

The amortization of fixed assets in terms of deferred taxes

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Abstract. *The effects of amortization on the presentation of the financial statements are quite noticeable when calculating the profit before tax as well as for its recognition in the balance sheet. Accounting amortization changes the value of the fixed assets itemized in the assets column, while the related expense changes the profit and loss account. Tax amortization does not affect the performance of the enterprise, but only the taxable amounts. The differences between accounting amortization and tax amortization generate temporary differences that are either taxable or deductible, and these are matters that will be analysed under circumstances when the deferred tax method is applied. The recognition of the value of the deferred tax in the profit and loss account for each type of temporary difference would be a step towards the separation of financial accounting from taxation.*

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1. Introduction

In theory, amortization stands for the systematic allocation of the depreciable value of an asset throughout the duration of its useful life. In this respect, we could argue that amortization represents the employment of the rules of accrual accounting and of the matching principle.

The amortization of fixed assets in terms of deferred taxes should be approached with respect to the International Accounting Standards, since the accounting of the enterprise is affected by two essential facts: on the one hand, the standards and regulations of general accounting and, on the other hand, the development of accounting research (Colasse, 2000, p. 20).

The international accounting standards board prescribes the accounting treatment of income taxes in the IAS 12 "Income taxes" standard. According to this particular standard, the tax rate will be applied to the taxable income in order to measure the tax to be paid at the end of the accounting period. The taxable income is measured in compliance with the regulations set by the tax authorities of each country. The differences occurring between profit before tax and the taxable income are divided into permanent and temporary differences.

Permanent differences include the following types of revenues and expenses (Morariu et al., 2005, pp. 194-200):

- Deductible expenses, for income tax purposes, that will always be non-deductible, since the tax authorities see them as exaggerated or unnecessary for the activity of the company;
- Revenues that the tax authorities will always categorize as non-taxable, since they are generated by already taxed income (dividends received from the subsidiary);
- Tax relief granted in the form of tax exemption or relief in order to encourage certain economic activities promoted by the government.

Temporary differences are those differences between the financial reporting carrying value of assets or liabilities and their income tax basis. These differences arise from the time difference between the moment when an item is carried in the books and the moment it is included in the taxable income. The temporary differences are usually recovered during the following accounting period.

There are four types of elements that are defined as temporary differences (Puentes Poyatos, 2004). These are:

- expenses or losses recognised for financial purposes prior to becoming deductible for income tax purposes;
- revenues recognised for income tax purposes prior to recognition in the financial statements;

- revenues recognised for financial purposes before being recognised for income tax purposes;
- expenses or losses deductible for income tax purposes prior to recognition in the financial statements.

Temporary differences may be taxable and deductible (Popa et al., 2007, pp. 276-294). Taxable temporary differences are those that will result in taxable amounts in the future, when the carrying amount of an asset or that of a liability will be recovered or settled. Deductible temporary differences are those differences that will result in amounts that are tax-deductible in the future, when the carrying amount of an asset is recovered or a liability is settled.

1. Deferred taxes generated by the differences between accounting amortization and tax amortization

Accounting amortization is the irreversible loss in value that is carried in the books as expenses established in compliance with certain accounting standards and regulations. Tax amortization is the amortization established according to certain taxation standards in order to replace the accounting amortization when the income tax is calculated. The differences arising between the amortization recognised in financial statements and the amortization used for calculating income tax, account for the presence of deferred taxes. The differences between financial and tax amortization arise as a result of employing different amortization methods or different timings of recognition. The way in which these taxes give rise to deferred taxes will be emphasized in the following two possible scenarios.

1st Scenario: The evolution of the deferred income tax as a result of using different financial and tax amortization methods

A business entity purchases technological equipment at the end of December N-1 at the initial cost of 50,000 lei. The asset's useful life is of five years and the salvage value is null. In terms of accounting, the company uses the straight-line amortization method and, as far as taxation is concerned, the entity uses the accelerated amortization method. We assume that the company will record a 30,000 lei profit before tax in the year N, 35,000 lei in the year N+1, 40,000 lei in the year N+2, 37,000 lei in the year N+3 and 42,000 lei in the year N+4.

Table 1 itemizes the data for the accounting amortization and for the tax amortization for the five years under consideration.

