EFFECTIVE CORPORATE INCOME TAX RATE IN ROMANIA: A MICRO-BACKWARD LOOKING APPROACH

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Abstract: Within the framework of micro-backward looking methodology, the paper computes the effective corporate income tax rate for Bucharest Stock Exchange non-financial companies for 2000 – 2009 period, using data from companies financial reports. We find that effective tax rate computed as profit tax/pre-tax income ratio was below the statutory tax rate, throughout the period, except for the year 2009 (when an alternative minimum tax was introduced) and the differences have diminished since the flat tax was adopted (2005). When applying a correlation analysis, we find that the difference between this effective tax rate and the statutory tax rate presents a strong negative correlation with the return on assets ratio (ROA). Also, we have find that commerce is enjoying the most favourable tax regime, while energy is the most heavily taxed.

Key words: effective corporate income tax rate, backward looking methodology
JEL codes: H22, H25
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1. INTRODUCTION

Measuring the fiscal burden that companies have to cope is a matter of great interest both for business managers and policy makers. Doing business in a global market often reveals competitiveness issues that are linked to taxation. Often, the tax rates cuts are partial offset by increasing tax bases. Effective tax burden is a matter far beyond the tax rate itself, although it is one of the most significant determinants. Thus, we want to check whether the effective tax rate that companies borne was in line with the general trend of statutory tax rates cuts that took place in Romania, as elsewhere in Europe. Indeed, the tax competition urge governments to cut tax rates consistently, but the ever increasing need for public spending contributes to the adoption of tax base broadening measures such as introducing of thin capitalization rules, limitation of loss relief or of some expenses, among which interest expenses plays a significant role, etc.

In this context, we compute effective corporate income tax rate as profit tax/pre-tax income (earnings before taxes) ratio for the non-financial companies traded at Bucharest Stock Exchange for the period 2000 – 2009. The availability of data is one of the major problems when dealing with micro-backward looking methodology, especially when we are confronting with a transition economy. Thus, for the scope of this paper we will use INFIN database, a database that was created by the author through a research grant and which contains detailed financial data reported by the Bucharest Stock Exchange listed companies.

Romania is generally regarded as a country with low taxation for firms, the corporate income tax rate being only of 16 percents. It is interesting to see, if, in real world, companies manage to take advantage of tax base determinants in order to be able to minimize the profit tax to the extent possible, and if this could result in higher rate of returns. For the scope of this paper, we have considered only corporate income tax, although INFIN database allows for taking into consideration real estate taxes, social contributions and any of all other public finance liabilities that a company has to pay.

Thus, our main research goal is to assess the effective corporate income tax rate for the most relevant Romanian companies, namely those traded at Bucharest Stock Exchange and to see whether companies that bear a lower effective taxation could have higher returns. Throughout the paper, we provide evidence concerning the effective corporate income tax rate on annual basis and also for different industries.
Several conclusions can be drawn from the analysis. We find that effective tax rate computed as a profit tax/pre-tax income was permanently below the statutory corporate tax rate, except for the year 2009, when an alternative minimum tax was introduced. When performing a correlation analysis, we find that the difference between effective tax rate and statutory tax rate is negatively correlated to return on assets ratio (-0.636). Also, our effective tax rates have recorded a constant decrease throughout the period in accordance with the general trend of statutory tax rates. The single notable exception is the year 2009, when our rates increased, showing a poor efficiency of fiscal measures taken by Romanian authorities in their struggle to fight the crisis. As for sector analysis, we find that commerce is enjoying the lowest effective taxation, while energy is the most heavily taxed.
The paper is organized as follows: section 2 describes the methodology in the context of the most relevant previous research in the field, section 3 presents the results and section 4 concludes.

