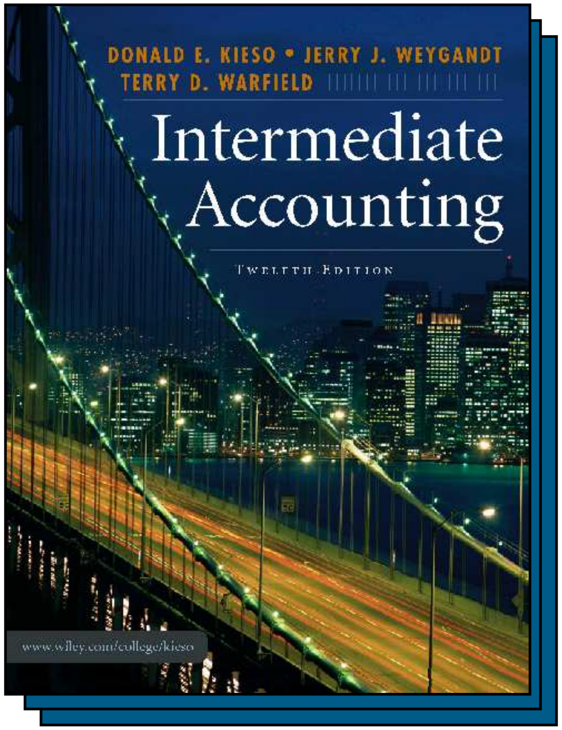
Property, Plant, and Equipment: Acquisition and Disposition

Chapter 10

Intermediate Accounting
12th Edition
Kieso, Weygandt, and Warfield



Prepared by Coby Harmon, University of California, Santa Barbara

Learning Objectives

1. Describe property, plant, and equipment.
2. Identify the costs to include in initial valuation of property, plant, and equipment.
3. Describe the accounting problems associated with self-constructed assets.
4. Describe the accounting problems associated with interest capitalization.
5. Understand accounting issues related to acquiring and valuing plant assets.
6. Describe the accounting treatment for costs subsequent to acquisition.
7. Describe the accounting treatment for the disposal of property, plant, and equipment.

Acquisition and Disposition of Property, Plant, and Equipment

Acquisition

- Acquisition costs: Land, buildings, equipment
- Self-constructed assets
- Interest costs
- Observations

Valuation

- Cash discounts
- Deferred contracts
- Lump-sum purchases
- Stock issuance
- Nonmonetary exchanges
- Contributions
- Other valuation methods

Cost Subsequent to Acquisition

- Additions
- Improvements and replacements
- Rearrangement and reinstallation
- Repairs
- Summary

Dispositions

- Sale
- Involuntary conversion
- Miscellaneous problems

Property, Plant, and Equipment

Property, plant, and equipment includes land, buildings, and equipment (machinery, furniture, tools).

Major characteristics include:

- "Used in operations" and not for resale.
- Long-term in nature and usually depreciated.
- Possess physical substance.

Acquisition and Valuation of PP&E

Valued at **Historical Cost**, reasons include:

- At acquisition, cost reflects fair value.
- Historical cost is reliable.
- Companies should not anticipate gains and losses but should recognize gains and losses only when the asset is sold.

APB Opinion No. 6 states, "property, plant, and equipment should not be written up to reflect appraisal, market, or current values which are above cost."

LO 2 Identify the costs to include in initial valuation of property, plant, and equipment.

Acquisition and Valuation of PP&E

Cost of Land

Includes all costs to acquire land and ready it for use. Costs typically include:

(1) the purchase price;

(2) closing costs, such as title to the land, attorney's fees, and recording fees;

(3) costs of grading, filling, draining, and clearing;

(4) assumption of any liens, mortgages, or encumbrances on the property; and

(5) Additional land improvements that have an indefinite life.

LO 2 Identify the costs to include in initial valuation of property, plant, and equipment.

Acquisition and Valuation of PP&E

Cost of Buildings

Includes all costs related directly to acquisition or construction.

Costs typically include:

(1) materials, labor, and overhead costs incurred during construction and

(2) professional fees and building permits.

LO 2 Identify the costs to include in initial valuation of property, plant, and equipment.

Acquisition and Valuation of PP&E

Cost of Equipment

Include all costs incurred in acquiring the equipment and preparing it for use.