Table 1

Accounting amortization and tax amortization					
Year	Initial value	Accounting amortization	Tax amortization	Book value	Tax base
N	11,000	27,500	44,000	27,500	55,000
N+1	55,000	11,000	27,500	44,000	27,500
N+2	55,000	11,000	6,875	33,000	20,625
N+3	55,000	11,000	6,875	22,000	13,750
N+4	55,000	11,000	6,875	11,000	6,875

In order to alleviate the consequences of applying accounting amortization on the taxable profit, this amortization will be added to the profit before tax and the tax amortization will be subsequently subtracted from the total value. Thus, the taxable income presented in Table 2 will be influenced both by tax and accounting amortization.

Table 2

Estimation of the taxable income					
Year	Profit before tax	Accounting amortization	Tax amortization	Taxable income	Income tax
N	30,000	11,000	27,500	13,500	2,160
N+1	35,000	11,000	6,875	39,125	6,260
N+2	40,000	11,000	6,875	44,125	7,060
N+3	37,000	11,000	6,875	41,125	6,580
N+4	42,000	11,000	6,875	46,125	7,380

An analysis of the information presented in Tables 1 and 2 reveals that, at the end of the accounting period N, the book value of the asset is higher than the tax base. Consequently, we note a taxable temporary difference of 16,500 lei (44,000 lei – 27,500 lei) which generates a deferred income tax of 2,640 lei (16% × 16,500 lei). In terms of tax amortization, the business entity earns a taxable income of 13,500 lei in the year N, for which it will pay an income tax of 2,160 lei. If the accelerated amortization method hadn't been used as far as taxation goes, the business entity would pay an income tax of 4,800 lei (16% × 30,000 lei) for the year N. Therefore, the income tax paid by the company for the year N is reduced by 2,640 lei (4,800 lei – 2,160 lei). This amount will be paid in the following four years, when the business entity will have to make higher payments in terms of income tax than would have been necessary from a financial standpoint, if the amortization hadn't had taxation consequences.

The balance sheet shows deferred tax liabilities of 2,640 lei. The business entity pays an income tax of 2,160 lei for the year N, calculated in compliance with the taxation standards, but the income tax expenses amount to 4,800 lei.

This expense is two-fold: the current tax expenses of 2,160 lei and the deferred tax expenses of 2,640 lei.

If the methodology used for the N year is applied for the following four years as well, one can estimate the deferred tax liabilities for the years N+1, N+2, N+3 and N+4. The collected data is presented in Table 3.

Table 3

Presentation of the deferred tax liabilities

Year	Book value	Tax base	Taxable temporary difference	Income tax	Deferred tax liabilities	Income tax expenses
N	44,000	27,500	16,500	2,160	2,640	4,800
N+1	33,000	20,625	12,375	6,260	1,980	5,600
N+2	22,000	13,750	8,250	7,060	1,320	6,400
N+3	11,000	6,875	4,125	6,580	660	5,920
N+4	0	0	0	7,380	0	6,720
Total				29,440		29,440

As a consequence of different amortization methods in terms of financial accounting and taxation standards, the payable income tax for the year N will be lower than the income tax expenses carried in the books during the accounting period. The payable income tax for the following four years will be higher than the income tax expenses recorded in the profit and loss account. The deferred tax liability recognised in the balance sheet of the year N will be recorded in the revenues in the years N+1, N+2, N+3 and N+4. Thus, during each of the four years under consideration, the deferred tax liability will be reduced by 660 lei, and will increase the revenues from deferred income taxes. Even though the income tax calculated according to taxation regulations in each of the five years under consideration is not equal to the value of the income tax expenses estimated according to accounting regulations, it becomes evident that the amount of tax paid during the five years is equal to the total income tax expenses recorded in those five years. A possible explanation for this occurrence is the financial reporting carrying value of the deferred tax liability which occurs as a consequence of the amortization methods applied, which differ from a financial and taxation standpoint. The deferred income tax liabilities will decrease every year until they become null in the balance sheet of the N+4 accounting period.

2nd Scenario: The evolution of the deferred income tax caused by changes in the useful life of fixed assets in terms of taxation, as opposed to the useful life estimated by accounting amortization.

