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AN OBSERVATION ON THE EFFECTIVE TAX RATE FOR CORPORATE INCOME IN ROMANIA

***Abstract:** In the global economy, taxation is an important factor in the decision making process, especially for investment projects implementation in one state or another. Therefore, the level of corporate tax, providing tax relief, tightening the tax system may be elements that lead to fiscal competition between states to attract investments. Therefore, not the statutory tax rate, but the effective tax rate on profit is relevant in determining the tax benefits for a country. This paper aims to analyze the relationship between effective tax rate and statutory rate, based on the results recorded by the companies listed on Bucharest Stock Exchange during the period 1997-2009. It demonstrates that the unique statutory tax rate is a theoretical concept, and the effective rate differs from this level. Basically, the key element in calculating the corporate income tax is given by the deductibles.*

***Keywords:** corporate income tax, unique tax rate, emerging economies, Romania*

JEL Classification: H22, H32

1. Introduction

The world economy became increasingly integrated and institutional barriers in the way of foreign direct investment have been reduced or even eliminated. However, there are still distortions in the optimal allocation of capital. Differences between countries in terms of corporate taxation remain a key factor of disequilibrium, reducing overall economic efficiency. There are two manners to reduce these imbalances. The first one relates to coordination of government policies, but no significant progress is done (see, for example, the European Union, where the steps taken towards the harmonization of corporate taxation are quite a few). A second solution is related to the market, through a fiscal competition between countries (see, also, Talpoș et al., 2009a; Talpoș et al., 2009b).

Liberalization of capital movements is associated with reduced rates of taxation on capital income. Tax rates, especially the effective ones, seem to get an

increasingly important role in determining the level and destination of foreign direct investments.

At the microeconomic level, estimation of anticipated indicators at company level takes also into account the corporate income tax. This level is decisively influenced by two factors: amount of profit and tax rate. From this perspective, introducing a flat rate of 16% and maintaining it on a relatively long period in Romania can be a useful experience from the perspective of international comparative finance.

Many debates have been linked to ethics regarding the positive or negative role of introducing a flat corporate income tax. However, despite of a fixed proportional tax rate on profit, the existence of a rule that distinguish the pre-tax profit by accounting profit makes that the ratio between corporate income tax and gross accounting profit to be, in many cases, substantially different from the statutory tax rate¹. Thus, from one company to another, the effective tax rate of accounting profit² is different.

This study highlights the actual situation on the corporate tax rate in companies listed on the Bucharest Stock Exchange in the period 1997-2009. The existence of a discrepancy between the effective tax rate of accounting profit and the statutory tax rate, and the elements that lead to this discrepancy, may influence the decision-making by investors.

The rest of the study is structured as follows. Section 2 provides a summary of the main studies in this area. Section 3 presents some theoretical aspects of the statutory tax rate and effective tax rate in Romania. Section 4 presents the data. Sections 5 and 6 present numerical results and conclusions of the study.

2. Related Studies

There is no doubt that tax policy has an influence on the relevant indicators in the analysis of results achieved or expected for a company. For example, the influence of changes on corporate income tax (their implementation schedule, the tax rate, tax benefits granted) on stimulating investment is highlighted by numerous authors (see Summers, 1981, Mauer and Ott, 1995, Hassett and Metcalf, 1999, Graham, 2003 and others). Some authors argued that when there is a lack of neutrality of the tax system, in certain historical periods, fiscal policies have been effective only insofar as they have positively influenced the use of production capacity, while the impact on direct investment was negligible (for instance, Chirinko, 1987).

A feature of the tax policy of a state is the asymmetric tax rules (for example, if a company make taxable profit, it has to pay taxes immediately, while the losses are carried over, usually for a limited period, which means that reducing

¹ The statutory rate represents that share of corporate income tax applicable to taxable profit under the laws in force in a country.

² The effective tax rate is the actual tax burden faced by a company, in terms of corporate income tax, determined as a ratio between corporate income tax liability and gross accounting profit.

the tax due is delayed). Devereux, Keen and Schiantarelli (1994) show that the tax asymmetry does not significantly influence the investment behaviour of companies. Governments should periodically adjust tax rates to counter the negative effect of other variables on investment, but such adjustments occur rarely. In addition, companies have to hand tools that lead to counter tax asymmetry. An example is the use of leasing, which is a solution for companies that have exhausted the source of tax incentives for investment, so they rent, instead of purchasing fixed assets.

