

## Effective Tax Rate of Corporate Income Tax in the Post-Crisis Period: The Case of Non-Financial Companies Listed on the Bucharest Stock Exchange

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### Abstract

*The intention of the paper is to analyse the evolution of the effective tax rate of corporate income tax for the 2011-2016 period, calculated for the non-financial companies listed on the Bucharest Stock Exchange (Romanian: Bursa de Valori București - BVB).*

*The first part of the paper presents the main causes for the divergence between the statutory and effective rate of the corporate income tax, based on the provisions of the Romanian Fiscal Code. The differences between the gross income and the taxable profit, which form the basis for calculating the income tax, are highlighted. The second part is devoted to the methodology for calculating the effective income tax rate and its analysis, based on data from the financial statements published in the post-crisis period by Romanian companies listed on BVB.*

**Key words:** taxable profit, profit tax, statutory tax rate, effective tax rate

**J.E.L. classification:** G39, H25, K34

### 1. Introduction

In general, the corporate tax burden can be approximated by utilizing the effective tax rate. This tax rate is more relevant than the statutory tax rate because the latter does not highlight tax incentives and does not provide a truthful reflection of the tax burden borne by companies. Companies have lately become increasingly preoccupied with maximizing their tax benefits and reducing their tax liabilities by legal means. The corporate tax policy has a significant impact on their development and social responsibility. From this perspective, the corporate income tax policy affects Corporate Social Responsibility actions (Vintilă *et al.*, 2012). Barely legal tax-avoidance strategies and financial aggression can be considered as socially irresponsible, due to the costs of non-payment of tax obligations. However, the size of the corporate income tax rate influences the profitability of the companies, expressed by their net income.

In the present paper, the authors aim to determine the effective tax rate for Romanian companies listed on the stock exchange. The chosen method to determine the effective tax rate is based on data extracted from the financial statements published by these companies. The methodology used is referred to in the literature as micro backward-looking and has been presented in various studies and papers (Nicodème, 2001; Lazăr, 2010; Vintilă *et al.*, 2010).

One advantage of the chosen methodology is that it utilises data from the real economy. Another advantage is that it makes it possible to study effective taxation both at sectoral level and for individual businesses of different sizes. Taking into account the important elements of the taxation base such as: depreciation rules different from accounting ones, treatment of losses, reserves and provisions, various tax incentives, etc. represents a third advantage of the micro backward-looking method.

## 2. Main Causes for the Divergence between the Statutory and Effective Rate of the Corporate Profit Tax

Effective Tax Rates are principally the product of the nominal tax rate and the rules governing the calculation of the tax base (COM (2001) 582 final, p. 31). In Romania, the difference between the statutory or standard tax rate (STR) and effective tax rate (ETR) of corporate profit tax, calculated as the ratio between profit tax payable and earnings before taxes, is determined by the differences between the accounting and fiscal treatment of some revenues and expenses, by taking into account, in the calculation of the taxable profit, of certain elements that, from the accounting point of view, have no influence on the gross accounting result, as well as the tax reductions and exemptions stipulated by the tax legislation.

Since this study pertains to non-financial companies listed on the Bucharest Stock Exchange, the regulations applicable to them will be briefly analysed, for the 2011-2016 period. Under accounting regulations, companies whose securities are admitted to trading on a regulated market draw up their accounts in accordance with international accounting standards.

According to the Fiscal Code of Romania, the corporate profit tax is calculated by applying the statutory tax rate of 16% to the positive fiscal result, called taxable profit. Thus, earnings from the sale or disposal of fixed assets are treated in the same way as the income from the current business activity of the company. For certain revenues, such as those originating from casinos and night clubs and bars, a minimum tax rate is set, at 5% of operating income.

The taxable profit is determined on the basis of accounting profit, adjusted, according to tax rules, with non-taxable income, non-deductible expenses, other elements assimilated with income or expenses, as well as tax deductions. Fiscal loss can be rolled over for seven consecutive years. The accounting methods for valuation and taking out of the stocks from the inventory are recognized in the calculation of the taxable profit, with the provision that they cannot be modified during the fiscal year.

Among the non-taxable income stipulated in the Fiscal Code, we mention:

- Dividends received from a Romanian legal person. During the 2014-2015 period, an additional condition has been applied, namely that the beneficiary company was to hold, for an uninterrupted period of one year, a minimum of 10% of the share capital of the company distributing the dividends;

- Dividends received from a subsidiary located in an EU Member State, subject to certain conditions, including that of the Romanian legal person to hold, for an uninterrupted period of one year, a minimum of 10% of the share capital of the company distributing the dividends. Starting with 2014, a similar treatment applies to dividends received from a subsidiary located in a third-party country with which Romania has a double taxation convention;

- Income from the cancellation or recovery of some expenses for which a deduction was not granted in the calculation of the taxable profit;

- Non-taxable income that is expressly provided in agreements and memoranda approved by law.

