

Corporate Taxation Part IV  
Capital cost allowance

**Decreasing Charge Methods**

The **decreasing charge methods** (often called accelerated depreciation methods) *provide for a higher depreciation expense charge in the earlier years and lower charges in later periods.* The main justification for this approach is that more depreciation should be charged in earlier years when the asset suffers the greatest loss of its services. Another argument is that repair and maintenance costs are often higher in the later periods, and the accelerated methods thus provide a fairly constant total cost (for depreciation plus repairs and maintenance) because the depreciation charge is lower in the later periods. Two decreasing charge methods (the declining balance method and the sum-of-the-years'-digits method) are considered in the following paragraphs.

**Declining Balance Method.** The **declining balance method uses a depreciation rate** (expressed as a percentage and called the declining balance rate) *which remains constant throughout the asset's life* (assuming no change in estimates occur). *This rate is applied to the reducing book value each year to determine the depreciation expense.* The declining balance rate may be determined in a variety of ways, but this book will use a multiple of the straight-line rate.<sup>10</sup> For example, the *double-declining balance rate* for a 10-year-life asset would be 20% (double or multiply by 2 the straight-line rate which is 1/10 or 10%; or divide the multiple of the straight-line rate which is 2 in this case by the estimated life, 2/10 is 20%). For an asset with a 20-year life, the *triple-declining balance rate* would be 15% (3 × 1/20, or 3/20) while the *double-declining balance rate* would be 10% (2 × 1/20, or 2/20).

Unlike other methods, *in the declining balance method the residual value is not deducted in computing the depreciable base.* The declining balance rate is multiplied by the book value of the asset at the beginning of each period. Since the book value of the asset is reduced each period by the depreciation charge, the constant rate is applied to a successively lower book value. The result is a lower depreciation charge each year. This process continues until the book value of the asset is reduced to its estimated residual value at which time depreciation is discontinued. Using a double-declining balance rate, the depreciation charges for the crane example of Cando Co. Ltd. are presented in Table 11-2.

**Table 11-2**  
Double-Declining Depreciation Schedule: Crane Example

Year	Book Value of Asset, Start of Year	Rate on Declining Balance <sup>a</sup>	Debit Depreciation Expense	Balance of Accumulated Depreciation	Book Value, End of Year
1	\$500,000	40%	\$200,000	\$200,000	\$300,000
2	300,000	40%	120,000	320,000	180,000
3	180,000	40%	72,000	392,000	108,000
4	108,000	40%	43,200	435,200	64,800
5	64,800	40%	14,800 <sup>b</sup>	450,000	50,000

<sup>a</sup>2 × 1/5 = 40%, or 2/5 = 40%.

<sup>b</sup>Limited to \$14,800 as it is assumed the book value will not be less than residual value.

## Tax Method of Capital Cost Allowance Determination

For the most part, issues related to tax accounting are not discussed in a financial accounting text. However, because the concepts of tax “depreciation” are similar to those of book depreciation, a short overview of this subject is presented.

The **capital cost allowance method** is *used for purposes of determining “depreciation” in calculating taxable income by Canadian corporations regardless of the method used for financial reporting purposes*. Because companies use it for tax purposes, some also use it for financial reporting rather than keep two sets of records. Such an action, while expedient, may not provide a rational allocation of costs in the financial reports. Therefore, many companies keep a record of capital cost allowance for tax purposes and use another method to determine depreciation for financial statements.

The mechanics of this method are the same as for the declining balance method except that:

1. The government, through the Income Tax Act (Income Tax Regulations, Schedule II), specifies the rate to be used for an asset class. This rate is called the Capital Cost Allowance (CCA) rate. The Income Tax Act identifies several different classes of assets and the maximum CCA rate for each class. Examination of the definition of each asset class and the examples given in the Income Tax Act is necessary to determine the class into which a particular asset falls.
2. CCA is determined for each asset class and can be claimed only on year-end amounts for each class. Assuming no net additions (purchases less disposals, if any) to a class during a year, the maximum CCA allowed is the CCA rate for the class multiplied by the undepreciated capital cost (UCC) at year end, before the CCA deduction is taken for the year. In a year when there is a net addition (regardless of when it occurs) the maximum CCA on the net addition is one-half of the allowed CCA rate multiplied by the amount of the net addition. The CCA for the net addition plus the CCA on the remaining UCC would be the total CCA for the asset class. If there were only one asset in a class, the maximum CCA allowed in the year of its acquisition would be one-half of the CCA rate multiplied by the acquisition cost, even if the asset was purchased one week before year end. Thereafter, the maximum CCA per year would be the allowed rate multiplied by the UCC at year end, before the CCA deduction. No CCA would be allowed in the year of disposal for this single asset, even if it was sold just before year end.
3. CCA is taken even if it results in an undepreciated capital cost (book value) less than estimated residual value.
4. It is not required that the maximum rate be taken in any given year, although that would be the normal case as long as a company had taxable income after taking the maximum.
5. Instead of being labelled depreciation expense, it is called capital cost allowance in tax returns.