Unlike the prices for production factors, fiscal policy parameters tend to maintain the same level for several years, after which changes its value immediately following a legislative change. Because this process takes place in leaps, companies can only implement a project to benefit from a tax incentive (overinvestment) or may defer its current investments to expect the introduction of favourable legislation (underinvestment) (see Vintilă, 2009).

Since the treatment of income and expenditures is different in terms of tax and accounting, we are interested to determine the effective tax rates, which affect profitability and cash flows of a company. The owners of a company appreciate the managers that reduce the effective tax rate, considering that they better manage costs and have a good strategy in place activities in geographic areas with favourable tax regime. The recorded level of effective tax rate is a variable often used in the compensation of managers, especially for those with responsibilities in the field of taxation (Bauman and Schadewald, 2001).

Estimating the actual level of tax rate and its development is a concern for many researchers and practitioners in finance, but in different contexts. For example, the actual tax increase leads to an increase in the informal economy and tax evasion (Djankov et al., 2009). Also, there is an inverse relationship between corruption and tax revenues (Braşoveanu and Obreja Braşoveanu, 2009). They highlight the fact that high effective tax rates lead to lower investment in production, but have less influence on investment projects in services.

Two different concepts on effective tax rate have been defined in literature. *Average effective rate* is useful to measure the distribution of tax incentives between companies or industries, while the *marginal effective rate* is suitable for analysis of tax incentives for new investments. In this study we determined and analyzed the average effective tax rate.

To quantify the average effective rate, at the numerator we considered the paid taxes, wherever they are paid - both in the country and abroad. In the denominator, there may be several alternatives: (i) *pre-tax profit* (not recommended if the objective is to capture and study the effect of tax incentives on effective rates; average tax rate calculated by this formula has relevance only if the tax system stipulates progressive taxation); (ii) *accounting profit before tax*, which is, in most cases, different of taxable profit (this way of determining the effective rate is used in our study due to the single tax rate on profit (with some minor exceptions only applied to certain activities over the period considered); (iii) *operating cash flow* (use of this measure captures the effect on actual differences in

rates resulting from the choice of accounting methods that relate to company size, meaning that larger firms tend to use accounting methods that would lead to lower profits) (Gupta and Newberry, 1997, Richardson and Lanis, 2007).

Empirically observed differences in effective tax rates between companies and over time have been used to justify inequality of tax systems and the need to reform. A lot of factors influence the underlying effective tax rate variability, long discussed and empirically tested in the literature (e.g., Stickney and McGee, 1982, Zimmerman 1983, Shevlin and Porter, 1992, Gupta and Newberry, 1997, Derashid and Zhang, 2003, Richardson and Lanis, 2007). We can mention here: firm size, capital intensity (the share of fixed assets to total assets), financial leverage (see DeAngelo and Masulis, 1980), the proportion of operations carried out abroad (see, for example, Bauman and Schadewald, 2001), the industry, the company's profitability (for an aggregate approach, see Feldstein, Dicks-Mireaux and Poterba, 1983), other factors (change in research expenditures, ownership structure, managers' reward policy, organizational culture, the ratio of market value and book value of the company, state-owned shares in the equity of the company).

These factors lead to a significant variability on effective tax rates worldwide. For example, we would expect to find a convergence for the countries in the European Union, if not for the statutory rates, at least at the level of effective tax rates. Buijink, Janssen and Schols (2002) note significant differences between the statutory rates of member countries (the study is conducted for EU-15, for the period 1990-1996). A real picture of the tax burden generated by the tax on profit can only be achieved when taking into account various tax incentives offered by a state, which can be measured only through the effective rates. The conclusion is that tax incentives have been used in a manner substantially different between Member States. However, the effective rates differ among countries not less than the statutory rates, which means that the tax incentives used did not equalized effective tax burden of companies in EU Member States more than were able to carry out statutory rates.

Following the tax competition between OECD Member States, statutory tax rates have declined significantly in the 80s and 90s. But statutory corporate income tax rate is not the most important factor in choosing the country where to invest, due to the avoidance of double taxation methods practiced at the international level (Simmons, 2003).

