
Accounting GAAPs and Accounting Treatments for Management of Property: Case Studies from Greek Real Estate Market

Konstantinos J. Liapis¹, Christos L.Galanos²

Abstract

The present article reconciles the GAAP³ to each other, which apply to accounting recording of fixed assets. It separates the fixed assets, from the side of buyer, as Own Used, Investments, and Inventories and integrates these types of assets into four main portfolio categories. It examines, what are the features to incorporate an element of fixed assets in these portfolios. It analyzes the accounting treatments for each portfolio transaction and the impact of any accounting entry to equity and profit and loss account. It presents the key accounting profitability metrics for any kind of fixed asset. The subject of the article focuses on land and buildings as main part of the total fixed assets of a company. It discusses the influence of taxations and other expenditures at purchase time on the cost and tries to establish a purchase price allocation method for property acquisition. It describes the accounting entries for the revenues, expenses and valuations per portfolio. It makes a comparative analysis between Greek GAAP, IFRS⁴ and U.S GAAP for accounting treatments of fixed assets. Finally, it uses the framework of Greek Real Estate Market as experimental setting where the principles of Historic Cost and Fair Value Accounting can be compared. The contribution of this article is that it surveys from a critical perspective, principles, literature and the practice about all the above issues, and presents from accounting point of view a way to managing and monitoring real estate investments.

Key words: Accounting Principles; Accounting based valuation; Real Estate; fixed Assets; Property Management.

JEL classification: M41; M21; M19; G31;

¹Assistant Professor Panteion University Department of Economic and Regional Development, 136 Sygrou Avenue, P.C.17671, Athens, Greece, e-mail: Konstantinos.liapis@panteion.gr, and he remains fully responsible editor for this article.

² B.Sc., M.Sc (at the final - thesis stage)., Accountancy and Collaborator of RDI of Panteion University Department of Economic and Regional Development, 130 Sygrou Avenue, P.C.17671, Athens, Greece, e-mail: christos.galanos@gmail.com

³ GAAP : Generally Accepted Accounting Principles

⁴ IFRS : International Financial Reporting Standards

1. Introduction

Assets comprise the most important elements of a company's Balance Sheet, as through them a company is achieving its business operation and under certain conditions they may constitute a financial investment tool for achieving surplus value. Our study focuses on the accounting treatment influence in property management under the accounting framework of IFRS, US GAAP and Greek GAAP.

The paper is organised as follows: Chapter 2 and 3 set the basic features of fixed assets and the accounting framework of IFRS, US GAAP and Greek GAAP, including basic accounting principles. Chapter 4 refers to the accounting treatment for funding fixed assets. Chapters 5- 9 analyze the uses of fixed assets, the fixed assets portfolios composition, the accounting treatments under the IFRS, US and Greek GAAP, and make a comparative analysis of the frameworks studied for each portfolio. Asset portfolios can be classified according to IFRS into four categories: Own Used Assets, Held for sale assets, Current Assets (Inventory property) and Investment property. The study provides also case studies of the Greek Market for each of the described portfolios. Each case study focuses on the accounting monitoring and management of fixed assets. Chapter 10 provides a theoretical and illustrative analysis of the special case of acquiring assets by long term leasing and the accounting monitoring that they require. Chapter 11 explains the circumstances under which an asset can be reclassified in another portfolio, while chapter 12 analyzes from an accounting point of view the Greek Real Estate market, using data from the Banking Sector. Chapter 12 also shows how Banks implement the accounting principles and how they decide between cost and fair value when measuring each asset category. The last chapter forms the concluding remarks. This study aims to provide a common practice in managing and monitoring fixed assets and proposes a framework for decision-making at the time of initial recognition (acquisition) and the subsequent measurement of assets in order to provide comparability across firms and countries.

2. Accounting Framework and basic elements of fixed assets

According to microeconomics, property is defined as a good able to provide a constant flow of services, such as housing services or a source of cash inflow. Assets are consumer durable goods held either by households for housing needs, or by firms in order to install their business activities necessary to operate. As goods traded in the market, their prices are defined by the law of demand and supply. In markets under equilibrium current values must reflect the assets' present values taking into account the time value of money. Any variation from the valuation under present values creates motives for moving from the equilibrium spot and the movement will continue till all current values reflect present values. Economics

recognize the financial return of the asset by consumption or sale as a capital gain arising from the increase of the value of the asset.

By establishing variable accounting treatments for assets, assets have developed into a prosperous investment tool for companies in order to obtain economic benefits, not only through consumption (own use) or sale, but also through investing. As accounting elements, assets are ruled by a set of basic aspects, such as: The cost (cost of land, construction cost), the residual value, the useful life estimation and the depreciation charge. The above elements are correlated with type and the use form of the asset.

Asset accounting is subject to the accounting framework instituted by the Accounting Board of each country. The most famous Accounting Boards are the: International Accounting Standards Board (IASB sets the IFRS, IASs) and the Financial Standards Board (FASB sets the US GAAP). Both the IASB and FASB aim to develop a set of high quality global accounting standards that require transparent and comparable information in general purpose financial statements. In pursuit of this objective FASB and IASB co-operate with national accounting standard-setters to achieve convergence in accounting standards around the world. The accounting framework provides a general set of accounting principles (Generally Accepted Accounting Principles- GAAP). Some of the principles that apply to our study are: Prudence, Historical Cost, Substance over Form, Going Concern, and True and Fair View. Other principles and qualitative characteristics of the financial statements are: Matching Principle, Accrual basis, understandability, relevance, materiality, reliability, faithful representation, comparability, neutrality, completeness, timeliness, materiality, cost and benefit balance and consistency.

Prudence or conservatism is a principle which applies in Greek GAAP, IFRS and US-GAAP and refers to the inclusion of a degree of caution in the exercise of the judgments needed in making the estimates required under uncertainty conditions (e.g. useful life of plant and equipment), so that assets or income are not overstated and liabilities or expenses are not understated. Conservatism is the asymmetry in the verification requirements for gains and losses. This interpretation allows for degrees of conservatism: the greater the difference in degree of verification required for gains versus losses, the greater the conservatism (Watts, 2003). According to Watts (2003) conservatism has benefits to parties associated with the firm. Specifically, conservative accounting is a means of addressing problems due to parties to the firm having asymmetric information, asymmetric payoffs and limited liability. For instance, shareholder litigation produces asymmetric payoffs: overstating net assets is more likely to generate litigation costs than understating net assets. Therefore conservatism, by understating net assets, reduces the firm's expected litigation costs.

Historical cost is a basic accounting principle in Greek GAAP and states that each financial effect of a realized transaction stated in the firm's financial

position shall be recorded at acquisition cost, which is the amount of cash received or paid at the time of the transaction (law 2190/1920) (e.g. market price of a building at purchase time).

