Case Study

Portuguese Public Accounting Standard Number 5- Tangible Fixed Assets the Standard And Its Application

Filipa Manuel da Silva Santos Baptista da Costa¹
ISCAP-PPorto, Porto, Portugal¹
filipacosta.mkt@gmail.com
Adalmoiro Andrade Pereira²
Management, ISCAP-PPorto, CEOS member, Porto, Portugal²
adalmiropereira@mail.telepac.pt
ORCID: 0000-0001-6206-7735
Ângela Daniela da Silva Vaz³
ISCAP-PPorto, Andrade & Brandão, Lda member, Porto, Portugal³
angelavaz@andradebrandao.pt
ORCID: 0000-0002-8407-9697

Abstract:
The new Accounting Standards in Portugal for the Public Sector were created in a line of the IAS – International Accounting Standards. This work is about the study of the Standard 5 about the Tangible Fixed Assets. We intend to present the main points, about recognition, measure and publish of facts related with the Standard. We finish with the presentation of some practical examples, intending to show the main application of the Standard.

Key words: Tangible Fixed Assets; Accounting Standards, IAS

1. Introduction:
In Portugal, until the 1990s, the evolution of public accounting was relatively slow. Briefly, according to the authors (Rua & Carvalho, 2006), in Portugal the evolution of public accounting took place in three main phases. The first phase, until 1990, public accounting was underdeveloped and was called budget accounting and had as its purpose the execution of the budget, the control of legality and the rendering of accounts. Then, the second phase took place in the subsequent years until 1997. In this period, the Reform of the State Financial Administration, followed, and, therefore, the analysis of the financial position of a public entity was added as a new objective of accounting public. In a final phase, until the year 2015, countless sectorial public plans were approved and employed and the systems of equity and analytical accounting were adopted and, consequently, equity maps were introduced, such as the balance sheet, the income statement by nature, which by use instead, they make it possible to reach conclusions regarding the economic and equity position of a public entity. However, the applicability of these sectoral public plans has raised several problems, such as the issues of recognition and measurement of equity elements. In order to address some issues regarding the inventory of public assets, in 2000, the State Property Register and Inventory, was approved. In addition, the sectorial public accounting plans were based on an accounting plan of a corporate scope, Official Accounting Plan, which was revoked in 2009 by the Accounting Standardization System. The latter, in 2015, was modified and second (Teixeira,
2016) made the conceptual bases that were references of the Official Public Accounting Plan, and other sector plans disappear. Later, in 2018, according to (Silva et al, 2016), in order to respond to the need for accounting standards that would guarantee transparency and reliability in the provision of accounts by public entities, as well as the internal need for a more complete accounting system (Jorge et al., 2016), the new Accounting Standardization Committee for Public Administrations, was presented by the Public Accounting Standardization Committee, approved by Decree-Law No. 192/2015, September 11, which revoked the Portuguese public sector plans that were in force until then, and their application is mandatory as of January 1, 2018. In agreement are the authors (Carvalho & Carreira, 2016) who affirm that this new reform intends to favor the administrations, either of a budgetary system, or of a financial system more efficient and closer to the systems currently adopted at the international level. Therefore, the new accounting system came to be characterized by three considerable aspects: it responds to the characteristics of Portuguese public entities, it is based on International Public Sector Accounting Standards, and it also brings the public accounting system closer to the existing accounting standardization private sector in Portugal.

