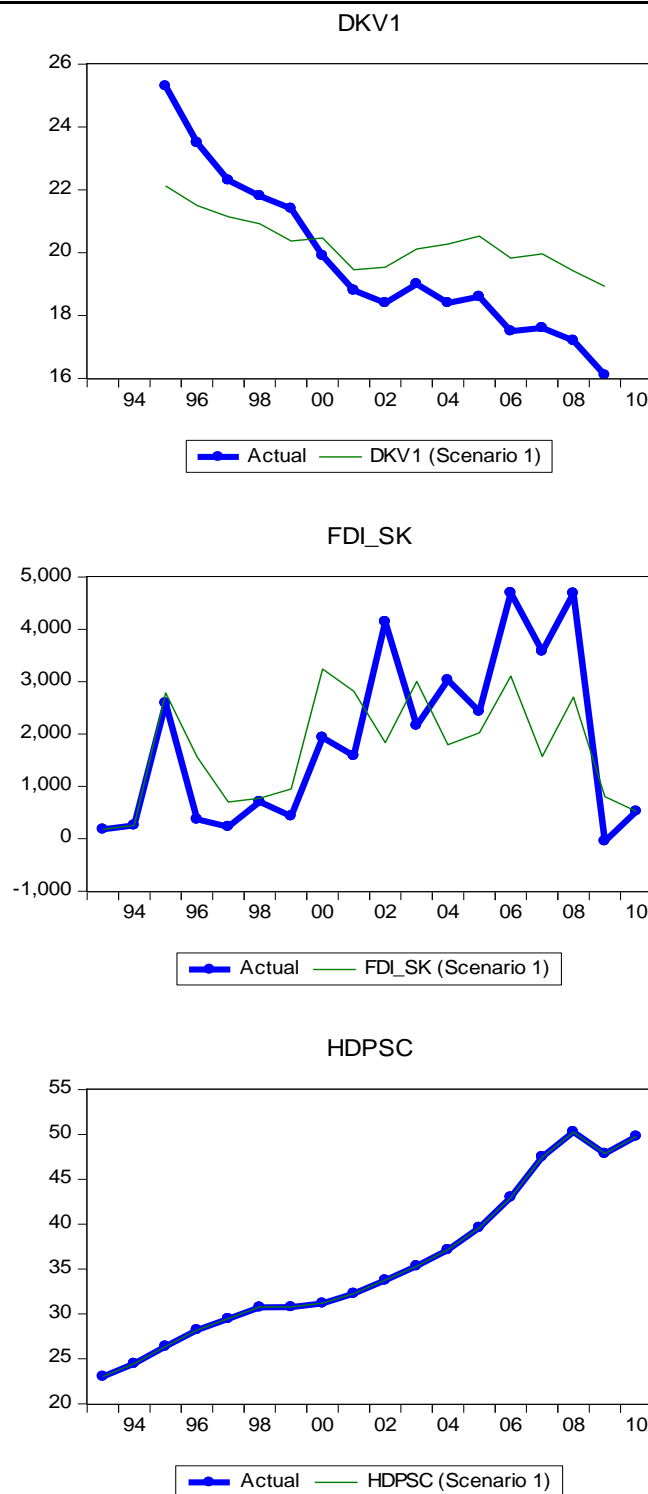


Fig5. Results of alternative scenario

Source: author

### 3. CONCLUSIONS

The purpose of this study is to find out whether dividend taxation is statistically significant determinant of foreign direct investment inflow to Slovak republic. We analyzed potential impact of imposition of tax on dividends on foreign direct investment inflow to Slovakia. To fulfil our research task, we employed system of linear equations. Based on our research results we do not recommend any change to dividend taxation in Slovakia.

First, we constructed a basic of the two endogenous variables: inflow of foreign direct investments and tax quota one, which is a criterion of the efficiency of taxation. To evaluate possible effects of changes in dividend taxation, the model employs implicit tax rate on capital expressed in percentage.

The basic model has proved to be relatively stable, so we used it to evaluate of the alternative scenario. In comparison with the basic scenario we changed the assumption on the amount of the implicit tax rate on capital so that we increase its level to a level that would be achieved after the reintroduction of taxation of dividends in Slovak Republic.

The results of the alternative scenario implies, that in the case of the re-introduction of dividend taxation in Slovakia, it would lead to a substantial reduction in inflow of the foreign direct investments in Slovakia while on the other hand, it would be significantly increases the efficiency of taxation measured by the tax quota of one.

Our research suggests that if Slovak government replaces current extreme system of taxing dividends making them subject to tax, it will have statistically significant adverse effect on foreign direct investment inflow to country.

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