Substance over form is a US GAAP and IFRS principle. Greek GAAP are based mostly on legal forms following the Code of Accounting Bookkeeping (KBS), rested on the Greek legislation. However, US GAAP and IFRS embrace the fact that faithful representation of accounting events premises that these events shall be accounted and presented with their substance and economic reality, which is not always consistent with their legal form.

Going Concern is a basic accounting principle accepted by the US GAAP, IRFSs and Greek GAAP. Under this principle it is assumed that the entity will continue to operate for the foreseeable future.

True and fair view principle, applied mainly in US GAAP and IFRS, relates to the 'fair' presentation of the financial position, performance and changes in financial position of an entity. As we will demonstrate on this study, 'fair' is a hard-to-define accounting principle, as the specification of 'fair' is highly subjective and differs across economic circumstances. Therefore a specific definition is a difficult case. However, US GAAP and IFRS provide a general definition, not much different between each other. According to IFRS Fair Value is the price at which the property could be exchanged between knowledgeable, willing parties in an arm's length transaction (IAS 40). According to US GAAP Fair Value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (FAS 157).

3. Cost accounting versus Fair value accounting principles

Accounting fairness refers mostly to the fair presentation, and therefore, measurement or valuation of an element recognized in the entity's financial statements. According to the GAAP across the countries, two basic valuation methods exist under the estimate that the firm is under going concern: The accounting of fair value and the accounting of historical cost. Applying different accounting methods across firms or countries makes financial statements incomparable to each other. Even within the IFRS framework the choice between the two valuation models for certain asset portfolios is a given option. US GAAP, as well as Greek GAAP also seem to have a different approach in measuring property.

The measurement method choice is of great importance because it affects the comprehensive income of the firm (income and shareholder's equity). Valuation of property results, therefore, to a change in financial statements. This result can directly affect contracts linked to accounting numbers, e.g. it can loosen the stranglehold of debt covenants and reduce the informational asymmetry (Lin and Peasnell, 2000). Lin and Peasnell (2000) point out benefits and disadvantages associated with asset revaluation. The potential benefits include: The reduction of

the risk of violating accounting-based covenants as a result of a strengthened balance sheet, the provision of a credible signal of better prospects to come and the reduction of the firm's reported accounting rate of return, improving its bargaining position. Among the potential disadvantages are the additional out-of-pocket costs (mainly the valuation fees paid to independent valuers) involved.

The studied frameworks refer to fair value revaluation of assets. Although IFRS give a freer and less specific definition about fair value, US GAAP (SFAS 157) provide a hierarchy of three levels of inputs in applying various valuation techniques. The fair-value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (level 1) and the lowest priority to unobservable inputs (level 3). Level 1 is designated to quote prices for identical items in active, liquid and visible markets such as stock exchanges. Level 2 indicates observable information for similar items in active or inactive markets, such as prices for two similarly situated buildings in the same downtown real estate market. Level 3 marks unobservable inputs to be used in situations where markets do not exist or are illiquid.

For an asset, a fair value measurement assumes the highest and best use of the asset by market participants. According to FSP FAS 157-3 fair value is a current exit value and may differ from a transaction price (entry price) due to different markets of purchase and sell, or bargain purchase options, or due to transaction prices including acquisition costs. Moreover, measurement must include assumptions about risk and uncertainty when pricing the asset. FSP 157-3 also highlights the need to consider the relevance of market data and environment, especially in the present credit squeeze, where fair value becomes highly subjective.

Supporters of fair value assert that the revaluation of property, plant, and equipment improves forecasts of future earnings and provides greater feedback value and more timely information than historical cost measures (Herrmann, Saudaragan & Thomas, 2005). In addition, the predictive value of fair values over historical cost extends in situations as: the asset valuation of an entity which is no longer a going concern, the estimation of an acquisition price, the liquidation of the firm's assets. The number of fair value exceptions (instead of historical cost) already existing under U.S. GAAP provides many examples whereby fair value measures are currently used in place of historical cost measures in the valuation of property, plant and equipment, such as: Assets subject to impairment are written down to fair value, donated property, plant, and equipment are measured at fair value as there is no historical cost alternative.

According to the Greek GAAP, historical cost describes the whole accounting procedure. Cost represents the economic sacrifice (opportunity cost) that the firm takes in order to receive present or future benefits. Opposite to fair value, historical cost measures are highly clear, objective (as a result of the prices specified by the law of demand and supply) and verifiable. Such characteristics favor the

information quality provided to the users of financial statements. Although fair values are assessed by professional experienced valuers, they include judgment and acceptances when estimating the fair value of property, so the estimates, at least to some degree, are subjective (J.R. Dietrich et al, 2001).

Therefore the level of subjectivity and uncertainty is greater of that in the case of historical cost. Some academics have also expressed reservations over fair value accounting following the perceived misuse of fair value accounting in some recent American accounting scandals (Watts, 2003). Also, fair value estimates are more likely to be relevant but less likely to be reliable in compare to historical cost (J.R. Dietrich et al, 2001). However, historical cost may under certain circumstances be also a defective measure of valuating assets, e.g. in cases where prices are not specified objectively (during inflation periods), and does not always comply with the principal of the timeliness of information.

Both cost and fair value accounting incorporate advantages and disadvantages, under different situations and therefore both FASB and IASB provide alternative choices about the asset valuation adoption method. The gap between the market prices and the 'fair' values of the assets is today an important issue caused by the world financial crisis, the credit squeeze and the exceeding supply of assets. The adaptation debility of the market to the present economic environment which does not permit an equilibrium point of demand and supply has caused price warps and declination from 'fair' values.

4. Accounting treatment for funding fixed assets

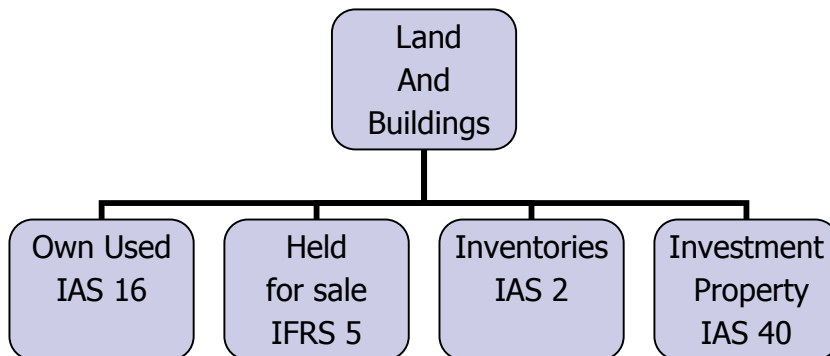
Asset can be acquired through various ways. The simpler acquisition method is the purchase with cash. When cash or cash equivalent is not available, the funding of fixed assets can be obtained through asset exchange transactions (IAS16 BC- Property, Plant and Equipment), through borrowing (IAS 23- Borrowing Costs), through grants (IAS 20- Government Grants). According to the 2190/1920 Greek Law, fixed assets can be also funded through stock issue when establishing a firm or with new capital stock issue or through acquirement or merger of other companies. It can also be funded by issuing corporate bonds. Finance or operating leasing is also a way of funding assets. Leasing is a famous asset acquiring method when cash acquisition is not possible. Another case of funding a fixed asset acquisition refers to sale and leaseback. Under IFRS Leasing is dealt by IAS 17 and under Greek GAAP Leasing is dealt by Law 1665/1986.

