Chapter 16

Valuation of Fixed Assets

Fixed assets are assets with relatively long lives, used in the operation of a business, and not intended for resale. The characteristic that distinguishes a fixed asset from an item of merchandise or an investment is its use in the production or sale of other assets or services. Fixed assets include such tangible assets as land, buildings and equipment, and intangibles such as patents, trademarks, copyrights, and franchises.

Not all fixed assets are assessable as personal property. Fixed assets such as land and buildings are assessed as real estate and certain other fixed assets are not assessable. Chapter 70 of the Wisconsin Statutes details the fixed assets that are exempt from property tax. This would include motor vehicles, aircraft, and intangibles such as patents or franchises, among others.

Fixed Assets – Accounting

Accounting is the accumulation and reporting of financial information about an economic unit, such as a business enterprise. The environment in which accounting operates requires that the life of a business be divided into relatively short periods and that changes in revenues and expenses be measured over each period. For accounting purposes, it is assumed that a business will continue to operate as a going concern, earning a reasonable net income for a period longer than the life expectancy of any of its assets. To determine the net income for each accounting period, costs are matched with revenues for each period.

Because the useful life of a fixed asset is longer than one accounting period, it is necessary to allocate its cost to each period on some fair basis. This is done through depreciation. Depreciation is the process of systematically spreading the cost of a fixed asset over its useful life so that the cost is properly matched with revenue for each period. Primary emphasis in the depreciation process is placed on a systematic and fair apportionment of the cost of using the fixed assets.

There are two important aspects involved in accounting for fixed assets: (1) determination of the costs which should be assigned to each asset and deferred to future accounting periods and (2) determination of the amount to be allocated to each accounting period as depreciation expense.

Cost

The cost of a fixed asset includes all costs incurred in acquiring and preparing it for productive use. These costs normally include the net invoice price, transportation, installation, and test runs. Any cost which must be incurred before the asset can be used for its intended purpose, such as the overhaul of equipment acquired in a used condition or demolition of an old building on land acquired for a building site, is considered to be part of the cost of the asset. In short, the cost of an asset includes all normal, necessary, and reasonable costs incurred in getting the asset ready to produce. Cash discounts or other allowances are deducted from the cost of an asset.

Suppose, for example, that a company buys a piece of road machinery with a list price of $3,000. The dealer grants a 10% reduction in the list price and an additional 2% cash discount because payment is made within thirty days. The company pays a sales tax of $132 to the state and an additional $100 to an automotive supply company for a heater. The cost of the machinery is computed as follows:

List Price	$3,000
Less 10% reduction ($3,000 x .10 = 300)	- 300
	$2,700
Less 2% discount ($2,700 x .02 = 54)	- 54
	$2,646
Sales taxes	+ 132
Special heater	+ 100
Cost of the machinery	$2,878

The $2,878 cost is the basis for computing depreciation.

In addition to the normal costs of acquiring machinery and equipment, such costs as special foundations or supports, wiring, inspection, and testing are included as part of the cost of the asset. Machinery and equipment are frequently relocated and a second installation cost is incurred. Because no additional utility results from the reinstallation, these costs are not added to the cost of the machinery.

Depreciation

As previously mentioned, depreciation is the systematic allocation of the cost of an asset over its useful life. The committee on terminology of the American Institute of Certified Public Accountants has defined depreciation accounting as a "system of accounting which aims to distribute the cost or other basic value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of valuation. Depreciation for the year is the portion of the total charge under such a system that is allocated to the year.[1]

The first step in computing depreciation is to determine the estimated useful life of the asset. The useful life of a fixed asset is the period of time it will be used in producing or selling other assets or services. This may not be the same as the assets potential life. For example, typewriters may have a potential 10 year life; however, if a company finds from a production-cost view that it is wise to trade its old typewriters for new ones every 5 years, the typewriters would have a five year useful life.

The useful life of an asset is not to be confused with the recovery period permitted for income tax purposes. The recovery period is the number of years over which the capital

[1] Accounting Terminology Bulletin (New York: American Institute of Certified Public Accountants, 1953), p.25

costs of an asset or property may be depreciated for income tax purposes. The recovery period is generally unrelated to, and shorter than the useful life of an asset and under current federal income tax provisions it is designed to encourage investments for economic expansion.

The useful life of an asset and the proceeds that may be received when it is ultimately disposed of cannot be known definitely and must be estimated. Even in those cases where the physical life of an asset may be determined accurately, estimates of the useful life must still be made so that its depreciation may be allocated over the time span which it will be used. Predicting or estimating useful life is sometimes difficult because several factors are often involved. Wear and tear and action of the elements determine the useful life of some assets; however, two additional factors, inadequacy and obsolescence, often need to be considered. Because a business may grow more rapidly than anticipated an asset may become too small or too slow to meet the productive demands of the business long before it wears out. When this happens, inadequacy is said to have occurred. Obsolescence, like inadequacy, cannot be easily foreseen because it is not possible to exactly predict technological improvements, economic changes, etc., which may cause an asset to become obsolete, making it wise to sell, scrap, or trade in an item long before it wears out.

