

# THE IMPACT OF FISCAL DEPRECIATION OVER THE ECONOMIC AND FISCAL PERFORMANCE OF THE COMPANY

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## Abstract

Depreciation, together with net result, define self-financing capacity of the company and any movement at the depreciation generates inverse effects on profit tax. For this reason, the system of evaluation and depreciation of fixed assets should be coordinated with maintaining the capital. In the case of depreciation, accounting policy may concern choosing one of the methods of depreciation, for example linear depreciation, accelerated or diminishing. The choice of a method of depreciation involves an accountable option. Article presents a comparative approach of the methods of depreciation and its implications on the economic and fiscal performance of the company, but it all depends on the business objectives, the strategy and the fiscal management.

**Keywords:** depreciation, fiscal, performance, profit

**JEL Classification:** G32, H20, H25, H32

## 1. Introduction

The present study aims to show the impact of tax depreciation on economic and financial performance of any businesses, in this way data from SC GMG MEDIA BOX S.A are being used. The present paper aims at present and quantify tax depreciation on net profit in the current period, as well as offering solutions that businesses can use tax depreciation in their favor, in relations with competitors.

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To determine the profit a series of analyzes can be made regarding the establishment of a fiscal strategy, in such way that using applicable possibilities of fiscal laws, the net profit result to be as large as possible. Thus, in determining the taxable base, the method of fiscal depreciation chosen has a major importance.

From a fiscal view, the expenses regarding acquisition, production, construction, assembly, installation and improvement can be recovered through fiscal depreciation deduction. Expenses with depreciation of the fixed assets has impact on diminishing operation's result, consequently, the net result. How big is the impact of these expenses is decided at the management level because it can be managed according to the depreciation method used.

The companies can apply different methods to accounting depreciation:

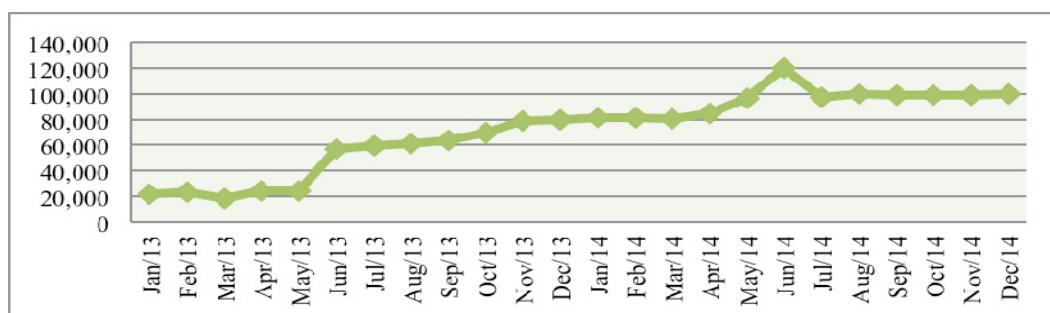
- Linear depreciation;
- Diminishing depreciation;
- Accelerated depreciation.

In establishing the expenses with depreciation, the period of normal use of the fixed asset has a major importance, besides chosen depreciation method, and it represents the number of years in which the value of the fixed asset can be recovered through depreciation method. The period of normal use is set through laws, and companies are being able to establish depending on their policies the period of amortization based on a catalog that sets the maximum and minimum period for any fixed assets. By applying linear amortization, the value of fixed asset can be moved evenly to expenses, in equal values for the entire period of normal use. By applying diminishing amortization, the established expenses for every year are decreasing (diminishing amortization rate is applied to the remaining amount to be recovered at the end of the amortization), and from a certain point it should move to linear depreciation.

In the case of accelerated amortization, expenses as much as 50% of the value of fixed assets can be made in the first year, and the difference should depreciate linear in the final period. In the case of calculated diminishing depreciation allowances (higher in the first half of its life and smaller in the second half) obtained tax savings during the first years are more important in the value of the company than its losses in recent years. In the current value, cash-flows from the first years are more important than the lasts (due to digressivity of the update factor related to exploitation period of the investments).