Devereux, Lockwood and Redoano (2008) build a model that is based on the assumption that multinational companies invest in capital assets as a response to effective marginal rates, but also choose the location of activities (profit centre) in response to changes in statutory rates. Using data for 21 countries, they concluded that these companies compete in both areas: the effective rates to attract capital and statutory allowances to attract profit (income mobility can be achieved by the subsidiaries in countries with higher tax rates to other entities within the group, in countries with lower tax rates, through loans between subsidiaries, through transfer pricing, etc.).

Concluding, in addition to the statutory rate, effective tax rate is an important tool in the foundation of economic decisions at the enterprise level.

3. Theoretical aspects of the statutory and effective tax rate in Romania

From a technical standpoint, the statutory tax rate is applied to taxable profit. For the purpose of our study, we assume that the company recorded a profit. If the loss is recorded, the discussion on the applicability of the statutory rate loses its usefulness. There are differences between effective tax rate and statutory tax rate, between accounting profit and the taxable profit, due to the methodology of calculation of corporate income tax. Explanations for some of these indicators can be found in Table 1.

Table 1: Indicators used in the text	
Indicator	Explanation
τ_s	statutory tax rate
P_A	gross accounting profit. Relationship: Gross income – Total Expenses (less income tax)
TR	taxable revenues
DE	deductible expenses
ESRE	elements similar to revenues and expenses, recognized by fiscal law, but not influencing yearly gross accounting profit
TPr	tax provisions (amounts that, according with the fiscal law, diminish the taxable profit, but are not taken into account when calculating accounting profit); there are, for example, accounting expenses recognized in previous years but that are not recognized for tax purposes, or depreciation calculated for tax purposes
NTR	non-taxable revenues
NDE	non-deductible expenses (are those expenses made by the company, but are not recognized for tax purposes in calculating taxable profits)
FL	fiscal loss reported from the previous years for recovering
P_T	taxable profit. Relationship: $P_T = P_A \pm ESRE - NTR - TP_{Pr} + NDE - FL$
T	tax payable for corporate income. Relationship: $T = \tau_s \times P_T$
DIV_g	gross dividend due to individual shareholders
DIV_n	net dividend collected by individual shareholders
τ_d	tax rate for gross dividends for individual shareholders
τ_{ef}	effective tax rate. Relationship: $\tau_{ef} = T / P_A$
P_N	net profit. Relationship: $P_N = P_A - T$

The tax rate on profit, even if it is a fixed percentage rate, due to the difference between accounting profit and taxable profit, can result in a higher or lower level than the regulated one, if we refer to the actual degree of taxation for accounting profit and not for taxable profit. For example, if for financing the business we can choose between a loan from a shareholder and a loan from a bank at the same level of interest rates and under the same conditions, it's possible that if the loan from shareholder will not benefit from the deductibility for all interest (tax code imposes certain conditions to be able to deduct interest on a loan contracted from an non-specialized person in lending), which would result in a higher taxable profit and tax than if we resort to borrowing from the bank. Thus, at equal levels of gross accounting level we have different taxes and thus different degree of taxation. At the level of public authorities, effective tax rate may be a useful

indicator on which they can make predictions about the fiscal revenues that can be collected at the state budget.

At the microeconomic level, tax can clearly influence business life. Beyond the fact that every taxpayer is interested in knowing the level of taxes that is required to pay, among other things, the difference between gross profit and taxable income should be taken into account in determining the indicators on which they will base their decisions. For estimating the capital budgeting indicators, the amount of corporate income tax has a particularly important role, as a result of influences that may occur because of the technique for determining the taxes. For example, considering these implications this may lead to changes in anticipated performance associated with an investment project.

Agent problems highlighted in numerous studies on the Romanian companies (see Dragotă, 2006; Dragotă, Dragotă, Țătu and Țătu, 2009), can also lead to reducing the accounting profit, especially by making expenditures that favours controlling shareholders, managers or employees, which in many cases are not tax deductible, hence the degree of gross accounting profit tax higher than the statutory tax rate. Thus, for example, while in Romania the travel expense allowance is deductible for employees (maximum is $2.5 \times$ travel allowance paid for public institutions), higher travel allowances may be favourable for some categories of taxpayers: for example, a company in which shareholders are also employees may mask the payment of dividends by higher travel allowances. The argument would be: if that amount would be paid as dividends would be taxed the first with tax for profit and then tax on dividends, while if that amount would take the form of travel allowances, it would be taxed (for exceeding the legal limit of deduction) with corporate income tax, but it would not be taxable amount for the shareholder-employee. The use of this tax trick leads to a higher level of tax to gross accounting profit than the statutory tax rate on taxable profit, but on the greater benefit for shareholders. So, corporate income tax is virtually the same, but the amount of accounting profit decreases with the additional travel allowance paid instead of dividends. In Appendix 1 is presented a model that is highlighting the net amount received by a shareholder who is also an employee in two cases, determining an optimum from a fiscal point of view somehow similar to Miller (1977).

