

Capital Assets

Objectives :

Describe capital assets and issues accounting for them.

Apply cost principle to compute the cost of capital assets.

Amortization methods: straight-line, units-of-production, and double-declining balance.

Amortization for partial years.

Revised amortization

Capital assets (fixed assets)

Definition: assets used in the operations of a company that have a useful life of more than one accounting period.

i.e. plant and equipment, natural resources.

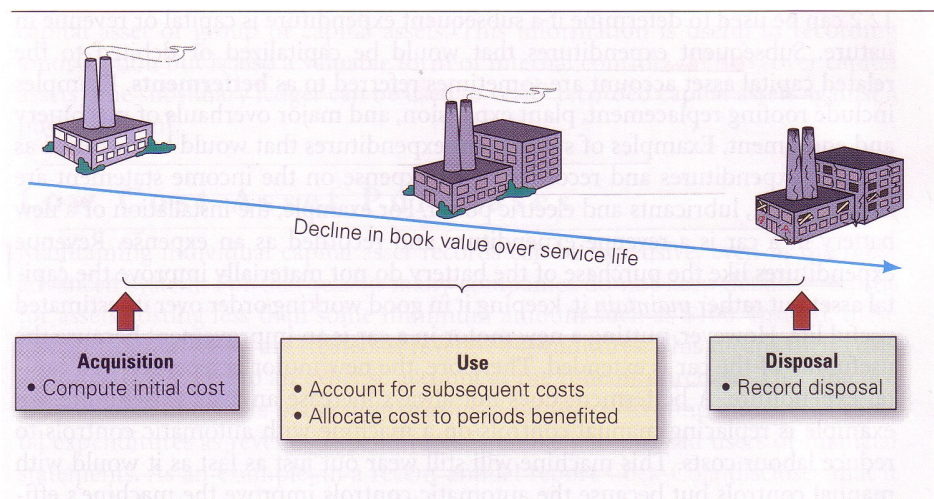
Features:

- 1) Capital assets are used in business operations to help generate revenue. (inventory versus capital assets)
- 2) Capital assets have useful lives extending over more than one accounting period.

Accounting for capital assets reflects these two features: we must measure capital assets(balance sheet) and match their cost to periods benefiting from their use(income statement).

Three main accounting issues:

- 1) Computing and accounting for the initial and subsequent costs of capital assets.
- 2) Allocating the costs of capital assets against revenues for the periods they benefit.
- 3) Recording the disposal of capital assets.



Cost of capital assets

Capital assets are recorded at costs, which includes all normal and reasonable expenditures necessary to get the asset in place and ready for its intended use.

When expenditures regarding capital assets are not considered a normal part of getting the asset ready for its intended use, they are charged to another account.

Revenue expenditures: costs that maintain an asset but do not materially increase the asset's life or productive capabilities. (recorded as expenses and deducted from revenues in the current period)

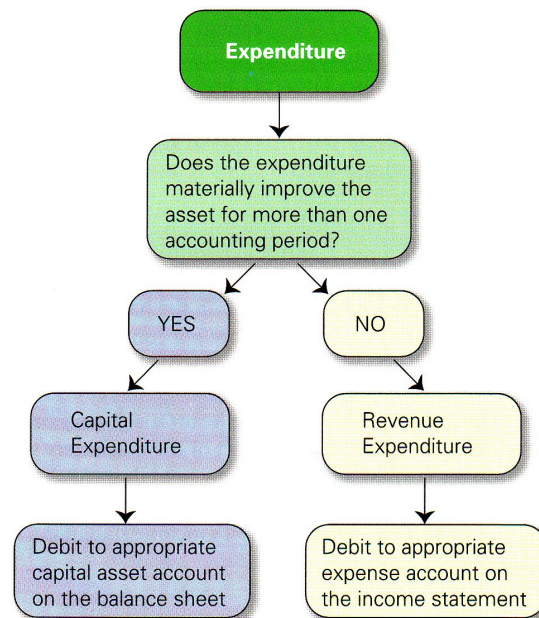
Subsequent expenditures (operate, maintain, repair and improve)

Betterments: subsequent expenditures that would be capitalized or debited to related capital asset account. (improvement)

Revenue expenditures: are recorded as expense on the income statement. (maintenance)

Exhibit 12.2

Is it a Capital or Revenue Expenditure?



Case in point:

You are a mechanic who recently opened your own auto service centre. Because of a cash shortage, you are preparing financial statements in the hope of getting a short-term loan from the bank. A friend of yours suggests you treat as many expenses as possible like a capital expenditure. What are the effects on financial statements of treating expenses as capital expenditures? What do you think of your friend's proposal?

