**Advanced Long-term Asset Analysis**

**Learning Outcomes**

After completing this module, students will be able to:

1. Examine a company’s long-term equity investments in associates, joint arrangements, and subsidiaries employing the equity and consolidation methods.
2. Demonstrate how to record property, plant, and equipment.
3. Apply the cost and revaluation models when valuing long-term assets.
4. Illustrate how to value goodwill.
5. Assess a company’s portfolio of intangible assets.
6. Account for decommissioning and restoration costs, research and development, and exploration and development assets.
7. Evaluate how efficiently a company manages its long-term assets, including any financial reporting quality issues.

**Introduction**

There is much more to financial statement analysis than calculating a 5-year trend of some key financial ratios with an industry average or benchmark. The interim and annual financial reports corporations issue are complex documents based on 61 IFRS Standards and Interpretations and 12 Canadian Securities Administrators (CSA) National and Multilateral Instruments. Financial analysts must thoroughly understand these complex documents and how different financial statement items are recognized and disclosed to assess a firm’s performance. This module examines long-term investments in associates, joint ventures and subsidiaries using the equity and consolidation methods; accounting for property, plant, and equipment including borrowing and decommissioning and restoration costs; the cost and revaluation models; valuing goodwill; accounting for intangible assets including research and development costs and exploring and valuing mineral resources; and a checklist for long-term asset analysis.

**1.1 | Intercorporate Investments (IAS 28, IFRS 3, IFRS 11)**

**Types of Intercorporate Investments**

Companies hold considerable current assets in cash, cash equivalents, and short-term investments to earn a competitive rate of return until the funds are needed for seasonal inventory build-ups, significant capital expenditures, quarterly dividend payments, sudden expenses, or unexpected business opportunities. Since these funds are needed soon for operations, companies act conservatively and invest them in a diversified domestic portfolio of short-term, high-quality, fixed-income securities that do not put the principal at risk.

Common share prices are volatile, so they make poor short-term investments. Companies buy them as intercorporate investments to gain significant influence or control over another company, such as an important supplier or customer. Investing in a supplier allows companies to negotiate better prices, improve supply chain coordination, enhance product quality, or secure access to key inputs like natural resources or technology. Investing in a customer allows companies to charge higher prices, provide better service, and learn first-hand about their customers’ needs. These equity investments are accounted for differently depending on the degree of influence or control.

**Exhibit 1 – Types of Intercorporate Investments**

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| --- | --- | --- | --- |
| **Degree of Control** | **Percent Control** | **Asset Classification** | **Accounting Method** |
| No influence | Less than 20% | Financial assets | Amortized cost, FVPL, FVOCI |
| Significant influence | 20% and less than 50% | Associates | Equity method |
| Joint control | Unanimous consent | Joint ventures or operations | Equity method |
| Control | More than 50% | Subsidiaries | Consolidation |

**Associates**

Significant influence is the power of an investor to participate in but not control the decision-making of an investee or associate company. This is assumed to occur between 20% and less than 50% ownership unless it can be clearly demonstrated otherwise. Potential new shares from stock options, warrants, convertible bonds, and convertible preferred shares owned by the investor that are currently exercisable are included when calculating the percent ownership. An investor may have significant influence with less than 20% ownership if it has several board seats and extensive business dealings with the company. It may not have a significant influence despite owning more than 20% if another shareholder group has majority control. Significant influence is determined on a case-by-case basis, but is usually demonstrated by one or more of the following:

* Representation on the board of directors;
* Participating in decision-making, including determining dividend payments;
* Material transactions between the investor and associate;
* Interchange of management personnel; and
* Provision of essential technical information.

Equity method investments are initially recorded at the cost of the shares acquired. This amount is adjusted after the acquisition date for the investor’s share of the associate’s net income, including other comprehensive income, less any dividends distributed. The investor’s return is calculated as their share of net income to provide more accurate reporting, as the dividends received may not represent the associate’s actual performance. The amount initially paid over the investor’s share of the associate’s net book value is first allocated to the investee’s individual assets up to their fair values and then to goodwill. The associate’s net income is adjusted for the amortization of the excess purchase price allocated to depreciable assets, and the amounts allocated to non-depreciable assets, like land or goodwill, are not depreciated. The investor's share of unrealized profits on any upstream (i.e., associate to investor) and downstream (i.e., investor to associate) intercompany transactions between the two firms is eliminated. The associate company's accounting policies and reporting periods are restated to match the investor so that these adjustments can be made accurately. Certain investment firms, such as venture capitalists or mutual firms, can elect not to follow the equity method and instead account for the investment as a financial asset using FVPL.