4. Database

To highlight the relationship between the effective tax rates recorded and the statutory tax rate, we built a database of gross profit and owed corporate taxes by companies listed on BSE during the period 1997-2009. Average effective tax rate is determined based on these two information (see Table 1), using a method of calculating it recommended, among others, by Gupta and Newberry (1997) and Richardson and Lanis (2007).

In order to determine the amount of corporate income tax we use gross accounting profit and net profit. Thus, the tax on profit was determined by the relationship: $T = P_A - P_N$

The database contains financial information for the period in which companies were listed on BSE, so for each company the number of observations is

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between 1 and 13. The source of data is *www.ktd.ro*. Number of companies taken in the analysis for each of the years 1997 - 2009 is shown in Table 2.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
No.	28	43	43	43	44	44	46	48	52	55	64	67	65

The information considered is the accounting annual gross profit (P_A) and annual net profit (P_N). Based on these indicators, we determined the level of taxation as a ratio of corporate tax to gross profit. Based on the processed data, the maximum degree of taxation for the gross corporate income is shown in Table 3. For comparison, it is also specified the statutory rate for that year.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
T/P _A (%)	Max	90.2	124.7	94.7	90.0	208.1	94.6	94.6	80.2	71.7	255	56.16	78.3	73.8
	Mean	41.03	41.84	35.00	23.87	24.68	28.52	22.90	22.64	15.21	18.22	17.50	12.32	20.54
	Median	37.90	38.65	34.23	19.93	18.01	20.97	20.84	22.43	15.16	14.58	14.82	13.15	17.28
Statutory tax rate (%)	38.0	38.0	38.0	25.0	25.0	25.0	25.0	25.0	16.0	16.0	16.0	16.0	16.0	

From Table 3 we conclude that in terms of the actual degree of taxation for the gross profit, there is a significant difference between it and the standard rate of corporate income tax. It has to be mentioned that a part from the analysed companies paid income tax even they recorded losses (see Table 4)³.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
%	3.5	4.6	2.3	0	4.5	4.5	4.3	2	5.7	1.8	1.5	4.4	25.3

Except for one year of the analyzed period (2000), we can observe the permanence of the phenomenon. High percentage recorded in 2009 occurred due to financial and economic crisis, when a large number of companies recorded losses,

³ The negative values of the indicator may be based on several scenarios. One of them is the company has made profits during the taxable year and paid tax, and at the end of the year it registered losses, so the tax paid may be recovered from the State budget. According to the methodology of calculation of corporate income tax for the period under review, the profit tax is determined quarterly, using the aggregate values from the beginning of the year. If, in the first, the first two or first three quarters, the company obtains taxable profit, it has to pay the tax. If at the end of the year, or the following quarters of that year, the company record losses (cumulative from the beginning of the year), tax paid for previous quarters are subsequently recovered or offset the tax will be due in the future or be compensated with other taxes owed to the State budget. Reasons for delay in recovery / offset other taxes with paid corporate income tax, although the company has this right, may be different. Thus, companies can hope to offset their taxes that will occur in the future with what is paid at this time, thus neglecting economic rationality, by defying the time value of money. Also, companies can avoid a control by tax authorities required when applying for tax refunds or offset other taxes due. Another possible scenario may involve recording of accounting losses, while corporate income tax is positive, due to the fact that there were high non-deductible expenses. In addition, from 2009 the fiscal legislation stipulates a minimum income tax, even though the company get losses, which led to mandatory payment of minimum corporate income tax, regardless of their taxable profit.

accompanied by the introduction of the minimum tax on profit, which means that a company has to pay profit tax, even it has accounting losses.

Mean and median values in Table 3 were determined by removing from the database those companies for which the ratio T/P_A has a negative value. We can observe the trend of declining the ratio of corporate tax to gross profit for the period 1997-2008, that can be explained by lower corporate tax rate from period to period (38% for period 1997-1999, 25% for period 2000-2004 and 16% for the last analyzed period, 2005-2009). However, 2009 is characterized by an increase in this indicator, even if the statutory rate was maintained at the same level from the previous year.