5. The uses of fixed assets and accounting portfolio composition

Fixed assets are elements of the financial position of the entity. According to IFRS, an asset is recognized only if it is probable that future economic benefits associated with the item will flow to the entity and the cost of the item can be reliably measured (IAS 16). Fixed assets can be used in many different ways in order to create future economic benefits for the entity, such as:

- *The continuing use of fixed assets* by the firm for operating purposes
- *The construction and sale of fixed assets* in the normal course of business
- *The lease of fixed assets* in order to benefit from rentals
- *The investment in fixed assets* made for capital appreciation
- *The purchase, manufacturing and subsequent sale* made with bargain options, as trading transaction.

IFRS classify each asset according to its use purpose into several fixed assets portfolios. Each portfolio has different features and accounting treatments for each kind of financial transaction. The portfolios and the standards dealing with each one are shown in the diagram below:



6. Own Used Assets Portfolio

Characteristics

This portfolio consists of tangible items used as business operation tools (held for long term use in the production or supply of goods or services, for administrative purposes, i.e. manufactories, storehouses and offices).

IFRS accounting treatment

Own used assets are treated according to IAS 16 *Property, Plant and Equipment*. Upon initial recognition own used assets are measured at cost. Cost at purchase comprises the cash price equivalent and any costs directly attributable to bringing the asset to the location and condition necessary to operate in the manner intended by management, i.e. costs of site preparation, installation and assembly costs and professional fees (IAS 16). Exception is made for assets acquired by asset exchange transactions, according to which the acquired asset is measured at fair value.

After initial recognition own used assets can be measured either under the cost model or under the revaluation model. Under the cost model property shall be carried at its cost less any accumulated depreciation and any accumulated impairment loss. Under the revaluation model assets are carried at fair value at the date of revaluation less subsequent depreciation if the fair value can be measured reliably. Upward revaluations are credited to a revaluation reserve in equity and initial downward revaluations are recognized as an expense. The revaluation reserve may be transferred directly to retained earnings when the surplus is realized (i.e. through sale, disposal, or use of asset).

According to IFRS assets must be tested for potential impairment of their value (impairment test- IAS 36) at least on each balance sheet date. Impairment may be evidenced either by market indications or by firm-specific indications. A market indication may be an increase in the interest rates or Real Estate market prices. A firm-specific indication - impairment trigger event- may be a fire-destruction of a manufactory building or a liquidity issue resulting to a re-assessment of the continuance of the operation of the firm. Impairment is recognized whenever the recoverable amount of an asset is less than its carrying amount. The recoverable amount is the higher of the value in use (resulting from the discounted cash flows model) and the net realizable value. If the entity uses the cost model, then the impairment loss shall be recognized immediately in profit or loss. Under the revaluation model, impairment decreases the revaluation reserve. When the revaluation reserve reaches zero, any further impairment loss is recognized in loss.

As assets of this portfolio are own used, they are depreciated systematically according to the estimated useful life in order to match the expense of the period, which occurred in order to allow the economic benefits to flow into the entity, with the benefit received. The total depreciable amount results from the subtraction of the residual value (value estimation from disposal of the asset at the end of its useful life) from the total cost of the asset. Depreciation is recognized as an expense in the period occurred. A change in depreciation method (i.e., straight-line method, diminishing-balance method, unit-of-production method, etc.) is recognized as a change in accounting estimate under IFRS and is dealt according to IAS 8 *Accounting Policies, Changes in accounting estimates and Errors*. Adjustments are recognized in the current and prospective periods.

Own used assets (manufactories and storehouses mainly) are frequently granted by the government. The IFRS require special accounting treatment for government grants, according to IAS 20 *Grants*. Government grants are assistance by government in the form of transfers of resources to an entity in return for past or future compliance with certain conditions relating to the operating activities of the entity (IAS 20).

According to the IFRS government grants should not be recognized until there is a reasonable assurance that the entity will comply with the conditions attaching to them and that the grants will be received. Two methods of presentation in financial statements of grants related to assets are regarded as acceptable alternatives: One method sets up the grant as deferred income in a liability account of pre-received income, which is recognized as income on a systematic basis over the useful life of the asset. According to the matching principle and IAS 20 government grants should be recognized as income over the periods necessary to match them with the related costs they are intended to compensate on a systematic basis. The other method deducts the grant in arriving at the carrying amount of the asset. The grant is recognized as income over the life of the depreciable asset by way of a reduced depreciation charge. Grants related to land inventories are accounted as income accompanied with a decrease of the relevant cost of goods when sold.

US GAAP accounting treatment

At initial recognition, the cash or equivalent amount paid or received (historical cost or proceeds) is usually assumed to approximate fair value. Cost includes all costs necessary to make the asset ready for the intended use. Subsequently, assets are valued at the highest and best use valuation premise, which may be either 'in use' or 'in exchange'. Long-lived assets held to be used are carried at depreciated cost.

Under US GAAP long-lived assets to be 'held and used' are tested for impairment (SFAS 144 Accounting for the Impairment or Disposal of Long-Lived Assets). The impairment test consists of two steps: The recoverability test and the impairment test. If the sum of the 'undiscounted' cash flows expected to result from the use and eventual disposition of the asset

is less than its carrying amount, then the carrying amount is not recoverable and the impairment loss of the asset must be measured. Impairment loss equals carrying amount less fair value, if fair value is less than the carrying amount. If an impairment loss is recognized, the adjusted carrying amount of a long-lived asset shall be its new cost basis. For a depreciable long-lived asset, the new cost basis shall be depreciated over the remaining useful life of that asset. Restoration of a previously recognized impairment loss is prohibited (FAS 144-15).

Under U.S. GAAP a change in depreciation method is regarded as a change in accounting policy. The cumulative effect is recognized in the income statement in the current year.

Concerning acquisition of fixed assets through grants there are no significant differences from IAS in practice.

Greek GAAP Accounting treatment

According to the Greek GAAP, in order to classify an asset in the firm's statement of financial position, the company shall obtain both the economic (the purpose of long term use) and legal (the title according to the law of property) ownership of the asset.