Impairment losses are recognized if there is objective evidence the associate is experiencing financial difficulties that affect its value such as a breach of a major contract; the investor grants a major contract concession because of the associate’s financial problems; the associate will probably enter bankruptcy; a credit downgrade; significant changes in the technological, market, economic, or legal environment that impact the associate’s performance; and a significant, prolonged declined in the fair value of the associate below its carrying value. The entire carrying value is written down to its recoverable amount. The loss is not allocated to goodwill and the other indefinable assets because they are not recognized separately under the equity method. A reversal of the impairment loss is recognized if the recoverable amount increases, but not above the initial carrying amount. The cost model, not the revaluation model, is applied to equity investments. There is more coming on these models in the next section.

Equity method investments are classified as long-term assets unless they meet the conditions for discontinued operations being held for sale, when they are classified as current assets. Investors shall start using the equity method when they are deemed to have significant influence and cease when influence is lost. Companies without significant influence shall account for the investment as a financial asset using the FVPL or FVOCI methods.

A consolidation requires the parent company’s financial statements and those of its subsidiaries to be combined to show the assets, liabilities, revenues, and expenses the parent controls. The equity method is called a “one-line” consolidation because the investment account equals what the investor paid for the associate, plus their share of the associate’s net income each year, less any dividends distributed. The two companies' assets, liabilities, equities, revenues, and expenses are not combined like in a consolidation.

Investors may avoid taking control or having significant influence over another company to manipulate their operating profit margin and debt ratio. The investor’s operating profit margin rises because income from the associate is included in EBIT, but sales do not change as the associate’s sales are not consolidated. The debt ratio falls when the associate’s liabilities are not consolidated on the balance sheet, but the investment in the associate is recorded as assets net of these liabilities. Recording investment income equal to the investor’s share of the associate’s net income is questionable if the associate’s cash flows are weak and unable to support future dividend distributions. Investors may also intentionally keep their ownership percentage below 20% or lie about having significant influence, so they do not have to include their share of the associate’s losses in operating income in a down economy.

**Joint Ventures or Operations**

Joint arrangements are when two or more companies pursue a business project together. It is usually accompanied by a written agreement outlining the purpose of the arrangement, its duration, how the directors of the governing body are selected, what decisions must be voted on, the voting rights of each party, the required level of support, the capital contributions of each party, and how the parties share assets, liabilities, revenues, expense, profits, or losses. The advantages of a joint arrangement include:

* + Access the financial resources of larger partners;
  + Acquire needed tangible and intangible assets such as store locations, management skills, or technology;
  + Attract well-known partners who bring more credibility to the project from the perspective of lenders, suppliers, and customers;
  + Avoid unnecessary cost duplication and increase economies of scale;
  + Limit industry competition, resulting in higher prices;
  + Faster market penetration compared to growing organically;
  + Gain entry to international markets where governments limit foreign investment without a local partner;
  + Acquire key competencies that can be used in other areas of the partners’ businesses;
  + Share risks when projects are complex and require significant capital investments;
  + Reduce risk by forming a separate business entity operating on a non-recourse basis; and
  + Easier exit from projects as the other partners are usually willing buyers at a reasonable price.

A joint arrangement exists when the contractual agreement gives all the parties, or a group of parties, joint control. Parties with joint control must agree unanimously on all decisions. The simplest example of joint control is where two parties each own 50% of the voting rights, and the contractual agreement states that the parties must agree to all decisions. What about a situation where ownership of the arrangement is unequal, with Company A owning 50% of the voting rights, Company B owning 35%, and Company C owning 15%? The contractual agreement requires 75% of the voting rights to approve decisions. None of the companies controls the arrangement outright. But if Company A and B agree on a decision, they can jointly control the arrangement without the support of Company C. If an agreement requires a minimum percentage of the voting rights to make decisions, joint control may be achieved by more than one combination of the parties. IFRS requires that the acceptable combination be stated in the contractual agreement for a joint arrangement to exist.