Costs typically include:

(1) purchase price,

(2) freight and handling charges

(3) insurance on the equipment while in transit,

(4) cost of special foundations if required,

(5) assembling and installation costs, and

(6) costs of conducting trial runs.

LO 2 Identify the costs to include in initial valuation of property, plant, and equipment.

Acquisition and Valuation of PP&E

E10-1 (Acquisition Costs of Realty) The following expenditures and receipts are related to land, land improvements, and buildings acquired for use in a business enterprise. Determine how the following should be classified:

		Classification
(a)	Money borrowed to pay building contractor	Notes Payable
(b)	Payment for construction from note proceeds	Building
(c)	Cost of land fill and clearing	Land
(d)	Delinquent real estate taxes on property assumed	Land
(e)	Premium on insurance policy during construction	Building
(f)	Refund of 1-month insurance premium because construction completed early	(Building)

LO 2 Identify the costs to include in initial valuation of property, plant, and equipment.

Acquisition and Valuation of PP&E

E10-1 (Acquisition Costs of Realty) The following expenditures and receipts are related to land, land improvements, and buildings acquired for use in a business enterprise. Determine how the following should be classified:

		Costs of:
(g)	Architect's fee on building	Building
(h)	Cost of real estate purchased as a plant site (land \$200,000 and building \$50,000)	Land
(i)	Commission fee paid to real estate agency	Land
(j)	Installation of fences around property	Land Improvements
(k)	Cost of razing and removing building	Land
(l)	Proceeds from salvage of demolished building	(Land)
(m)	Cost of parking lots and driveways	Land Improvements
(n)	Cost of trees and shrubbery (permanent)	Land

LO 2 Identify the costs to include in initial valuation of property, plant, and equipment.

Acquisition and Valuation of PP&E

Self-Constructed Assets

Costs typically include:

(1) Materials and direct labor

(2) Overhead can be handled in two ways:

1. Assign no fixed overhead
2. Assign a portion of all overhead to the construction process.

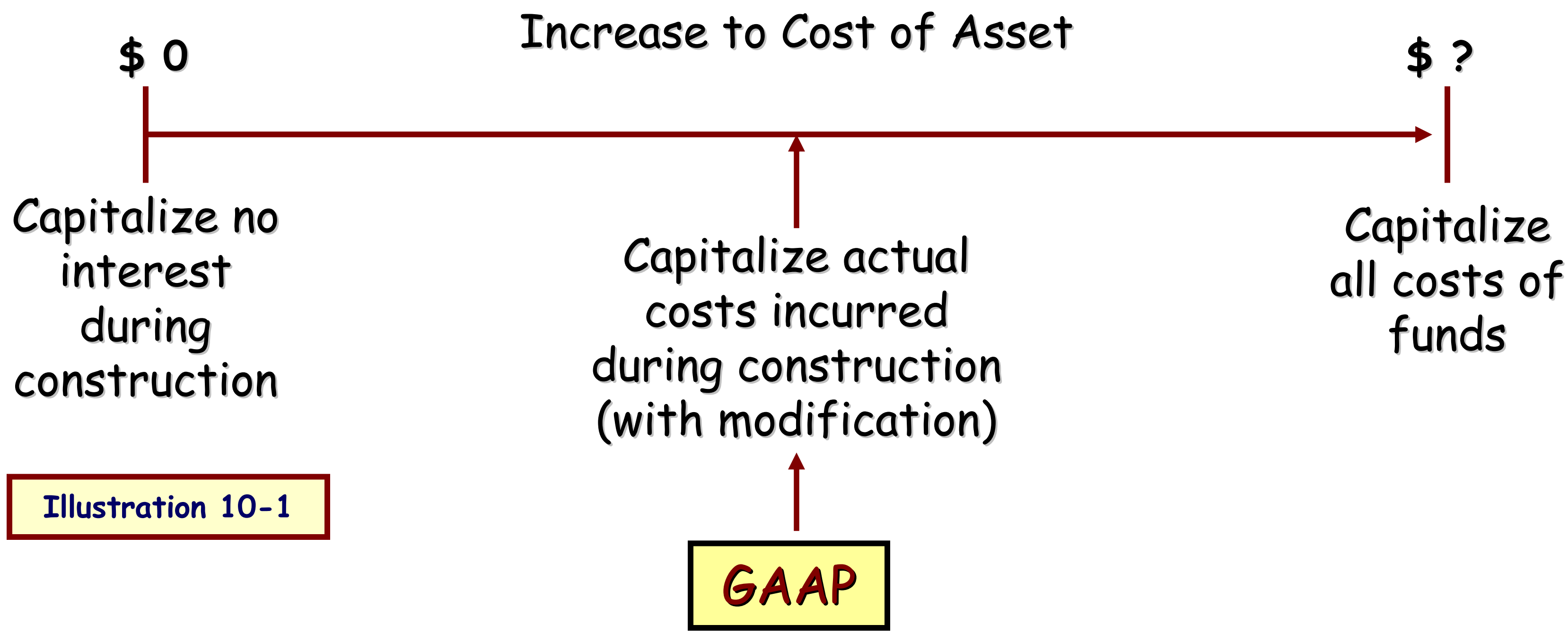
Companies use the second method extensively.