2. Standard Number 5 - Property, Plant and Equipment:

2.1 Scope:

With regard to its scope, this standard should be applied in the accounting of Fixed Tangible Assets, by any institution, excluding cases in which other accounting treatment that takes into account another Accounting Standard has been taken into account. Regarding the measurement of Fixed Assets, this standard applies both to public domain entities and to private domain entities as presented in paragraph 2, covering:

(a) military equipment;
(b) Infrastructure;
(c) Historical heritage goods; and
(d) Assets of concession contracts after recognition and measurement in accordance with Public Accounting Standard 4 - Service Concession Agreements: Grantor. It should also be noted that this standard is not applicable to any type of biological assets related to agricultural activity or to mineral rights and mineral reserves, such as oil, natural gas and similar non-renewable resources, as can be seen in paragraph § 4 points a) and b). However, this standard applies to Tangible Fixed Assets used for the development or maintenance of the assets mentioned above. Given this, it is also important to mention that there are other Public Accounting Standards that may require the recognition of Tangible Fixed Assets based on the different approach of the aforementioned standard. As an example in Leases where an organization is required to assess the recognition of an Tangible Fixed Assets "... basis of the transfer of risks and benefits, according to the accounting procedure and treatment prescribed in Public Accounting Standard 6, including its depreciation." (Pereira, et al., 2019, p. 6). Another aspect mentioned in the scope of this standard, is the point of the tangible historical heritage, since Public Accounting Standards 5 says that an entity is obliged to identify all the assets related to the tangible historical heritage as long as these comply with the assumptions for recognition of Tangible Fixed Assets. Examples of these active historic buildings, monuments, nature reserves, among others, can be presented, as they are recognized as historical heritage for their cultural, historical and artistic significance. Another note to note is that these assets are held by public entities for many years and are obtained through different means such as donations, legacies or even expropriations.

2.2 Recognition:

According to §112 of the conceptual structure of Public Accounting Standards (SNC-AP (2015)), the recognition of an element in a financial statement is seen “as the process of incorporating in a suitable financial statement, a certain item that meets the expected definition of an element and that can be measured reliably”. And for that to happen, that is, for an item to be incorporated in a financial statement, according to §113 of the
Public Accounting Standards (SNC-AP (2015)), it must fulfill two criteria:
(a) Satisfy the definition of the element, that is, the class for which its recognition qualifies;
(b) Can be measured in a way that ensures compliance with the qualitative characteristics and takes into account the constraints to financial information. In this last recognition criterion, it is worth highlighting the relevance of measurement reliability, to which other qualitative characteristics are associated. In the same way, the Public Accounting Standards (SNC-AP (2015)), also came to overcome the previous conceptual gaps in the sectoral plans by presenting the criteria that an element must fulfill in order to be recognized with Tangible Fixed Assets, currently exposed in NCP 5 - Tangible Fixed Assets. Therefore, the Public Accounting Standards (SNC-AP (2015)), in its standard number 5 - Property, plant and equipment states in §10 that the cost of a property, plant and equipment must be recognized as an asset if, and only if:
(a) It is probable that future economic benefits or service potential associated with the asset will flow to the entity; and,
(b) The cost or fair value of the asset can be measured reliably.

First Recognition Criteria:
First of all, what is an asset?
An asset is understood as a resource presently controlled by the public entity as a result of an event that happened in the past, as is visible in §88. According to the active author (Pallot, 1990) it is a thing of value that one owns and that thing or the property of the thing requires control of it. And ... what is a resource?
Complemented in §89, a resource is defined by an item that includes the ability to allow an influx of service potential or future economic benefits.

Future economic benefits, of a public scope, take the form of cash inflows or cash equivalents, or reduction of cash outflows or cash equivalents, according to §92.
It is also mentioned that the asset is controlled by
the public entity, how?
In §93 it is mentioned that in order to recognize the public entity as an asset, it has to control the resource and this implies the ability to use the service potential or the economic benefits from the resource in question, or else, the capacity of the public entity to determine the nature and form of use that other entities make of the benefits originated by the resource. This control can result from several means and that there may be several indicators for the existence of control, such as legal ownership, access, or even the ability to restrict access to the resource, the existence of means to ensure the resources to achieve the objectives, purposes, the existence of a right to the service potential or to the future economic benefits.
benefits embodied in the resource, in accordance with §94. It is also correlated with the requirement to result from past events... Paragraph 94 states that assets can originate from transactions without exchange, even those that result from the exercise of supreme powers. Thus, the investigation focuses on these assets resulting from the exercise of supreme rights and powers, as is the case with tax power or license issues, or the power to confirm, limit or deny access to natural and mineral resources, which, as a rule, entities not belonging to the public sector do not. In these cases, it is essential to determine at what time these rights and powers give rise to the existence of an asset. For example, in taxes, the following moments can be identified:

a) The State's ability to tax;
b) The establishment of the right to tax certain events;
c) The ability to exercise power, in order to create a State right to collect tax; and,
d) The occurrence of the event that causes the taxpayer to pay the tax.