A joint arrangement is either a joint venture or a joint operation. A joint venture is when two or more companies establish a separate legal entity, and each party has rights to their share of the new entity’s profits and net assets. This type of investment is accounted for using the equity method by all the parties with joint control. Parties without joint control account for the investment as a financial asset using the FVPL or FVOCI methods.

A joint operation is like a joint venture, except that a separate legal entity is usually not formed. The parties agree in the contractual agreement that each party will have rights to their share of the assets, liabilities, revenues, and expenses of the joint operation and not its net assets and profits. This type of investment is accounted for using the consolidation approach regardless of whether the parties have joint control.

**Subsidiaries**

A parent company controls a subsidiary if it owns over 50.0% of the voting rights. The parent company consolidates its financial statements with its subsidiaries regardless of the percentage ownership to show the assets, liabilities, equities, and net income it controls, not just what it owns. This is called an economic entity perspective instead of a legal entity perspective. IFRS adopts an economic entity perspective to give investors a better idea of a company’s financial strength.

Consolidations are done using the acquisition method. The subsidiary’s identifiable assets and liabilities are measured at their fair value on the acquisition date, and any additional consideration paid above the net identifiable assets is goodwill. The acquirer may recognize some assets and liabilities that the acquiree did not include, particularly intangible assets like brand names or patents developed internally. Bargain purchases occur if the consideration is less than the fair value of the net identifiable assets. Before a bargain purchase gain is recognized, IFRS says to reassess if the acquirer has properly identified and valued all assets and liabilities and correctly determined the value of the consideration. Bargain purchases are rare but may occur in situations like a forced sale.

The non-controlling interest is the portion of the consolidated net income and equity that the parent company’s shareholders do not own. Net income attributable to the equity holders of the company and non-controlling interests is shown separately at the bottom of the income statement. A non-controlling interest is shown in the equity section of the balance sheet. IFRS allows companies to use the full or partial goodwill methods when there is a non-controlling interest. Full goodwill is for the entire company, while partial goodwill is only for the portion the parent company owns. For example, a parent company wants to purchase 90% of another company. The stock market currently values the company’s shares at CAD 220,000, and its net identifiable assets are worth CAD 170,000. What is the full and partial goodwill?

**Exhibit 2 – Full and Partial Goodwill**

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|  | **Full Goodwill** |
| Fair value of the subsidiary | CAD 220,000 |
| Fair value of the net identifiable assets | 170,000 |
| Goodwill | 50,000 |
|  | **Partial Goodwill** |
| Acquisition price (220,000 x 0.90) | CAD 198,000 |
| Fair value of share of net identifiable assets (170,000 x 0.90) | 153,000 |
| Goodwill | 45,000 |

The full goodwill method is consistent with the economic perspective and how other assets and liabilities are valued in a consolidation, and it is the only method permitted under U.S. GAAP. Total assets are lower using partial goodwill, so a company’s total asset turnover ratio will be higher.

After the acquisition, the consolidated balance sheet combines the existing assets and liabilities of the parent company at their book values with the assets and liabilities of the subsidiary at their fair values. The consolidated income statement combines the revenues and expenses of both companies, so adjustments are made to the subsidiary’s net income to record any changes caused by revaluing its assets and liabilities at fair value. Unrealized profits on any upstream and downstream intercompany transactions are also eliminated. The parent company and subsidiary adopt the same accounting policies and reporting period so that these adjustments can be made accurately.

**Special Purpose Entities and Control**

A special purpose entity (SPE) is a corporation, partnership, trust, or limited partnership formed to carry out a specific purpose, such as to hold or securitize receivables. Some companies intentionally established an SPE and owned less than 50.0% of the voting rights, so the entity could be accounted for using the equity method and not consolidated to improve its financial ratios. The current ratio increases if the proceeds from the sale of operating assets are used to pay down current liabilities. The debt ratio falls when liabilities are removed from the balance sheet, and the return on assets and turnover ratios rise as total assets fall.

To prevent this manipulation, IFRS has more clearly defined the meaning of control. Control occurs when an investor has 1) power over the investee, 2) exposure to variable returns, and 3) the ability to use power over the investee to affect the investor’s returns. Control in a typical corporation occurs when an investor has over 50.0% of the voting rights, but the contractual agreement setting up an SPE may not be as straightforward. Companies may alter the contractual agreement to maintain control with limited voting rights. Consider two SPEs:

**SPE A**

Company A established SPE A as a separate sales finance unit. Its only activities are to purchase Company A’s credit card receivables, service them daily, and make all interest and principal payments to shareholders. The contractual agreement states SPE A is managed by Company A’s employees, who make all routine collections, including dealing with any bad debts. Company A retains 30% ownership of SPE A, shares in bad debts like other investors, and receives a flat fee for managing each account.