LO 3 Describe the accounting problems associated with self-constructed assets.

Acquisition and Valuation of PP&E

Interest Costs During Construction

Three approaches have been suggested to account for the interest incurred in financing the construction.



LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Interest Costs During Construction

- GAAP requires — capitalizing actual interest (with modification).
- Consistent with historical cost — all costs incurred to bring the asset to the condition for its intended use.
- Capitalization considers three items:
  1. Qualifying assets.
  2. Capitalization period.
  3. Amount to capitalize.

LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Qualifying Assets

Require a period of time to get them ready for their intended use.

Two types of assets:

- Assets under construction for a company's own use.
- Assets intended for sale or lease that are constructed or produced as discrete projects.

LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Capitalization Period

Begins when:

1. Expenditures for the asset have been made.
2. Activities for readying the asset are in progress .
3. Interest costs are being incurred.

Ends when:

The asset is substantially complete and ready for use.

LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Amount to Capitalize

Capitalize the lesser of:

1. Actual interest costs
2. Avoidable interest - the amount of interest that could have been avoided if expenditures for the asset had not been made.

LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Interest Capitalization Illustration: Delmar Corporation borrowed $200,000 at 12% interest from State Bank on Jan. 1, 2005, for specific purposes of constructing special-purpose equipment to be used in its operations. Construction on the equipment began on Jan. 1, 2005, and the following expenditures were made prior to the project's completion on Dec. 31, 2005:

Actual Expenditures:

January 1, 2005	$100,000
April 30, 2005	150,000
November 1, 2005	300,000
December 31, 2005	100,000
Total expenditures	$650,000

Other general debt existing on Jan. 1, 2005:

$500,000, 14%, 10-year bonds payable

$300,000, 10%, 5-year note payable

LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Step 1 - Determine which assets qualify for capitalization of interest.

Special purpose equipment qualifies because it requires a period of time to get ready and it will be used in the company's operations.

Step 2 - Determine the capitalization period.

The capitalization period is from Jan. 1, 2005 through Dec. 31, 2005, because expenditures are being made and interest costs are being incurred during this period while construction is taking place.

Acquisition and Valuation of PP&E

Step 3 - Compute weighted-average accumulated expenditures.

Date	Actual Expenditures	Capitalization Period	Weighted Average Accumulated Expenditures
Jan. 1	$ 100,000	12/12	$ 100,000
Apr. 30	150,000	8/12	100,000
Nov. 1	300,000	2/12	50,000
Dec. 31	100,000	0/12	-
	$ 650,000		$ 250,000

A company weights the construction expenditures by the amount of time (fraction of a year or accounting period) that it can incur interest cost on the expenditure.

LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Step 4 - Compute the Actual and Avoidable Interest.

Selecting Appropriate Interest Rate:

1. For the portion of weighted-average accumulated expenditures that is less than or equal to any amounts borrowed specifically to finance construction of the assets, **use the interest rate incurred on the specific borrowings**.

2. For the portion of weighted-average accumulated expenditures that is greater than any debt incurred specifically to finance construction of the assets, **use a weighted average of interest rates incurred on all other outstanding debt during the period**.

LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Step 4 - Compute the Actual and Avoidable Interest.