S.C. GMG MEDIA BOX S.A. practices a monthly straight-line amortization method, highlighted in the figure below:

Fig. 1 - Depreciation during January 2013 - December 2014



Source: Calculation on the basis of the results of the company

It can be seen that in May 2013 expenditure on depreciation increased dramatically, as a result of an investment made by the company to move to a new headquarters and the purchase of computers, furniture, all new investment generating new opportunities, and that is why the trend is increasing also in the following months. In the same time, with the change of establishment, the company will open a place of work in Cluj, where again it was necessary to purchase computers, monitors, furniture, by registering for a new amortization expense.

To determine fiscal advantages of depreciation, we will simulate the other 2 methods of depreciation: the accelerated and the degressive to see if the tax savings are higher than in the case of depreciation straight-line.

Linear depreciation is determined by the straight-line amortization input on the value of the asset. The fixed assets held by S. C GMG MEDIA BOX S.A. are mainly furniture and computers, and average duration of their lifetime is 5 years, so dimension of depreciation =  $100/5 = 20\%$ . So, we want to know which is the duty of the company's tax, the income tax through the prism of applying linear depreciation (table no. 1). We're going to take the period of analysis year 2014, because in 2013 the company records loss at the end of the financial year in the first place thanks to the investment made.

Table no. 1 Tax advantages: straight-line amortization in the year 2014, mil.lei

The amount of the fixed assets depreciation tangible is :	5,654,830
Normal duration of use of the above equipment is :	5
Cota de amortizare liniară este de :	0.2
Straight-line amortization rate is :	1,130,966
On the basis of income, expenditure, the elements and the non-deductible deductible:	
= > taxable profit (in accordance with previous calculations) :	9,864,572
= > and profit tax was :	1,614,454

Source: own processing based on data provided by the company

In the case of the depreciation method degressive depreciation shall be calculated by multiplying the shares straight-line amortization by the coefficient 2.0, specific of fixed assets depreciated over time between 5 and 10. In the first month, depreciation shall be calculated by applying the depreciation rate multiplied by the corresponding input value of asset, following that each month same rate to be applied to the amount remaining after deduction of annual cumulated. Such quotas for the depreciation economies decrease from year to year, as the Table no. 2 shows:

Table no. 2 Estimation of annual depreciation 2014, mil.lei

	Annual depreciation
2014	2,261,932
2015	1,357,159
2016	814,296
2017	610,722
2018	610,722
=	<b>5,654,830</b>

*Source:* own processing based on data provided by the company

As the table no. 3 shows, using the degressive depreciation method, in the year 2014, we noticed an expense much higher than using straight-line amortization method, which brings business tax advantages, will have to pay a income tax in May 2014.

Table no. 3 Tax advantages: degressive depreciation in 2014, mil.lei

Additional annual depreciation (and deductible) in relation to the straight-line method is	1.130.966
= > taxable profit (by deducting additional depreciation) is now:	8.959.372
= > and profit tax is :	1.433.499
Accordingly net profit is :	7.525.872
So we obtained an economy of profit tax in the first year of :	(180.955)

*Source:* own processing based on data provided by the company

Also the accelerated amortization method retrieves the input value of the equipment, but with a significant share in the first year (2014) and in equal shares in the other months of normal use. Due additional depreciation obtained in time through accelerated procedure, the impact on the tax savings shall be positive, but at the end of 5 years of depreciation the amount recovered will be the same.

Accelerated depreciation obtains a tax saving higher In the first month we saw half of the total depreciation. Tax saving is significant only in the year 2014, during the remainder of the period the impact will be much less.