5. Numerical results

First we determine the number of observations that are close to the standard tax rate. Thus we establish the number of companies that have effective tax rate which is within the range [standard tax rate - 0.5 pp, standard tax rate + 0.5 pp]. We considered that a small deviation of effective tax rate from the standard rate is not necessarily the result of a tax strategy at the taxpayer, but may occur as a result of some tax adjustments to accounting profit. The results for the neighbourhood analysis of effective tax rate compared with the standard rate are shown in Table 5.

Table 5: The share of the total sample of companies for which the effective tax rate is close to the standard tax rate (in this table we have defined the proximity to be given by the range [standard tax rate - 0.5 pp, standard tax rate + 0.5 pp].

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Share of companies (%)	7.4	4.88	4.76	6.98	2.38	2.38	2.27	2.13	10.2	1.85	11.01	9.37	0

The data shows that the number of companies for which the effective corporate tax rate is close to the standard rate is relatively low, so we conclude that tax incentives, the possibility of recovering the tax losses recorded in the past, some significant non-deductible expenses or other factors leading to a difference between the amount of accounting profit and taxable profit have significant effects.

In fact, some descriptive statistics can offer a clue for the higher level of volatility for this indicator reported to the standard rate (see Table 6). In order to estimate the deviation from the standard rate, we use the measure proposed by Andrei, Stancu and Pele (2002, p. 112).

Table 6: Descriptive statistics for the effective tax rate

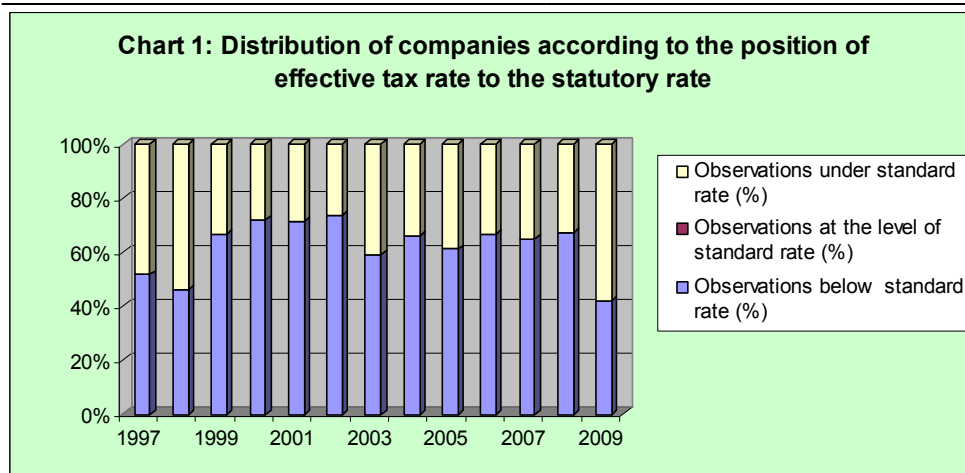
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Statutory tax rate (%)	38	38	38	25	25	25	25	25	16	16	16	16	16
Mean (%)	41.03	41.84	35.00	23.87	24.68	28.52	22.90	22.64	15.21	18.22	17.50	12.32	20.54
Mean deviation from τ_s (%)	7.97	10.10	-7.89	-4.52	-1.28	14.08	-8.40	-9.44	-4.93	13.87	9.37	-23	-28.5
Median (%)	37.90	38.65	34.23	19.93	18.01	20.97	20.84	22.43	15.16	14.58	14.82	13.15	17.28
St.dev (%)	17.32	24.06	23.42	20.67	33.75	22.62	18.90	16.097	13.34	34.94	12.43	13.58	17.31
St.dev. from τ_s (%)	17.59	24.07	23.82	20.39	33.35	22.40	18.80	16.098	13.23	34.69	12.49	13.97	17.73

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Regarding the classification of observations in the category below and above the standard tax rate, our results are shown in Table 7.