Salvage Value

When a fixed asset has a salvage value, the depreciation of the asset is its cost minus the salvage value. The salvage value of a fixed asset is the portion of its cost that is recovered upon the sale or other disposition of the asset at the end of its productive life. Some assets such as typewriters are traded in on similar new assets at the end of their service lives. The salvage values of such assets are their trade-in values. Other assets can be sold only as scrap metal, in such cases there would be little or no salvage value. When the disposal of a fixed asset involves certain costs, such as removal, the salvage value is the amount realized from the sale of the asset less the cost of removal. In cases where removal or disposal costs exceed the estimated salvage value of the asset, the salvage value is zero.

Obviously when a fixed asset is purchased, it is difficult to determine its exact salvage value; however, salvage value must be estimated so that depreciation can be estimated and allocated over the life of the asset.

Allocating Depreciation

Any reasonable method that is consistently applied may be used in computing depreciation. Acceptable methods include the (1) straight-line, (2) service hours, (3) units of output, (4) declining balance, and (5) sum-of-the-years methods.

Straight Line Depreciation

This method is the simplest for computing depreciation and is applicable to those assets that make an equal contribution to operations during each year of their useful lives. Under this method, the cost of the asset less its salvage value is generally deducted in equal annual amounts over the period of its estimated useful life.

The annual straight-line depreciation expense is computed by dividing the depreciable cost of the asset by the number of years in its productive life. Depreciable cost is the cost recorded in the asset account less the estimated net proceeds which are expected to be realized when the asset is disposed of, sold, or traded. The computation is expressed in the following formula:

$$\text{Annual depreciation} = \frac{\text{Cost - Estimated salvage}}{\text{Estimated years of life}}$$

If a company pays $10,200 for an asset, which is expected to have a salvage value of $200 after five years of use, the annual depreciation expense is $2,000, computed as follows:

$$\frac{\$10{,}200 - \$200}{5} = \$\ 2{,}000$$

Service Hours Depreciation

If the use of an asset is not uniform during its life and if its life can be estimated in terms of service hours, a logical allocation of costs results from use of the service hours method. When the method is used, an hourly depreciation rate is computed by dividing the depreciable cost of the asset by the estimated number of service hours in its life. The computation is expressed in the following formula:

$$\frac{\text{Cost - Estimated salvage}}{\text{Estimated \# of service hours}} = \text{Depreciation cost per service hour}$$

If the asset described above, a machine with a depreciable cost of $10,000, is expected to have 50,000 service hours of productive life, the depreciation per service hour would be 20 cents ($10,000/50,000 hours). Suppose further that during the first year of the machines life it is used 12,000 hours. The depreciation expense for the year is $2,400 (12,000 x 20 cents). If the machine is operated 8,000 hours during the second year, the depreciation expense is $1,600 (8,000 x 20 cents). Figure 16-1 illustrates the computation of the annual depreciation expense for the entire life of the machine, using assumed amounts for the service hours operated each year.

Figure 16-1

Year	Hours used	Estimated cost per hour	Depreciation expense
1	12,000	$0.20	$ 2,400
2	8,000	$0.20	$ 1,600
3	11,000	$0.20	$ 2,200
4	13,000	$0.20	$ 2,600
5	6,000	$0.20	$ 1,200
Total			$10,000

Estimation of an asset's total service hours may be subject to considerable error; consequently, this method of computing depreciation should be used only in those instances

in which the assets total service hours can be estimated with some reliable degree of accuracy.

Units of Output Depreciation

The units of output method of computing depreciation are similar to the service hours method. The total life of the asset is estimated in terms of the total number of units it will produce, a unit depreciation rate is computed by dividing the depreciable cost by the estimated total units of output.

Depreciation per Unit of Product = Cost - Salvage Value/Estimated Units of Production During Useful Life

Then, the amount the asset depreciates in any given year (or other accounting period) is determined by multiplying the units of product produced during that period by the depreciation per unit. If the machine described previously, with a net depreciable cost of $10,000, is expected to produce 20,000 units during its productive life, the depreciation expense per unit is $0.50. Figure 16-2 illustrates the computation of the annual depreciation expense for the entire life of the machine, using assumed amounts for the units produced each year.

Figure 16-2

Year	Units	Unit cost	Depreciation expense
1	3,000	$0.50	$ 1,500
2	5,000	0.50	$ 2,500
3	6,000	0.50	$ 3,000
4	4,000	0.50	$ 2,000
5	2,000	$0.50	$ 1,000
Total			$10,000

Declining Balance Depreciation

The declining balance method of depreciation results in accelerated depreciation or higher depreciation charges during the early years of an assets life. Under the declining balance method, depreciation of up to twice the straight-line rate, without considering salvage value, may be applied each year to the declining book value of a new asset having an estimated life of three years or more. Because the same depreciation rate applies to a smaller or declining balance each year, a larger depreciation deduction is taken for the first year and a gradually smaller deduction in succeeding years. If the declining balance method is followed, and twice the straight-line rate is used, the annual depreciation expense on an asset is determined by: (1) calculating the straight-line depreciation rate for the asset without considering its salvage value; (2) doubling this rate; and then (3) at the end of each year in the assets life applying this doubled rate to the assets remaining book value. The book value of an asset is its cost less accumulated depreciation.

If this method is used to compute depreciation on the machine discussed previously with a $10,200 cost and a five-year life, a constant rate of 40% is determined. Figure 16-3

illustrates the application of the constant rate to the undepreciated balance when this method is used.