In the calculation of the taxable profit, the expenses incurred for the purpose of carrying out the economic activity, as well as those regulated by the applicable normative acts, are deductible.

The Fiscal Code provides for non-deductible expenses when calculating the taxable profit. This category includes: interest/increases in tax for late payment, fines, seizures and penalties for late payment that are owed to Romanian/foreign authorities, according to the law; with some exceptions, expenses incurred with the goods representing stocks or tangible assets identified as missing or damaged, which are non-imputable and for which insurance contracts were not concluded; with certain exceptions, losses incurred with the removal from the records of debt claims; expenses incurred for shareholders or partners, other than those incurred with payments made for goods delivered or services rendered to the taxpayer, at the market price of such goods or services; expenses incurred with non-taxable income; expenses incurred with sponsorship/patronage and expenses incurred with private scholarships, granted according to the law. However, expenses incurred with sponsorship/patronage and private scholarships are deductible from the tax payable up to the lowest value between: the amount calculated by applying 0.5% to turnover (0.3% until December 31<sup>st</sup>, 2015) and the amount representing 20% of the income tax payable.

The Fiscal Code also regulates expenses with limited deductibility in the calculation of taxable profit, such as: protocol expenses (to be deducted up to a 2% quota applied to the profit to which profit tax and protocol expenses are added); social expenses (to be deducted up to a 5% quota applied to the value of the expenses incurred with the wages; by December 31<sup>st</sup>, 2015, a 2% quota has been applied); expenses incurred with the operation, maintenance and repair, excluding those on fuel, for cars used by top management and administrative employees of the legal person, etc.

Expenses with provisions/adjustments for depreciation on assets are expenses with limited deductibility in the calculation of taxable profit, their tax regime being very restrictive. Subject to certain conditions, the following expenses are deductible: provisions for performance guarantees offered to clients; adjustments for depreciation on debt claims, constituted for up to 30% of their value, if they are not collected for a period of more than 270 days from the time of due payment; adjustments for depreciation on debt claims are fully deductible when they are held by a legal person against whom the bankruptcy proceedings are declared or by a natural person on which the insolvency proceedings are opened; from 2016 onwards, adjustments for depreciation of depreciable fixed assets created for situations in which they are destroyed as a result of natural disasters or other force majeure causes and for situations where insurance contracts have been concluded. Within certain limits, the provisions constituted by the mining companies for the decommissioning of installations and environmental rehabilitation, as well as some provisions specific to other sectors of activity are also deductible.

When calculating the taxable profit, the fiscal depreciation, calculated according to the provisions of the Fiscal Code, is deducted, the accounting depreciation being treated as a non-deductible expense. Fiscal depreciation is calculated on the basis of the fiscal value of depreciable assets, equal to the historical cost of acquisition or production of those assets. Land and other fixed assets, expressly provided for in the Fiscal Code, are not subject to depreciation. The fiscal value of fixed assets is recovered, from a fiscal point of view, in a number of years equal to their normal operating period, which is regulated, depending on the nature of the fixed assets concerned. As depreciation is also used as a fiscal incentive for investment, three depreciation methods are provided in the Fiscal Code: straight-line, decreasing or accelerated depreciation. In the case of buildings, only the straight-line depreciation method applies; in the case of technological equipment, computers and their peripherals, the taxpayer may opt for straight-line, decreasing or accelerated depreciation method; in the case of fixed assets that do not fall into these categories, the taxpayer can opt for the straight-line or decreasing depreciation method.

For straight-line depreciation, the annual depreciation is determined by applying the straight-line depreciation rate to the value for tax purposes at the time the depreciable fixed asset enters the taxpayer's patrimony. The annual straight-line depreciation rate is determined in accordance with the normal duration of use of the assets, provided by Decision of the Government of Romania.

The decreasing depreciation rate is determined by multiplying the straight-line depreciation rate with a coefficient that varies between 1.5 and 2.5, depending on the normal duration of use of fixed assets. The annual depreciation is calculated by applying the decreasing depreciation rate to the value for tax purposes at the time the depreciable fixed asset enters the taxpayer's patrimony for the first year, and for the following years to the remaining depreciation value of the fixed asset, until the depreciation thus calculated is less than or equal to the fiscal value that remains to be depreciated divided by the remaining normal duration of use. From that year on, the straight-line depreciation of the remaining fiscal value for the remaining duration of use is employed.

For the accelerated depreciation method, for the first year of operation, the depreciation shall not exceed 50% of the value for tax purposes of the fixed asset, while for the next years of operation, the depreciation shall be determined by dividing the remaining depreciation value of the fixed asset to its remaining normal duration of use.

