

# THE ENTERPRISE INVESTMENT DECISIONS UNDER THE INFLUENCE OF TAX FACILITIES

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## **Abstract:**

*This paper analyzes the impact of tax facilities on the investment decision making process. We study this aspect for an enterprise investment decision, taking into account some tax facilities as the accelerated depreciation, 50% reduction of the corporate tax for the reinvested profit, deduction of 20% from the input value of fixed assets, tax exemption for reinvested profit and the diminishing of corporate tax rate. For each case, we calculate the investment efficiency indicators (NPV, IRR) and the net present value of cash flow and we determine which of these facilities is more efficient (advantageous) for the enterprise. Finally, we conclude that public financial decisions on corporate tax have a great impact on the decision of choosing between investment alternatives and on the enterprise performance.*

**Key words:** investment decision, tax facilities, cash-flow, net present value (NPV), internal rate of return (IRR).

**JEL classification:** G31, G38, H32

## **1. Introduction<sup>1</sup>**

The investment decisions aim at allocating the cash resources a company possesses for the acquisition, building, modernization of fixed assets, the accumulation of material stocks within the volume and structure adequate to its functioning at the highest parameters, with maximum efficiency or they focus on placing the available cash flow in financial assets.

The investment decisions of the company are influenced by certain factors, among which there are the fiscal and budgetary decisions taken by the public authorities. Even if it is frequently believed that the taking of financial decisions in the private sector belongs to the economic agent's sovereignty, sometimes they are influenced by the financial public decisions. Thus, taking into account that the enterprises want to obtain the highest profits, the public authorities can be involved, even financially, either by creating the organisational and financial framework appropriate for getting loans under advantageous conditions, either by financing some scientific research programs. The enterprises could benefit from their results by granting certain fiscal facilities or by taking other measures.

## **2. Analysis regarding the impact of fiscal facilities on the investment decision**

In order to observe the impact of the decisions taken by the government in the area of taxes upon the enterprise's investment activity and, respectively, upon the adoption of the investment decision, we undertook a study on a constructions company, namely S.C. Transilvania Construcții S.A. The choice of a construction firm is justified

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by the fact that this sector has known an impressive development after 1991, in 2007 being the second sector according to the weight of investments within the total investments.

S.C. Transilvania Construcții S.A. is a private equity company, its stocks being listed on the Bucharest Stock Exchange, II<sup>nd</sup> category, and having the symbol COTR.

Transilvania Construcții has been on the constructions market since 1950, being entirely privatized in 1999. The firm has as main object of activity the civil and industrial constructions, and in accordance with CAEN rev. 2 – Construction Works of residential and non-residential buildings (4120)<sup>2</sup>. The main activity of the company is represented by the assembly constructions, holding the largest weight in the turnover.

In 2011, the company is expecting an increase in returns from the assembly and construction activity, due to the existence of an ongoing contract portfolio larger than the one existing in 2010, as well as to the existence of some contracts that are to be negotiated and whose execution will start in 2011. To this aim, due to the forecast of the increase in the activity volume (also against the backdrop of the economic recovery of our country), the company planned an investment project for 2011 that should allow for a higher volume of assembly and construction works. In the present, the company is not dramatically faced with uncertainty factors that could affect its liquidity in the future. Still, owing to the circumstance created by the economic crisis, the company has developed its investment plan on the basis of a solid analysis of its potential clients with certain liquidities.

By taking the decision to make these investments, the enterprise aims at purchasing the equipments mentioned below in order to accomplish the higher number of works of assembly and constructions planned for 2011 as well as the building of a new storehouse to let.

**Table no. 1. The estimating level of investment expenses at S.C. Transilvania Construcții S.A.**

Investment expenses	Estimated price	Transport and assembly	Total (RON)
Equipments, of which:			<b>2.213.016</b>
- Tower crane	1 x 987.181	6.336	993.517
- Self-erecting cranes	2 x 245.100	3.168	493.368
- Hydraulic excavator (65kw)	2 x 359.074	-	718148
- Site work organising table			7.983
- Storehouse			2.211.533
<b>Total investment expenses</b>			<b>4.424.549</b>

As for the financing resources of the investment, the company has got internal financing resources worth 2.856.105 RON. As the internal resources are not sufficient to finance the investment, the company has to contract a bank loan. The necessary sums to be contracted as a bank loan, the cost of each financing resource as well as the weighted cost of capital are summarized in table no. 2.