The acquisition is legally registered through the title of property. Accounting treats property in separate accounts for land and buildings. Land shall be separated from the total value of the asset as a non-depreciable item. By the time of acquisition the amount of cash or its equivalent paid to acquire the asset is credited, and each asset (land-building) is debited accordingly. Greek GAAP provide the possibility of separation of purchase expenses in a discernible asset account. Acquisition under asset exchange is treated as a double sale, where the cost of each asset is measured historical cost less accumulated depreciation.

The Greek GAAP as also GAAP of other countries require the measurement of own used assets at historical cost (amount of cash or its equivalent paid to acquire the asset less depreciation and impairment losses). Under Greek GAAP, revaluation (of land and property only) and depreciation are subject to government indices (Tsalavoutas and Evans, 2008). Specifically, according to the Greek Tax Law, upward revaluation is permitted only under the Law 2065/1992 Chapter C "Revaluation of companies' Tangible Assets", according to which every company must revalue its tangible assets every four years by a commonly assessed revaluation percentage under the Law 1839/1989. The resultant surplus is capitalized to equity reserve after the surplus taxation.

When an own used asset is sold, the residual income that results from the total cash received when subtracting the book value of the asset (historical cost less accumulated depreciation and impairment loss) is registered to profit and loss account as a net result from the sale of assets. This gain is taxable according to the Greek tax law.

Concerning assets acquired through government grants, at the time of collection of the grant the cash reserve is debited with a corresponding credit in the equity reserve. The reserve is depreciated over the years at the same percentage as the granted asset according to the depreciation rates established by the Greek legislation. The depreciation over the granted asset is not deducted from the taxable total income of the firm.

Critique – opposite and similar accounting approach

US GAAP and Greek GAAP implement mostly the historical cost principle, while IFRS permit fair value valuation as well. Also U.S. GAAP and IFRS also differ significantly at the way in which depreciation and impairment are calculated. Under IFRS upward and downward revaluations are permitted. On the contrary, US GAAP prohibits downward revaluations and Greek GAAP permit upward revaluations only under Law exceptions. The exposure draft of IFRS issued on May 2009 *Fair Value Measurement* aims to converge with US GAAP and therefore proposes a fair value definition similar to US GAAP, sets a 3-level fair value hierarchy, and inserts the ‘highest and best use’ valuation premise for assets.

Based on the comparative table of accounting standards of countries for the valuation of property, plant and equipment by Herrmann, D., Saudaragan, S.M. and Thomas, W.B., (2006), we have created a similar table including the treatment of property valuation under Greek GAAP:

	United States	IFRS	Greece
Valuation Basis	Cost	Cost or Fair Value	Cost
Independent appraisal required for revaluations	N/A	No	No
Treatment of initial revaluation gain/loss:			
Upward	N/A	Equity	Equity
Downward	N/A	Expense	N/A
Impairment if recoverable amount < carrying amount?	Yes	Yes	No

Case study: Piraeus Group (& Picar S.A.)

Picar is a Greek company which exclusively operates and manages of the building of Citylink of the Army Participial Treasury. The reconstruction of the building started on 2000 and finished on 2005, from where part of the building was leased to Piraeus Bank for operating purposes. The part of the building used by Piraeus Bank is accounted as own used asset at the level of Piraeus Group according to IFRS (IAS 16). According to Piraeus’ Group accounting policies, own property, plant and equipment are stated at historical cost less accumulated depreciation and accumulated impairment loss (cost model). Historical cost includes expenditure that is directly attributable to the acquisition of the items. Property, plant and equipment are reviewed for impairment loss whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying

amount is greater than its estimated recoverable amount. Subsequent costs are included in the asset's carrying amount or are recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the income statement during the financial period in which they incur. Depreciation on own property, plant and equipment is calculated using the straight-line method to allocate their cost to their residual values over their estimated useful lives. The residual values and useful lives of the tangible assets are reviewed and adjusted, if appropriate, at each balance sheet date. Gains and losses on disposals are determined by comparing proceeds with carrying amount. These are included in the income statement. The range of the useful life in most cases is consistent with the years of useful life as instructed by the effective tax law.

7. Held for sale assets portfolio

Characteristics

Under IFRS, a fixed asset shall be classified in the held for sale asset portfolio if its carrying amount will be recovered principally through a sale transaction rather than through continuing use (IFRS 5 *Non-current assets Held for Sale and Discontinued Operations*). For this purpose, the asset must be available for immediate sale and its sale must be highly probable.

IFRS accounting treatment

Such assets are accounted according to IFRS 5 and are measured at the lower of their carrying amount and fair value less cost to sell. Assets under this portfolio are not revaluated or depreciated. Nevertheless, they shall be written-down to fair value less costs to sell. Reversals of impairment are permitted to the extent of the cumulative impairment loss. If sale of such asset within one year can not be obtained, the entity must disclose the Auditors the reasons which did not allow the planned sale and management shall re-examine the classification of this asset in the same portfolio. If the sale is no longer highly probable or the asset is no longer actively marketed or if the sale is not to be realized within one year, or if other existing circumstances show that the asset is no longer a disposable item, the entity shall cease to classify the asset as held for sale.

US GAAP accounting treatment

Long-Lived Assets to Be Disposed of by Sale are dealt by FAS 144 accounting for the *Impairment or Disposal of Long-Lived Assets*. Long-lived asset (disposal group) to be sold shall be classified as held for sale in the period in which all of the following criteria are met: Existence of commitment of a plan to sell the

asset, availability and highly probable immediate sale of the asset in the present condition within one year, existence of initiation program to locate the buyer, existence of an active market for sale at a price that is reasonable in relation to its current fair value, actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn (FAS 144). If the above criteria are no longer met, assets of this portfolio should be reclassified to 'held and used' portfolio. A long-lived asset classified as held for sale shall be measured at the lower of its carrying amount or fair value less cost to sell and is not depreciated. If a held for sale asset is reclassified as held and used, the reclassified asset is measured at the lower of its (a) carrying amount before being classified as held for sale, adjusted for any depreciation expense that would have been recognized had the asset been continuously classified as held and used, or (b) fair value at the date the asset is reclassified as held and used.

Greek GAAP accounting treatment

Greek GAAP does not provide a special portfolio category for assets held for sale. The most similar category is the category of assets excluded from operation. These assets are neither used, nor depreciated. Nevertheless, such assets are not stated in separate category in the face of the balance sheet and it is not obligatory for the firm to sell these assets within a specific time period. Other assets held for sale are tangibles acquired by loan settlements.

Critique – opposite and similar accounting approach

Until the issue of IFRS 5, the requirements of SFAS 144 on assets held for sale differed from IFRS. Now, IFRS are converged with SFAS 144 to a great extent, except from some differences arising from different requirements, i.e. on reversals of previous impairments when a plan to sell has changed. Greek GAAP does not classify assets with these characteristics in special portfolios.

