

Understanding Depreciation and Wear & Tear

Depreciation

In most instances assets within companies are used to generate income (or to assist in doing so). Be it big industrial plants, heavy machinery or a laptop used by the accountant. All assets work together within a business to generate income for that business.

These assets however cannot be used indefinitely. At some stage the assets have to be replaced with new, more efficient assets. Depreciation therefore is “a reduction in the value of an asset with the passage of time, due in particular to wear and tear”. Wear & Tear in this instance is the physical deterioration of an asset i.e. in the normal use of that asset. Thus as a company is using the asset over its useful life, it is decreasing in value on a daily basis. Depending on the asset, this could be anywhere between 1 and 25+ years.

For accounting purposes IAS 16 (*Property, Plant and Equipment*) prescribes that a company must depreciate an asset on a systematic basis over the asset's useful life. The depreciation method used should reflect the pattern in which the asset's economic benefits are consumed by the entity and must be reviewed periodically. This is usually over a time frame, although airplanes and other machines are sometimes depreciated in terms of hour. For instance, an airplane is depreciated over the flying hours expected for its lifetime .

Depreciation is charged to the income statement as an expense. This expense is however not deductible for tax purposes in South Africa (and many other countries). Instead, the South African Revenue Services (SARS) has a prescribed schedule for all assets with pre-determined rates at which a company can claim ‘depreciation’ for Tax purposes. This however is called the Wear & Tear allowance (for tax purposes) which may differ from depreciation calculated for accounting purposes.

Wear & Tear

Wear & Tear therefore refers to the method in which SARS allows companies to write off the asset for taxation purposes over a pre-determined period which SARS publishes and amends from time to time. A question will always indicate which percentage is to be used for Wear & Tear calculations (or there will be enough information to calculate it from historical information provided in the question).

The challenge for students usually arise on where to include (or exclude) depreciation and Wear & Tear, and what to do if these 2 rates differ?

Below are some examples that will hopefully provide more clarity on the matter.

Example 1:

Company X has a tractor which is used for commercial purposes. The initial cost of the tractor is R200,000 cash, and the company has determined its useful life to be 10 years, but plans to sell it at the end of year 6 for R75,000. The accountant has contacted SARS which has confirmed that the allowance for the tractor is 20% per annum. The company expects to receive R45,000 net income before tax (including depreciation) per annum from the tractor activities. The company's cost of capital is 12%. Tax is estimated at 28% for the entire period.

Calculate the Net Present Value for the acquisition of the tractor. (Ignore capital gains tax)

Step 1 – What to look out for in this question

- 1) The company paid cash for the asset. Thus no financing portion.
- 2) The useful life of 10 years is used to calculate the annual depreciation expense on the machine for accounting purposes, irrespective of when the machine is sold
- 3) In this question the rate for Wear & Tear for tax purposes differs with the rate of depreciation for accounting purposes (it can happen that the rates in other questions is the same, but you will treat the answer the same as always...)
- 4) The 'Net Income' of R45,000 includes the depreciation expense. Since depreciation is not a cash-flow and not deductible for tax purposes, it must be added back.

Step 2 – The Calculation:

	0	1 - 5	6
Cost of Asset	-200,000		
Recoupment			75,000
Income		65,000	65,000 ①
TAX		-7,000	-39,200 ②
Net Income before tax		65,000	65,000
W&T Recoupment			75,000
Wear & Tear		-40,000	
Taxable Income		25,000	140,000
Net Cash-flow After tax	-200,000	58,000	100,800
NPV @ 12%		60,145	

① = R45,000 + R20,000* (Add back depreciation)

* R200,000 / 10 years = R20,000 per year

② = Taxable Income x 28%

Calculation for Asset disposal

Cost price	200,000	
Less Wear & Tear	<u>-200,000</u>	③
Tax Value	-	
Realisable Value	<u>75,000</u>	
Recoupment	75,000	

③ R40,000 x 5

Notes:

- 1) Depreciation is added back to Income as depreciation is not a cash-flow, and is not deductible for cash
- 2) A calculator was used to calculate the NPV. The same result will be obtained if the factors from the tables are used
- 3) The money received for the asset when it sold should not be added to the net income for taxation purposes. Instead a calculation should be made to evaluate which amount must be included as seen in the calculation for the asset disposal. In this case the tax value of the asset was Zero. Thus for tax purposes we have deducted the maximum allowance allowed by SARS. If we then sell the machine for a profit, there will be a recoupment to 'return' some of the allowances to SARS since we are now selling at a profit

Example 2:

Use the same information as for example 1, except with the following deviation:

The asset is now sold at the end of year 4 for R75,000. Calculate the amount included for recoupment of wear & Tear:

Calculation for Asset disposal - year 4

Cost price	200,000	
Less Wear & Tear	<u>-160,000</u>	①
Tax Value	40,000	
Realisable Value	<u>75,000</u>	
Recoupment	35,000	

① R40,000 x 4

Example 3:

Use the same information as for example 1, except with the following deviation:

The asset is now sold at the end of year4 for R35,000. Calculate the Net Present Value for the acquisition of the tractor.

Calculation for Asset disposal - year 4

	0	1 - 3	4
Cost of Asset	-200,000		
Recoupment			35,000
Income		65,000	65,000 ①
TAX		-7,000	-5,600 ②
Net Income before tax		65,000	65,000
Loss on sale			-5,000
Wear & Tear		-40,000	-40,000
Taxable Income		25,000	20,000
Net Cash-flow After tax	-200,000	58,000	94,400
NPV @ 12%	-700.88		

① = R45,000 + R20,000 >Add back depreciation

② = Taxable Income x 28%

Calculation for Asset disposal

Cost price	200,000	
Less Wear & Tear	-160,000	③
Tax Value	40,000	
Realisable Value	35,000	
Recoupment	-5,000	

③ R40,000 x 4

Example 4:

Use the same information as for example 1, except with the following deviation:

The rate at which SARS allows a Wear & Tear deduction is 10% per annum. Calculate the Net Present Value for the acquisition of the tractor.

	0	1 - 5	6
Cost of Asset	-200,000		
Recoupment			75,000
Income		65,000	65,000 ①
TAX		-12,600	-11,200 ②
Net Income before tax		65,000	65,000
Loss on sale			-5,000
Wear & Tear		-20,000	-20,000
Taxable Income		45,000	40,000
Net Cash-flow After tax	-200,000	52,400	128,800
NPV @ 12%	54,144		

① = R45,000 + R20,000 >Add back depreciation

② = Taxable Income x 28%

Calculation for Asset disposal

Cost price	200,000	
Less Wear & Tear	<u>-120,000</u>	③
Tax Value	80,000	
Realisable Value	<u>75,000</u>	
Recoupment	-5,000	

③ R20,000 x 6