Figure 16-3

Year	Annual depreciation calculation	Annual depreciation expense	Remaining book value
1	40% of $10,200.00	$4,080.00	$6,120.00
2	40% of $ 6,120.00	$2,448.00	$3,672.00
3	40% of $ 3,672.00	$1,468.80	$2,203.20
4	40% of $ 2,203.20	$ 881.28	$1,321.92
5	40% of $ 1,321.92	$ 528.77	$ 793.15
		$9,406.85	

While salvage value is not taken into account in determining the annual depreciation allowances under this method, in no event may an asset be depreciated below a reasonable salvage value. For example, if instead of a $200 salvage value as specified previously, this asset had an estimated $1000 salvage value, depreciation for its fifth year would be limited to $321.92, the amount required to reduce the assets book value to its salvage value.

Note that in Figure 16-3, the remaining book value of the asset is $793.15 after five years. The remaining book value of the asset can be made to equal the salvage value by switching from the declining balance method (in this case, double-declining balance) to the straight-line method before the end of the assets estimated useful life. The switch from the double-declining balance method to the straight-line method should be made during the year when:

$$\frac{\text{Remaining book value} - \text{Estimated salvage}}{\text{Remaining useful life}} \text{ Þ } \text{Double declining depreciation}$$

In the example shown in Figure 16-3, the switch would be made during the fourth year, because the annual straight-line depreciation charges of $1,001.60 as computed below, are greater than the $881.28 double-declining depreciation charge.

$$\frac{\$2{,}203.20 - \$200/2}{\$1{,}001.60} \text{ Þ } \$881.28$$

Figure 16-4 summarizes the depreciation for this asset using the double-declining method for the first three years of the assets life and straight-line depreciation for years four and five.

Figure 16-4

Year	Annual depreciation calculation	Annual depreciation expense	Remaining book value
1	40% of $10,200.00	$4,080.00	$6,120.00
2	40% of $6,120.00	$2,448.00	$3,672.00
3	40% of $3,672.00	$1,468.80	$2,203.20
4	$2,203.20 - $ 200/2	$1,001.60	$1,201.60
5	$2,203.20 - $ 200/2	$1,001.60	$ 200.00
		$10,000.00	

Sum-of-the-Years-Digits Depreciation

The sum-of-the-years-digits method is similar to the declining balance method and results in larger depreciation charges in the early years of the life of the asset.

Using the same machine as previously discussed with a $10,200 cost, five-year useful life, and $200 salvage value, the annual depreciation expense can be computed using the sum-of-the-years-digits method by multiplying the depreciable cost by a fraction. The numerator of the fraction is the number of years in the remaining life of the asset from the beginning of that year, and the denominator is the total of the digits representing the years of the assets useful life. The depreciable cost is the cost of the asset minus its salvage value. Figure 16-5 illustrates the computation of the annual depreciation expense by the sum-of-the-years-digits method.

Figure 16-5

Year	Fraction	Depreciable cost	Depreciation expense
1	5/15	$10,000	$3,333
2	4/15	$10,000	$ 2,667
3	3/15	$10,000	$ 2,000
4	2/15	$10,000	$ 1,333
5	1/15	$10,000	$ 667
15	15/15		$10,000

Since the total of the fractions is 1, the total depreciation expense of all years is equal to the amount to which the fractions are applied.

The reducing charge methods, both the declining balance and the sum-of-the-years-digits methods are advocated by many accountants who argue that repairs and maintenance are greater during the latter years of the life of the asset, and that depreciation computed by the constant percentage method tends to equalize the combined depreciation expense and maintenance expense for each year of the asset's life. They also point out that in some instances, as an asset grows older, its ability to produce revenue is reduced.

Comparison of Depreciation Methods

Figure 16-6

Year	Straight line	Service hours	Units of production	Declining balance	Sum-of-the years digits
1	$ 2,000.00	$2,400.00	$1,500.00	$4,080.00	$3,333.00
2	$ 2,000.00	1,600.00	2,500.00	2,448.00	2,667.00
3	$ 2,000.00	2,200.00	3,000.00	1,468.80	2,000.00
4	$ 2,000.00	2,600.00	2,000.00	1,001.60	1,333.00
5	$ 2,000.00	1,200.00	1,000.00	1,001.60	667.00
	$10,000.00	$10,000.00	$10,000.00	$10,000.00	$10,000.00

From Figure 16-6 it can be seen that the depreciation expense in any one-year can vary substantially, depending on the method by which it is computed. However, the total depreciation expense for the five years is $10,000 (the depreciable cost) regardless of the method used. The choice of a depreciation method affects the amount of depreciation expense in any one-year but not the total amount of depreciation over the entire life of the asset. Note, for example, the variance in depreciation expense of the first year as computed by the methods previously discussed.

Group Depreciation

The depreciation calculations thus far have assumed that each asset is depreciated independently of other assets and that the total depreciation expense for the period is the sum of all the individual depreciation calculations. If a company has a large number of assets, an excessive amount of clerical effort is required to accumulate the individual depreciation amounts.

To reduce this clerical effort some companies apply a depreciation method to all assets within a specific classification. If, for example, all the assets recorded in the Office Furniture and Fixtures account have estimated lives from six to fourteen years, a rate based on an average life of ten years may be applied to the total cost of all office furniture and fixtures. Such a method is called group depreciation.

An example of group depreciation is shown in Figure 16-7.