Case Study: Assets acquired by Banks

The foreclosed assets acquired through loan settlements with auctions by Banks are usually classified under the held for sale assets portfolio when certain IFRS or US GAAP criteria are met.

8. Current Assets Portfolio (Inventory property)

Characteristics

Some companies, such as construction, real estate and industrial areas construction companies have as ordinary course of business the construction of assets or the purchase and resale of assets or the change of use of assets. Such assets,

as well as assets in the process of production for sale, or materials or supplies to be consumed in the production process or in the rendering of services, are classified as inventories (IAS 2 Inventories).

IFRS Accounting treatment

A primary issue in accounting for inventories is the amount of cost to be recognized as an asset and carried forward until the related revenues are recognized. The cost of inventories is assigned by using the first-in, first-out (FIFO) or weighted average cost formula and is applied to all inventories of similar nature and use. According to IFRS inventories are measured at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale. As assets should not be carried in excess of amounts expected to be realized from their sale or use, inventories should be written down below cost to net realizable value. The amount of any write-down of inventories shall be recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, shall be recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs (IAS 2).

As any other inventories, assets of this portfolio are held for instant sale within the ordinary course of business. When inventories are sold, the carrying amount of those inventories shall be recognized as an expense in the period in which the related revenue is recognized.

US GAAP accounting treatment

ARB 43, Chapter 4 is also based on the principle that the primary basis of accounting for inventory is cost. The most important difference in compare to IFRS is that US GAAP permits also the last-in, first-out cost formula, while the IFRS prohibit it. Also, while the reversal of any write-downs is permitted under certain criteria prescribed by IFRS, US GAAP prohibit reversals. Also, US GAAP, as well as IFRS require that abnormal amounts of idle facility expense, freight, handling costs, and spoilage be recognized as current-period charges (SFAS 151 Inventory Costs).

Greek GAAP accounting treatment

According to the Greek Law of 2190/1920 inventories are measured at the lower of acquisition or production cost, current value and net realizable value at the end of each fiscal year. Cost is assigned according to FIFO, LIFO, weighted average cost, standard cost, cost based on the gross profit, cost based on retail prices, cost at sale price and other methods, according to the inventory sales policy of each firm. Assignment of cost is made at the end of each fiscal year in order to define the cost

of goods sold in the income statement and the cost of unsold inventories in the balance sheet. A firm must apply the chosen cost assignment method as long as it operates. A change of cost assignment method is strictly prohibited according to Law 2190/1920. Changes are permitted only in rare cases of serious economic changes. According to the Greek Tax Law every sale of inventory as well as every expense occurred during the work- in- progress period is subject to VAT. At the stage of the manufacturing of the inventories the account of work in progress is used, in which the cost occurred during the construction period is accumulated. The purchase of land, the expenses of manufacturing the asset and its cost are debited to work in progress account and after the completion of the manufacturing the work in progress cumulative amount is debited to the inventory account.

Critique – opposite and similar accounting approaches

Greek GAAP accounting provides a wide range of cost assignment methods, customized for each business course. However, IFRS and US GAAP provide a simpler and clearer treatment of inventories, resulting in comparable information across firms and countries.

Case study: ETBA Industrial Estates S.A.

The firm's main activity is the foundation, organization, operation and management of organized business installations areas (Industrial Areas) as well as the pursuit of financing sources and the capital assurance for the creation or improvement of the necessary infrastructure. The firm manages 32 Industrial areas across the country, where 2,500 companies operate.

Inventories constitute approximately 44% of the firm's total assets. 93% of total inventories represent finished assets, while 10% remain in work-in progress account. Inventories' cost is assigned using the weighted average cost formula, which also determines the cost of goods sold stated in the income statement.

Inventories are measured at the lower of cost and net realizable value, according to IFRS requirements. The net realizable value is calculated based on the current market values of inventories (less sale expenses) in the normal course of business. The measurement of inventories has resulted to a total accumulated impairment of 3% of the total cost (as at 31/12/2008) and has affected the income statement of the years in which the impairment has occurred.

9. Investment property portfolio

Characteristics

This portfolio includes mainly property held to earn rentals or for capital appreciation or both (IAS 40 *Investment Property*). Companies with large investment property portfolios are investment property companies.

IFRS accounting treatment

A firm may choose as its accounting policy either the cost model as specified in IAS 16 (Property, Plant and Equipment) or the fair value model - IAS 40 (Investment Property) and shall apply that policy to all of its investment property. Under the fair value model an investment property is measured, after initial measurement, at fair value with the surplus or loss arising from the difference between its cost and its fair value recognized in the income statement. Investment property is non depreciable, because any impairment of its value is included in the fair value calculation. The fair value shall be measured annually. Change from one model to the other is permitted only if it results in more appropriate presentation. This is considered highly unlikely in the case of moving from fair value model to cost model (IAS 40.31). Property under construction for future use as an investment property is accounted for under IAS 16 until it is completed. The fair value of investment property shall be determined according to the guidance of the International Valuation Standards Committee about the valuation of assets for IFRS reporting purposes. This guidance is incorporated in IAS 16 about own used assets and IAS 2 about inventories. The methods to determine the fair value are:

- **Comparables method:** the value of the property to be evaluated is defined by comparing properties with similar characteristics.
- **Residual value:** This method is applied mainly in the estimation of the value of bare land which is to be developed or property requiring renovation. The present value derives by applying the discounting factor to the residual value of the estimated property.
- **Depreciated replacement cost method:** Valuations are based on an estimate of the market value for the existing use of the land and the current gross replacement (reproduction) costs of the improvements, less allowances for physical deterioration and all relevant forms of obsolescence and optimisation. The 2 estimates are summed-up, resulting in the current value of the property under valuation.
- **Profit method (capitalization of income):** The purpose of this method is to estimate the annual income which an investor is entitled to and then capitalise it by using an appropriate unit rate, the so called All Risk Yield (ARY).

Although firms are encouraged to measure fair values by independent valuator who hold a recognized and relevant professional qualification and have recent experience in the location and category of the investment property being valued, IAS 40 does not require it. However, if fair values are not measured according to the above standard, firms shall disclose that fact. When investment property is sold, gains and losses arising from the sale are determined as the difference between the net sale proceeds and the carrying amount of the asset and shall be recognized in profit or loss in the period of sale.

US GAAP accounting treatment

US GAAP do not provide a special standard for investment property. Investment property must be stated at depreciated historical cost and revaluations are not permitted.

Greek GAAP accounting treatment

Greek GAAP does not provide special treatment for investment property. As all fixed assets, investment property is carried at historical cost. According to Greek GAAP and the tax regulation, the taxation of investment property firms differs from other, where surpluses from valuation or sale are subject to taxes according to the general regulation. Investment property is being taxed specially according to Law 2065.