Therefore, the asset arises only when power is exercised and there is a right to receive the funds, which, in the case in question, materializes with the occurrence of the event referred to in paragraph d).

Second Recognition Criteria:
The second recognition criterion highlights the reliability of the measurement. 
First, what is measurement?
Paragraph 120 of the Public Accounting Standards (SNC-AP (2015)), conceptual framework defines measurement as the process of determining the monetary amounts through which the elements of the financial statements are recognized and shown in them.
And reliability?
To be useful, financial information must be reliable, that is, it must be a faithful representation of the economic and other events that it intends to represent. This is possible when the description of the phenomena is complete, neutral and free from material errors. The information that reliably represents economic phenomena describes the substance of the underlying transaction, event, activity or circumstance, which does not necessarily coincide with its legal form. An omission of information can cause the representation of an economic or other phenomenon to be false or distorted, and therefore, useless. In conclusion, it is clear that for the recognition of an asset it must respond with the following characteristics:

- Flow future economic benefits or service potential;
- There is control over the asset;
- And result from past events.

In this case, at the heart of Tangible Fixed Assets, they must also:

- Be used in the production or supply of goods and services, or for rent to third parties, or for administrative purposes;
- At the outset they are used for more than a year;
- The cost or fair value of the asset is measured reliably.

2.2.1 Initial Costs:
According to § 15 of Public Accounting Standard 5 – Tangible Fixed Assets, property, plant and equipment may be required for safety or environmental reasons. As such, the acquisition of these assets, although they do not directly add future economic income or the service potential of any particular asset already existing, may be necessary for an entity to achieve future economic benefits or service potential from its assets. Other assets. These tangible fixed assets they qualify for recognition as assets since they provide an entity with future economic benefits or service potential of the respective assets in addition to what could be enjoyed if those assets had not been acquired. For example, fire safety regulations may require a hospital to adapt to new fire extinguishing systems. These improvements are recognized as an asset because, without them, the entity is unable to operate the hospital in accordance with regulations. However, the carrying amount resulting from such an asset and related assets is reviewed for impairment
purposes in accordance with Public Accounting Standard 9 - Impairment of Assets.

2.2.2 Subsequent Costs:
According to §15 of the same standard, an entity should not recognize in the carrying amount of a property of the Tangible Fixed Assets the costs of current technical assistance of the property. Instead, you should recognize them in the results as soon as supported. Current technical assistance costs are primarily labor and consumable costs, and may include the cost of small parts. The purpose of these expenditures is often described as “repair and maintenance” of the property of the Tangible Fixed Assets. Some examples: the need to repaint a road every five years, an oven may require maintenance after a specific number of hours of use, or, for example, the seats and corridors of an aircraft require replacement several times during its useful life.