A business entity purchases a software programme on December 20th of the year N-1 and assigns it a useful life of two years in terms of accounting

amortization. The initial cost of the software amounts to 9,000 lei. In terms of taxation, the software will be amortised in three years. Both in terms of accounting and taxation, the software will be depreciated by using the straight-line amortization method. We assume that the business entity has recorded a profit before tax of 30,000 lei in the year N, 40,000 lei in the year N+1 and 36,000 lei in the year N+2.

After processing the data in terms of financial and tax amortization, Table 4 reveals the taxable income and the income tax. We should keep in mind that the taxable income is influenced by tax amortization and not by the amortization recorded in accounting.

Table 4

Estimation of the taxable income

Year	Profit before tax	Accounting amortization	Tax amortization	Taxable income	Income tax
N	30,000	4,500	3,000	31,500	5,040
N+1	40,000	4,500	3,000	41,500	6,640
N+2	36,000	0	3,000	33,000	5,280

The current income tax liabilities for the year N amount to 5,040 lei. However, one may wonder if this amount is equal to the carrying value of the income tax expenses recorded in the profit and loss account for the year N. The answer is revealed if we identify a deferred tax liability or deferred tax asset. Such an asset would entail an income tax expense of less than 5,040 lei. A deferred tax liability would entail the recording of a higher income tax expense than the current income tax.

In order to identify the existence of deferred tax assets or liabilities, we will compare the book value of the fixed asset with its tax base calculated at the end of the year N. The book value of the asset (4,500 lei) is less than the asset's tax base (6,000 lei). Consequently, we'll arrive at a deductible temporary difference of 1,500 lei that will generate a deferred tax asset of 240 lei ($16\% \times 1,500$ lei). The income tax expense for the year N amounts to 4,800 lei (5,040 lei – 240 lei), higher in value than the income tax established in compliance with the fiscal regulations.

If the accounting amortization had been recognised in terms of taxation, the company would have had to pay an income tax of 4,800 lei ($16\% \times 30,000$ lei) for the year N. In terms of taxation, the income tax to be paid for the N accounting period amounts to 5,040 lei. Consequently, the business entity will pay an income tax higher by 240 lei (5,040 lei – 4,800 lei) for the year N. This amount will be recovered in the following two years, when the company will

have to pay income taxes reduced by 240 lei, lower than what would have been estimated by accounting, if the amortization hadn't had fiscal consequences.

If the same logical method as the one presented above will be applied in the following two years, the deferred tax asset for the years N+1 and N+2 will be estimated. The collected data is presented in Table 5.

Table 5

Presentation of deferred tax assets

Year	Book value	Tax base	Deductible temporary difference	Income tax	Deferred income tax assets	Income tax expenses
N	4,500	6,000	1,500	5,040	240	4,800
N+1	0	3,000	3,000	6,640	480	6,400
N+2	0	0	0	5,280	0	5,760
Total				16,960		16,960

An examination of the data presented in Table 5 reveals that, at the end of the year N+1, the deferred tax assets amount to 480 lei, but this sum is not the difference between the income tax expenses and the current income tax. The explanation lies in the fact that the deferred tax assets of 240 lei is created at the end of year N+1, as the difference between the assets pertaining to year N+1 and the assets recorded in the year N. The balance sheet of year N recognizes deferred tax assets of 240 lei, while the balance sheet of the year N+1 will carry the value of this asset at the amount of 480 lei.

At the end of year N+2, the deferred tax assets will be 0, while its carrying amount will be of 480 lei, pertaining to the N+1 reporting period. The carrying forward of this asset will increase the income tax expenses of the year N+2 by 480 lei. If in each of the reporting periods, N and N+1, the income tax expenses are reduced by 240 lei less than the payable income tax, the income tax expenses for the reporting period N+2 will exceed the payable income tax by 480 lei, by resuming the deferred tax assets in expenses.

3. The occurrence of deferred taxes after the revaluation of fixed assets

The revaluation of fixed assets generally consists in replacing the net book value of an asset by its fair value. This value is established after technical experts have carried out a detailed examination of the assets. When the fair value cannot be established, if, for example, the appraised asset is seldom sold, that particular asset will be estimated at the replacement cost minus the related amortization.

Revaluation is a complex procedure that is frequently conducted in business entities that appraise their fixed assets at their historical cost. This cost

does not take into account the current value of the assets and, thus, the entity's performance and financial position as presented in the balance sheet and in the profit and loss account is misrepresented. More often than not, the decision to revalue fixed assets reflects the entity's attempt to increase its leverage ratio and to artificially enhance its self-financing capacity (Mateş et al., 2008, pp. 57-64).