2. METHODOLOGY

Computing the effective taxation of companies can be achieved by two major, well-established methodologies: forward-looking methodology and back-ward looking methodology.
In terms of forward-looking methodology, the Devereux & Griffith approach, which is based on a hypothetically investment project (King and Fullerton) is generally regarded as the standard in the field. Another well-known methodology, based on model firm approach, is European Tax Analyzer, developed by ZEW Mannheim and University of Mannheim. Both were used by European Commission in a series of studies regarding company taxation (CEE, 2001, Spengel et al, 2008). In the recent years, another model firm approach emerged, namely that of Djankov et al. (2010), which is jointly used by the World Bank, International Finance Corporation and PricewaterhouseCoopers (see doingbusiness portal). That methodology includes under the generic names of labour related taxes, the payroll taxes and social contributions for which the statutory incidence falls on companies when assessing the "total tax rate" (TTR).
In terms of backward-looking methodology, the first insights were those of Collins and Shackelford (1995), followed by Buijink, W., Janssen, B., Schols, Y. (2002) and Nicodème, G. (2007). The difficulties of getting the firm level data, along with the differences in accounting standards make this methodology harder to implement. Nevertheless, several rankings were made, and for review see Nicodeme (2007).
Whithin the framework of backward-looking methodology, we will compute the effective tax rates for companies listed on Bucharest Stock Exchange using data from financial reports for the period 2000-2009. We use the unconsolidated data in order to better capture the specific of the fiscal code and also to provide a larger period of comparability of data. The data of the INFIN database cover sixty nonfinancial companies listed on regulated market at Bucharest Stock Exchange, thus offering 600 company years data. The sixty companies taken into survey have an aggregate turnover of about 8.3% of Romanian GDP in 2008, and 6.5% in 2009 when global crisis hit Romania. The period surveyed started in 2000, because this particular financial year was the first in which the companies reported data using procedures congruent to the Fourth European Directive accounting regulations and to the International Accounting Standards. Luckily, the year 2000 also coincides with the start of a new era in Romanian fiscal framework, when the statutory tax rate for profit tax dropped from 38% to 25%. The comprehensive list of companies can be

consulted on the National Commission of Securities Exchange site: http://www.cnvmr.ro/InfoUtile/ro/RapoarteEmitenti/RapoarteEmitenti.html). The sources of data were financial reports of listed companies available on the Internet sites, both of companies and Bucharest Stock Exchange and National Security Commission. Also, a subscription access to Bucharest Stock Exchange data directory was needed in order to get the data for earlier years.

In order to compute the effective tax rate, several considerations must me made related to the terms involved. We compute effective corporate income tax rate as profit tax to pre-tax income ratio. We believe that pre-tax income or earnings before taxes ("profitul brut" in Romanian language") is the the proper measure of the "tax base". Previous studies employed either pre-tax income (adjusted more or less) or gross operating profit. Buijink, Janssen and Schols (2002) and Collins and Shackelford (1995) used the pre-tax income when computing their effective tax rates, while Nicodeme (2007) opted for gross operating profit.

Thus, the effective corporate income tax rate, can be expressed as follows:

$$ETR \quad = \frac{CIT}{PI} * 100$$

where: CIT = corporate income tax;

PI = pre-tax income;

We think that if we want to take the most out of the features of the micro-backward looking methodology, the most appropriate indicator for the "tax base" is pre-tax income which contains not only operating profit, but also financial profit and exceptional profit. If the latter is almost insignificant in our sample, the financial profit includes interest expenses, which in Romania, as elsewhere, are deductible when computing taxable profit under thin capitalization rules (in certain circumstances). According to conventional theory, this may create an incentive to use debt as oppose to equity, and the price for this action (interest expenses) is reflected in financial outcome of the company.