Figure 16-7

Asset	Cost	Salvage	Total depreciation	Estimated life	Annual depreciation (Straight-line)
A	$ 26,000	$ 5,000	$21,000	14 years	$1,500
B	18,600	3,000	15,600	8 years	1,950
C	7,700	2,500	5,200	8 years	650
D	1,700	500	1,200	6 years	200
	$54,000	$11,000	$43,000		$4,300

$43,000/$ 4,300	=	10, the average life
$ 4,300/$54,000	=	0.0796, the average depreciation rate of cost
$ 4,300/$43,000	=	0.10, the average depreciation rate of cost less salvage value

Using the straight-line method on a group basis, the amount of depreciation recorded annually for the group of assets shown in Figure 16-7 would be $4,300 (1/10 of $43,000). If there were no changes in the asset account, annual depreciation of $4,300 would accumulate to $43,000 over the average life of 10 years, and the assets would be depreciated to the total estimated salvage, or $11,000.

When this method is used and an asset is retired, its full cost is removed from the asset account and from its related accumulated depreciation account. No attempt is made to determine the actual depreciation taken on the specific asset retired. The asset may have been used more or less than ten years, but regardless of its actual life it is assumed to be fully depreciated.

No gain or loss is recognized on the sale of an asset if the group method of depreciation is used. This method is based on the assumption that some assets will be over-depreciated and others will be under-depreciated, and gains and losses will be equalized over a period of time.

Valuation of Fixed Assets

Section 70.34, Wis. Stats., requires that "all articles of personal property shall, as far as practicable, be valued by the assessor upon actual view at their true cash value..." To aid the assessor in the discovery and valuation of the various classes of personal property the Department of Revenue (DOR) has developed the Statement of Personal Property form. A sample copy of this form is included at the end of this chapter.

The Statement of Personal Property can be the source document for the data necessary to value fixed assets; however, the assessor is not required to accept the reported figures, or to wait until the form is returned before making an assessment. The assessor may use various sources in determining the cost of fixed assets. These include general ledger accounts or asset cards, bills of sale, statements of the business, interviews with owners or those who sell, lease, or manufacture certain items of personal property, and conditional sales contracts and chattel mortgages recorded at the Register of Deeds Office.

It is important that assessors know what is being reported to them on the Statement of Personal Property and that the information be verified to be sure that the assets have been properly identified. This is necessary so an appropriate useful life can be selected, and to ensure that exempt items have not been included or taxable items omitted. In addition, since the law permits certain fixed assets to be classified as real estate in some situations and as personal property in others, the assessor must know what is included on the statement so that items are not assessed twice. For example, if a property owner includes the cost of an asset, such as air conditioning on Schedule D-Furniture, Fixtures, and Equipment, and the assessor has included the value of the air conditioning in the value estimate of the property owner's real estate improvement, a double assessment could result. A check should also be made of all deletions indicated on the statement to ensure that they

are valid, and not simply write-offs of fully depreciated assets. Fully depreciated assets that have been removed from the books but are still in use are assessable.

When verifying the assets reported on the Statement of Personal Property, the assessor should be aware that due to changes made in the federal income tax by the Economic Tax Recovery Act (ETRA) of 1981, businesses may be expensing some assets rather than carrying them on the books in asset accounts. ETRA allows a taxpayer (for income tax purposes) the option of expensing qualifying property rather than charging the property to a capital asset account. This allows the taxpayer to claim the cost as an income tax deduction for the taxable year in which the property is placed in service rather than recovering the cost of the property over its useful life. The dollar limitation on the amount that can be expensed is $5,000 a year ($2,500 in the case of a married individual filing a separate return) for 1984 and 1985, and $10,000 ($5,000 in the case of a married individual filing a separate return) for 1986 and later. If a taxpayer elects to expense qualifying personal property rather than including it in an asset account, the value of the property in the asset accounts will be understated. The assessor should verify that the personal property reported on the Statement of Personal Property includes those fixed assets which have been expensed as well as those carried on the books in the asset accounts.

The assessor must also verify that the costs reported for fixed assets on the Statement of Personal Property are in fact acquisition costs, and not book values. Acquisition costs are used because book values for identical assets can vary greatly, depending upon the method of depreciation used by the taxpayer. Figure 16-8 illustrates what could happen if book values are reported on the statement of personal property.

Following across the four year line in Figure 16-8 it can be seen that by using different methods of depreciation, all permissible for income tax purposes, very different net book values are created on assets that are identical in all respects. If used by the assessor without investigation, these values could produce assessments 55.6% apart, even though the property owners reported fully and honestly. A uniform and equitable base is not established by this procedure. For this reason, it is important that the assessor obtain asset costs by year of acquisition.

Figure 16-8

	Straight line method	**Declining balance method**	**Years digit method**
Cost of Asset	$10,000	$10,000	$10,000
Bonus in year of purchase 20%	2,000	2,000	2,000
Depreciation Base	8,000	8,000	8,000
1st year's depreciation	1,000	2 ,000	1,778
Book value end of first year	7,000	6,000	6,222
2nd year's depreciation	1,000	1,500	1,555
Book value end of second year	6,000	4,500	4,667
3rd year's depreciation	1,000	1,125	1,334
Book value end of third year	5,000	3,375	3,333
4th year's depreciation	1,000	844	1,111
Book value end of fourth year	4,000	2,531	2,222

Once acquisition costs for fixed assets have been determined, whether from the statement of personal property, the owner's books, or other sources as previously discussed, the assessor must adjust the costs for price changes and average depreciation over the years to reflect current values.