**Table no. 2. The forecast of financing resources of the investment**

Financial elements	Sum (RON)	Weight in the total of resources	Capital cost
Total necessary to be financed	4,424,549	100.00%	8.94%
Internal financing resources of the investments	2,856,105	64.55%	7.86%
Bank loans for the investment financing	1,568,444	35.45%	13.00%

<sup>2</sup>Bucharest Stock Exchange, <http://www.bvb.ro/ListedCompanies/SecurityDetail.aspx?s=COTR>

The return rate necessary for the shareholders' remuneration can be dimensioned if we know the social capital of the company, worth 23,414,600 RON, devised in 709,520 shares, with the nominal value of 33 RON/per share.

The company distributed dividends to its shareholders worth 2.5933 RON/per share (the last year when dividends were distributed was 2007 – total value of 1,840,000 RON), and for our analysis we consider that the firm will continue to grant constant dividends.

Thus, we can calculate the equity cost as a ratio between the dividend per share and the nominal value of the share, equal to 7.86%.

We calculate the weighted cost of equity, taking into account the cost of borrowed capital of 13% (the bank loan for the making of the investment was estimated to be granted for 5 years, at an interest rate of 13% and it will be reimbursed in equal installments) and the rate of the corporate tax of 16%.

$$k = 7.86\% \times 64.55\% + 13\% \times (1 - 0.16) \times 35.45 = 8.94\%.$$

According to the investment plan and the budget for incomes and expenses for 2011, the firm planned a 108% increase in the turnover for the year 2011 in comparison with 2010, which also implies an increase of operating incomes and expenses.

Thus, the operating incomes generated by the investment undertaken by the company will be in the first year of 10,744,743 RON, while during the whole operational period the company forecasts the increase of the operating incomes each year, in the context of the improvement of economic conditions at national and world level and the extension of the company at regional and national level planned to occur within its development strategy.

As regards the operating expenses generated by the investment commissioning, due to the fact that the price of raw and construction materials has decreased, this represents a positive aspect for the company's activity. Taking into account the possibility to purchase the raw materials for construction from different suppliers, in the first year the operating expenses were estimated at 7,498,430 RON and their trend will be ascending and corresponding to the trend registered by the operating incomes.

To estimate the total operating expenses, the company has to substantiate the depreciation extent of the fixed assets resulted from investments. The company settles as average operational period, in compliance with the enforced legislation<sup>3</sup>, 8 years for equipments and 24 years for the storehouse. According to the Romanian Fiscal Code, in the case of constructions, the linear depreciation method is applied. For technological equipments, namely the machines, tools and installations as well as for computers and their auxiliary units, the company may choose from the linear, digressive or accelerated depreciation method. The annual level of depreciation costs if the company opts for linear or accelerated depreciation is centralized in table no. 3.

**Table no. 3. The level of depreciation costs for fixed assets resulted from investment and the fiscal benefits obtainable from the depreciation deduction**

Fixed assets from investments	Total annual amount of linear depreciation (RON)	Annual amount of accelerated depreciation (RON)	
		First operating year	The following 7 years
1. Equipments	276,627	1,106,508	158,073
2. Warehouse	92,147	92,147	92,147

<sup>3</sup> H.G. no. 2139/2004 from November 30<sup>th</sup> 2004 for the approval of the Catalogue regarding the classification and normal use periods of fixed assets, published in the M. Of. no. 46 from 13 January 2005 and modified by H.G. no. 1496/2008 from November 19<sup>th</sup> 2008 regarding the modification of the appendix to H.G. no. 2139/2004.

<b>3. Total</b>	<b>368,774</b>	<b>1,198,655</b>	<b>250,220</b>
<b>4. Tax benefits (savings) = rd.3*0.16</b>	<b>59,004</b>	<b>191,785</b>	<b>40,035</b>

The depreciation costs are deductible expenses when calculating the taxable profit, generating tax benefits (savings) for the enterprise. These benefits are higher in the case of the accelerated depreciation, because in the first operating year of the investment, up to 50% of the fixed asset value can be paid off. Thus, the decision taken by the public authorities to allow the company to opt for accelerated depreciation creates tax benefits in the first year of the investment activity (see table no. 3). When comparing the measure units of the tax benefits obtainable by means of the accelerated depreciation method with those relating to the linear depreciation, we notice that in the first year of investment activity, the adoption of accelerated depreciation generates tax benefits higher by 132,781 RON = 191,875 – 59,004.

These tax benefits determined by the possibility to apply the accelerated depreciation have positive effects on the financial flows of the company and, implicitly, on the economic and financial performances of the investment activity.

The financial flows generated by the investment are presented in table no. 4 while table no. 5 summarizes the levels of efficiency indicators, if the accelerated depreciation is chosen in relation to the levels obtained as a consequence of applying linear depreciation.