Critique – opposite and similar accounting approach

The most complete accounting treatment of investment property is provided by IFRS. US and Greek GAAP use prudent valuation methods, ignoring possible revaluation of investment property according to Real Estate market prices.

Case Study: Eurobank Properties S.A.

Eurobank Properties is an investment property company which manages a fixed asset portfolio, mainly by leasing inventory property under operating leases. Almost all non-current assets of the company are included in investment property portfolio, which is accounted initially at cost and subsequently at fair value through profit and loss based on prices observed in active markets and adjusted if necessary due to differences in the physical or construction features or different lease terms. In cases where such information is not available the firm applies alternative methods, such as recent prices in less active markets or the discounting of future cash flows. The valuation of the investment property is accomplished by sworn valuers according to the guidance of the International Valuation Standards Committee for each balance sheet date. Assets not invested currently but designated for investments in the future are registered as own property at cost till the use as investment property starts.

10. Long term leasing in fixed assets

Characteristics

A lease can be classified either as finance lease or as operating lease. A finance lease is a lease that transfers substantially all the risks and rewards incidental to ownership of an asset. Title may or may not eventually be transferred (IAS 17 *Leases*). As long as the lessee acquires the economic benefits of the use of the leased asset, the firm recognizes it as an asset (substance over form principle). An

operating lease is a non-finance lease, under which assets are leased for a period shorter than the remaining useful life of the asset, after which the lessor retains the ownership of the asset. Leased assets can be classified either in investment property portfolio or in own-used asset portfolio, depending on its use by the firm. Long term lease can be obtained by leasing firms, but is also possible in the absence of leasing firms: The case of England is a typical case study, where titles of property equal to a right to use the property for 100 years.

IFRS Accounting treatment

The leased asset is recognized as own property for the lessee and the repayment installment is recognized as liability to the lessor. The own used leased asset is accounted according to IAS 16 as own property. A leased asset is recognized as investment property if the recognition criteria of IAS 40 are met. The initial cost of a property interest held under a lease shall be recognized at the lower of the fair value of the property and the present value of the minimum lease payments. An equivalent amount shall be recognized as a liability. According to IAS 40 the best evidence of fair value is given by current prices in an active market for similar property in the same location and condition and subject to similar lease and other contracts (Comparables method).

In cases of leased investment property, where comparative data are unavailable, mainly due to physical or construction features or different lease terms, we turn to alternative approaches, such as the discounted cash flow projection. The rate used in the discounted cash flow method could be the yield return of the investment and reflects current market assessments of the uncertainty in the amount and timing of the cash flows. The rate that discounts the expected future cash flows is calculated as follows:

$$\mathbf{R = F + P}$$

Where: R: the discounted rate
F: the yield of the long term (15-year) government bond
P: the credit risk return of the specific investment

The credit risk return can be calculated as follows:

$$\mathbf{K = F + P - (L)}$$

Where: K: the initial yield
F: the yield of the long term (15-year) government bond
P: the credit risk return of the specific investment
L: the annual effective growth rate of the asset rental

Minimum lease payments shall be apportioned between the finance charge and the reduction of the outstanding liability. The finance charge shall be allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability. Contingent rents shall be charged as expenses in the periods in which they are incurred (IAS 17).

US GAAP accounting treatment

US GAAP distinguish between “capital leases” (“finance leases” in IFRS terms) and “operating leases.” Generally, under U.S. GAAP if a lease meets one or more of the following four criteria, the lease must be classified as a capital lease by the lessee: The lease transfers ownership of the property to the lessee by the end of the lease term, the lease contains a bargain purchase option, the lease term is equal to 75 percent or more of the estimated economic life of the leased property, the present value at the beginning of the lease term of the minimum lease payments equals or exceeds 90 percent of the excess of the fair value of the leased property over any related investment credit retained by the lessor.

The difference between the gross investment in the lease and the cost or carrying amount of the leased property, if different, shall be recorded as unearned income. The net investment in the lease shall consist of the gross investment plus any unamortized initial direct costs less the unearned income. The unearned income and initial direct costs shall be amortized to income over the lease term so as to produce a constant periodic rate of return on the net investment in the lease. However, other methods of income recognition may be used if the results obtained are not materially different from those that would result from the prescribed method. The net investment in the lease shall be subject to the same considerations as other assets in classification as current or non current assets. Contingent rentals shall be included in the determination of income as accruable.

Greek GAAP Accounting treatment

The accounting treatment does not differ from that of the IFRS. Finance leases are presented as assets by the lessee with a corresponding liability and operating leases are not presented in statement of financial position. Rentals are included in Income Statement. According to the Greek Tax Law the operating lease payments are recognized as a taxable expense, and may be surcharged with VAT.

Critique – opposite and similar accounting approach

Differences can arise in many cases, such as when the leased item comprises both a land and a building component or where sale and leaseback transactions are in place. In such situations, both IFRS and US GAAP include different and more detailed guidance, which could lead to a different accounting treatment. For example US GAAP does not permit immediate gain recognition on sale and leaseback, while if a sale and leaseback results in an operating lease under IFRS, that clearly is established at fair value, with any profit or loss resulting to an immediate recognition in profit or loss account.

Case Study: Picar S.A.

Picar is a typical case study of the case where a long term lease is contracted by a non-leasing firm. The firm has exclusively the operation and management of the building of Citylink of the Army Participial Treasury, which is held under a financial lease and leased out under several operating leases. At 31/12/2008 investment property constituted 92% of total assets of the firm, percentage which represents the long term finance lease contract of the company for the use of Citylink for 52 years. The reconstruction of the building of Stadiou- Amerikis- Panepistimiou and Voukourestiou streets started on 2000 and finished on 2005, from where part of the building was leased out to Piraeus Bank for operating purposes, and the rest was leased out to other companies under operating leases. During the construction season the asset category “assets under construction” contained the present value of the lease liability for the operations rights of the building through leasing, the cost of reconstruction the asset and the capitalized construction costs. Other funding costs were directly recognized in income statement. By the end of 2007 the asset was ready to operate, so all interest expense occurred during 2007 was recognized in income statement and no capitalization was accounted. Picar’s investment property is initially recognized at cost and subsequently at fair value. Fair value measurement was made for the first time on 2005 according to independent sworn valuers primarily based on the comparables method and, where not available, based on the discounted cash flow model using the following information:

- Market values of different assets or lease contracts adjusted accordingly by nature, location and condition of the investment.
- Recent prices of relevant assets adjusted in order to reflect changes in economic situations from the transaction date till the valuation date.
- Present value of future cash flows according to the covenants of relevant lease contracts using discounting factors which reflect current assessments of insecurity related to the value and the timing of the cash flows.