Land

The cost of land includes the total amount paid for the land.(real estate commissions, fees, property taxes, surveying, clearing, grading, draining, landscaping, (removing expenses less salvage values))

Illustrate 606

Land improvements

Land has an unlimited life: it is not subject to amortization.

However, land improvements(driveways, fences, lighting systems) have a limited useful lives.

Buildings

The costs of buildings usually includes: purchase price, fees, taxes.

Plus, all expenditures to make it ready for its intended use such as repairs or renovations. (materials and labour)

Machinery and equipment

The cost consists of all costs normal and necessary to purchase the equipment and prepare them for their intended use.

Amortization

Amortization is the process of matching the cost of the capital asset over the time that the asset is used.

The cost should be amortized over their useful lives.

Illustrate 608

Reporting amortization of assets

(in thousands of Canadian \$)	2000	1999
Property and equipment, net (Note 4)	\$630,132	\$326,535
Note 4	2000	1999
Flying assets		
Cost	\$709,106	\$411,594
Less: Accumulated amortization	50,183	40,127
	<u>658,923</u>	<u>371,467</u>
Provision for major component overhaul	121,895	68,345
	<u>537,028</u>	<u>303,122</u>
Facilities		
Cost	78,919	26,964
Less: Accumulated amortization	14,651	11,578
	<u>64,268</u>	<u>15,386</u>
Equipment		
Cost	42,395	17,899
Less: Accumulated amortization	13,559	9,872
	<u>28,836</u>	<u>8,027</u>
	<u>\$630,132</u>	<u>\$326,535</u>

Reporting both the cost and accumulated amortization.

Reporting at their book values, not at market values.

Factors in computing amortization

- 1) cost,
- 2) salvage value
- 3) useful life.

Cost: consists of all reasonable expenditures to acquire and prepare the asset for its use.

Salvage value (residual value or scrap value) is an estimate of the amount we expect to receive from selling the asset at the end of its useful life.

Useful life(service life): is the length of time it is productively used in the operations.

Example with Call-net enterprises

Buildings.....	15 to 40 years
Fibre optic cable and equipment	20 years
Multiplex and telephone switch equipment.....	10 years
Computer equipment and software	3 years
Furniture and fixtures.....	5 years
Leasehold improvements	term of the lease

CALL-NET

Amortization methods

- 1) straight-line,
- 2) units-of-production
- 3) double-declining-balance

Straight-line method

- a) compute the cost to be amortized over the asset's life by subtracting the asset's salvage value from its total cost.
- b) The cost to be amortized is divided by the asset's useful life.

i.e. 611

Exhibit 12.9

Balance Sheet Presentation After Two Years of Amortization

$$\text{Book Value} = \text{Cost} - \text{Accumulated Amortization}$$

Equipment	\$10,000	
Less: Accumulated amortization	3,600	\$6,400

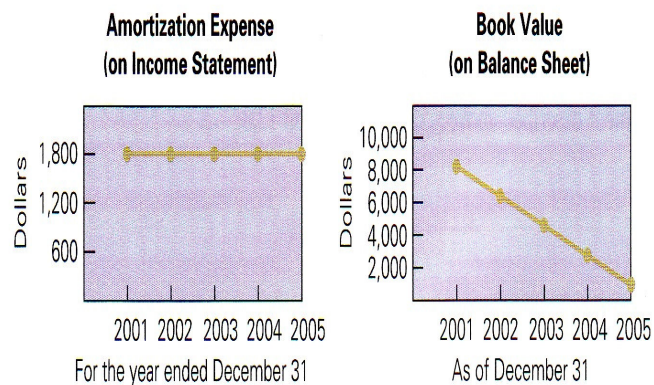
Equipment	
Jan. 1/01	10,000

Accumulated Amortization, Equipment	
Dec. 31/01	1,800
Dec. 31/02	1,800
Total	3,600

The graphs in Exhibit 12.10 show why this method is called straight-line amortization and also show the decline in book value by \$1,800 amortization each year.

Exhibit 12.10

Financial Statement Effects of Straight-line Amortization



Period	Amortization for the Period			End of Period	
	Cost to be Amortized	Amortization Rate	Amortization Expense	Accumulated Amortization	Book Value
	—	—	—	—	10,000*
2001	\$9,000**	20%	\$1,800	\$1,800	8,200
2002	9,000	20	1,800	3,600	6,400
2003	9,000	20	1,800	5,400	4,600
2004	9,000	20	1,800	7,200	2,800
2005	9,000	20	1,800	9,000	1,000

* Cost on January 1, 2001

Note:

- 1) amortization expense is the same each period
- 2) accumulated amortization is the sum of current and prior periods' amortization expense.
- 3) Book value declines each period until it equals salvage value at the end of its useful life.