Actual Interest

	Debt	Interest Rate	Actual Interest
Specific Debt	$ 200,000	12%	$ 24,000
General Debt	500,000	14%	70,000
	300,000	10%	30,000
	$1,000,000		$ 124,000

Weighted-average interest rate on general debt

$$\frac{\$100,000}{\$800,000} = 12.5\%$$

Avoidable Interest

Accumulated Expenditures	Interest Rate	Avoidable Interest
$ 200,000	12%	$ 24,000
50,000	12.5%	6,250
$ 250,000		$ 30,250

LO 4 Describe the accounting problems associated with interest capitalization.

Acquisition and Valuation of PP&E

Step 5 – Capitalize the lesser of Avoidable interest or Actual interest.

Avoidable interest	**$**	**30,250**
Actual interest		**124,000**

Journal entry to Capitalize Interest:

Equipment	30,250	
Interest expense		30,250

LO 4 Describe the accounting problems associated with interest capitalization.

Valuation

Generally

Companies should record property, plant, and equipment:

- at the fair value of what they give up or
- at the fair value of the asset received,

whichever is more clearly evident.

Valuation

Cash Discounts — whether taken or not — generally considered a reduction in the cost of the asset.

Deferred-Payment Contracts — Assets, purchased through long term credit, are recorded at the present value of the consideration exchanged.

Lump-Sum Purchases — Allocate the total cost among the various assets on the basis of their fair market values.

Issuance of Stock — The market value of the stock issued is a fair indication of the cost of the property acquired.

LO 5 Understand accounting issues related to acquiring and valuing plant assets.

Valuation

Exchanges of Nonmonetary Assets

Ordinarily accounted for on the basis of:

- the fair value of the asset given up or
- the fair value of the asset received,

whichever is clearly more evident.

Companies should recognize immediately any gains or losses on the exchange when the transaction has **commercial substance** (future cash flows change as a result of the transaction).

LO 5 Understand accounting issues related to acquiring and valuing plant assets.

Valuation

Accounting for Exchanges

Illustration 10-10

Type of Exchange	Accounting Guidance
Exchange has commercial substance.	Recognize gains and losses immediately.
Exchange lacks commercial substance—no cash received.	Defer gains; recognize losses immediately.
Exchange lacks commercial substance—cash received.	Recognize partial gain; recognize losses immediately.*

* If cash is 25% or more of the fair value of the exchange, recognize entire gain because earnings process is complete.

LO 5 Understand accounting issues related to acquiring and valuing plant assets.

Valuation

Exchanges - Loss Situation

Companies recognize a **loss immediately** whether the exchange has commercial substance or not.

Rationale: Companies should not value assets at more than their cash equivalent price; if the loss were deferred, assets would be overstated.

Valuation

Exchange – Gain Situation Illustration: Carlos Arruza Company exchanged equipment used in its manufacturing operations plus $3,000 in cash for similar equipment used in the operations of Tony LoBianco Company. The following information pertains to the exchange.

	Arruza	LoBianco
Equipment (cost)	$28,000	$28,000
Accumulated Depreciation	19,000	10,000
Fair value of equipment	15,500	12,500
Cash given up		3,000

Instructions: Prepare the journal entries to record the exchange on the books of both companies.

Valuation

Calculation of Gain or Loss

	Arruza	LoBianco
Fair value of equipment received	$12,500	$15,500
Cash received	3,000	
Less: Bookvalue of equipment		
($28,000-19,000)	(9,000)	
($28,000-10,000)		(18,000)
Gain or (Loss) on Exchange	$6,500	($2,500)

When a company receives cash (sometimes referred to as "boot") in an exchange that lacks commercial substance, it may immediately recognize **a portion** of the gain.

LO 5 Understand accounting issues related to acquiring and valuing plant assets.

Valuation

Has Commercial Substance

Arruza:

Equipment	12,500	
Cash	3,000	
Accumulated depreciation	19,000	
Equipment		28,000
Gain on exchange		6,500

LoBianco:

Equipment	15,500	
Accumulated depreciation	10,000	
Equipment		28,000
Loss on exchange	2,500	

LO 5 Understand accounting issues related to acquiring and valuing plant assets.