Assuming that the crane of Cando Co. Ltd. was a Class 8 asset for which the CCA rate allowed is 20%, Table 11-4 shows the calculations required to determine CCA for the first three years. This example also assumes that no other assets were in the class. If there were other Class 8 assets owned prior to purchase of the crane, or purchased or sold during the three years, Table 11-4 indicates how they would be incorporated. See Appendix 11A for a discussion of the tax treatment for additions, retirements, and asset class eliminations.

**Table 11-4**  
Capital Cost Allowance Schedule: Crane Example

UCC beginning of year 1	\$ -0-
Additions during year	500,000
Deduct the lower of the proceeds from or cost of assets in class disposed of during the year	<u>-0-</u>
UCC before CCA	\$500,000
CCA for year 1 = $(20\% \times \$500,000) \times .5$	<u>50,000</u>
UCC beginning of year 2	\$450,000
Additions	-0-
Deduct disposals	<u>-0-</u>
UCC before CCA	\$450,000
CCA for year 2 = $(20\% \times \$450,000)$	<u>90,000</u>
UCC beginning of year 3	\$360,000
Additions	-0-
Deduct disposals	<u>-0-</u>
UCC before CCA	\$360,000
CCA for year 3 = $(20\% \times \$360,000)$	<u>72,000</u>
UCC beginning of year 4	\$288,000

(Continued in Appendix 11A)

It should be noted that determination of CCA is subject to rules set by government legislation and, as such, is subject to alteration from time to time. Furthermore, various provincial governments can have different rules with regard to determining CCA for purposes of calculating the income on which provincial taxes are based. This example is based on the Federal Income Tax Act for 1995

Depreciation under GAAP and depreciation under the Income Tax Act are different matters. Under both authorities, depreciation acts to reduce income before tax, and total depreciation over the life of an asset is limited to original cost. But there the similarity ends. Under GAAP, depreciation guidelines are intended to allocate an asset's historical cost to the accounting periods in which the asset is used, in accordance with the matching principle.

In contrast, tax depreciation is geared to the revenue needs of the federal government, which change in response to economic conditions and the fiscal policies of Parliament. For example, tax depreciation currently provides an incentive for replacement, modernization, and expansion of industrial facilities through accelerated depreciation schedules.

### The Capital Cost Allowance System

The Income Tax Act does not allow the deduction of depreciation expense in the determination of taxable income. Instead it provides that a taxpayer may deduct a **capital cost allowance** as specified by the Act. Therefore, depreciation expense is added to, and capital cost allowance is deducted from, income before income taxes to determine taxable income.

The capital cost allowance system (CCA) relies on the grouping of assets into various classes established by the Act. Most classes provide a rate to use in calculating the equivalent of declining-balance depreciation, although some classes use the equivalent of straight-line depreciation. Classes and rates for some of the more common assets follow:

#### Declining-balance

Class 1 (4%)	Buildings or other structures, including component parts acquired after 1987.
Class 3 (5%)	Buildings or other structures, including component parts acquired before 1988.
Class 8 (20%)	Tangible capital property and machinery or equipment not included in another class.
Class 10 (30%)	Automotive equipment and electronic data processing or decoding equipment.
Class 12 (100%)	Jigs, patterns, tools, utensils costing less than \$200, linens, videotape, certified feature films, computer software.

#### Straight-line

Class 13	Leasehold interest (life of lease plus one renewal period; minimum 5 years, maximum 40 years).
Class 14	Patent, franchise, concession, or licence (life of asset).

The basic rules for the capital cost allowance system can be explained for most classes as follows:

1. When assets are purchased, their purchase price (**capital cost**) is added to the balance (**undepreciated capital cost**) of the appropriate asset class.
2. When assets are sold, the lesser of the proceeds or the capital cost is deducted from the balance in that asset's class.
3. Assets are considered to be purchased in the middle of the taxation year (half-year rule).
4. The maximum capital cost allowance deductible for a particular class is the balance of undepreciated capital cost, after adjusting for the half-year rule, multiplied by the CCA rate for that class.

Exhibit 12A-1 provides an example of a calculation for capital cost allowance. Iles Machine Shop begins business in January 1990 and purchases four lathes (class 8) for \$5,000 each. A fifth

**EXHIBIT 12A-1 Calculation of Capital Cost Allowance**

1990	UCC opening balance	nil
	Additions; $4 \times \$5,000$	\$20,000
	CCA for 1990; $\$20,000 \times 20\% \times \frac{1}{2}$	<u>(2,000)</u>
1991	UCC opening balance	\$18,000
	Additions	5,700
	CCA for 1991; $(\$18,000 \times 20\%) + (\$5,700 \times 20\% \times \frac{1}{2})$	<u>(4,170)</u>
1992	UCC opening balance	\$19,530
	Additions	\$ 6,500
	Proceeds on disposal	<u>(1,200)</u>
	Net additions	5,300
	CCA for 1992; $(\$19,530 \times 20\%) + (\$5,300 \times 20\% \times \frac{1}{2})$	<u>(4,436)</u>
1993	UCC opening balance	\$20,394
	Proceeds on disposal	<u>(1,100)</u>
	CCA for 1993 $(\$20,394 - \$1,100) \times 20\%$	<u>(3,859)</u>
1994	UCC opening balance	\$15,435

lathe is purchased in 1991 for \$5,700. In 1992, one of the original lathes is sold for \$1,200 and is replaced with another lathe costing \$6,500. In 1993 one of the lathes was sold for \$1,100.