Table 7. Distribution of companies for which the level of taxation for gross accounting profit falls below the standard tax rate, at the standard rate of taxation and above the standard tax rate					
Year	Observations under the standard tax rate		Observations at the level of standard tax rate (%)	Observations over the standard tax rate	
	number	%		number	%
1997	14	51.85	0	13	48.15
1998	19	46.34	0	22	53.66
1999	28	66.67	0	14	33.33
2000	31	72.09	0	12	27.91
2001	30	71.43	0	12	28.57
2002	31	73.81	0	11	26.19
2003	26	59.09	0	18	40.91
2004	31	65.96	0	16	34.04
2005	30	61.22	0	19	38.78
2006	36	66.67	0	18	33.33
2007	41	65.08	0	22	34.92
2008	43	67.19	0	21	32.81
2009	21	42	0	29	58

From the observations, in any year, none of the analyzed companies recorded a profit tax rate equal to the statutory tax rate. Excepting years 1998 and 2009, it appears that most companies have the highest percentage of effective tax rate below the standard tax rate. Since 1999 the share of companies in this situation is not lower than 60%, excepting 2003, when there was a value of 59.09%. This observation is illustrated in a suggestive way by Chart 1.



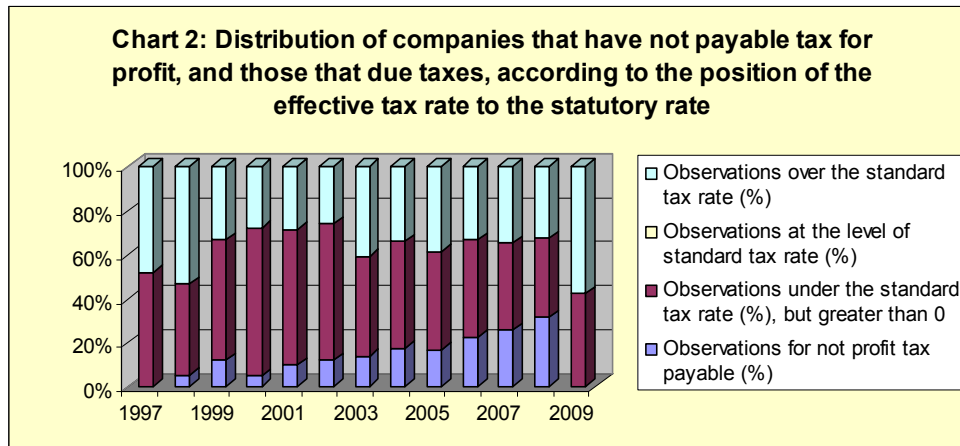
Note also that there is not any situation, in any year of the period, that the effective tax rate to coincide with the statutory rate. Therefore, the statutory tax rate used in estimates or forecasts (for example in capital budgeting), is a purely theoretical hypothesis, detached from reality.

At first glance, one might say that there is a high number of companies benefiting from tax optimizations allowed by the law, leading to record a taxable profit lower than accounting profit. However, as this category also contains companies that have not paid income tax (coming especially from cancellation of taxable profit with losses recovered from previous years), we also highlight the companies that have no corporate income tax payable (Table 8).

Year	Observations for not profit tax payable (%)	Observations under the standard tax rate (%), but greater than 0	Observations at the level of standard tax rate (%)	Observations over the standard tax rate (%)
1997	0	51.85	0	48.15
1998	4.88	41.46	0	53.66
1999	11.90	54.76	0	33.33
2000	4.65	67.44	0	27.91
2001	9.52	61.90	0	28.57
2002	11.90	61.90	0	26.19
2003	13.64	45.45	0	40.91
2004	17.02	48.94	0	34.04
2005	16.33	44.90	0	38.78
2006	22.22	44.44	0	33.33
2007	25.40	39.68	0	34.92
2008	31.25	35.94	0	32.81
2009	0	42	0	58

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The data in Table 8 shows that, with the exception of years 1998 and 2009, the number of companies that have registered a tax level below the standard rate was greater than the number of companies that have registered a higher degree of tax than the standard rate. However, unlike data in Table 7, these data are much closer in value, a fact illustrated in Chart 2.



A higher value (more than 60%) of companies for which the level of effective tax rate is positive, but less than τ_s , is recorded in 2000-2002, years in which some companies have benefited from reduced tax mainly as a result of export activity. We must not forget that for those companies for which the level of gross profit tax is in the range $(0, \tau_s)$, a lower level of taxation can also be obtained due to the fact that some of them have been diminished the profit as a result of deferral of losses from previous years, losses that were lower than the level of taxable profit, or that they have benefited from other tax facilities, without direct influence on accounting profit, such as, for example, a 50% reduction in corporate income tax reinvested in tangible and non tangible assets.