Company A controls SPE A as it has complete power to make all decisions relating to the entity. It is exposed to variable returns with a 30% ownership stake, and its power to manage bad debts will affect its returns. Company A and SPE A should be consolidated.

**SPE B**

Company A sells its credit card receivables to an independent trust established and operated by a major chartered bank. It is paid a flat fee for managing each account and shares in any bad debts. It owns 20% of the trust to help ensure its success.

Company A does not control SPE B as it has no power over the entity. The share in the investment trust is accounted for using the equity method.

**1.2 | Property, Plant, and Equipment (IAS 16, IAS 36, IAS 40, IFRIC 1)**

**Property, Plant, and Equipment**

Property, plant, and equipment (P, P, & E) are initially recorded at cost. This includes an asset’s purchase price and any price adjustments, costs of putting it into location and condition for use, and the estimated dismantling, removal, and site restoration costs at the end of its useful life. An asset may be purchased for cash or as part of an exchange. The assets acquired in an exchange are recorded at their fair value or the fair value of the assets given up if the first amount is unreliable. If both these amounts are unreliable, the carrying value of the assets given up is used. If payment is deferred beyond the standard credit terms, the cost is determined as the present value of the future consideration, and the additional amount paid is interest expense. When multiple assets are acquired for a single amount as part of a basket purchase, the cost is allocated among the different assets based on their fair values.

A company may attempt to manipulate its net income and the value of its assets by capitalizing costs that should be expensed.

**Exhibit 3 – Capitalizing Initial Costs**

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| **Capitalize** | **Do Not Capitalize** |
| Purchase price plus duties and taxes, less price discounts, rebates, tax credits or other government assistance on a present value basis | Cost of opening a new facility or location |
| Delivery and handling | Costs of introducing a new product, such as advertising and promotion |
| Site preparation | General administration costs and other corporate overhead |
| Installation and assembly, including any professional fees | Internal profits on self-construction |
| Testing minus proceeds received from scrap materials | Abnormal wastage during testing or self-construction |
| Costs of asset self-construction minus any incidental revenues, such as parking fees on vacant land or the sale of fill | Costs incurred once an asset is ready for use but waiting to be deployed |
| Interest costs during self-construction | Initial losses while sales are being developed |
| Costs of dismantling and removing plant and equipment | Costs of relocating or reorganizing operations |
| Site restoration costs |  |

The capitalization of initial costs ends and depreciation begins once an asset is available for use, and not when it is put into use. Day-to-day servicing costs (i.e., repairs and maintenance) are immediately expensed as they do not have future value. The cost of replacing key components or conducting major inspections or overhauls has future value, so they are capitalized and depreciated.

Assets are divided into significant components with varying lives, such as an airframe and its engines, and depreciated separately. Depreciation expense is included in net income or finished goods inventory and expensed once the product is sold. The depreciation method selected, such as straight-line, diminishing balance, or units-of-output, is the one that best reflects the pattern in which the asset’s benefits are consumed and applied consistently. Straight-line depreciation is used if the consumption pattern cannot be reliably estimated. Factors to consider in selecting a method are the yearly usage of the asset compared to its expected output, wear and tear, technical or commercial obsolescence, and legal limits such as the life of a lease. The depreciation methods and the estimates of useful life and residual value used to determine the depreciable amount shall be reviewed annually. Any changes are treated as changes in accounting estimates and applied prospectively. Residual values are often insignificant and ignored by companies. Depreciation does not cease if an asset is idle or retired from active use, only if it is classified as held for sale. Gains or losses are recognized when the asset is disposed of or abandoned.

The cost or revaluation models are used to account for changes in the fair value of assets after acquisition to provide users with more up-to-date information about the true worth of a company’s assets. The cost model recognizes impairment losses and impairment loss reversals, but only up to the asset’s original cost. The revaluation method allows companies to recognize gains above the asset’s original cost, but only if price estimates are based on reliable information. The model adopted can vary by asset class since some assets, like real estate, have a more active secondary market and are more reliably valued than classes like equipment.