Valuation

Lacks Commercial Substance

Arruza:

Equipment (12,500 – 5,242)	7,258	
Cash	3,000	
Accumulated depreciation	19,000	
Equipment		28,000
Gain on exchange		1,258

$$\frac{\text{Cash Received}}{\text{Cash Received + FMV of Assets Received}} \times \text{Total Gain} = \text{Recognized Gain}$$

$$\frac{\$3,000}{\$3,000 + \$12,500} \times \$6,500 = \$1,258$$

Deferred gain = $6,500 – 1,258 = $5,242

LO 5 Understand accounting issues related to acquiring and valuing plant assets.

Valuation

Lacks Commercial Substance

LoBianco (no change):

Equipment	15,500	
Accumulated depreciation	10,000	
Equipment		28,000
Loss on exchange	2,500	

Companies recognize a **loss immediately** whether the exchange has commercial substance or not.

Valuation

Summary of Gain and Loss Recognition on Exchanges of Nonmonetary Assets Lacks Commercial Substance

Illustration 10-20

1. Compute the total gain or loss on the transaction. This amount is equal to the difference between the fair value of the asset given up and the book value of the asset given up.
2. If a loss is computed in step 1, always recognize the entire loss.
3. If a gain is computed in step 1,
   - (a) and the exchange has commercial substance, recognize the entire gain.
   - (b) and the exchange lacks commercial substance,
     - (1) and no cash is involved, no gain is recognized.
     - (2) and some cash is given, no gain is recognized.
     - (3) and some cash is received, the following portion of the gain is recognized:

$$\frac{\text{Cash Received (Boot)}}{\text{Cash Received (Boot)} + \text{Fair Value of Other Assets Received}} \times \text{Total Gain*}$$

*If the amount of cash exchanged is 25% or more, recognize entire gain.

LO 5 Understand accounting issues related to acquiring and valuing plant assets.

Valuation

Accounting for Contributions

Companies should use:

- the fair value of the asset to establish its value on the books and
- should recognize contributions received as revenues in the period received.

Costs Subsequent to Acquisition

In general, costs incurred to achieve greater future benefits should be capitalized, whereas expenditures that simply maintain a given level of services should be expensed.

To capitalize costs, one of three conditions must be present:

- Useful life of the asset must be increased.
- Quantity of units produced from asset must be increased.
- Quality of units produced must be enhanced.

LO 6 Describe the accounting treatment for costs subsequent to acquisition.

Costs Subsequent to Acquisition

Major Types of Expenditures

- Additions
- Improvements and Replacements
- Rearrangement and Reinstallation
- Repairs

See Illustration 10-21, in the text, for summary of normal accounting treatment for these expenditures.

LO 6 Describe the accounting treatment for costs subsequent to acquisition.

Disposition of Plant Assets

Sale of Plant Assets

BE10-14 Sim City Corporation owns machinery that cost $20,000 when purchased on January 1, 2004. Depreciation has been recorded at a rate of $3,000 per year, resulting in a balance in accumulated depreciation of $9,000 at December 31, 2006. The machinery is sold on September 1, 2007, for $10,500. Prepare journal entries to (a) update depreciation for 2007 and (b) record the sale.

LO 7 Describe the accounting treatment for the disposal of property, plant, and equipment.

Disposition of Plant Assets

(a) update depreciation for 2007

Depreciation expense ($3,000 x 8/12)	2,000	
Accumulated depreciation		2,000

(b) record the sale

Cash	10,500	
Accumulated depreciation	11,000	
Machinery		20,000
Gain on sale		1,500

LO 7 Describe the accounting treatment for the disposal of property, plant, and equipment.

Disposition of Plant Assets

Involuntary Conversion

Sometimes an asset's service is terminated through some type of **involuntary conversion** such as fire, flood, theft, or condemnation.

Companies report the difference between the amount recovered (e.g., from a condemnation award or insurance recovery), if any, and the asset's book value as a gain or loss.

They treat these gains or losses like any other type of disposition.

LO 7 Describe the accounting treatment for the disposal of property, plant, and equipment.

Disposition of Plant Assets

Miscellaneous Problems

If a company scraps or abandons an asset without any cash recovery, it recognizes a loss equal to the asset's book value.

If scrap value exists, the gain or loss that occurs is the difference between the asset's scrap value and its book value.

If an asset still can be used even though it is fully depreciated, it may be kept on the books at historical cost less depreciation.

LO 7 Describe the accounting treatment for the disposal of property, plant, and equipment.

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