Since fiscal depreciation is determined on the basis of the historical cost of fixed assets, the expenses incurred from revaluing the depreciable assets, if, as a result of a revaluation carried out under the applicable accounting regulations, there is a decrease in the value of such assets, represent non-deductible expenses in the calculation of the taxable profit. Also, income representing value gains resulting from the revaluation of fixed assets is non-taxable income.

In order to avoid sub-capitalization, the deduction of expenses from interest and exchange rate differences on loans contracted from entities other than banks and from other authorized financial

institutions is limited in the calculation of the taxable profit. In this case, the maximum interest rate that can be deducted is 4% (6% until December 31<sup>st</sup>, 2015) for foreign currency loans, and for those in national currency, the monetary policy rate of the National Bank of Romania. In addition, the right to deduct such limited interest expenses and the net loss from exchange rate differences may be exercised provided that the degree of indebtedness is less than or equal to 3. If the degree of indebtedness is greater than 3, the deduction is carried forward to full deductibility in periods when the ratio between the borrowed capital with a repayment term of over one year and the equity returns to a value of less than 3.

The following tax incentives are granted for research and development activities:

a) The additional deduction of 50% (20% by February 1<sup>st</sup>, 2013) of eligible expenses for these activities, in the calculation of taxable profit;

b) The application of the accelerated depreciation method for the tools and equipment used for this activity.

In order to stimulate investments, exemption for reinvested profit in technological equipment, i.e. in work machinery, equipment and installations is provided (in this case, the right to apply the accelerated depreciation method is lost). From January 1<sup>st</sup>, 2016, the tax exemption for reinvested profits has been expanded, being also granted for investments in computers and peripheral equipment, as well as computer software.

The calculation of the taxable profit according to the mentioned rules makes it higher, less than or equal to the accounting result. By applying the statutory tax rate to the taxable profit, the income tax is determined, but from it, thusly calculated, the sponsorship expenses, the external fiscal credit, as well as the fiscal incentives granted for investments can also be further deducted.

It can also be observed that the provisions of the Fiscal Code on the calculation of corporate profit tax were amended, during the 2011-2016 period, to extend the fiscal incentives granted to stimulate investment, innovation, international economic cooperation and sponsorship and patronage. At the same time, the limits of deduction of general expenses, in the calculation of the taxable profit, have also been modified (in the sense of increasing or decreasing). All these changes can influence the dynamics of the effective tax rate.

### 3. Calculation and Analysis of Effective Corporate Income Tax Rate

The survey is based on a sample of Romanian companies, namely non-financial companies whose shares are listed on the Bucharest Stock Exchange (BVB), on the Regulated Market. In order to ensure the comparability of the results, for the entire period being analysed, i.e. 2011-2016, the companies for which a negative effective tax rate was determined, even for a single year, were eliminated from the sample, the final analysis being conducted on 31 companies in seven sectors of activity.

The quantitative analysis is based on data from the individual accounts published by the companies included in the sample, and as a methodology used to calculate the effective tax rate, we opted for two work methods:

a) Calculating the effective tax rate based on turnover:

$$ETT = \frac{\text{Current profit tax}}{\text{Net turnover}} \times 100$$

b) Calculating the effective tax rate based on earnings before tax:

$$ETR = \frac{\text{Current profit tax}}{\text{Earnings before tax}} \times 100$$

The limits of the first option stem from the fact that the resulting effective tax rate has very low values, making it difficult to compare between different situations. At the same time, by using the turnover, important information on costs (production costs, wages, etc.) is lost, which can lead to erroneous interpretation. With the second option, limitation arise when comparing different countries, as a result of different accounting rules to calculate earnings before tax (Nicodème, 2001, p. 20).

Table no. 1. Effective corporate profit tax rate based on turnover – weighted average

Activity Sector	Number of Companies	ETT (weighted average) – in %					
		2011	2012	2013	2014	2015	2016
B. Mining industry	1	6.86	7.41	10.69	8.76	8.47	8.17
C. Manufacturing industry	18	1.26	1.27	1.22	1.41	1.38	1.46
D. Electric power and thermal energy production and distribution	2	1.30	1.55	3.43	2.43	2.49	2.19
F. Construction	1	0.95	2.23	2.67	1.90	2.34	3.91
G. Wholesale and retail trade	3	0.66	0.57	0.34	0.45	0.35	0.29
H. Transportation and warehousing	4	5.12	6.79	5.64	6.09	6.52	6.09
I. Hotels and restaurants	2	2.68	2.89	1.60	1.69	1.76	1.74
Total	31	3.37	3.72	5.06	4.43	4.26	3.98

Source: Authors calculations based on data published by 31 non-financial companies listed on BVB

ETT calculated as weighted average for the 31 companies surveyed, rises in the period 2011-2013 from 3.37% to 5.06%, then registers a decreasing trend, reaching 3.98% in 2016. The highest values of this indicator are recorded in the mining industry: in the first three years, it increased from 6.86% to 10.69%, and in the period 2013-2016 it decreased to 8.17%. A similar dynamic of ETT is also observed for companies in the energy production and distribution sector. Since the companies from the mining and energy industries are large enterprises, their turnover representing more than 50% of the aggregate turnover of the companies analysed, ETT calculated as a weighted average for the whole sample is strongly influenced by the rates of these two activity sectors.