Table no. 4 Tax advantages: accelerated depreciation 2014, mil.lei

Additional annual depreciation (and deductible) in relation to the straight-line method is:	1.696.449
= > taxable profit (by deducting additional depreciation) is now:	8.393.889
= > and profit tax is :	1.343.022
Accordingly net profit is :	7.050.866
Is obtained an economy of profit tax in the first year of :	(271.432)

*Source:* own processing based on data provided by the company

Tax advantages may be obtained depending on the method of depreciation chosen but depends on the management of each company. The financial manager of S.C. GMG MEDIA BOX S.R.L. decided to use a policy of linear depreciation due to the fact that there is no very large investment which would require an economy substantial from tax in a specific period, preferring to recover the investment of degree environment equally in the years ahead. A policy of accelerated depreciation or diminishing it would have been useful in 2013, on their investment to open a working place in Cluj, but the company recorded losses at the end of the year, in such way that those tax advantages being invalid.

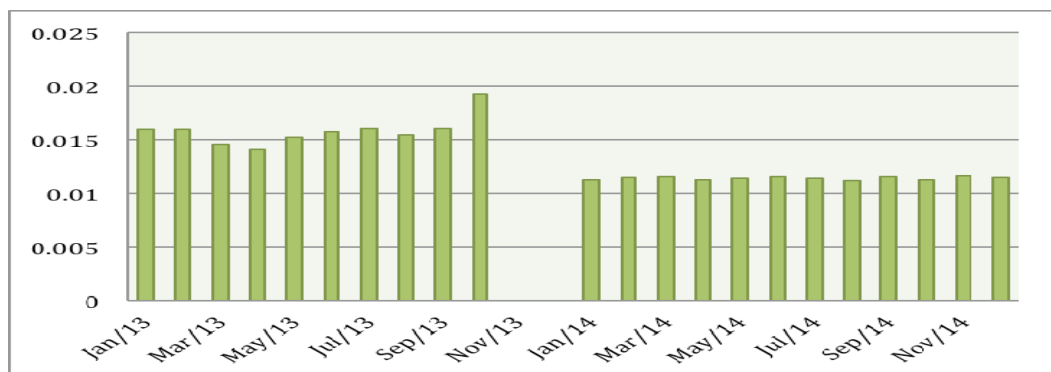
## 2. Methodology and data description

Empirical studies have shown that net result in the course of a financial year is influenced by the accounting amortization expense which is deductible from payment of the profit tax. Trying not to use absolute values which are likely to influence the result of the regression, bringing with it very large calculation errors, we have taken into account the weight profit in turnover correlated with the share of depreciation in turnover.

Therefore we apply an econometric model to the company whose financial performance has been highlighted in the first part of the paper. Data used in the model have been recorded during the period January 2013 to December 2014, relevant period for the company because it grows very much when it was bought by the American business. Results have been obtained using software package Eviews 4.1.

To determine which is the most suitable to be estimated (linear regression model - showing a linear relationship between the variables explained and explanatory - or non-linear regression model, the regression function can be any other form) we will graphically represent the two variables of interest (the share of net profit in turnover and the share of depreciation in profit net).