If we consider Tables 7 and 8, we can state that, if we take into account the previous activity for the companies, the share of companies benefiting from tax provisions to minimize corporate tax rate for accounting profit is significantly higher than share of companies that have the level of taxation lower than the standard tax rate. As we eliminate from the analysis the influence of losses recovered from previous years (assuming that if companies do not owe corporate income tax while obtaining an accounting profit, recording a zero duty is a result of the recovery of losses from previous years, under the condition that these losses are greater than taxable profit of the current year), the gap between the percentage of firms that are helped by tax provisions and the percentage of companies that are negatively affected by tax provisions become smaller.

In Table 9 we perform an analysis based on variance. Intervals are determined from the average effective tax rate (μ) and standard deviation from the

mean (σ). Intervals are set as follows: $(\mu - \lambda \times \sigma, \mu + \lambda \times \sigma)$ with λ equal to 0.5, 1, 2 and 3, respectively.

Table 9: Analysis regarding the dispersion of effective tax rate values (number of observations in the interval as a percentage of total number of observations)													
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Mean τ_{ef} +/- 0.5 \times standard deviation	14.81	24.39	28.57	20.93	23.80	7.14	11.62	21.27	24.48	33.33	9.52	4.68	10
Mean τ_{ef} +/- standard deviation	44.44	43.90	42.85	39.53	47.61	16.66	25.58	36.17	44.89	53.70	22.22	10.93	34
Mean τ_{ef} +/- 2 \times standard deviation	70.37	70.73	61.90	65.11	73.80	42.85	51.16	59.57	59.18	70.37	39.68	21.87	42
Mean τ_{ef} +/- 3 \times standard deviation	81.48	80.48	73.80	79.06	92.85	66.66	67.44	68.08	63.26	94.44	47.61	35.93	54

For each of these intervals we determined, for each individual year, the proportion of observations in that year in total number of observations. We can see a great variability of results from one year to another. Comparing with normal distribution, we can also observe that the population consisting of listed companies not circumscribe this distribution. Thus, for any normal distribution, 38.3% of the observations fall in the interval $(\mu - 0.5 \times \sigma, \mu + 0.5 \times \sigma)$, 68.3% within a standard deviation from the mean, 95.5% within two standard deviations from the mean, and 99.7% within three standard deviations from the mean. It is easy to state that in none of the analysed periods, this is not happen.

6. Conclusions

We may notice a discrepancy between the statutory corporate tax rate and the effective tax rate for the companies listed on BSE. Thus, even if most of the companies recorded an effective corporate income tax rate lower than the standard tax rate (the percentages vary from year to year, between 42% and 73% of total observations in the analyzed period), however, the number of companies that have a higher effective rate than the statutory rate is significant.

At first sight, it could be considered that tax incentives for companies that lead to obtaining a lower effective tax rates than the standard rate may be based on some tax provisions meant to encourage economic activity. Thus, we can justify the low levels of effective tax rates by reduced tax levels in certain periods (especially, between 1999 and 2003), by providing additional facilities such as depreciation deductions, partial or total tax relief for invested profits. However, it should be noted that, for many companies, the lower effective corporate income tax rate than the statutory rate is justified mainly by losses that can be recovered in the next five years (seven years for losses starting with year 2009), especially given that many companies in the sample had alternative periods with profit or with losses. Thus, comparative taxation facility with other countries with low tax rates is especially consisting of a reduction in standard rate tax (from 38% in 1997 to 25%

and then to 16% from 2004) rather than tax incentives granted to reduce the tax base.

Significant number of companies that had effective tax rate higher than standard rate shows that, in many cases, were objectively or subjectively recorded expenditures that are not allowed for deduction from the tax on profit. Thus, where the effective tax rate of profit is greater than the statutory rate, this phenomenon may illustrate an ease in making expenditures at the company level.

When this situation appears for several times, it can be a clear sign for shareholders that the company recorded an inappropriate fiscal management, with negative consequences for company performance. Often, these costs are not recognized as deductible for tax purposes, and they are made for the benefit of majority shareholders (or controlling shareholders) or for employees with special status (for example, managers). This fact may highlight a lack in the minority shareholders protection (see Dragotă, 2006; Dragotă, Dragotă, Țătu and Țătu, 2009).