For the manufacturing industry, the dominant sector by the number of companies, ETT fluctuates between 1.22% and 1.46%, registering an ascending trend during the 2013-2016 period.

ETT is influenced by a margin rate, equal to the percentage ratio between earnings before tax and turnover, and by the effective tax rate based on earnings before tax (ETR).

Table no. 2. Effective corporate profit tax rate based on earnings before tax – weighted average

Activity Sector	Number of Companies	ETR (weighted average) – in %					
		2011	2012	2013	2014	2015	2016
B. Mining industry	1	21.88	18.63	32.02	22.01	23.37	21.75
C. Manufacturing industry	18	15.66	16.26	18.03	15.66	18.07	16.06
D. Electric power and thermal energy production and distribution	2	23.09	51.18	19.72	18.93	19.19	20.44
F. Construction	1	15.81	30.27	22.94	26.94	16.91	14.84
G. Wholesale and retail trade	3	21.02	21.00	18.82	20.57	19.29	14.13
H. Transportation and warehousing	4	18.59	28.42	23.78	19.21	20.01	17.30
I. Hotels and restaurants	2	16.07	28.16	15.30	17.66	17.90	16.60
Total	31	20.64	22.05	26.05	20.31	21.26	19.57

Source: Authors calculations based on data published by 31 non-financial companies listed on BVB

ETR calculated as a weighted average for the 31 companies is higher than the statutory tax rate of 16%; during the 2011-2013 period, it rises from 20.64% to 26.05%, and in the period 2014-2016 it registers a descending trend, reaching 19.57%. Among the elements that influence the ETR level are: the differences from the revaluation of fixed assets and their fiscal depreciation, the tax regime of provisions and adjustments for the depreciation of stocks and receivables, the sponsorship expenses, the tax exemption of reinvested profits.

Table no. 2 shows that in 2011, 2012 and 2014, the lowest values of the weighted average of ETR, of 15.66% and 16.26%, were recorded in the manufacturing industry. In 2015, the weighted average of ETR exceeds the statutory tax rate across all sectors of activity, and in 2016, in 6 of the 7 activity sectors, it decreases compared to 2015. In 2016, in construction and trade, ETR (weighted average) is lower than the statutory corporate profit tax rate.

Throughout the analysed period, in the case of companies in the mining and electric power production and distribution sectors, ETR values exceed the statutory corporate profit tax rate. During the 2011-2015 period, for the 4 transportation and warehousing sector companies, ETR is

superior to STR; in 2016, for 2 companies, the ETR is lower than STR, with about one percentage point, but the weighted average of the sector exceeds 16%.

Since the earnings before tax (EBT) of the 6 companies belonging to those three sectors of activity (codified B, D, H) represents more than 80% of the total EBT of the 31 companies, the ETR calculated as a weighted average at the sample level is significantly influenced by high ETR values for companies in those three sectors. In order to eliminate the influence of dominant enterprises and that of extreme values, the median values of the ETR are calculated. The median ETR, calculated over 2011-2016 for the 31 companies, shows a descending trend of around 2 percentage points, from 18.87% to 17.02%, but remains above STR. The median value of ETR, calculated for the 18 manufacturing enterprises, is 18.7% in 2011 and drops to 16.98% in 2016.

From the analysis of data for the 31 non-financial companies listed on BVB included in the sample, in 2016, for 19 companies, the ETR is higher than the STR, for 10 companies ETR is between 15.69% and 12.05%, and in the case of 2 companies ETR is below 5%. It should be noted that 5 companies with ETR less than 16% did not distribute dividends.

#### 4. Conclusions

In Romania, in the case of corporate profit tax, the taxation base is determined starting from the accounting result adjusted according to the regulations of the Fiscal Code. As a result of the fact that the fiscal result is different from the accounting result, as well as due to fiscal incentives granted to taxpayers in the form of the reduction of payable tax, the effective profit tax rate (calculated as a percentage ratio between current profit tax and earnings before tax) is different from the statutory rate.

Although during the 2011-2016 period, the statutory corporate profit tax rate remained constant at 16%, the ETR had a slightly descending trend, being mainly influenced by the tax treatment of the differences in the revaluation of fixed assets, provisions and depreciation adjustments, as well as tax incentives for investments. As a rule, ETR values are not lower than STR, and very low ETR values were registered by companies that have not distributed dividends from the net profit, but have reinvested their profits, benefitting from the associated tax exemption.

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