The method recommended by the DOR is through the use of price indexes. Through an index factor, the original cost by year of acquisition is brought up to a current replacement cost level with depreciation from all causes deducted. Price indexes and their development are discussed later in this chapter.

Briefly, the valuation process using price indexes is summarized as follows: property owners are requested to list by year of acquisition the cost of their fixed assets such as furniture, fixtures, machinery, and tools. The costs for each year are multiplied by a conversion factor, which adjusts the costs for price changes and depreciation, to obtain current market values. If the assessor is valuing property at an assessment level other than 100%, the market values obtained using the above method must be reduced to the same level by multiplying them by the percentage that the assessor is attempting to obtain.

This section has focused on the valuation of fixed assets using the original selling price adjusted by an index factor to adjust for price changes and depreciation. Emphasis has been placed on this method since the data necessary to use it is readily available to the assessor, and because it can be consistently applied to all such property. The assessor should be aware, however, that there are other methods available for the valuation of fixed assets. The current selling price less normal depreciation, gross rent multipliers, or income capitalization may all be used when the required data is available. Each of these methods has been discussed in WPAM Chapter 15-Valuation of Personal Property.

Explanation of a Price Index

A price index is a series of numbers that represent the change in cost of a commodity or group of commodities, over a definite period of time. A price index can be compared to a percentage figure in which 100% is the price in a selected year and prices in other years are measured as over 100% or under 100%. Figures greater than 100% represent a higher price than the base year. A price index written as 100 may be better understood if written as 1.00 or 100%.

Most price indexes in use are the results of combining several commodity indexes. The index constructed by the DOR is based on a series of price indexes for various types of assets which have been integrated into one series. The six indexes which have been utilized in formulating the price index are for assets which are included in the following classes: (1) Construction, (2) Metal Working, (3) General Purpose, (4) Electrical, (5) Miscellaneous, and (6) Commercial Furniture. These classes are as grouped by the U.S. Bureau of Labor Statistics and are assumed to measure accurately the relative price changes for machinery and equipment for the average firm in Wisconsin. The source of this data is the Bureau of Labor Statistics wholesale price index. In order to integrate these various indexes into one price index, an average of the six has been taken each year to produce one index figure instead of six for each year.

The yearly average produced is a weighted average. This means that each of the six classifications is weighted in relation to its share of the total value of all machinery and equipment for an average firm in the state. For example, if the average firm has twice as much general-purpose machinery as metal working machinery, then the general-purpose machinery would be given a weight of two and the metal working machinery a weight of one. The six components (classifications) are averaged in the following manner.

$$\frac{\text{(Index Number x Weight) + (Index Number x Weight) + (Index Number x Weight) + (Etc.)}}{\text{Total of All Weights}}$$

An example of one year's computation of the single yearly price index is illustrated in Figure 16-9.

The 1107.2 total is then divided by the 9.516 total of all weights, which gives the price index of 116.35 for the year.

To produce the final index as it appears on the "Schedule of Composite Conversion Factors for Valuation of Fixed Assets" as published yearly by the DOR, the current price index is divided by the price index for each of the previous 28 years to determine the relationship of each year to the present. The indexes for years prior to these have been averaged since they are generally considered together on the final schedule. An alternate, unindexed schedule of depreciation is also available from the DOR for those who wish to use it.

Figure 16-9

Computation of a price index

Machinery and Equipment

	Construction	Metal. working	General purpose	Miscellaneous	Electrical	Commercial furniture	Totals
Index	135.5	133.4	121.4	118.1	104.0	120.0	
Weight	.807	1.469	1.665	.697	4.462	.416	9.516
Row 1 (Index) times Row 2 (Weights) will equal as follows:							
	109.3	196.0	202.1	82.3	467.6	49.9	1107.2

Developing Composite Conversion Factors

The basic formula for determining the conversion factor is as follows: Conversion Factor = Price Index × Loss of Value Factor

Conversion factors are constructed to include both the price index and the loss in value so that the current market value can be obtained by multiplying the cost of acquisition directly by the conversion factors found on the schedules. The loss in value factors used to develop the conversion factors provided as a guide by the DOR are based on 150% declining balance depreciation.

Using the above formula, it is possible to see how the conversion factors as shown on the conversion schedule were developed. For example, the conversion factor for assets acquired in 1992 with a ten year life is .268. This can be seen on the sample conversion schedule in Figure 16-10 by referring to the 10-year column on the right hand side of the schedule on the 1992-year line.

To show how this factor was derived, it is necessary to know the price index and the loss of value factor. The price index for 1992 is 106, and is shown on the conversion table in the column headed “Price Index.” To determine the loss in value factor, it is necessary to know how much of the assets useful life has been used up. The schedule of months of depreciation in Figure 16-10 is set up so that all assets purchased in 1992 are treated as though they are 102 months old as of January 1, 2001. Since the full life in the 10 year column is 120 months, 102/120 of the asset life has been used up, or 85%. The loss in value factor can be read from the heavy curve in Figure 16-11 by finding 85% on the horizontal scale (percent of composite useful life) and then following this line up until it crosses the heavy curved line. At this point, read across to the left and a percent residual of approximately 25% (actually 25.28%) is found. This indicates that at 85% of the assets life it is estimated that 25% of the assets full value is still remaining.

