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# THE IMPAIRMENT RISK OF CORPORATE PROPERTIES

Strategic and operational approaches to analyze some mismatches between the physical and the economical function of the buildings

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## The Impairment Risk of Corporate Properties

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#### **Abstract**

A control activity, able to prevent Corporate Properties from Impairment Risks, has becoming a strategic task also for the Italian Companies.

More and more various are, in fact, the services delivered by the Facility Management, either "within" or "in outsourcing", as well as many are the variables to look up to in order to identify risky events and, at the same time, to enhance the assets performance.

During the last few years the Italian Government has progressively introduced new regulations in two main areas of corporate properties management, in accordance with recent agreements signed in the Euro Area. The first class of provisions deals with a technological enhancing of buildings and plants (i.e. security systems, environmental quality certifications, etc...), while the second one concerns the IAS-IFRS principles adoption. This last provision requests an international alignment both in the book-keeping procedures and in the transparency criteria and implies, at the same time, to adjust the procedures for the tax-treatment of immovable assets (see, in particular, IAS 16).

These new rules highly expose corporate properties to impairment risks, above all Companies that make use of large buildings (Shopping Malls, Expo Districts, Congress Centers and other Special Purpose Buildings). Furthermore, this particular sector is compelled to invest in the competitiveness of its own Brands (in many cases quoted in the Stock Exchange). These investments introduce an additional strategic task that indirectly influences the physical value as well as the life-cycle of the real estate assets.

The study presented, supported by the analysis of international researches (technical literature, direct enquires, etc..), propose a synthetic "impairment risk" identification process. The approach suggested might be adopted to improve the instrumental properties management. In particular it relates different risks and variables diversified by typology and nature trough a 3 examination levels (general, sector-based, or specific).

Our final considerations recommend to improve the management of corporate properties "Impairment Risk" through more flexible solutions to activate among the three fundamental variables in the Balance Sheet (building life cycle, depreciation and maintenance costs). This approach let, at the same time, a better alignment of all those new regulations recently introduced for Properties and Plants.

In other words the paper intends to promote a more competitive vision of corporate properties moving from the idea of instrumental assets as a patrimonial stock reserve to the more dynamic concept of "corporate building" as "income factor".

#### Introduction

Corporate properties play a central role in the balance sheet. Unlike other activities the Real Estate investments bind the companies inner strategies, as long life-cycle assets, and expose any firm to high risks. First, they cannot easily be turned into currency, and in such a way they influence the long-term management. Second, they tends to lose performance and request to activate a complex connection of adjustments, maintenances, transformations. As a consequence, in their life cycle, the costs invested in these operations cause a continuous fluctuation between the "use value" and "fair value" around the "book-value".

On the basis of recent studies corporate properties can be considered the 3<sup>rd</sup> or at least the 2<sup>nd</sup> most onerous assets<sup>1</sup>. It suggests that a monitoring activity on assets and liabilities can improve the decision making activity, in order to reach a high strategic level of property management. This is the reason why many companies have progressively been introducing proper analysis and control procedures to identify risky events as well as trying to avoid their impairment effects on their instrumental properties.

Even if the development of corporate risk management represents today an axiomatic target, in Italy it has been introduced in recent years only. The start-up can be traced back ten years ago, in parallel with the introduction of innovative Asset management tools as Spin Off and Securitizations. Anyway, the first studies on the topic had been already developed in the United States during the '50s² by Insurance Companies, while their diffusion in Europe (mainly in UK and Germany) can be traced back only to the '70s³. During the '80s some earliest Corporate Risk Taking Approaches⁴ started to be applied and finally, from the '90 the first multi-level models⁵ appeared. These models divide the risk management process in three fundamental steps such as: risk identification, risk analysis and risk assessment (according to the risk nature). Of course any risk management is targeted to prevent or to avoid the expected consequences⁶.