Companies shall disclose the following for each class of property, plant, and equipment in the explanatory notes:

* Depreciation methods used;
* Useful lives;
* Gross carrying amount and accumulated depreciation;
* Reconciliation of the beginning and ending carrying amount of each class, including:
* Additions;
* Assets classified as held for sale or other disposals;
* Acquisitions through business combinations;
* Revaluation increases and decreases, included in comprehensive income;
* Impairment losses and reversals, included in profit or loss;
* Depreciation;
* Exchange rate differences from the translation of foreign operations; and
* Other changes.

Companies shall also disclose if specific assets were pledged as collateral for loans; the carrying amount of any idle or retired property, plant, and equipment; and the gross carrying amount of any fully depreciated property, plant, and equipment.

If the cost model were adopted, the company should disclose the fair value of property, plant, and equipment if it is materially different from the carrying value. If the revaluation mode was adopted, the effective date of any revaluations should be indicated, whether an independent valuator was involved, the amount of the revaluation surplus and the change for the period, and the carrying amount for each asset class under the cost model.

**Cost Model**

The carrying amount of an asset is its initial cost less accumulated depreciation less any impairment losses. All assets are reviewed at the end of each reporting period for indications that they may be impaired. Some indications include:

* Faster depreciation than reflected in current estimates of useful life and residual value;
* Significant changes in the technological, market, economic or legal environments;
* Changes in market interest rates used to discount cash flows;
* Asset carrying values above current market values;
* Physical damage or obsolescence;
* Decision to idle/sell assets or restructure/discontinue business operations; or
* Actual or forecasted decline in operating profits or cash flows.

The asset’s recoverable amount is estimated if there are indications of impairment. The recoverable amount is the lesser of “fair value less disposal costs” and “value in use.” Fair value less disposal costs is the price that would be received in an orderly transaction between market participants, less relevant disposal costs such as legal expenses or costs to ready the asset for sale. Value in use is the present value of the future after-tax cash flows the asset is expected to generate, including any residual value. The discount rate used to determine the present value should reflect the time value of money and the asset’s riskiness. An impairment loss is recognized in net income if the recoverable amount is below the asset’s carrying amount. Depreciation expense is then adjusted to reflect the new carrying value, residual value and estimate of useful life.

Impairments should be calculated for individual assets, but if that is not possible, for the cash-generating unit to which the assets belong. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows within a business. For cash-generating units, impairments should be allocated to the assets in the group on a pro rata basis after reducing any goodwill allocated to the cash-generating unit to zero. No assets should be reduced below the higher of their fair value or value in use, so additional allocations may have to be made to the other assets to compensate.

Reversal of impairment losses can be recognized for individual assets in profit or loss in subsequent periods, but only up to the original carrying value. For cash-generating units, impairment losses can be reversed except for goodwill.

**Revaluation Model**

Revaluations are done regularly to ensure the asset’s carrying amount and fair value are not materially different. The frequency of revaluations depends on the price volatility of the asset. Assets that experience volatile and material changes are revalued yearly, while stable assets are revalued every three to five years. If one asset in a class is re-valued, all assets are re-valued to avoid selective revaluation. All assets are subject to regular depreciation between revaluation dates. Any increase in an asset’s carrying amount due to a revaluation is recognized in other comprehensive income unless it reverses a previous decrease recognized in profit or loss. Any decline in an asset’s carrying amount due to a revaluation is recognized in profit or loss unless it reverses a previous increase recognized in other comprehensive income.

**Borrowing Costs**

A company shall capitalize interest and other borrowing costs directly attributable to the acquisition, development, construction, or production of an asset for sale or use that takes a substantial period to complete. Borrowing costs on assets produced over a short period are recognized as incurred. Interest is capitalized primarily on P, P, & E, intangible assets, and investment properties, but also inventory if it takes a substantial period to produce. IFRS requires the capitalization of borrowing costs because these costs would have been included in the price of any assets purchased. Companies may try to capitalize excessive borrowing costs to increase net income and asset values, so IFRS has specific rules governing this process.

The capitalization of borrowing costs begins when expenditures, activities, and borrowing to develop and build the asset commence, and ceases when substantially all the activities are complete. Borrowing costs shall not be capitalized during extended periods when development activities have been suspended. If the company borrows funds specifically for constructing an asset, the actual borrowing costs incurred on those funds over the construction period shall be capitalized. Any interest earned on borrowed funds that are temporarily idle is deducted from the interest capitalized. Borrowed funds are often idle at the beginning of a project before all the expenditures are made.