2.3 Measurement On Recognition:
According to §18 of Public Accounting Standard 5 – Tangible Fixed Assets, as for measurement on recognition, a tangible fixed asset must be measured at cost. In accordance with §21 of Public Accounting Standard 5 – Tangible Fixed Assets, the cost of a Tangible Fixed Asset includes the purchase price (net of commercial discounts and rebates), the costs directly attributable to putting the asset in place and under the conditions necessary to operate in the manner and the initial estimate of the costs of dismantling and removing the item and restoring the location where it is located. An exception is also mentioned in §18 of Public Accounting Standard 5 – Tangible Fixed Assets, when acquiring a tangible fixed asset without consideration, that is, donations, the cost of which being the fair value at the recognition date. In these cases, the measurement will be made by the Tax Value for the properties; and by the cost of the received, or in the absence of it, the respective market value, for the other assets, as mentioned in §19 of Public Accounting Standard 5 – Tangible Fixed Assets. In § 30 of Public Accounting Standard 5 – Tangible Fixed Assets, in the event that the Tangible Fixed Assets are acquired by exchanging one or more non-monetary assets, or a combination of monetary and non-monetary assets, the cost of the Tangible Fixed Assets must be measured at fair value. If the fair value of the received asset and the assigned asset are reliably determinable, the fair value of the assigned asset should be used to measure the cost of the received asset, unless it is evidently more notorious, as referred to in §32 of the Public Accounting Standard 5 – Tangible Fixed Assets. It is also mentioned in § 30 of Public Accounting Standard 5 – Tangible Fixed Assets, that, if the transaction has no commercial substance, or if the fair value of the asset received and the asset assigned cannot be reliably measured, and therefore, the acquired asset cannot be measured at fair value, its cost must be measured at the carrying amount of the assigned asset.

2.4 Subsequent Measurement:
With regard to the subsequent measurement of property, plant and equipment, in §33 of Public Accounting Standard 5 – Tangible Fixed Assets, it is said that a property, plant and equipment should be recorded at cost, less any accumulated depreciation and any accumulated impairment losses, and this should apply, method to an entire class of property, plant and equipment. Therefore, we are present, let's say briefly, by the Cost Model. However, in §34 of Public Accounting Standard 5 – Tangible Fixed Assets, there is another model, the Revaluation Model, which states that, in some circumstances, Tangible Fixed Assets may be subject to revaluation, according to criteria and parameters to be defined in suitable legal devices. In the following paragraph, it is also mentioned that the revaluation presupposes the determination, at the date of the revaluation, of the remaining useful life of the asset. If an item of property, plant and equipment is revalued, any accumulated depreciation at the date of the revaluation must be dealt with in one of the following ways:

a) Eliminated against the gross carrying amount of the asset, the net amount being restated to the revalued amount of the asset. This method should be used in the revaluation of land and buildings;
b) Restated in proportion to the change in the recorded gross amount of the asset, so that the carrying amount of the asset after revaluation equals its revalued amount. This method should be used to revalue the remaining tangible fixed assets by applying an index to their depreciated replacement cost. Paragraph 37 adds that, if a property of the Tangible Fixed Assets is revalued, the entire class to which that property belongs must also be revalued, and simultaneously, in order to prevent the financial statements from reporting amounts obtained on different dates. Therefore, as the authors (Carvalho & Carreira, 2016) say, the revaluation model is not an option of the entity. Next, it is understood that if the carrying amount of a Tangible Fixed Asset is increased as a result of a revaluation, the increase should be credited directly to equity as revaluation surplus. However, this increase must initially be recognized in profit or loss up to the limit that reverses a revaluation reduction of the same asset previously recognized in profit or loss. But if the carrying amount of a tangible fixed asset is reduced as a result of a revaluation, the reduction must be recognized in profit or loss. However, this reduction must be recognized directly in shareholders’ equity up to the limit of any credit balance existing in the revaluation surplus of that same asset, as stated in §40 of Public Accounting Standard 5 – Tangible Fixed Assets. Subsequently, according to §41 of Public Accounting Standard 5 – Tangible Fixed Assets, part or all of the revaluation surplus included in the net assets related to Tangible Fixed Assets can be transferred directly to retained earnings when the assets are derecognised. This can happen when the asset to which the surplus relates is written off or disposed of. However, part of the surplus can be transferred when the asset is still in use by the entity. In this case, the amount of the surplus to be transferred is the difference between depreciation based on the revalued carrying amount of the asset and depreciation based on its initial cost.