The conversion factor is computed as follows:

Conversion Factor = 1.06 x 25.28%
Conversion Factor = 268

In viewing Figure 16-10, it can be seen that the conversion factors generally follow a steady downward trend, but some of them start to climb again in the earlier years. This is due to variations in the price index over the years. Since all assets are adjusted to a common starting point, namely, the cost of replacement as of January 1, 20__, these variations should not cause concern. If there had been no change in price level over the years, then all the conversion factors would follow the steady downward trend illustrated by the straight-line loss-of-value curve on Figure 16-11.

To obtain reasonable and accurate valuations for assessment purposes, the conversion factor schedule requires the selection of a composite useful life that is realistic and which conforms to actual experience and actual rates of replacement. As an aid to the assessor, the DOR provides a list of the composite useful lives for equipment used by retailers, wholesalers, and service organizations on its website. To facilitate use of the list, it has been arranged in two parts. The first part of the list includes retailers, wholesalers and service organizations listed in alphabetical order. The second part of the list groups retailers, wholesalers, and service organizations according to their major Standard Industrial Classification (SIC) code.

The Standard Industrial Classification is used to classify establishments by the type of activity in which they are engaged and is intended to cover the entire field of economic activities. Each establishment is assigned an industry code on the basis of its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. The purpose of Standard Industrial Classifications is to facilitate the collection, tabulation, presentation, and analysis of data relating to establishments. To obtain more information on the Standard Industrial Classification and the specific establishments that comprise each major group classification, reference should be made to the *Standard Industrial Classification Manual* which is published by the Executive Office of the President, Office of Management and Budget.

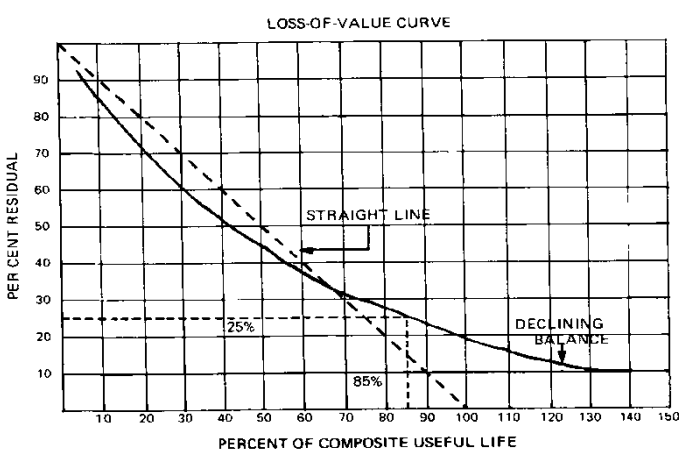
Composite useful lives for manufacturing machinery and equipment have also been developed by the DOR and are published in the Manufacturing Personal Property Return.

Figure 16-10

Wisconsin Department of Revenue, Office of Assessment Practices
Schedule of Composite Conversion Factors for Valuation of Fixed Assets
as of January 1, 2013

DATE OF ACQUIS-ITION	PRICE INDEX	MONTHS OF DEPREC.	YRS. 2 MOS. 24	3 36	4 48	5 60	6 72	7 84	8 96	9 108	10 120
2012	100	6	0.625	0.750	0.813	0.850	0.875	0.893	0.906	0.917	0.925
2011	102	18	0.159	0.383	0.518	0.607	0.669	0.716	0.751	0.779	0.802
2010	103	30		0.194	0.327	0.430	0.507	0.568	0.616	0.656	0.688
2009	103	42			0.204	0.301	0.380	0.446	0.501	0.546	0.585
2008	107	54				0.218	0.296	0.364	0.423	0.473	0.517
2007	108	66					0.225	0.288	0.347	0.397	0.443
2006	111	78						0.233	0.290	0.341	0.387
2005	114	90							0.242	0.292	0.339
2004	117	102								0.249	0.295
2003	117	114									0.250
2002	117	126									
2001	117	138									
2000	118	150									
1999	118	162									
1998	118	174									

Figure 16-11



Statement of Personal Property

Section 70.34, Wis. Stats., requires the assessor to value personal property at its "true cash value," which courts have ruled means the same as market value. It is very difficult, however, to apply appraisal principles to personal property.

In valuing real estate, there usually are sales the assessor can use to estimate market value. Personal property, however, seldom sells. Most sales of personal property involve trade-ins or sales of personal property that the seller no longer needs, which do not meet the criteria of arm's-length sales. In addition, applying a comparable sales approach to

individual personal property items is extremely time consuming for both the taxpayer and the assessor.

This does not mean the assessor should ignore all sales. There are sales that usually involve large personal property items such as boats and mobile homes. When evaluating these sales, the assessor uses the same criteria used for evaluating real property. These criteria include time on the market, knowledgeable buyers and sellers, willing buyers and sellers with neither parties compelled to act, payment in cash or typical of normal financing, and the sales price must include all of the rights, privileges, and benefits of the property.

To provide a uniform estimate of the market value of personal property, according to sec. 70.35, Wis. Stats., the DOR recommends the use of Composite Conversion Factors. These factors combine a 150% declining balance depreciation schedule with an inflation factor based on the Producer Price Index and are incorporated into the Statement of Personal Property (PA-003). The assessor can obtain a supply of the Statement of Personal Property forms from the municipal clerk or county clerk and should obtain an adequate supply for all of the personal property accounts in the municipality. The form is also available on DOR's website under state prescribed forms.