Some European countries, sustained by a strong market, experienced already in the early '90s a fast business development. As a consequence many enterprises invested their funds in order to adequate their workspace to their business growth, expanding it by long-term lease contracts or by new constructions. When the international economy upturned in the mid '90, the Real Estate market trend inverted and Companies had to tighten their business, trying, at the same time, to settle their oversized workplace availability, whose market value was contextually reduced. This is the reason addressed by many authors to explain how managers became aware of the corporate impairment risk and shifted to invest in "flexibility" instead of fixed stocks and binding assets.

In Italy the interest in managerial tools useful to monitor, plan, and rationalize the Corporate Real Estate follows some new regulations recently introduced by the Government, in accordance with international agreements signed in the Euro Area, and concerning two main themes:

<sup>&</sup>lt;sup>1</sup> V. Gibson, M. Louargand, Risk Management and the Corporate Real Estate Portfolio, ARES Annual Meeting, 2002.

<sup>&</sup>lt;sup>2</sup> S. M. Donner, *Practice of Risk Management in International Real Estate Vehicles,* ERES Conference, 2009.

<sup>&</sup>lt;sup>3</sup> Ibidem.

<sup>&</sup>lt;sup>4</sup> I. Skromme Baird, *Toward A Contingency Model of Strategic Risk Taking,* Academy of Management Review, Vol. 20, No. 2, pp. 230-243, 1985.

<sup>&</sup>lt;sup>5</sup> Mukherji, Ananda, Desai, Ashay, Wright, Peter, A Contingent Relationship Between Risk and Return: Toward A Behavioral Model of Decision Making, in "Journal of Behavioral and Applied Management", May 2008.

<sup>&</sup>lt;sup>6</sup>P. L. Walker, W.G. Shenkir and T.L. Bart, *Enterprise Risk Management: Pulling It All Together*, The Institute of Internal Auditors Research Foundation, 2002.

<sup>&</sup>lt;sup>7</sup> See, in particolar: V. Gibson, C. Lizeri, 1999) New Business Practices and Challenges for Corporate Competitiveness, Journal of Corporate Real Estate, Vol. 2, N° 1, 1999, pp41-49..

<sup>&</sup>lt;sup>8</sup> Ibidem.

- the International Accounting Standards-IFRS principle adoption; IAS 16 in particular;
- the technological enhancing of buildings and plants.

Moving from these new rules the paper is intended as an operative contribution to a synthetic multi-level approach aimed to manage different impairment risks, above all for Companies that need large buildings (Shopping Mall, Expo District, Congress Centers and other Special Purpose Buildings).

Finally, as the Italian corporate market hasn't already reached the risk management awareness achieved in more developed economies, we propose a synthetic method to verify the relationship existing in the Balance Sheet and the Income Statement among the following aspects:

- building Life-Cycle and service life;
- buildings depreciation criteria and rates;
- Maintenance costs incidence.

Our purpose is to suggest a proper management of the impairment risks able to activate more accounting flexible solutions among these three fundamental variables.

# Recent regulations and their main fall outs

The IAS 16 impact on corporate properties

The IAS 16 enforcement in the Italian accountancy (2003)<sup>9</sup> has modified two national accounting criteria<sup>10</sup>:

- 1. The traditional "Historic Cost Concept" (representing the historic purchasing cost) is substituted by the "Fair Value Option": as a consequence the Balance Sheet tends to represents the assets by their current Fair Market Value;
- 2. The Depreciation of building and land components "as a whole" is by IAS 16 allowed only for the building (the component exposed to obsolescence)

The main fall out for the Companies obliged to the IAS adoption has been considered "relevant", on the basis of an independent Italian research<sup>11</sup>, by the 75% of Banks and Industries, and by the 50% of Entities operating in the Commerce and Services sectors.

The IAS 16 has in fact implies:

- value reversal on net assets;
- depreciation rates reversal;
- income tax burden adjustments.

As a consequence these implications need an appraisal contribution on the following issues:

- the asset current value;
- a fair depreciation rate setting;
- the net profit control.