2.5 Derecognition:
The derecognition of a property of the Tangible Fixed Assets must be carried out:

a) At the time of disposal (including disposal through a transaction without consideration); or
b) When future economic benefits or service potential are not expected from its use or disposal.

Any gain or loss that is generated by the derecognition of an asset from the Tangible Fixed Asset must be determined by the difference between the net proceeds of the sale (if any) and the carrying amount of the asset. Therefore, its recognition must be made when results are derecognised, unless Public Accounting Standard 6 requires differently in the case of sale followed by lease. When an entity recognizes the cost of replacing a part of the asset in the carrying amount of a property, plant and equipment, then it must derecognise the carrying amount of the replaced part even if it has been depreciated separately. If it is not possible to determine the carrying amount of the replaced part, the replacement cost can be used as an indicator of what the cost of the replaced part was at the date it was purchased or built.

**Practical Application Of The Standard Using The Resolution Of Practical Cases**

**Case Study Number 1 - Acquisition Of Tangible Fixed Assets:**

Public entity X purchased basic research equipment for 100,000.00 euros, with a 10% discount. The machine will be depreciated using the straight-line method over 15 years, with a zero-residual value.

The costs related to acquisition and assembly were:

- Costs of “employee benefits” resulting from the acquisition: 8,000.00 euros;
- Equipment transportation expenses: 1,000.00 euros;
- Installation and assembly costs: 1,200 euros;
- Training of personnel who will work with the new machine: 1,500.00 euros;
- Advertising campaign to advertise the services provided by the new machine: 800.00 euros.

**It Is Intended That:**

1. Calculate the cost of the new basic equipment for the investigation.
2. Accounting for acquisition and depreciation at the end of the first year.

Resolution 1:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment acquisition cost</td>
<td></td>
</tr>
<tr>
<td>Purchase price deducted from the commercial discount</td>
<td>€ 90,000.00</td>
</tr>
<tr>
<td>Employee benefits</td>
<td>€ 8,000.00</td>
</tr>
<tr>
<td>Equipment transport costs</td>
<td>€ 1,000.00</td>
</tr>
<tr>
<td>Installation and assembly costs</td>
<td>€ 1,200.00</td>
</tr>
<tr>
<td>Total</td>
<td>€ 100,200.00</td>
</tr>
</tbody>
</table>

NOTE (1):
The depreciation of the equipment must be carried out at the rate of 6.66%, that is, 6680.00 euros.

NOTE (2):
Public Accounting Standard 5, paragraph 10 - Says that the cost of an Tangible Fixed Assets asset should be recognized as an asset if, and only if it is probable that future economic benefits or service potential associated with the asset and the cost or fair value of the asset will flow to the entity. can be measured reliably.

Resolution 2:

<table>
<thead>
<tr>
<th>Description</th>
<th>Accounts</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>By purchasing the equipment</td>
<td>4332 - Equipment for investigation and training of special technical measure</td>
<td>€ 100,200.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>121 - Demand deposits in the treasury (a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expenses that are not part of the cost of purchasing the equipment</td>
<td>6222 - Advertising, communication and image</td>
<td>€ 800.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>62217 - Personnel Training</td>
<td>€ 1,500.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>121 - Demand deposits in the treasury (a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For the depreciation of the machine</td>
<td>6423 - Depreciation expenses for basic equipment</td>
<td>€ 6680.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>4383 - Accumulated depreciation of basic equipment (a)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE (3):
In this exercise, paragraph 24 applies, which establishes which costs cannot be incorporated into the Tangible Fixed Assets.
Paragraph 9 also applies, which defines depreciation and the useful life of the asset. For the calculation of depreciation using the straight-line method, Public Accounting Standard 5 refers us to paragraph 55.

**Case Study Number 2 - Decommissioning Costs:**

Public entity Y has built a wastewater treatment plant, and there is an obligation to dismantle the industrial waste treatment plant after 15 years of use. The construction cost was 2,500,000.00 euros and the estimated cost of dismantling is 150,000 euros.