3. RESULTS

In this framework, we have computed the effective corporate income tax rate for Romanian companies traded at Bucharest Stock Exchange for the period 2000 – 2009. The results are presented in table no. 1. The table also depicts the statutory corporate income tax rate and the between effective corporate income tax rate (ETR) and statutory tax rate (STR)

Table no. 1. The effective corporate income tax rate (ETR), the statutory tax rate (STR) and the difference between them (2000 – 2009)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Effective corporate income tax rate ETR	19.87	17.36	18.18	22.65	21.42	14.83	13.37	14.86	12.59	16.28
Statutory corporate taxation rate STR	25	25	25	25	25	16	16	16	16	16
Difference ΔR (ETR_1 – STR)	-5.13	-7.64	-6.82	-2.35	-3.58	-1.17	-2.63	-1.14	-3.41	0.28

Source: fiscal legislation and own computations

As we can see, the effective tax rate was below statutory tax rate throughout all the period surveyed, except for the year 2009. Companies were able to benefit from deductions when computing taxable income, and as the tax rate was reduced to 16% in 2005, the difference diminished as a result of the tax base increase. In 2009, an alternative minimum corporate tax was introduced, along with a restriction of deductibility for some company's expenses. This led to an increase of effective tax rate above the statutory tax rate in the middle of the economic crisis that hit Romania during 2009. The gap between our effective tax rate and statutory tax rate can be correlated to some financial ratios (return on assets, return on equity and net profit margin). The results are shown in Appendix A, from which we can retain only the strong negative correlation of -0.636 between ΔR and ROA, significant at 0.05 level. The coefficient of determination R^2 is therefore 0.40, so 0.40 of the variability of ROA can be explained by the variability of ΔR.
When performing a sector analysis, we find that commerce is enjoying the most favourable tax regime, while the energy is the most heavily taxed. The results are presented in table no. 2.

Table no. 2. Effective corporate income tax rate for different industries

Sectors	Effective corporate income tax rate
Commerce	14.51
Manufacturing industry	15.76
Energy	31.44
Hotels and restaurants	15.28
Construction	22.27
Extractive industry	21.91
Transport	24.17

Source: own computations

Basically, we can see that we have three major situations: commerce, manufacturing industry and hotels and restaurants that have an effective corporate income tax rate around 15%, construction, transport and extractive industry that bears an effective profit taxation of around 22%-24% and energy with an effective tax rate of 31.44%. Thus, commerce, manufacturing industry and hotels and restaurants were the sectors that managed to the biggest extent to take advantage of tax base determinants in order to reduce the effective corporate income tax rate.

4. CONCLUSIONS

Our results show that effective tax rates declined during the period surveyed, in accordance with the general reduction of statutory tax rates. If we were to assess the efficiency of fiscal policy in fighting the crisis, our data showed that in 2009, the year in which the crisis hit Romania, effective tax rates for companies increased, indicating a poor performance of fiscal tools in addressing the economic downturn. This can be attributed to the adoption of an alternative minimum tax for companies starting and to the limitation of deductibility for certain company expenses (from May 2009). Making more money for public finance can have adverse effects on businesses. One can conclude that in the middle of the economic crisis, the fiscal measures set by Romanian authorities impose a supplementary burden on companies, and this was, undoubtedly, not a good support for companies, which had already been dealing with major difficulties. When applying a correlation analysis, we find that the difference between this effective tax rate and the statutory tax rate presents a strong negative correlation with the return on assets ratio (ROA). Also, we find that commerce was the most favourable taxed sector, while energy has to deal with the heaviest tax burden.

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Appendix A: Pearson's coefficient of correlation between ΔR (difference between ETR_1 and statutory tax rate and return on assets, return on equity and net profit margin)

Correlations

		ETR1minusRS1	ROA	ROE	NPM
ETR1minusRS1	Pearson Correlation	1	-,636*	,321	-,350
	Sig. (1-tailed)		,024	,183	,160
	N	10	10	10	10

*. Correlation is significant at the 0.05 level (1-tailed).

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ΔR	,165	10	,200*	,955	10	,731
ROA	,184	10	,200*	,947	10	,630

Correlations

		ETR1minusRS1	ROA	ROE	NPM
ETR1minusRS1	Pearson Correlation	1	-,636*	,321	-,350
	Sig. (1-tailed)		,024	,183	,160
	N	10	10	10	10

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.