Two possible revaluation procedures are accepted by British accounting (Cotleţ et al., 2007, p. 233). The first provides that the revaluation must change the profit by adding the accumulated amortization until before the revaluation started, and the difference resulting from revaluation should only be enhanced by the added value that exceeds the amortization. Thus, the profit should reflect the situation that would have existed if the amortization hadn't been calculated. According to the second alternative, one should consider the fact that the purpose of amortization is to allocate the cost of the appraised assets throughout their useful life. Since the revalued assets are not new anymore, the revaluation reserve will be affected by the difference between the revalued amount and the net book value of the appraised assets. The choice between the two methods favours the misrepresentation of reality by increasing or decreasing the profit earned.

According to paragraph 32 of IAS 16, "Fixed assets", the frequency of revaluations depends on the evolution of the fair value of the fixed assets. If the fair value is significantly different, annual revaluations are necessary. However, when the fair value does not record notable changes, revaluations should be conducted every 3-5 years.

IAS 16 presents two methods of approaching the accumulated amortization at the time of the revaluation. One method would be to recalculate amortization in relation to the gross book value of the asset so that, after revaluation, the book value of the asset will be equal with its revalued amount. This method is used when the asset is appraised by applying a coefficient given by the difference between the revalued amount and the net book value of the vehicle. The second method requires the amortization to be deducted from the gross book value of the asset and thus conduct the revaluation of its net book value.

In practice, both the heads of the accounting departments of business entities and the taxation authorities deal with numerous and quite complex issues arising from the effects of revaluation on the taxable profit of companies.

In terms of fiscal regulations, the Government Emergency Ordinance no. 34/2009, that alters and completes the Fiscal Code, makes the following provisions on the revaluation of fixed assets: "[...] the reserves from the revaluation of fixed assets, including land, conducted after January 1st, 2004

and deducted from the taxable income through tax amortization or through the expenses related to the leased and/or annulled assets, are taxed at the same time with the deduction of the tax amortization, i.e. at the moment these fixed assets are deducted from accounting” (Fiscal Code, art. 22, paragraph 5).

The government Decision no. 488/2009 complements this provision by adding point 57 to the enactment standards of the Fiscal Code, stating that “the provisions of article 22, paragraph 5 of the Fiscal Code does not apply to the reserves that consist of the surplus earned from the revaluation of fixed assets, including land, conducted after the 1st of January 2004 and carried in the account 1065 until April 30th 2009, that have been deducted when the taxable profit was calculated. These reserves are rated at the time their destination changes.”

In order to avoid the occurrence of prominent differences between accounting and tax records, attention must be paid to whether the revaluation of fixed assets is recognized in terms of taxation. After a thorough examination of the Fiscal code provisions and the enactment regulations presented above, it becomes apparent that the amortization expense increment is carried as a deductible expense. The effect of this deduction is cancelled by the taxable nature of the difference resulting from revaluation and spread out as revenues. In practice, the revaluation of fixed assets is eventually recognized in terms of taxation (Istrate, 2009, pp. 64-68).

The following example emphasizes the occurrence of deferred taxes as a result of the revaluation of fixed assets.

Example: At the end of the reporting period N-1, a business entity purchases a vehicle at an initial cost of 70,000 lei. The useful life is of seven years. The amortization method accepted in terms of accounting and taxation is the straight-line method. At the end of the accounting period N+1, the vehicle is revalued and its fair value amounts to 80,000 lei. The revaluation is not accepted from in terms of taxation. The business entity calculates a profit before tax of 20,000 lei in the year N+2, 25,000 lei in the year N+3, 30,000 lei in the year N+4, 28,000 lei in the year N+5 and 34,000 lei in the year N+6.

The methods used for the revaluation of fixed assets by writing off the accumulated amortization at the end of the reporting period N+1 is presented in Table 6.