Companies may also borrow funds, generally for the entire business and not for one specific project. Capitalized interest is calculated by applying a capitalization rate to the weighted average expenditures. The capitalization rate is the weighted average cost of the company’s borrowing during the period. Capitalized interest cannot exceed actual interest incurred. The interest that has been capitalized and the capitalization rate are disclosed in the explanatory notes.

**Decommissioning and Restoration Costs**

Government regulators expect the owner to pay to remove the plant and equipment and restore the site at the end of the project’s life for environmentally sensitive assets like oil wells, pipelines, mines, or nuclear energy facilities. Retiring oil wells, disposing of spent fuel rods, or treating contaminated mine tailings is expensive. Governments have been lax about ensuring companies meet their clean-up obligations. They are now responsible for a growing number of orphan sites where the companies in charge of the clean-up have gone bankrupt. Companies must make large deposits over a project’s life to ensure adequate funding.

Decommissioning and restoration costs are accounted for as provisions in IFRS. As discussed, provisions are liabilities of uncertain timing or amount. They are only recognized when it is probable that resources will be needed to settle the obligation, and the obligation can be measured with sufficient reliability. An event is probable if it is more likely than not to be realized (i.e. over a 50% chance of occurring). The provision is the present value of the best estimate of the future obligation using an appropriate discount rate. The increase in the provision due to the passage of time is recognized as borrowing costs. The cost of the provision is added to the related long-term asset and depreciated over the project’s life.

The provision should be adjusted as objective evidence becomes available about the obligation’s amount and the discount rate changes. If the provision is no longer probable, then it should be reversed.

**Goodwill**

Goodwill is “an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized.” It is the excess of the cost of acquiring a company over the fair value amounts assigned to its assets and liabilities on the acquisition date. Internally generated goodwill is not recognized since it cannot be measured reliably and was not acquired in an objective market transaction.

All goodwill is allocated to the acquiring company’s cash-generating units at the time of acquisition and is reallocated in future periods if the cash-generating units change. Goodwill is not amortized, but the cash-generating units to which goodwill has been allocated are tested for impairment annually or whenever there is an indication the unit may be impaired. Impairment losses are recognized when the recoverable amount of the cash-generating unit falls below the carrying amount. Impairment losses are used to reduce goodwill first. If the impairment loss is not fully allocated, then the remainder is allocated to the carrying unit’s other assets on a pro rata basis. No asset’s carrying amount shall be reduced below the higher of its fair value less disposal costs or its value in use. Any impairments relating to assets in the cash-generating unit should be recognized before testing for goodwill impairment.

Impairment losses can be reversed in subsequent periods and are allocated to the other assets in the cash-generating unit on a pro-rata basis, but the carrying amount after allocation cannot exceed the lower of the asset’s recoverable amount or its previous carrying amount net of any amortization or depreciation since the impairment loss. Goodwill impairments are not reversed.

**Investment Property**

Investment properties are used to earn rental income and capital gains. They include land held for long-term capital appreciation or development; vacant or active residential or commercial rental properties; and properties under development. Investment properties do not include owner-occupied properties used by a company for administrative functions or to produce goods and services; property being leased out under a financial lease; and property under development or construction for sale in the ordinary course of business. Any properties rented to a parent company or subsidiary are classified as investment properties if the investing company’s statements are shown separately. The properties are reclassified as owner-occupied if the financial statements for the group of companies are consolidated. The investing company may provide some insignificant services, such as security or maintenance to tenants and still classify the property as an investment property.

Investment properties are accounted for similarly to property, plant, and equipment. The property is recognized at cost initially, including any directly related expenses. The asset is subsequently valued using either the cost or fair value model. The fair value model differs from the revaluation model in that all gains or losses are recognized in profit or loss and not OCI. The fair value model is typically adopted since the fair value for most properties is readily available and must be disclosed even if the cost model is chosen. Fair value is determined using recent price quotations for comparable properties or discounted cash flow projections for future rental income. IFRS encourages companies to hire independent valuators with the appropriate professional qualifications and experience to complete all assessments.

All a company’s investment properties must use the fair value model if adopted and continue to use it until the properties are sold or become owner-occupied. The cost method can be applied selectively to some properties when initially acquired if the fair value is not reliably measurable on a continuing basis. Investment properties under development may also use the cost method until the fair value can be determined or construction is complete, whichever is earlier.

The portfolio of investment properties appears as a separate line item on the balance sheet. All rental income and any gains or losses are recorded in profit or loss over an investment property's life. No depreciation expense is recorded if the fair value method is adopted, as that is reflected in the gains or losses recognized. All transfers of investment properties to owner-occupied properties are done at the property’s current fair value. When owner-occupied properties are transferred to investment properties, a gain or loss is recognized, and the property’s fair value is transferred to investment properties. Gains or losses are also recognized when investment properties are disposed of or abandoned.

Companies should disclose the following about their portfolio of investment properties in the explanatory notes:

* Whether they use the fair value or cost models;
* If the fair value was determined by a qualified and experienced valuation professional;
* Rental income recognized;
* Direct operating expenses for properties that generated income;
* Direct operating expenses for idle properties;
* Reconciliation of the beginning and ending carrying amounts, including acquisitions, expenditures on existing properties, disposals, transfers between owner-occupied properties, and gains or losses from fair value adjustments; and
* Description of the specific properties accounted for using the cost model, an explanation of why this model was used, and an estimate of the property’s fair value.

**1.3 | Intangible Assets (IAS 38, IFRS 6)**

**Intangible Assets**

Intangible assets are identifiable, non-monetary assets that lack physical substance but have future economic benefits that the company can control through legal rights or other means. An identifiable asset is separable, meaning it can be sold, transferred, licensed, rented, or exchanged to another party. Some common examples of intangible assets are patents, licenses, copyrights, operating rights, franchises, mastheads, brand names, trademarks, computer software, customer lists, and quotas. Other assets, such as supplier relationships, customer loyalty, high market share, and employee expertise, do not meet the requirements of being identifiable, controllable, and having future economic benefits, so they are not recognized as assets except as goodwill in business acquisitions. Any future expenditures that may increase the value of goodwill, such as training, advertising, or promotional work, are expensed. Internally developed goodwill is not recognized.

Intangible assets can be purchased separately, bought as part of a business acquisition, awarded at no charge by the government, or developed internally. They are accounted for similarly to property, plant, and equipment, with some differences reflecting the greater uncertainty about their fair value:

* Intangible assets given at no charge by the government shall be recognized at fair value or a nominal amount plus any further costs incurred preparing the asset for use;
* The revaluation model is only used if an active market exists that objectively measures the asset’s fair value;
* Intangible assets can have definite or indefinite useful lives, which means there is no limit to the expected period over which the company will earn cash flows;
* Intangible assets with an indefinite useful life should be reassessed each period to determine if a finite life is now warranted;
* Residual value is assumed to be zero unless a third party agrees to buy the asset at the end of its useful life, or an active market exists for the asset; and
* Intangible assets must be tested for impairment annually if they have indefinite lives or have not yet been put into use.

The intangibles shall be grouped into separate classes in the explanatory notes, providing the following information for each class:

* Whether the assets are internally developed;
* Whether the useful lives are indefinite or finite;
* Rationale for assessing assets as having an infinite life;
* Useful lives for classes with a finite life;
* Amortization methods used;
* Gross carrying amount and accumulative amortization at the beginning and end of each period;
* Reconciliation of the beginning and ending carrying amount of each class, including:
  + Additions including those from internal development, acquisition, and business combinations;
  + Assets classified as held for sale or other disposals;
  + Revaluation increases and decreases, included in comprehensive income;
  + Impairment losses and reversals, included in profit or loss;
  + Amortization;
  + Exchange rate differences from the translation of foreign operations; and
  + Other changes.

Companies should also disclose specific intangible assets of significant importance to the company that have indefinite lives, are pledged as collateral for loans, or were acquired by a government grant and are currently valued at fair value.

**Research and Development**

Research and development (R&D) is an internally developed intangible asset. Research is “original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding.” Development is “the application of scientific research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services before the start of commercial production or use.” This may include the cost of developing product prototypes, pilot plants, new tools, jigs, moulds, and dies used in production.

Costs incurred in the research phase are expensed immediately as they cannot be traced to an identifiable intangible asset with likely future economic value. Development phase costs are more likely traceable to identifiable intangible assets with likely future value, but they can only be capitalized if a company demonstrates all the following:

* + The project is technically feasible, so that it is ready for use or sale;
  + Management intends to sell or use it;
  + Management can sell or use it;
  + The project is financially feasible given the internal or external market’s size;
  + Adequate technical and financial resources to complete the project and sell or use it; and
  + Expenditures can be accurately traced to the project.

Development costs may be expensed initially but then capitalized once all the conditions for capitalization are met. Companies should never capitalize development costs expensed in a previous reporting period. Only costs that are directly attributable to developing an asset can be capitalized. Companies may try to include indirect costs like selling, administration, and other overhead expenses; employee training costs to operate the asset; and initial operating losses for the new project to increase their net income and asset values. The costs of developing brands, mastheads, publishing titles, and customer lists internally are expensed as they cannot be differentiated from the costs of growing the business. An in-process R&D project is acquired as part of a business combination. Subsequent research expenditures will be expensed, and development costs will be capitalized if the conditions are met.

An impairment loss is recognized if the conditions for capitalization are no longer met or the recoverable amount of the project falls below the project’s carrying amount. Companies shall disclose the research and development costs expense in the reporting period.

**Exploring and Evaluating Mineral Resources**

Resource companies devote considerable funds to exploring and evaluating new mineral deposits before developing a site. Exploration and evaluation assets are recognized at cost, consisting of expenditures such as:

* Acquisition of exploration rights;
* Topographical, geological, geochemical, and geophysical studies;
* Exploratory drilling;
* Trenching;
* Sampling; and
* Other activities assessing the technical and commercial viability of the mine.

Some exploration and development assets are classified as intangible assets, such as exploration rights, as they lack physical substance. Others are classified as tangible assets, such as drilling rigs or mining equipment. Exploration and evaluation assets are mainly classified as intangible assets, and the depreciation costs of tangible assets can be included in the intangible assets, but not the undepreciated tangible assets.

Exploration and evaluation assets are measured using either the cost or revaluation models. The assets should be tested for impairment when:

* Exploration rights have expired, are expiring soon, or are unlikely to be renewed;
* Further exploration and evaluation expenditures are not planned;
* Site is not considered commercially viable, and activities have been discontinued; or
* The project is likely to proceed, but the carrying amount of the exploration and development asset is unlikely to be fully recovered.

The asset is re-classified as a property under development once the project is considered technically and commercially viable.

**1.4 | Long-term Asset Analysis Checklist**

In addition to examining long-term efficiency ratios like the fixed or total asset turnover ratios to determine how well a company manages its property, plant, equipment and other long-term assets, financial analysts must carefully examine the information in the explanatory notes to the financial statements and other disclosures to identify important issues.

1. Aggressive revenue recognition practices inflate long-term asset efficiency ratios.
2. Capital-intensive companies and ones with newer assets have lower long-term asset efficiency ratios.
3. Long-term asset efficiency ratios experience a short-term decline with new asset purchases, as it takes time to generate additional sales.
4. Non-operating assets such as idle plants, facilities under construction, and excess long-term investments should be removed when measuring long-term asset efficiency, as they do not relate to a company’s core operations.
5. Recording long-term assets using the revaluation model provides more accurate valuations, but reliable fair values are difficult and time-consuming to estimate.
6. Companies that aggressively recognize impairment losses and reversals on long-term assets may be smoothing earnings.
7. Be cautious of companies that have excessive goodwill, capitalize costs that are generally not capitalized, or frequently change their accounting policies and estimates.
8. Goodwill and R&D are often intentionally overvalued in an acquisition so an impairment loss can be quickly taken, making future net income appear higher – the “big bath.”
9. The values of internally developed intangible assets may be understated because the costs were difficult to trace to these assets, the conditions for capitalizing were not met when costs were initially incurred, and revaluation gains cannot be recognized unless there is an active market for the asset.
10. Asset values can be more comparable between companies by adjusting for differences in their depreciation policies and estimates.
11. Investors may avoid taking control of another company to inflate their operating profit and debt ratios.
12. Investors may avoid significant influence in another company if the associate is experiencing high operating losses.
13. Adopting the partial goodwill method will improve a company’s long-term asset efficiency ratios.
14. Estimates relating to decommissioning and restoration costs should remain current.
15. R&D costs and exploration and evaluation assets should be written down if the conditions for capitalization are no longer met.