Before mailing returns to the owner, the assessor should complete the top portion of page 1 with the municipal and county name, school district number, assessor's name, address and telephone number and the name and address of the owner. The assessor should send multiple returns if the owner has personal property in more than one school district or within a Tax Incremental District and outside a Tax Incremental District with the district clearly identified on each return. Completed returns should be checked to ensure that the correct property for each district is reported and the name and address of the owner are correct.

Having the improper name and address may make personal property tax uncollectable. Thus, the assessor must correct the records and the assessment roll to reflect any changes. If the owner has sold the property and returned the form with the new owner's name and address, the assessor should mail a form to the new owner prior to the assessment date to provide sufficient time to complete and return the forms by the March 1 due date. The assessor may enter the type of business and the property address, or leave these lines blank for the owner to complete.

Individual Schedules

This section explains how to complete the individual schedules. The procedures for the schedules are included with each schedule. WPAM Chapter 15 contains additional information on classifying and valuing personal property.

Schedule A is the Summary of Personal Property that the owner completes by transferring the amounts from the supporting schedules in the return. Classes of property are identified by 1, 2, 3, and 5. There is a blank area for the assessor to correct any errors. Below Schedule A is an area for the owner, or person in charge, to sign the form to declare the truth and correctness of the return. The form must also be signed by the preparer, if other

than the owner, and a phone number with fax number should be provided in case questions arise during the review.

Schedule B provides an area for the owner to report taxable Boats and Watercraft. The owner provides a description of the boat or watercraft, the year acquired, the cost when acquired, conversion factor, and the estimated value as of the assessment date. The assessor can contact boat dealers or consult *Blue Book* publications to obtain information on the current market value of boats.

Schedule C provides an area for the owner to report Machinery, Tools, and Patterns and contains Composite Conversion Factors for a ten-year life (the most common year life). WPAM_Chapter 16 contains a listing of useful lives recommended by the DOR. If the life of the item is different it should be noted and the appropriate factor used to value the item. When reviewing the schedule, the assessor should make sure that the property owner used the correct factors.

The owner lists the original installed cost of the assets as of January 1 of the prior assessment year in Column 2. All changes since the last assessment date are listed in Column 3. New property acquired this year should be listed as acquired in this year at the original installed cost. Older property acquired this year can be listed as acquired this year at the price paid this year, or listed in the year it was built or manufactured at its acquisition cost in that year. For example, a new drill purchased this year for $500 should be listed as acquired this year for $500. A used drill manufactured two years ago at cost of $500 but acquired this year for $350 can be listed as either an acquisition two years ago at $500 or an acquisition this year at $350. The DOR recommends using the current original installed cost if the sale is at arm's-length, since a current arm's-length transaction is a better indication of value than an historical cost. Transfers and disposals should be listed at their original installed cost in the year of acquisition. The amounts in Column 3 are added to or subtracted from the amounts in Column 2 to yield the original installed cost as of the current assessment date in Column 4. The amounts in Column 4 are multiplied by the 10-year Composite Conversion Factors in Column 5 to yield the indexed net value in Column 6.

Schedule D provides and area for the owner to report all Furniture, Fixtures, and Equipment that has market value. This includes items that have been fully depreciated for income tax purposes. The only exceptions are items so worn out or obsolete that they have no market value.

In reviewing Schedule D, the assessor should compare the amounts in Column 2 of this year's return with the amounts in Column 4 of last year's return. These amounts must be the same. The assessor should check the property owner's mathematics for computational errors, including addition or subtraction errors in combining Columns 2 and 3 or errors in multiplying the amounts in Column 4 by the Factors in Column 5. Corrections are entered in Column 7.

Schedule D-1 provides an area for the owner to report Exempt Computer Equipment and Software, Cash Registers and Single-Function Fax Machines. Though 1997 Wisconsin Act 237 created an exemption for computers, specific peripheral equipment and software, owners of such equipment must still fulfill the reporting requirements under sec. 70.35, Wis. Stats., or be subject to a forfeiture of $10 per $100 of value not reported. The continued

reporting of computer and software values is required so the State of Wisconsin may make equitable shared revenue payments to local municipalities.

Due to the unique nature of computer equipment, the DOR recommends using extended four-year Composite Conversion Factors for computer equipment and taxable software as shown on Schedule D-1. For all other personal property items requiring four-year life Composite Conversion Factors, the DOR recommends using the standard four-year life factors as shown at the end of this chapter.

Schedule D-2 provides an area for the owner to report multifunction faxes, copiers, postage meters, phone systems, and equipment with embedded computerized components. The DOR recommends using six-year Composite Conversion Factors for this equipment.

Schedule E provides an area for the owner to report Buildings on Leased Land, which are assessed as personal property because the land is owned by some one other than the building owner. The assessor uses the same principles to value these types of buildings as other buildings by using arm's-length sales of the subject or of comparable properties to estimate the market value of the building. When using arm's-length sales of buildings not on leased land as comparables, the assessor must subtract the value of the land from the comparables during the adjustment process. In the absence of sales information, the assessor should consider any information that has an affect on value, including the cost approach, the income approach, asking prices, and other relevant information. Schedule E provides an area for the owner to estimate the market value of the property.

Schedule F provides an area to report Leased Equipment that the owner is in charge of but does not own. Leasing equipment rather than purchasing it has become a widespread practice and can represent a substantial amount of value. The assessor should note the name and address of the lessor and send a Statement of Personal Property to the lessor, because the lessor may lease additional equipment. The lessor of the equipment will have more information on its value than the lessee.

The assessor should attempt to assess property to the person responsible for paying the taxes. This is usually specified in the lease agreement and the information can be obtained by contacting the lessor or lessee. Although sec. 70.18, Wis. Stats., permits the assessor to assess leased equipment to either the lessor or the lessee, there are several advantages to assessing property according to the lease agreement: 1) There is less possibility of a double assessment especially when both the lessor and lessee report the same equipment. 2) There is less possibility of confusion in collecting taxes, especially when the lessee expects to pay the tax as part of the lessee's tax and later receives a separate bill from the lessor for this equipment. 3) The lessor and lessee are more likely to cooperate in providing information about leased equipment if the assessor makes the assessment according to the lease agreement.

There may be situations, however, where the assessor may want to make the assessment contrary to the lease agreement, such as when a taxable lessor leases equipment to an exempt lessee. For example, if a taxable lessor leases a copy machine to an exempt church the copy machine is taxable. Although the lease specifies that the lessee is responsible for the tax, assessing the copy machine to the church may cause confusion and create difficulty

in collecting the tax. By assessing the copy machine to the lessor, the assessor prevents the confusion of assessing an exempt organization.

Schedule G provides an area for the owner to report Supplies that are on hand on the assessment date. Supplies are items that are not subject to resale by the taxpayer, but are necessary to the business including office supplies, shipping supplies, medical, dental, selling and advertising supplies, and cleaning supplies. Supplies are not considered merchant's or manufacturer's stock and are not exempt. In general, the owner maintains a supply inventory equal to one-twelfth of the supplies purchased during the year.

Schedule H provides an area for the owner to list All Other Personal Property. The owner estimates the value of the leasehold improvements in Column 3. An appropriate conversion factor can be obtained from the DOR Website and entered in Column 4. The assessor should obtain a list of items included with the leasehold improvements, and compare these items with the real estate assessment to ensure that the property is not assessed as both real estate and personal property. The owner also uses Schedule H to report any other personal property for which there is not a schedule, such as leasehold improvements, other improvements on leased land (exempt), abstract records, professional libraries, videotapes, signs, billboards, mobile homes assessed as personal property and logs/forest products. The logs and products applies only to property owners whose principal activity is not related to the buying, selling, or manufacturing use of the property, since these uses are exempt as merchant's or manufacturer's stock. The declared value as of January 1 can be calculated by multiplying Column 3 and Column 4.

The assessor must review this area to prevent double assessments of property as both real estate and personal property; especially items that are typically considered real property. For example, assume that an owner reports cranes as personal property, and the assessor has included them in the real estate assessment. The assessor must either deduct the cranes from the real estate assessment or make sure that the owner does not include them in the personal property return.

Directly below Schedule H is an area for the owner to report lease provisions including the term, square feet of leased area, annual or percentage rental, and if the lease includes utilities, taxes or other items.

Summary Procedures

After reviewing the various supporting schedules, the assessor checks Schedule A to verify that it contains the correct figures. The total value from Schedule B is transferred to line 1, column 3 on Schedule A. The total value from Schedule C is transferred to line 2, column 3 on Schedule A. The total value from Schedule D is transferred to line 3, column 2 on Schedule A. The total value from Schedule D-1 is transferred to line 4, column 2 on Schedule A. The total value from Schedule D-2 is transferred to line 5, column 2 on Schedule A. The total value from Schedule E is transferred to line 11, column 3 on Schedule A. The total value from Schedule F is transferred to line 7, column 2 on Schedule A. The total value from Schedule G is transferred to line 8, column 2 on Schedule A. The total value from Schedule H is transferred to line 9, column 2 on Schedule A.

If the assessor has revised the amounts on Schedules A, B, C, D-2, E, F, G or H, the assessor should transfer the revised amounts and contact the owner to discuss any revisions. It is good public relations for the assessor to explain any revisions at this time. This also provides an opportunity for the property owner and the assessor to informally discuss the revisions prior to the Board of Review, which may reduce the number of appeals.

When changes are made to Schedule D-1, the assessor should send the owner of the property form PR-307, Notice of Change to Reported Exempt Computers. This form is found in WPAM_Chapter 17. Section 73.06, Wis. Stats., requires disputes related to the taxability or value of property in Schedule D-1 to be resolved by using the appeal procedures under sec. 70.995(8), Wis. Stats.

Wisconsin law requires the assessor to assess personal property at the same level as real property. After reviewing the Statement of Personal Property, the assessor must adjust the amounts on Schedule A to the same level of assessment as real property. If the assessor is assessing real property at 95 percent of market value, the assessor must multiply the amounts on Schedule A by 95 percent before putting the amounts on the assessment roll.

After completing the review, the assessor should consider sending a Notice of Personal Property Assessment (PR-299) to the personal property owner. Although Wisconsin law does not require the assessor to notify personal property owners of their assessment, the DOR recommends mailing this Notice as an element of a good public relations program. The DOR strongly urges the assessor to at least send the Notice when the assessor has revised the Statement of Personal Property.

Links

Statement of Personal Property (PA-003). State prescribed form. Property Owner must file this annually.

Composite Conversion Factors
Table containing the Composite Conversion Factors for Fixed Asset Valuation computed annually by the DOR and available under 'Reports' on the DOR website.

Composite Useful Lives This table is ordered by SIC Code and is published annually by the DOR. It can be found under 'Reports' on the DOR website.