Units-of-production method

When use of equipment varies from period to period, the units-of-production amortization method can provide a better matching of expenses with revenues.

This method charges a varying amount to expenses for each period of an asset's useful life depending on its usage.

A two-step process is used to compute units-of-production amortization:

1. Compute the amortization per unit by subtracting the asset's salvage value from its total cost, and then dividing by the total number of units expected to be produced during its useful life. Units-of-production can be expressed in units of product or in any other unit of measure such as hours used or kilometres driven. This gives us the amount of amortization per unit of service provided by the asset.
2. Compute amortization expense for the period by multiplying the units used in the period by the amortization per unit.

The formula and computation for units-of-production amortization for the inspection machine described in Exhibit 12.7 are shown in Exhibit 12.12 (assume 7,000 shoes inspected in its first year).

Step 1:

$$\text{Amortization per unit} = \frac{\text{Cost} - \text{Salvage value}}{\text{Total units of production}} = \frac{\$10,000 - \$1,000}{36,000 \text{ units}} = \$0.25 \text{ per shoe}$$

Step 2:

$$\begin{aligned} \text{Amortization expense} &= \text{Amortization per unit} \times \text{Units used in period} \\ &= 0.25 \text{ per shoe} \times 7,000 \text{ shoes} = \mathbf{\$1,750} \end{aligned}$$

Using the production estimates for the machine we compute the *units-of-production amortization schedule* shown in Exhibit 12.13. If the machine inspects 7,000 shoes in its first year, amortization for that first year is \$1,750 (7,000 shoes at \$0.25 per shoe). If the machine inspects 8,000 shoes in the second year, amortization for the second year is 8,000 shoes times \$0.25 per shoe, or \$2,000.

Period	Amortization for the Period			End of Period	
	Number of Units	Amortization per Unit	Amortization Expense	Accumulated Amortization	Book Value
	—	—	—	—	\$10,000*
2001	7,000**	\$0.25	\$1,750	\$1,750	8,250
2002	8,000	0.25	2,000	3,750	6,250
2003	9,000	0.25	2,250	6,000	4,000
2004	7,000	0.25	1,750	7,750	2,250
2005	5,000	0.25	1,250	9,000	1,000

* Cost on January 1, 2001

Declining-balance method

An accelerated amortization method yields larger amortization expenses in the early years of an asset's life and smaller charges in later year.

This method uses an amortization rate of up to twice the straight-line rate and applies it to the asset's beginning-of-period book value.

Steps:

- 1) Compute the asset's straight-line amortization rate (100% divided by years of useful life,
- 2) Double it
- 3) Compute amortization expense by multiplying this rate to the asset's beginning-of-period book value.

Period	Amortization for the Period			End of Period	
	Beginning of Period Book Value	Amortization Rate	Amortization Expense	Accumulated Amortization	Book Value
	—	—	—	—	10,000*
2001	\$10,000	40%	\$4,000	\$4,000	6,000
2002	6,000	40	2,400	6,400	3,600
2003	3,600	40	1,440	7,840	2,160
2004	2,160	40	864	8,704	1,296
2005	1,296	40	296**	9,000**	1,000

* Cost on January 1, 2001

Comparing amortization methods

Period	Straight-Line	Units-of-Production	Double-Declining-Balance
2001	\$ 1,800	\$ 1,750	\$ 4,000
2002	1,800	2,000	2,400
2003	1,800	2,250	1,440
2004	1,800	1,750	864
2005	1,800	1,250	296
	<u>\$9,000</u>	<u>\$9,000</u>	<u>\$9,000</u>

Partial year amortization

Nearest whole month

When calculating amortization for partial years to the nearest whole month, amortization for a month is calculated if the asset was in use for more than half of that month.

I.e.

Half-year rule

Amortization for the first year of an asset's life is always half year, regardless of when during the year the asset was actually put into use.

Revising amortization rate

When an estimate of useful life/or salvage value changes we must use a revised amortization for current and future periods.

i.e. original cost: \$10 000, original salvage value \$1 000 and original useful life 5 years.

After two years new estimates the remaining useful life changes from 3 to 4 years and the salvage value to \$400.

Amortization reflects the best information available at the time. Therefore, do not go back to restate past years' results.

Revising estimates of the useful life or salvage value of a capital asset is referred to as **change in an accounting estimate**.