**Table no. 4. The financial flows generated by the investment in the case of the application of linear depreciation at S.C. Transilvania Construcții S.A.**

Financial items	Year 2011	Year 2012	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Total
1. Operating incomes	10,744,743	12,249,007	13,841,378	15,502,343	17,207,601	18,584,209	19,978,025	21,376,487	129,483,793
2. Operating expenses (without depreciation costs)	7,498,430	8,473,226	9,617,111	10,723,079	11,956,233	13,390,981	14,930,944	16,498,693	93,088,699
3. Gross operating financial flow (rd.1 - rd.2)	3,246,313	3,775,781	4,224,267	4,779,264	5,251,368	5,193,228	5,047,081	4,877,793	36,395,094
4. Depreciation of fixed assets	368,774	368,774	368,774	368,774	368,774	368,774	368,774	368,774	2,950,194
5. Earnings before interests and taxes (rd.3 - rd.4)	2,877,539	3,407,007	3,855,492	4,410,490	4,882,594	4,824,454	4,678,306	4,509,019	33,444,901
6. Tax (rd.5 * 16%)	460,406	545,121	616,879	705,678	781,215	771,913	748,529	721,443	5,351,184
7. Net operating financial flow (rd.3 - rd.6)	2,785,907	3,230,660	3,607,388	4,073,586	4,470,153	4,421,315	4,298,552	4,156,350	31,043,910
8. Interest rates	203,898	163,118	122,339	81,559	40,780	0	0	0	611,693
9. Taxable profit (rd. 5 - rd.8)	2,673,641	3,243,889	3,733,154	4,328,931	4,841,814	4,824,454	4,678,306	4,509,019	32,833,207
10. Corporate Tax (rd.9 * 16%)	427,783	519,022	597,305	692,629	774,690	771,913	748,529	721,443	5,253,313
11. Net profit (rd. 9 - rd.10)	2,245,859	2,724,867	3,135,849	3,636,302	4,067,124	4,052,541	3,929,777	3,787,576	27,579,894
12. Depreciation of fixed assets	368,774	368,774	368,774	368,774	368,774	368,774	368,774	368,774	2,950,194
13. Loan reimbursement	313,689	313,689	313,689	313,689	313,689	0	0	0	1,568,444
14. Payment dividends	1,840,000	1,840,000	1,840,000	1,840,000	1,840,000	1,840,000	1,840,000	1,840,000	14,720,000
15. Available net financial flow (rd. 11+rd.12 - rd.13 - rd.14)	460,944	939,952	1,350,935	1,851,387	2,282,209	2,581,315	2,458,552	2,316,350	14,241,644
16. Discount rate (k = 8.94%)	1.0894	1.1868	1.2929	1.4085	1.5344	1.6716	1.8210	1.9838	
17. Discounted net operating cash flow (rd. 7 / rd.16)	2,557,285	2,722,178	2,790,170	2,892,194	2,913,302	2,645,010	2,360,536	2,095,141	20,975,815
18. Available discounted net cash flow (rd. 15 / rd. 16)	423,117	792,010	1,044,894	1,314,461	1,487,369	1,544,247	1,350,106	1,167,630	<b>9,123,834</b>
NPV									<b>16,551,266</b>
PI									<b>4.74</b>
IRR									<b>73.23%</b>

The investment efficiency indicators (net present value – NPV, profitability index – PI) were calculated by means of the relations no. 1 and 2.

**NPV = total net operating discounted cash flow – investment costs (1)**

**PI = total net operating discounted cash flow /investment costs (2)**

**Table no. 5. Comparative analysis of efficiency indicators**

Indicators	Linear depreciation	Accelerated depreciation <sup>4</sup>
NPV (RON)	16,551,266	16,585,340
PI	4.74	4.75
IRR	73.23%	74.20%

The variation of the levels of efficiency indicators under the conditions of the two depreciation methods highlights the advantages that come from the **use of the accelerated depreciation method as a fiscal facility intended to stimulate the company's investment activity**. The deduction in the first year of investment activity of 50% of the input value of fixed assets determines the reduction of the operating profit and therefore, of the corporate tax paid by the company for the first year of activity. This will also be favourably reflected on its cash flows. The accelerated depreciation allows for a more rapid recuperation of the invested capital while the levels of the efficiency indicators NPV, PI and IRR increase.

In what follows, we will analyse the impact of taking some decisions by the public authorities regarding the grant of some fiscal facilities for investments, as well as the way these could affect the substantiation of the company's investment decision.

Thus, a decision having a stimulating impact on the investment activity of the company consists in the acceptance by the fiscal authorities of the **deductibility of interest expenses**. In table no. 6 it is highlighted the more reduced level of the nominal interests the company bears every year as a consequence of the fiscal deduction that is practiced. This determines, in the light of the corporate tax, the increase in the net financial flows remaining at the disposal of the company from the adoption of the investment, being allocated to other activities.

**Table no. 6. The tax savings obtainable from the deductibility of interest expenses at S.C. Transilvania Construcții S.A.**

Financial items	Year 2010	Year 2011	Year 2012	Year 2013	Year 2014
1. Interest expenses	203,898	163,118	122,339	81,559	40,780
2. Tax savings related to interest rates (rd.1*0.16)	32,624	26,099	19,574	13,049	6,525
3. Nominal expenses related to interest rates (rd.1 - rd.2)	171,274	137,019	102,764	68,510	34,255

The favourable impact of fiscal deduction of interest rates on the net cash flows can be also reflected by comparing the measure units obtained with the levels obtainable if the interest tax deduction is not applied.

In this respect, table no. 7 presents the impact of interest tax deductibility related to borrowed capitals on the available net financial flows under the conditions of an accelerated depreciation and a corporate tax rate of 16%.

**Table no. 7. The impact of interest tax deductibility related to borrowed capitals on the net financial flows available at S.C. Transilvania Construcții S.A.**

<sup>4</sup> The calculi were done according to the table no. 4, but applying the methodology specific to the accelerated depreciation.

Financial items		Year 2011	Year 2012	Year 2013	Year 2014	Year 2015
1. Operating profit		2,047,658	3,525,561	3,974,047	4,529,044	5,001,148
2. Interests		203,898	163,118	122,339	81,559	40,780
3. Taxable profit (rd.1-rd.2)		1,843,760	3,362,443	3,851,708	4,447,485	4,960,368
4. Corporate tax under the conditions of:	tax deductibility of interests (rd.3 * 16%)	295,002	537,991	616,273	711,598	793,659
	tax non-deductibility of interests (rd.1 *16%)	327,625	564,090	635,847	724,647	800,184
5. Net profit, under the conditions o:	tax deductibility of interests (rd.3 – rd.4)	1,548,758	2,824,452	3,235,435	3,735,888	4,166,709
	tax non-deductibility of interests (rd.3 – rd.4)	1,516,135	2,798,353	3,215,861	3,722,838	4,160,185
6. Accelerated depreciation		1,198,655	250,220	250,220	250,220	250,220
7. Loan reimbursement		313,689	313,689	313,689	313,689	313,689
8. Payment dividends		1,840,000	1,840,000	1,840,000	1,840,000	1,840,000
9. Available net financial flow, under the conditions of:	tax deductibility of interests (rd.5 + rd.6 – rd.7 –rd.8)	593,725	920,983	1,331,966	1,832,419	2,263,240
	tax non-deductibility of interests (rd.5 + rd.6 – rd.7 –rd.8)	561,101	894,884	1,312,392	1,819,369	2,256,716

The interest deduction influences the amount of the corporate tax, which is reduced, in the first operating year, by 32,624 RON = 327,625 – 295,002, meaning the exact tax saving (see table no. 6). Following a smaller corporate tax, a higher net profit available for the company is obtained in the case of the tax-deductible interests in comparison with the interests that are not tax-deductible. Even if in the moment of interest payment, the positive effect of this tax facility (to deduct interest expenses from the taxable profit when computing the corporate tax) is not perceived, it becomes real when the enterprises honour their duties related to the corporate tax payment. Thus, in the case of our company that used bank loans to finance its investments, the corporate tax is reduced, the tax saving being equal to the amount of interests to which the corporate tax rate is applied.

A stimulating decision<sup>5</sup> having an impact on the investment activity applied in Romania was the 50% tax reduction for the profit used in the current fiscal year for the modernization of manufacturing technologies or for the extension of activity to obtain additional profits, as well as for investments intended for environment protection, translated in tangible and intangible redeemable assets (this facility was conditioned by the use of linear depreciation).

Another government decision that we would like to analyse from the perspective of its impact on the company's investment activity focuses on the **taxable profit deduction of some additional depreciation expenses, representing 20% of the input value of fixed assets**, for the tax-payers who invested in fixed assets and did not choose the accelerated depreciation method<sup>6</sup>.

In 2010, the fiscal legislation<sup>7</sup> stipulates as fiscal facility the tax exemption of the reinvested profit. Thus, the profit invested in the production and /or the purchase of technological equipments (machines, tools and working installations) used to obtain

<sup>5</sup> Law no. 73/1996 for the approval of the Government Ordonance no. 70/1994 regarding the corporate tax, published in the M.Of. no. 174/1996.