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Appendix 1

In this section we study two distinct situations for transferring an amount from the company, having the status of non-deductible expense, to the individual, where it is considered non-taxable income: (i) the company has only taxable revenues (TR) and deductible expenses (DE); (ii) in addition to income and expenses below, the company recorded a non-deductible expense (NDE), that is non-taxable income for the shareholder-employee, who receive it.

In both cases we work on the assumption that the entire net income is fully distributed as dividends (DIV), taxed at the individual shareholder tax on dividends.

Situation (i):

$$P_A = P_T = TR - DE \quad (1)$$

$$P_N = P_A - T = P_A - \tau_s \times P_A = (1 - \tau_s) \times P_A \quad (2)$$

$$DIV_g = P_N = (1 - \tau_s) \times P_A \quad (3)$$

$$DIV_n = (1 - \tau_d) \times DIV_g = (1 - \tau_s) \times (1 - \tau_d) \times P_A \quad (4)$$

Since in this case accounting gross profit and taxable profit coincide, the effective tax rate has the same value as the statutory rate:

$$\tau_{ef} = \frac{T}{P_A} = \frac{\tau_s \times P_A}{P_A} = \tau_s \quad (5)$$

Substituting the rates of taxation in relation (4) with specific values from the Romanian Fiscal Code, $\tau_s = \tau_d = 0.16$, shows that the net amount received by the shareholder-employee is 70% of gross profit:

$$DIV_n = 0.84 \times 0.84 \times P_A = 0.7 \times P_A \quad (6)$$

Situation (ii):

$$P_A = TR - DE - NDE \quad (7)$$

$$P_T = TR - DE \quad (8)$$

$$P_N = P_A - T = P_T - NDE - \tau_s \times P_T = (1 - \tau_s) \times P_T - NDE \quad (9)$$

$$DIV_g = P_N = (1 - \tau_s) \times P_T - NDE \quad (10)$$

$$DIV_n = (1 - \tau_d) \times DIV_g = (1 - \tau_d) \times (1 - \tau_s) \times P_T - (1 - \tau_d) \times NDE \quad (11)$$

From (7) and (8) we can say that: $P_T > P_A$ and multiplying both terms by $(1 - \tau_s) \times (1 - \tau_d)$, result that: $(1 - \tau_s) \times (1 - \tau_d) \times P_T > (1 - \tau_s) \times (1 - \tau_d) \times P_A$, which means that we can write:

$$(1 - \tau_s) \times (1 - \tau_d) \times P_T + (1 - \tau_d) \times NDE > (1 - \tau_s) \times (1 - \tau_d) \times P_A \quad (12)$$

The effective tax rate in this situation differs from the statutory rate:

$$\tau_{ef} = \frac{T}{P_A} = \frac{\tau_s \times P_T}{P_T - NDE} = \tau_s \times \left(1 + \frac{NDE}{P_T - NDE} \right) \quad (13)$$

From (13) we can draw two separate cases. In the first case, if $NDE < P_T$, then:

$$\tau_{ef} = \tau_s \times \left(1 + \frac{NDE}{P_T - NDE} \right) > \tau_s \quad (14)$$

In the second case, if $NDE > P_T$, then:

$$\tau_{ef} = \tau_s \times \left(1 + \frac{NDE}{P_T - NDE} \right) < \tau_s \quad (15)$$

Starting from (11), the net amount received by the shareholder-employee is equal to:

$$\begin{aligned} DIV_n + NDE &= (1 - \tau_d) \times (1 - \tau) \times P_T - (1 - \tau_d) \times NDE + NDE = \\ &= (1 - \tau_d) \times (1 - \tau) \times P_T + \tau_d \times NDE \end{aligned} \quad (16)$$

Substituting the rates of taxation in relation (16) with their values under the fiscal law in Romania, $\tau_s = \tau_d = 0.16$ shows that the net amount received by the shareholder-employee is equal to:

$$DIV_n + NDE = 0.84 \times 0.84 \times P_T + 0.16 \times NDE = 0.7 \times P_T + 0.16 \times NDE \quad (17)$$

From (6) and (17), while considering the relations (7) and (8) that the net amount received by the shareholder-employee in the case (ii) is higher than in case (i). From (5) and (13), taking into account the customizations of (14) and (15), we can observe the differences that arise between the actual rates in different situations (making or not deductible expenses for tax purposes) and to the statutory corporate tax rate, for both the general and the particular case of Romania.