Table 6

Revaluation based on the net book value

Particulars	Before revaluation	After revaluation
Gross book value	70,000	80,000
Accumulated amortization	20,000	-
Net book value	50,000	80,000
Revaluation reserve	-	30,000

After conducting the revaluation recognized in accounting, the tax base is not adjusted, because the revaluation is not recognized in terms of taxation. Therefore, the tax base is equal to the 50,000 lei net book value before revaluation. The revised value of the vehicle (80,000 lei) is higher than the tax base, thus leading to the occurrence of a taxable temporary difference of 30,000 lei and to a deferred tax liability of 4,800 lei. In the five years of useful life left, the business entity will earn taxable benefits of 80,000 lei from using the vehicle but, in terms of taxation, it will only be able to deduct amortization expenses amounting to 50,000 lei. Consequently, in the following five years, the business entity will pay an additional 4,800 lei in taxes, more than the usual amount accepted by accounting, if the transaction hadn't had fiscal consequences.

The balance sheet for the year N+1 will recognize deferred tax liabilities of 4,800 lei, but these liabilities will not trigger any changes in the profit and loss account.

Bookkeeping will record the following entries:

▪ writing off of the amortization accumulated before revaluation:			
Amortization of vehicles	=	Means of transport	20,000 20,000
▪ recording the revaluation reserve and the deferred tax liabilities.			
Means of transport	=	%	30,000
		Revaluation reserves	25,200
		Deferred tax liabilities	4,800

At the end of the reporting period N+2, the records show the following figures:

Accounting amortization = Revalued amount/5 = 80,000/5 = 16,000 lei

Tax amortization = Tax base/5 = 50,000/5 = 10,000 lei

Profit before tax = 20,000 lei

Taxable income = Profit before tax + Accounting amortization – Tax amortization = 20,000 + 16,000 – 10,000 = 26,000 lei

Income tax = 16% × 26,000 = 4,160 lei.

The income tax expenses that will be carried in the books as part of the profit before taxes amount to 3,200 lei. The difference between the current income tax (4,160 lei) and the income tax expenses (3,200 lei) is of 960 lei and it accounts for the 5th part of the deferred tax liabilities of 4,800 lei that have been recorded at the end of the year N+1. These liabilities are carried forward in equal parts in the years: N+2, N+3, N+4, N+5 and N+6.

For the year N+2, the recording of the current income tax and the carrying forward of some of the deferred tax liabilities is conducted as follows:

%	=	Current tax liabilities	4,160
Income tax expenses			3,200
Deferred income tax liabilities			960

The summary of the data related to the recognition of the deferred tax liabilities in the years N+2, N+3, N+4, N+5 and N+6 is presented in Table 7.

Table 7

Current income tax and the recognition of the deferred tax liabilities

Year	Accounting amortization	Tax amortization	Profit before tax	Taxable income	Current income tax	Income tax expenses	Recognised deferred tax liabilities
1	2	3	4	5 = 4+2-3	6=5x16%	7=4x16%	8 = 6 - 7
N+2	16,000	10,000	20,000	26,000	4,160	3,200	960
N+3	16,000	10,000	25,000	31,000	4,960	4,000	960
N+4	16,000	10,000	30,000	36,000	5,760	4,800	960
N+5	16,000	10,000	28,000	34,000	5,440	4,480	960
N+6	16,000	10,000	34,000	40,000	6,400	5,440	960

At the end of the year N+6, the deferred tax liabilities recorded in the year N+1 are fully recognised in accounting and are portioned in the current tax liabilities of the years N+2, N+3, N+4, N+5 and N+6.

4. Conclusions

The actuality of both financial and tax amortization is an important step towards eliminating the effects of taxation in accounting, but accountants are often tempted to introduce the rules of tax amortization in financial statements out of sheer convenience.

The differences occurring between the income tax expenses carried in accounting and the income tax measured according to taxation regulations lead to the appearance of deferred tax liabilities.

The amortization of fixed assets can be approached in terms of deferred taxes, as they may occur when the amortization carried in the books differs from the one used when calculating the taxable income. Such deferred taxes may ensue after the revaluation of fixed assets.

The empirical situations presented in this paper have also helped emphasize the evolution of deferred taxes as dictated by the use of a different amortization method in accounting than the amortization method accepted in

terms of taxation, by the use of a period of accounting amortization that differs from the period used in tax amortization and by not recognizing the revaluation of fixed assets in terms of taxation. The three situations depicted in the present paper reveal either deductible temporary differences or taxable temporary differences. In their turn, the former trigger deferred tax assets, while the latter generate deferred tax liabilities. The information provided by accounting must include the deferred tax assets and liabilities as offset assets and liabilities, distinct from the current tax assets and liabilities.

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