<sup>6</sup> Law no. 414/26 June 2002 regarding the corporate tax, published in the M.Of. no. 456/27 June 2002.

<sup>7</sup> Present Tax Code updated for 2011, available at

[http://static.anaf.ro/static/10/Anaf/Cod\\_Fiscal\\_norme.2010.htm#\\_Toc244063404](http://static.anaf.ro/static/10/Anaf/Cod_Fiscal_norme.2010.htm#_Toc244063404), art. 19<sup>2</sup>.

taxable incomes, is tax-exempt. The tax exemption of the reinvested profit is beneficial for the company as there are higher available financial flows (in comparison with the case when such fiscal facility would not be practiced). On the other hand, this means for the state budget the reduction of income returns, which may have unfavourable consequences on the budgetary balance.

A decision that could be adopted by the fiscal authorities in order to stimulate the company's investment activity – it will have favourable effects on the available net operating financial flows – is represented by the reduction of the corporate tax rate from 16% to 10% (and the possibility to opt for accelerated depreciation). Such a decision could be justified by the fact that against the backdrop of the world economic crisis, some EU countries have reduced the rate of the corporate tax. In this respect, we should mention Slovenia that reduced the corporate tax rate from 21% in 2009 to 20% in 2010; Lithuania from 20% to 15% and Hungary from 19% to 10% (there are also other EU countries applying a 10% rate, namely Bulgaria and Cyprus). The favourable effects will also be reflected at the level of the public budget, because by means of the reduction of the corporate tax rate and investment stimulation, a higher tax base will be obtained as well as the possibility to increase the government revenues from the corporate tax.

The smaller corporate tax rate can be evenly stipulated for all economic companies or applied in a differentiated manner, according to the activity area of the companies. This reduced rate could be adopted for the firms that had the most to suffer from the world economic crisis, as in our case, the construction sector. The application of this smaller rate might allow these companies which experience economic difficulties, to use the larger available financial resources to finance their investments.

In table no. 8, we present the results obtained following the application of different variants of fiscal facilities granted for corporate tax. When comparing the levels of efficiency indicators and the financial flows generated by the investment made by S.C. Transilvania Construcții S.A., we can establish which of these are more convenient for the company's investment activity.

**Table no. 8. Comparative analysis of efficiency indicators and cash flows generated by the investment according to the different variants of tax facilities granted in the case of corporate tax**

Fiscal facilities	NPV	PI	IRR	Total available net financial flow	Rank
Linear depreciation	16.551.266	4.74	73.23%	9,123,834	6
Accelerated depreciation	16.585.340	4.75	74.20%	9,157,908	5
Linear depreciation + 50% reduction at the reinvested profit tax	16.551.266	4.74	73.23%	9,258,954	3
Linear depreciation + 20% deduction from the input value	16.551.266	4.74	73.23%	9,210,493	4
Linear depreciation + tax exemption for the reinvested profit	16.551.266	4.74	73.23%	9,394,075	2
Accelerated depreciation + 10% corporate tax rate	17.924.716	5.05	78.20%	10,467,061	1

Firstly, we notice that the investment efficiency indicators (NPV, PI and IRR) register the highest values in the case of the accelerated depreciation method. Secondly, if we relate to the criterion of total present net financial flows available to the company after the completion of the investment, the classification is that from table no. 8. Thus, the most advantageous decision relating to the corporate tax is the reduction of the tax rate from 16% to 10%, if the possibility to opt for the accelerated depreciation is

preserved. On the second position, there is the decision for tax exemption of the reinvested profit, followed by the decision to grant a 50% discount on the reinvested profit (conditioned by the application of the linear depreciation), which is not applied anymore. On the fourth position there is the decision to apply the linear depreciation accompanied by the possibility of a 20% deduction from the input value of the fixed asset. On the last positions there are the choice for accelerated depreciation and the option for the linear depreciation, having the smallest effects on the net present financial flows available for the company.

### 3. Conclusions

As a consequence, the decisions taken by the public authorities as regards the corporate tax have a special impact on the investment decisions, on the fixing of capital cost and, generally, on the economic and financial performances of the enterprise.

Under the present conditions when we are still faced with the effects of the economic crisis, the decisions about taxes are important for the stimulation of companies' investment activity. Apart from the granted tax facilities, we believe that, in order to insure the recovery of the economy, the efficiency and certainty of the exaction as well as the stability and predictability of the tax system are essential.

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