When net asset additions take place, the net addition is subject to the half-year rule (see 1991 and 1992 in Exhibit 12A-1). However, when there is a net asset disposal, the entire amount is deducted prior to determining the CCA for the year (see 1993 in Exhibit 12A-1).

The amount deducted on an asset disposal is the lesser of the proceeds and the asset's capital cost. Any proceeds on disposal in excess of the capital cost is treated, for tax purposes, as a capital gain. Any amount in excess of the asset's undepreciated capital cost (UCC) is considered to be a recapture of CCA (depreciation) claimed and reduces the future CCA claimable in that class.

When all of the assets in a class are disposed of, any remaining balances are treated as follows: A positive UCC balance is deducted as a terminal loss in determining taxable income. A negative UCC balance is added to taxable income as recaptured depreciation. In effect, this treatment is similar to the gain or loss on disposal of plant assets on the assumption that either too little or too much depreciation (i.e., CCA) was taken over the lives of the assets. Any proceeds received in excess of the assets' capital (original) cost is treated as a capital gain for tax purposes.

## Problems

1)

**(CAPITAL COST ALLOWANCE: PURCHASES AND RETIREMENTS)** Winger Co. Ltd. engaged in the following transactions regarding Class 10 assets (30% CCA rate):

- 1988—Purchased asset No. 1 for \$150,000.
- 1990—Purchased asset No. 2 for \$108,000.
- 1991—Sold asset No. 1 for \$13,175.
- 1992—Purchased asset No. 3 for \$200,000.
- 1994—Sold asset No. 2 for \$96,000.

### Instructions

- (a) Prepare a capital cost allowance schedule for Class 10 assets covering the years ended December 31, 1990 through 1994.
- (b) Indicate the amounts of any capital gains, recaptured capital cost, or terminal loss that would result if, during 1995, asset No. 3 was sold (thereby eliminating Class 10 assets for the company) for (1) \$230,000, (2) \$100,000, (3) \$20,000.

2)

(L.O. 3) The Mary Colson Corporation collects rent revenue in advance from tenants. The collection of \$50,000 in 2004 is reported as revenue for tax purposes; it will be reported on the income statement in 2005 when it is earned.

This situation will:

- a. result in future deductible amounts.
- b. result in reporting a deferred tax liability on the balance sheet at the end of 2004.
- c. cause total income tax expense to be less than income tax payable in 2005.
- d. cause pretax financial income to exceed taxable income in 2004.

3)

(L.O. 2, 5, 6, 7) CPA-CPE Corporation prepared the following reconciliation for its first year of operations:

Pretax financial income for 2004	\$ 600,000
Tax exempt interest	(50,000)
Originating temporary difference	<u>(150,000)</u>
Taxable income	<u>\$ 400,000</u>

The temporary difference will reverse evenly over the next two years at an enacted tax rate of 40%. The enacted tax rate for 2004 is 28%. What amount should be reported in its 2004 income statement for total income tax expense?

- a. \$52,000
- b. \$112,000
- c. \$168,000
- d. \$172,000
- e. \$192,000

4)

(L.O. 8) Carrie Freeman Corporation began operations in 2000. There have been no permanent differences or temporary differences to account for since the inception of the business. The following data are available:

<u>Year</u>	<u>Enacted Tax Rate</u>	<u>Taxable Income</u>	<u>Taxes Paid</u>
2000	50%	\$100,000	\$ 50,000
2001	40%	200,000	80,000
2002	40%	250,000	100,000
2003	30%	300,000	90,000
2004	25%		
2005	20%		

In 2004 the cie lost \$ 310,000. What income tax benefit should be reported in 2004 :

5)

**(LOSS CARRYBACKS AND CARRYFORWARDS: ENTRIES AND REPORTING)** Diet Corporation E  
experienced accounting income and taxable income from 1989 through 1994 as follows.

<u>Year</u>	<u>Income (Loss)</u>	<u>Tax Rate</u>
1989	\$20,000	20%
1990	40,000	40%
1991	16,000	40%
1992	64,000	45%
1993	(160,000)	30%
1994	50,000	30%

The company follows a policy of carrying back a loss against taxable income for the maximum allowable three years, applying the loss to the earliest year possible first.

#### **Instructions**

- (a) What entry for income taxes would have been recorded in 1993 if there was no virtual certainty that taxable income would be reported in the next seven years?
- (b) What entry for income taxes would have been recorded in 1993 if taxable income was assured with virtual certainty in the next seven years?
- (c) Indicate what the bottom portion of the income statement in 1994 would look like, assuming that the situation in (b) existed in 1993.