As for the financial lease of Picar, all leased assets are recognized as investment property of Picar (assets held to earn rentals through leases) and the corresponding liability to pay the finance lease is presented in liabilities. Tangible leased assets are initially recognized at the lowest of the fair value and the present value of the future rentals. Leased assets are depreciated at the lowest duration between the useful life of the asset and the lease duration. Every lease payment is split into capital and interest. The amount of capital payment decreases the liability, whereas the amount of interest payment burdens the profit and loss account. The rate of the finance lease (i) is defined as the rate that discounts the future rentals (K_j , where $j=1 \dots m$ rentals) at the fair value (FV) of the leased asset. The equation used is:

$$FV = \sum_{j=1}^m K_j * \frac{1}{(1+i)^j}$$

11. Portfolio change for a fixed asset

Assets can be reclassified, if there is an evidenced change in use. This is permitted only under special circumstances. When management of the firm assesses a change in use of the asset, then the asset shall be reclassified in another portfolio according to the intended use.

Assets are reclassified between portfolios under specific terms, provided from the corresponding Accounting Standards (IAS 2, 16, 40, IFRS 5). The most important issue when reclassifying an asset is the new 'deemed' cost, under which the asset will be initially recognized in the new portfolio. Each change that results from an error shall be treated according to IAS 8 *Accounting Policies, Changes in accounting estimates and Errors*.

For a transfer from investment property carried at fair value to owner-occupied property or inventories, the property's deemed cost for subsequent accounting in accordance with IAS 16 or IAS 2 shall be its fair value at the date of change in use. In the case of a transfer from inventory to investment property, the resulting movement to fair value is recognised in profit or loss (IAS 40.63). However, previously owner-occupied property which is now to be transferred to investment property is revalued under IAS 16 first (ie gains to equity – IAS 40.61).

Assets can be also transferred from one portfolio to another, through sale from one portfolio and buyback or leaseback in another portfolio under an arm's length transaction and according to the intended use and the recognition criteria of each portfolio category.

12. Greek property market of the Banking Sector from an accounting point of view

The Greek property market is characterized from fixed asset management and investment companies, which are controlled by Bank Groups. We have studied fixed assets treatment of 7 Greek Banks. All firms listed in the Greek Stock Market prepare financial statements according to IFRS. Analysis contains: National Bank of Greece, Alpha Bank, Eurobank, Piraeus Bank, Emporiki Bank, Marfin Egnatia Bank, and Cyprus Bank.

The banks' fixed assets portfolios comprise at an average 2,0% of the total assets of 31/12/2008 and 31/12/2007. On 2004 the percentage was a bit higher (2,9%), because of the better economic environment. In the period between 2004 and 2008, banks have averagely increased their investment portfolios (22% of total fixed asset portfolio on 2008 versus 19,4% on 2006 and 11% on 2004). This shows an increase in the investment use of property. Own-occupied property has decreased (76,5% on 2008, 85,7% on 2004), while inventory property and held for sale

portfolio have been relevantly stable. The composition of the portfolios of tangible assets of the studied Banks for 2004-2008.

Own Used Property

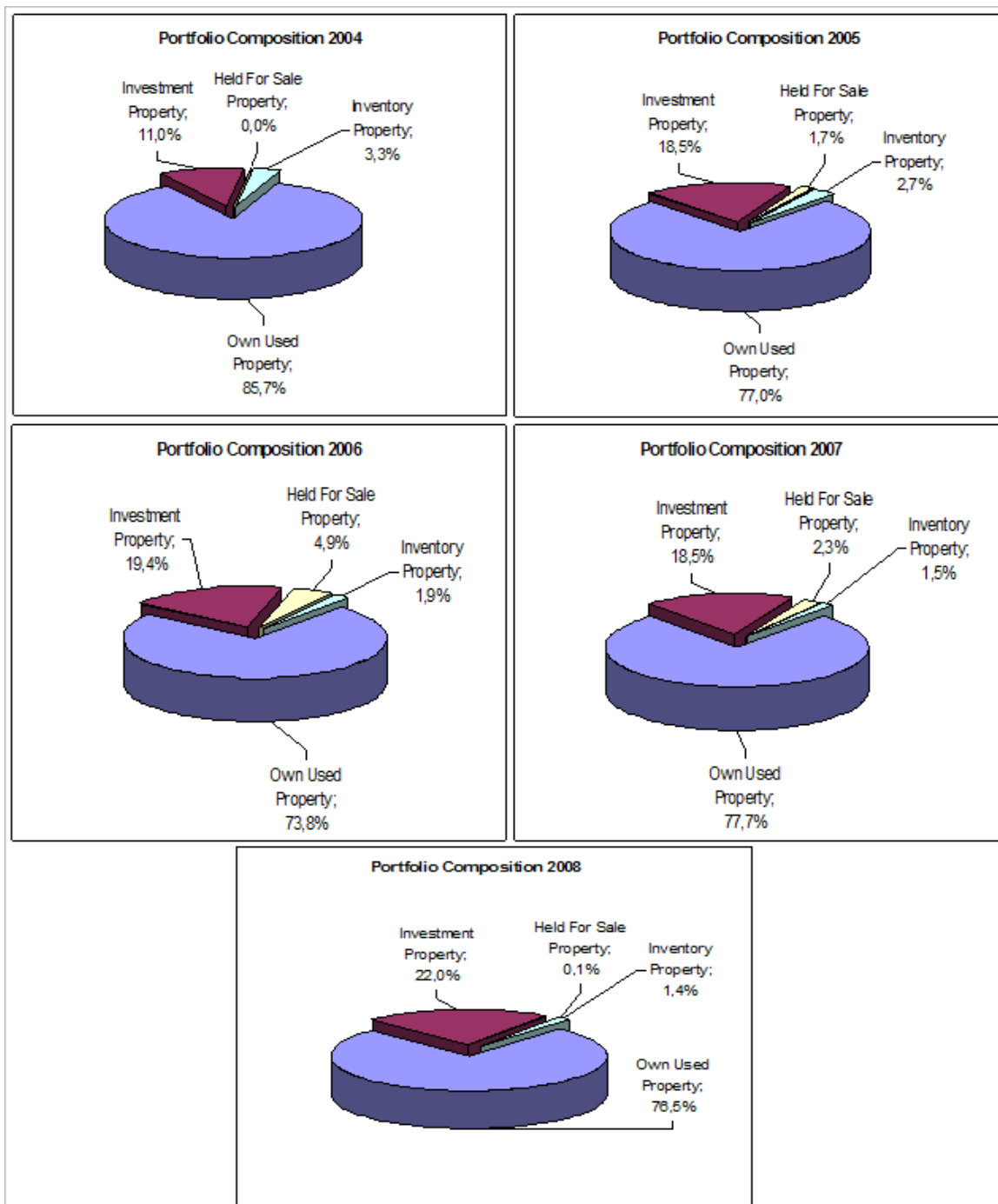
The most companies use the cost model proposed by IAS 16 in order to measure own occupied assets. Eurobank, Alpha Bank, Piraeus Bank, Marfin Egantia Bank and Emporiki Bank initially account own property at acquisition cost and subsequently on historical cost less accumulated depreciation and impairment losses. Cyprus Bank uses the fair value model with revaluations effecting in the revaluation surplus in equity. Revaluations are made frequently, so that fair values are not much different from the amounts stated in the financial statements. The revaluation reserve is transferred to retained earnings when a revaluated asset is sold. Assets under construction are presented under historical cost less impairment loss. Depreciation starts when assets are ready to be used.