Fig. no. 2 : The share of depreciation in PN 2013 -2014

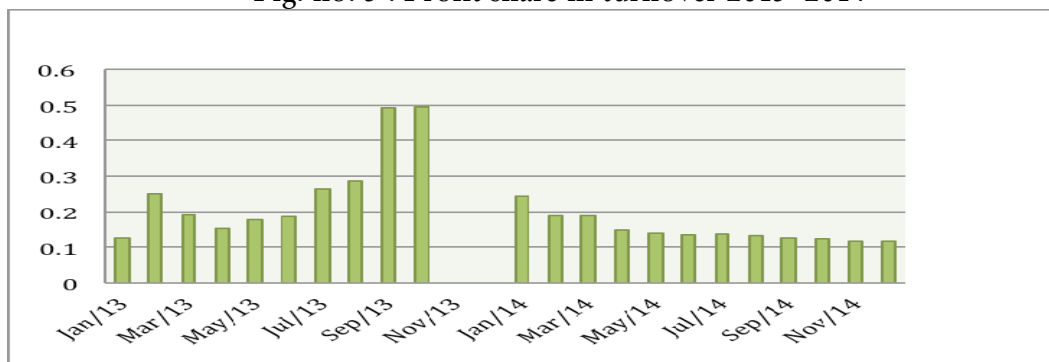


Source: own processing based on data provided by the company

According with the analys by the calculations carried out, it is to be noted that straight line method adopted by the company, involves a uniform allocation of depreciation during the whole period of operation in these years, then affecting taxable result with constant levels of expenditure on depreciation, the size of these costs vary depending on the duration of use: short duration, heavy expenditure (1.130.966 lei per year in the case of depreciation in 5 years), i.e. expenditure lowest for longer duration of time (565,483 lei per year in the case of depreciation in 10 years). In other words a considerable influence on rate of return on investment exerts size normal use (number of years).

As we can see the most share of depreciation in net profit is in October 2013 due to investments made by the firm to move to a new office, and that is why at the end of the year the business records negative financial results. And in 2014 on the basis of the opportunities arising from the investment made, the company shall decide not to make investments, preferring to adopt the strategy of recovery of the entire investment with all expenditure incurred.

Fig. no. 3 : Profit share in turnover 2013 -2014



Source: own processing based on data provided by the company

Besides measuring the impact of fiscal depreciation on net profit, we have found that, at the level of investment made by the company, the analysis can be more processed through the determination and quantification of net profit share in turnover. According to the fig. no.3 we notice that most prominence in the net profit in turnover shall be recorded in September and October 2013, this amounting to almost 0.5 % (September 0,4914 % and month of October 0,4952 %), but after an investment made by the company, revenue has decreased considerably, so the business records at the end of the year a negative profit and loss account. And as a result of investments in the year 2014 it is to be noticed an evolution of the weighting of fluctuating profit in turnover.

Futhermore, we will use an econometric model which has the next form:

$$PN / CA_i = \beta_0 + \beta_1 AMO / PN_i + \varepsilon_i, \quad i = 1...24,$$

Where:

- PN represents the net profit registered in the month "i";
- AMO represents the depreciation registered in the month „i”;
- CA represents the turnover;
- i represents the number of the months;
- $\beta_0$  represent the intercept;
- $\beta_1$  represents the coefficient og the amo/pn;
- $\varepsilon$  represents the residues.

Trough this model we intend to determine how the depreciation influences the net profit, with other words the determination of  $\beta_0$ ,  $\beta_1$  and  $\varepsilon_i$ .

For the purposes of the estimation of model parameters we have applied motoda OLS and we have obtained the following results (table no. 5):

Table no. 5: The influence of depreciation on net profit

Dependent Variable: PN_CA				
Method: Least Squares				
Date: 22/03/15				
Sample: 2013:01 2014:12				
Included observations: 24				
Variable	Coefficien	Std. Error	t-Statistic	Prob.
CA	0.396371	0.057085	6.943575	0.0000
AMO_CA	-16.99824	2.622219	-6.482386	0.0000
R-squared	0.656365	Mean dependent var		0.049589
Adjusted R-squared	0.640745	S.D. dependent var		0.162819
S.E. of regression	0.097590	Akaike info criterion		-1.736426
Sum squared resid	0.209524	Schwarz criterion		-1.638255
Log likelihood	22.83711	F-statistic		42.02133
Durbin-Watson stat	1.301140	Prob(F-statistic)		0.000002

Source: own processing based on data provided by Eviews 4.1.

Quality model can be assessed on the basis of several statistics:

- Probability associated with the two estimators  $\beta_0$  and  $\beta_1$  ( $p = 0.00$  and  $p = 0.00$ ) are smaller than the threshold of 0.05, indicates both terms are significant in the model.
- Test t, recording mode values greater than or equal to t tabelat ( $t_{0.05 ; 24} = 2,064$ ), determine acceptance null hypothesis, according to which estimators are significant.
- The coefficient of correlation - Rsquared - having the value 0.656365 it can be concluded that the variation in PN/AS is explained proportion of 65,63 % of the variation AMO/AS.
- Durbin-Watson Statistics has the value  $d = 1.3011$ . For a threshold of significance of 5 %,  $d_1 = 1.04$ , and  $d_2 = 1.20$ . Since  $d \in [d_2, 4-d_2]$ . It follows that there is no interference between autocorelation of grade I.
- Information criteria Akaike and Schwarz are used to choose between several models, the optimal. The decision rule used in the case of the application of these tests is that, according to which, is chosen that model for which the values of these two criteria are smaller. It is to be noted that both criteria give small values, -1,73 respectively -1.63. Therefore, we can say that they chose the model optimally.
- Statistical F is used, as well as the two criteria mentioned above, in order to choose the optimal, thus enhancing the conclusions obtained by criteria Akaike and Schwartz.. As it registers a higher value, the better.