Requests
- 1. Calculation of the factory cost (considering a 10% discount rate).
- 2. Make the necessary records.

**Resolution 1:**

Current value of the cost of decommissioning:

\[ 150,000 / (1 + 0,1)^{15} = 35,908,807 \text{ euros}. \]

Factory cost = 2,500,000 + 35,908,807 = 2,535,908,807 euros.

**Resolution 2:**

**Initial Registration**

<table>
<thead>
<tr>
<th>description</th>
<th>Accounts</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>By recognizing the provision for decommissioning costs</td>
<td>4322 - Buildings for industrial purposes</td>
<td>€ 2,535,908.807</td>
<td>€ 2,500,000.00</td>
</tr>
<tr>
<td></td>
<td>2711 - Investment suppliers general accounts (a)</td>
<td></td>
<td>€ 35,908.807</td>
</tr>
<tr>
<td></td>
<td>298 - Other provisions (a)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Subsequent Records:**

From N + 1 to N + 15, it will be necessary to update the amount of the provision in such a way that at the end of N + 15 the amount will be 150,000 euros (the update may also occur depending on the value of the estimate may vary).

Therefore, in the first year, the update of the provision amount (N + 1) will be:

\[ € 35,908,807 \times 0.10 = € 3590.8807 \]

Second year, the update of the provision amount (N + 2):

\[ (€ 35,908,807 + € 3590.8807) \times 0.10 = € 3949.96877 \]

Third year, the update of the provision amount (N + 3):

\[ (€ 35908.807 + € 3949.96877) \times 0.10 = € 3985.87758 \]

And so, successively until the fifteenth year (N + 15)

**Depreciation, Taking Into Account The Useful Life Of 15 Years:**

**NOTE (1):**

According to paragraph 21, the cost of an asset of property, plant and equipment comprises the initial estimate of the costs of dismantling and removing the asset and restoring the site in which it is located, and which the entity is required to bear when the asset is acquired, or as a result of having used the asset during a certain period for purposes other than producing inventories during that period. In paragraph 23 we find information for the recognition of costs related to the obligation to dismantle, remove and restore the place where the property is located, which are incurred during a given period as a result of the property being used to produce inventories must be treated during this period according to Public Accounting Standard 10 - Inventories. Costs related to obligations accounted for in accordance with Public Accounting Standard 10 and Public Accounting Standard 5 are recognized and measured in accordance with Public Accounting Standard 15 - Provisions, Contingent Liabilities and Contingent Assets.
2,535,908,807 / 15 years = € 169,060,587.1, which means that depreciation charges will take into account the total costs.

**NOTE (2):**
The costs related to the recorded obligations are recognized and measured in accordance with Public Accounting Standard 15 - Provisions, Liabilities and Contingent Assets.

### 4. Conclusion:
The Public Accounting Standards has some peculiarities inherent to the public sphere. Despite this fact, the Public Accounting Standards (SNC-AP (2015)), undoubtedly brings the public accounting standardization, referring to the Tangible Fixed Assets, closer to that existing at international level, as well as that existing at national level in the business scope, and thus contributes to the harmonization accounting at national and international level. In this detailed analysis of Standard 5 - Property, plant and equipment it was possible to have a better idea about the process of recognition, measurement and derecognition of property, plant and equipment. Regarding recognition, it was possible to verify how a good should be registered, as well as the consequent assumptions. In view of the measurement, understand the value of the Tangible Fixed Assets asset that must be calculated and the respective elements that can add it, and also understand that “… throughout the useful life period, events arise that need to be measured and others need to be updated or rectification of the values that are already registered.” (Pereira, et al., 2019, p. 28).

Still addressing specific aspects of this standard, with regard to the derecognition these types of assets are derecognised when any types of future economic benefits or potential use are not expected. One limitation of this work is the real data about the application of this Standard. We hope soon the Portuguese government show that. When this information appear we have a future opportunity of research.

### Bibliography:


