

Depreciation Accounting

Comparison of Indian Accounting Standard (AS-6) and US GAAP (ARB-43)

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In India the depreciation accounting is done as per the Accounting Standard-6, there is no corresponding specific FASB statement under US GAAP however, the subject of depreciation is covered by American Institute of CPAs' Accounting Research Bulletin Number 43, chapter 9A (*Depreciation and High Costs*), and Emerging Issue Task Force Consensus Summary Number 89-11 (*Allocation of Purchase Price to Assets to be Sold*).

The comparison of Indian GAAP and US GAAP can be made as under:-

- Similarity between the two GAAPs
- Differences between the two GAAPs

Similarity between the two GAAPs

Definition and Objective – Indian GAAP (AS-6), defines the depreciation as under-

“Depreciation” is a measure of the wearing out, consumption or other loss of value of a depreciable asset arising from use, effluxion of time or obsolescence through technology and market changes. Depreciation is allocated so as to charge a fair proportion of the depreciable amount in each accounting period during the expected useful life of the asset depreciation includes amortization of assets whose useful life is predetermined.

US GAAP, defines the depreciation as under:-

“Depreciation” is an annual charge to income that results from a systematic and rational allocation of cost over the life of a tangible asset.

The definitions of the depreciation under both GAAPs are almost same.

Applicability – Both the GAAPs Indian as well US excludes the following assets from depreciation: -

- Forests, Plantations
- Wasting Assets, Minerals and Natural Gas.
- Expenditure on research and development.
- Goodwill
- Live stock - Cattle, Animal Husbandry

Calculation of Depreciation- The amount of depreciation is calculated after considering the followings under both the GAAPs: -

- Historical cost or other amount in place of Historical cost like revalued amount
- Estimated useful life of depreciable assets.
- Estimated residual / scrap value of depreciable asset.

What is cost of depreciable asset- It is total cost spent in connection with its acquisition installation and commissioning as well as for add items or improvement of the depreciable asset. The historical cost may change due to following factors: -

- Increase/decrease in long-term liability on account of exchange fluctuation
- Price adjustment
- Changes in duties
- Revaluation of depreciable assets
- Other similar reasons

Methods of Depreciation- There are two methods of depreciation as suggested by Indian GAAP (AS-6). These are: -

- Straight Line Method (SLM)
- Written Down Value Method (WDVM)

However, US GAAP allows other methods for providing the depreciation in addition to above two which are detailed below:-

(1) **Straight line-** Depreciation expenses is incurred evenly over the life of the asset.

$$\frac{\text{Cost less salvage value}}{\text{Estimated useful life}}$$

(2) **Accelerated method-** Depreciation expenses is higher in the early years of the asset's useful life and lower in the later years.

(a) **Declining balance** – A multiple of the straight-line rate times the book value at the beginning of the year.

$$\text{Straight-line rate} \times \frac{1}{\text{Estimated useful life}}$$

Example: - Double declining balances depreciation (stop when book value = estimated salvage value)

$$2 \times \text{Straight-line rate} \times \text{Book value at the beginning of the year}$$

(b) **Sum-of-the-year's digit (SYD) depreciation =**

$$\frac{(\text{Cost less salvage value}) \times \text{Applicable fraction}}{\text{Number of the years of estimated life remaining as of the beginning of the year}}$$

Where applicable fraction = -----

$$\text{And SYD} = \frac{n(n+1)}{2}, \quad \text{where } n = \text{estimated useful life}$$

(3) **Present value method** – depreciation expenses is lower in the early years and higher in the years. The rate of return on the investment remains constant over the life of the asset. Time values of money formulas are used.

(a) **Sinking fund** – Uses the future value of an annuity formulas

(b) **Annuity fund** – Uses the present value of an annuity formulas

Partial-year depreciation – when an asset is either acquired or disposed of during the year, the full-year depreciation calculation is prorated between the accounting periods involved.

Depreciation method based on actual physical usage – Units of production- Depreciation is based upon the number the units produced by the asset in a given year.

$$\text{Depreciation rate} = \frac{\text{Cost less salvage value}}{\text{Estimated number of units to be produced by the asset over its estimated useful life}}$$

Unit of the production depreciation = Depreciation x Number of units produced during the current year

Other depreciation methods

- (1) **Retirement method** – Cost of asset expensed in period in which it is retired.
- (2) **Replacement method** – Original cost is carried in accounts and cost of replacement is expensed in the period of replacement
- (3) **Group (Composite) method** – Averages the services lives of a number of assets using a weighted- average of the units and depreciates the group or composite as if it ere a single unit. A group consists of similar assets, while a composite is made up of similar assets

$$\text{Depreciation rate} = \frac{\text{Sum of the straight-line depreciation of individual assets}}{\text{Total asset cost}}$$

Selection of Appropriate Method- It depends upon the following factors: -

- Type of Asset
- Nature of the use of such asset
- Circumstances prevailing in the business

A combination of more than one method may be used. It is also an acceptable US GAAP to provide depreciation based on the group and composite methods, while the group method is used for dissimilar assets.

Changes in Depreciation Method- Change in depreciation method are done in following conditions under both the GAAPs:-

- for compliance of statute
- for compliance of GAAP
- for more appropriate presentation of the financial statement

Procedure to be followed in case of change in method-

- Depreciation should be recomputed applying the new method from the date of its acquisition / installation till the date of change of method.

- Difference between the total depreciation under the new method and accumulated depreciation under the old method till the date of change may be surplus / deficiency.
- Such resultant surplus is credited to profit and loss account under the head "Depreciation written back".
- Such resultant deficiency is charged to profit and loss account.

Such change of depreciation method should be treated as change in accounting policy under both the GAAPs and its effect should be quantified and disclosed. Under US GAAP retrospective effect of change in accounting policy is used in limited circumstances. However in some circumstances US GAAP allows changes in accounting policy to be handled prospectively.

EXAMPLE- A plant was depreciated under two different methods as under: -

	<i>(Amt. in Rs. Millions)</i>	
	<i>Straight Line Method</i>	<i>Written Down Value Method</i>
1st year	3.90	10.69
2nd year	3.90	7.90
3rd year	3.90	5.84
4th year	<u>3.90</u>	<u>4.32</u>
	<u>15.60</u>	<u>28.75</u>
5th year	<u>3.90</u>	<u>3.19</u>

Required: -

- If the company followed WDV method for first four years and decides to switch over to SLM, what would be the amount of resultant surplus / deficiency?
- If the company followed SLM for first four years and decides to switch over to WDV, what would be the amount of resultant surplus/deficiency?

As per para 21 of AS-6, when a change in the method of depreciation is made depreciation should be recalculated in accordance with the new method from the date of the asset coming into use. The deficiency or surplus arising from retrospective re-computation of depreciation in accordance with the new method should be adjusted in the accounts in the year in which the method of depreciation is changed. In case the change in the method results in deficiency in depreciation in respect of past years, the deficiency should be charged in the statement of profit and loss. In case the change in the method results in surplus, the surplus should be credited to statement of profit and loss.

- Surplus of Rs. 13.15 will be written back to Profit and Loss Account
- Deficiency of Rs. 13.15 should be charged to profit and loss account.

Such a change should be treated as a change in accounting policy and its effect should be quantified and disclosed.

Changes in Estimated Useful Life - When there is change in estimated useful life of assets outstanding depreciable amount on the date of change in estimated useful life of asset should be allocated over the

revised remaining useful life of assets. For example, plant has useful life of 10 years. Depreciable amount is Rs. 39 lakhs. The company has charged SLM of depreciation. At the end of 6th year the balance useful life was re-estimated at 8 years. The depreciation will be charged from 7th year:-

$$= \frac{39 - 39/10 \times 6}{8} = 1.95$$

Depreciation charge on addition / extension to an existing asset:-

- Addition / extension is an integral part of existing asset
It is depreciated over the remaining useful life of the existing asset

- Addition / extension is not an integral part of existing asset
It is depreciated over the estimated useful life of additional assets.

EXAMPLE: The Company's plant and machinery was of value of Rs. 3,000 lakhs as on 01.04.2001. It provided depreciation at 15% per annum under WDV method. However it noticed that about Rs. 500 lakhs worth of imported asset, which is component of above plant and machinery acquired on 01.04.2001 would be obsolete in 2 years. Company wants to write off this asset over 2 years. Can Company do so? Give comments.

As per para 34 of AS-6, where an addition or extension retains a separate identity and is capable of being used after the existing asset is disposed of, depreciation should be provided independently on the basis of an estimate of its own useful life.

As it appears that imported asset of Rs. 500 lakhs, which is component of plant and machinery, is having independent useful life. Therefore, the company's policy to write off over two years is correct.

When the depreciable asset is disposed of, discarded, demolished or destroyed-Net surplus or deficiency (i.e. sale proceeds less written down value) is credited/ charge to profit and loss account.

Differences between the two GAAPs

Revaluation -Indian GAAP (AS-6), allows the depreciation on revalued value of the assets as the AS-10 Fixed assets, allows the revaluation of assets. However US GAAP prohibits revaluation

Periodic review of depreciation method- AS-6 does not require periodic review of depreciation method but periodic review of useful life is required, though it sets out criteria as to when depreciation method can be changed. US GAAP does not require periodic review of the depreciation method.

Subsequent expenditure-The absence of any guidance on subsequent expenditures and its treatment under both the GAAPs may result in inconsistent accounting.

AS-10 states that subsequent expenditures may be capitalized when it is probable that future economic benefits in excess of the original level will flow to the enterprise. It then states "All other subsequent expenditure should be recognised as an expense in the period in which it is incurred" (paragraph 23). That notion has been emphasized in SIC Interpretation 6, Costs of Modifying Existing Software, which requires

that subsequent costs of modifying existing software systems to enable them to operate as originally intended after the turn of the millennium or after introduction of the Euro be recognised as expenses when incurred.

US GAAP does not include a standard that addresses all potentially capitalisable subsequent expenditures. EITF Issue 89-13 provides that costs to treat asbestos may be capitalized under certain conditions. Expenditures to treat asbestos may be capitalized as betterment (subject to an impairment test) based on the notion that the expenditures are necessary for the asset to remain in services. EITF Issue 90-8 also provides that some environment contamination treatment costs may be capitalized provided certain criteria are met. Costs may be capitalized if there are recoverable and if they (a) improve the condition of the property from its original conditions, (b) Mitigate or prevent environment contamination and improve the condition of the property, or (c) are incurred in preparing the property for sale. That guidance can be seen as requiring that the expenditures provide additional benefits or are necessary for the asset to remain in service in order to qualify for capitalization.

Specialized industries – AS-6 does not address particular issues relating to specialized industries, such as, oil and gas and other extractive industries whereas, US GAAP addressed issues relating to these specialized industries. Differences in scope between US GAAP and AS-6 can lead to inconsistent accounting for similar items.

Dismantling Costs – Neither US GAAP nor AS-6, addresses the dismantling costs of fixed assets.

Tax laws - Section 32 of Indian Income-tax Act, 1961 allows the depreciation on various classes of tangible and intangible assets. The depreciation is allowed at the rate prescribed in Appendix 1 and Appendix-1A attached to rule 5 of Indian Income-tax Rules. The depreciation is allowed as per written down value method except in case of assets of undertaking engaged in generation of power, in which case the depreciation is allowable on straight-line method.

In case of leased assets depreciation is always allowed to the owner of the assets, whereas in accounting the depreciation on financial lease is allowed to the lessee as per AS-19. The depreciation on the assets purchased on hire purchase is allowed to the hire-purchaser both under Income-tax Act as well as in accounting.

The rate of depreciation prescribed under the Indian Income-tax Act cannot be applied for calculating the true and fair profit in accounting. What should be the rate of depreciation on particular asset while preparing the financial statements will be decided as per AS-6. Even while preparing the financial statement of a company, registered under the Indian Companies Act, 1956, the rate of depreciation applied to various assets may not be exactly the same as prescribed in Schedule XIV to the Indian Companies Act, 1956, because wherever the true and fair profit is to be determined, the rate of depreciation/amount of depreciation will be governed by AS-6.

The depreciation is not allowed on revalued price under the Indian Income-tax Act, whereas in the accounting depreciation is allowed on revalued price.

Under the US Tax laws assets placed into service after 1986, tax depreciation is calculated using the Modified Accelerated Costs Recovery System (MACRS) which also ignores salvage value and divides assets into classes. The asset's class and recovery period is specified in Rev. Proc. 87-56. Depreciation

deductions are calculated by multiplying the asset' unadjusted basis by appropriate depreciation percentage. Depreciation percentages are listed in Rev. Prec. 87-57. The percentages are based on the type of property, class life, depreciation method, and convention. Depreciation deductions are limited for certain assets such as listed property. Optional depreciation methods or section 179 may also be elected.

Tax depreciation will differ in amount from financial depreciation because of the difference in treatment of salvage value, recovery methods, recovery periods, and the use of conventions. The difference between tax depreciation and financial depreciation is reported as a Schedule M-1 adjustment on a corporate's tax return.

MACRS is not considered to be in accordance with generally accepted accounting principles.

Related corporate laws- Indian GAAP (AS-6) is influenced by the Indian Companies Act, 1956 which prescribes two methods of depreciation i.e. straight-line and Diminishing method and also prescribes depreciation rates for different types of assets. Therefore, AS-6 also recommends only two methods however; there are no related corporate laws in US which prescribes the depreciation rates.

Disclosures- Indian GAAP (AS-6), prescribes more detailed disclosure requirements for depreciation in the presentation of financial statements whereas, US GAAP does not prescribes such disclosures. The Indian GAAP prescribes the following disclosures:-

- Total depreciation for the period of each class of assets.
- Accumulated depreciation of each class of assets.
- Depreciation method.
- The depreciation rates and the useful lives of the assets are disclosed only if they are different from the principal rates specified in the statute governing the enterprise.
- Change in method of depreciation.
- Effect of the revaluation of the fixed asset on the amount of depreciation.

