DEPRECIATION & TAXES

Depreciation – A Non-Cash Expense

Depreciation Everywhere

Depreciation Expense is a line item on the Income Statement, and Accumulated Depreciation is on the Balance sheet, being subtracted from the gross fixed assets.

Fixed Assets		
Gross PP&E	1,100	1,450
Accumulated Depreciation	375	415
Net PP&E	725	1,035

Part of a Balance Sheet

Sales	1455
– Cost of Goods Sold	582
– Operating Expenses	193
– Depreciation Expense	40
= EBIT	640

Part of an Income Statement

A Non-Cash Expense

Although depreciation is subtracted from Gross PP&E to get Net PP&E for the Balance Sheet, and it is subtracted on the Income Statement to get EBIT, *there is actually no cash moving anywhere.*

You see, depreciation is just a concept – not cash. It's just in there to keep us from having to pay taxes on the "brand new" price of the asset.

This is why – when we're doing CFO, FCFF, and other cash flows – depreciation is ADDED. It is first taken *out* to make the taxes less, then put back *in* when we're counting cash.

How Does Something Depreciate?

Depreciation Calculation

Assets aren't taxed by what they are actually worth. They're taxed by what their value in the accounting books is. And that "book value" is determined by what method the firm chooses to use:

Straight-Line Method

This one is easy. The asset goes from full value down to zero (or some salvage value) over a certain number of years. The formula to figure this out is:

Depreciation = (cost – final value) / years

Example: An asset was bought for $265.8k and will depreciate to zero in four years. What is the yearly depreciation?

($265.8k – $0) / 4 = $66.45k depreciation per year

What if it was going to have a salvage value of $6.7k? The same simple formula:

($265.8k – $6.7k) / 4 = $64.775k depreciation per year

MACRS Method

Instead of straight-line – where every year's depreciation is the same – MACRS is *different* each year. The numbers come from the US Government. (And fortunately, you won't have to memorize them because they are provided in the test questions!)

Depreciation Schedule

The percentage to be depreciated is always a percentage of the original amount.

Once you've found the dollar value of that percentage, subtract it from the previous year's book value.

Example:

In the MACRS table below, the original purchase price of the asset was $265.8k. Since the first-year depreciation is 33.33%, the depreciation amount is $88.59k (265.8k x .3333). Subtracting that depreciation amount (265.8k - 88.59k) means that the asset's book value at the end of year one will be $177.21k.

MACRS METHOD

YEAR	DEP %	DEP $	BOOK VALUE
0			$265.8k
1	33.33%	$88.59k	$177.21k
2	44.45%	$118.15k	$59.06k
3	14.81%	$39.36k	$19.7k
4	7.41%	$19.7k	$0

STRAIGHT-LINE METHOD

YEAR	DEP %	DEP $	BOOK VALUE
0			$265.8k
1	25%	$66.45k	$199.35k
2	25%	$66.45k	$132.9k
3	25%	$66.45k	$66.45k
4	25%	$66.45k	$0

TAXING THE BOOK VALUE

Look at the MACRS method table above. If you sold that asset for $25k at the end of year 3, how much cash would you would you end up with after taxes?

Taxes

Your book value at the end of year three is $19.7k

As far as the government is concerned, you came out ahead $5.3k ($25k - $19.7k).

If you have a 38% tax rate, your tax bill will be 38% of $5.3k, which is $2.014k.

Cash

Cash from sale:	**$25,000**
Minus taxes:	**– $2,014**
Total cash gained:	**= $22,986**