- Statistics probability model F indicates the significance. As this has a value closer to zero, it follows that the model, in total, has a powerful meaning.

### 3. Empirical results

After testing its validity and estimating the parameters, the model can be written as:

$$PN/CA_i = 0,396371 - 16,99824 * AMO / PN_i + \varepsilon_i$$

This regression model allowed us to establish a number of aspects regarding the relationship between the variables, the most important being that between them there is a significant direct relationship.

The most important result is the fact that a decrease 1 unit of the share of depreciation in net profit will lead to a decrease of 16,99 units in the net profit determined as share in turnover.

From here we want to appreciate the size of the depreciation and the implications on the net profits, it is necessary to identify, first, the method of depreciation which generates the largest positive effect on companies' cash flow namely on net profit, taking into account the normal duration of the use of asset and even the profits which are derived from its use, for the purposes of any deduction for depreciation costs size.

It is to be noted that a decrease in the depreciation lead by default to a change in the same direction of the indicator of performance, namely in the net profit. Therefore, at the level of investments, the interest opposite amortization method is linked to a priority that this generates expenses which shall be deducted from taxable profits, and consequently improves profit tax due. The tax saving obtained is equal to the product of the amount of depreciation recorded and the share of profit tax, the size depending on the level of expenditure with annual depreciation and the share of the profit tax.

Company accounting policy relating to depreciation has influence on the outcome and profit tax by the impact that it has annual depreciation recognition as an expenditure for the period. Therefore, any recognition or registration error, as well as any change of estimates to future economic benefits arising from the use for tangible and intangible causes a new resizing of the outcome of financial year, due to changes of important depreciation calculus for tangible assets: life use; for intangible assets; depreciation period. Registration of depreciation represents an important lever in establishing the company's

financial situation. Each of the elements underlying the calculation of depreciation may influence its size. Under the conditions in which a company has the possibility to choose as regards depreciation, taking into account that the interest is the investment, interest which shall enter in competition with most of the state.

### 3. Conclusion

Economic and Financial Performance of the companies are influenced by fiscal amortization. Fiscal amortization influences cash flow and the profit tax also. The option for a system of depreciation determine tax load distribution over the life of capital goods used by the company. To quantify correctly the impact fiscal depreciation economy through tax, we must consider the value of money over time, whereas the size of savings result in a decline in the corresponding tax paid, i.e. of cash flows out from the company.

Theory and practice recommended that the regime of depreciation used to be logically and systematically. In other words, the regime of the depreciation chosen should reflect the service capacity reduction of fixed assets. The cost of entry should not be assigned to exercise arbitrarily, without taking into account the manner in which they will lose some of its value useful over the years.

It is well known that the choice of a system of depreciation is a matter of discretion.

Linear depreciation is a advantage which is simple to apply, being the most used because of its time's cost and uniform expenses. If a diminishing or a accelerated system is chosen, they are good for the companies which benefits from this fact. Quick depreciation is degressive, they may postpone the date of payment for a part of the tax, in this way they benefit from currency depreciation. If they are scarce as a result in the next few years, businesses are allowed to circumvent permanently from the tax. No matter what method of depreciation the business use, depreciation brings new sources of financing reflected in its ability to self-financing, and if applicable, those methods of depreciation costs may increase in the first years after the revolution, in this way it manages to create an economic advantage by increasing net profit.

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