Investment property

Cyprus Bank, Marfin Egnatia Bank, and Piraeus Bank measure investment property at fair value through profit and loss according to market prices or other valuation models when market prices are not available. All firms studied measure property using professional sworn valuers under the guidance of International Valuation Standards Committee. Many banks include in this portfolio assets coming from loan settlements acquired by auctions. Emporiki Bank, Eurobank and Alpha Bank measure investment property at historical cost. In such cases, although financial statements are prepared using the cost model of IAS 16, firms must also state in the financial disclosures the fair value of investment property irrespectively of the chosen valuation method.

Inventory Property- Held for Sale Fixed Assets

Inventory property is held only by Cyprus Bank and Piraeus Bank. As required by IFRS 2 inventories are measured at lower of cost and net realizable value. Only Piraeus Bank presents a special fixed asset portfolio of held for sale assets. Such assets are accounted according to IFRS 5.



14. Conclusions

In this study we examined the accounting framework of tangible assets using IFRS, US GAAP and Greek GAAP. We also referred to cost versus fair value accounting. We analyzed the main characteristics and uses of assets, as well as the portfolio categorization and the accounting treatment under each one of the GAAPs studied.

The contribution of this paper consists of:

- a. A framework of good practices in tangible assets management,
- b. A critical perspective of the used frameworks, providing comparison for each framework and each portfolio,
- c. A literature view (IFRS, US GAAP, Greek GAAP principles and accounting standards),
- d. Practice, consisted of the fixed asset portfolios of the Greek Banking sector and their accounting monitoring,
- e. A proposed and -exclusively under the authors' opinion- fair framework for managing and monitoring all kinds of fixed assets.

The conclusion that fixed asset management is not an easy case. Management of the firm must 'confront' several difficult issues when acquiring an asset, such as the classification, the valuation method and measurement, the monitoring, and the effects of each decision, relating to fixed assets, in the income statement and shareholder's equity.

References

1. Danbolt J. and Rees W. (2008). An Experiment in Fair Value Accounting: UK Investment Vehicles, University of Glasgow, UK and University of Amsterdam, *European Accounting Review* Vol. 17, No. 2, 271–303.
2. Dietrich, J. R., Harris, M. S., & Muller, K. A. (2000). The reliability of investment property fair value estimates. *Journal of Accounting and Economics*, 30(2), 125–158.
3. Easton, P. D., Edey, P. H., & Harris, T. S. (1993). An investigation of revaluations of tangible long-lived assets. *Journal of Accounting Research*, 31(Suppl.), 1–38.
4. Financial Accounting Standards Board, (2008). SFAS 98 Accounting for Leases
5. Financial Accounting Standards Board, (2008). SFAS 144 Impairment of Long lived assets
6. Financial Accounting Standards Board, (2008). SFAS 151 Inventory Costs
7. Financial Accounting Standards Board, (2008). SFAS 157 Fair Value Measurements

8. Herrmann, D., Saudaragan, S.M. & Thomas, W.B., (2006). The quality of fair value measures for property, plant, and equipment. *Elsevier Accounting Forum*, 30, 43-59.
9. International Accounting Standards Board, (2008). International Financial Reporting Standards (IFRS®) including International Accounting Standards (IASs™) and interpretations as at 1 January 2008. International Accounting Standard No. 2. Inventories.
10. International Accounting Standards Board, (2008). International Financial Reporting Standards (IFRS®) including International Accounting Standards (IASs™) and interpretations as at 1 January 2008. International Accounting Standard No. 16. Property, plant, and equipment.
11. International Accounting Standards Board, (2008). International Financial Reporting Standards (IFRS®) including International Accounting Standards (IASs™) and interpretations as at 1 January 2008. International Accounting Standard No. 17. Leases.
12. International Accounting Standards Board, (2008). International Financial Reporting Standards (IFRS®) including International Accounting Standards (IASs™) and interpretations as at 1 January 2008. International Accounting Standard No. 20. Accounting for Government Grants and Disclosure of Government Assistance.
13. International Accounting Standards Board, (2008). International Financial Reporting Standards (IFRS®) including International Accounting Standards (IASs™) and interpretations as at 1 January 2008. International Accounting Standard No. 36. Impairment of assets.
14. International Accounting Standards Board, (2008). International Financial Reporting Standards (IFRS®) including International Accounting Standards (IASs™) and interpretations as at 1 January 2008. International Accounting Standard No. 40. Investment Property.
15. International Accounting Standards Board Exposure Draft, (May 2009), Fair Value Measurement.
16. Lin, Y. C. and Peasnell, K. V. (2000) Fixed asset revaluation and equity depletion in the UK, *Journal of Business Finance and Accounting*, 27(2/3), pp. 161–182.
17. Missonier-Piera, F., (2007). Motives for fixed-asset revaluation: An empirical analysis with Swiss data. *The International Journal of Accounting*, 42, 186-205.
18. Nelson, K. K. (1996) Fair value accounting for commercial banks: an empirical analysis of SFAS no. 107, *The Accounting Review*, 71(2), pp. 161–182.

19. Nichols, L., & Buerger, K. (2002). An investigation of the effect of valuation alternatives for fixed assets on the decisions of statement users in the United States and Germany. *Journal of International Accounting Auditing and Taxation*, 11(2), 155–163.
20. Tsalavoutas I. and Evans L., (2008). Comparing International Financial Reporting Standards (IFRSs) and Greek GAAP: financial statements effects. *University of Edinburgh, Accounting University of Stirling*
21. Walker, R. G. (1992). The SEC's ban on upward asset revaluations and the disclosure of current values. *Abacus*, 28(1), 3–35.
22. Watts, R. (2003) Conservatism in accounting – Part I: explanations and implications, *Accounting Horizons*, 17(3), pp. 207–222.
23. Weston, J. F. (1953). Revaluations of fixed assets. *The Accounting Review*, 18(October), 489–490.
24. Whittred, G. and Chan, Y. K. (1992) Asset revaluations and the mitigation of under investment, *Abacus*, 28, pp. 3–35.