<sup>9</sup> See the "Community Act 2003, n° 306/2003", issued in Italy by the "Gazzetta Ufficiale n° 266 on 15<sup>th</sup> November 2003.

<sup>&</sup>lt;sup>10</sup> The component approach's aim is over and above accountable to the single components value "by their remarkable cost in comparison with the total one, in order to impute a correct expenditure amount by depreciation" - IAS 16, paragraph n.43.

<sup>&</sup>lt;sup>11</sup> Protiviti Independent Risk Consulting, "Transizione agli IAS/IFRS - 2. Il debutto delle società italiane (aggiornamento alle semestrali), Insight, n. 6 – December 2005, in www.protiviti.it

# Enhancing performances of buildings and plants

The second regulation concerns the enhancing of plants and equipments performance levels (energy efficiency, air quality, security levels, etc.). Instrumental properties, in fact, represent more than a simple "production shelters"<sup>12</sup>. The competitiveness level arose during last years among companies operating across international markets imply a high brand visibility and design quality. Recent studies, developed in countries where the Real Estate sector is definitely developed and competitive (U.K., Germany, U.S.A., etc.), has highlighted which characteristics can bring high performances to corporate properties; they are:

- security;
- environmental and energy consumption respect;
- corporate-brand image.

These targets can be reached by the introduction of technological services (rain recovering, building management systems, solar panels and heating systems, as well as the introduction of security and supervisory platforms).

The third characteristic adds to properties a further value (brand visibility) that is becoming more and more important especially for some particular sectors (leisure and retail, for example) that can be weaken by a low investment profile in intangible competitiveness<sup>13</sup>.

To sum up we can conclude that to obtain a consistent enhancing in both tangible and intangible performances Companies have to increase the maintenance rates, as well as to program extraordinary interventions on their properties.

The following paragraph will examine the corporate impairment risk in relation to the building life-cycle.

### The impairment risk classification in literature

The property impairment, together with the operative and market risk, are considered in literature<sup>14</sup> the three main strategic business risks to which corporate properties are exposed. The first, in particular, main subject of the Facility Management, it is ordinary studied according to the risk nature. This study is in fact finalized to set a synthetic appraisal approach to analyze to which extent each variable may influence the buildings life cycle. The approach we suggest is based on the Simon<sup>15</sup> proposal in dividing impairment risk in three main categories:

- 1. Potential impairment at balance sheet
- 2. Tangible impairment
- 3. Physical impairment

Anyway, we add two impairment causes to the Simon's framework:

- 4. The strategic impairment risk (another aspect of the physical impairment risk)
- 5. The intangible impairment risk

The herewith considered risk framework is the following:

- Economic impairment risk (group 1)
- Strategic competitiveness risk (group 2a)
- Performance and Physic obsolescence risk (group 2b)
- Physical damage risk (group 3)
- The intangible impairment risk (4, new group)

<sup>13</sup> R. S. Simons, *A Note on Identifying Strategic Risk,* Harvard Business School Publishing, Boston, 1999.

<sup>12</sup> V Gibson Ihidem

<sup>&</sup>lt;sup>14</sup> R. S. Simons, Ibidem.

<sup>&</sup>lt;sup>15</sup> R. S. Simons, Ibidem.

# The impairment risk in practice

To support our reasoning, we introduce the outputs diffused by a recent Canadian study developed on nearly 700 commercial buildings between U.S.A. and Canada (Athena Institute)<sup>16</sup>, constructed in different materials (wood, concrete, etc.). The study compare the demolition causes, correlated to the building impairment nature.

In brief (see table n.1), they are:

- 1. Land use transformation
- 2. Technical or functional obsolescence
- 3. Unpredictable physical damages
- 4. A lack in design adjustments

Table n. 1 – Demolition causes on the sample of Buildings studied by the Athena Institute (2004)

<b>Demolition cause</b>		Frequency	Frequency	
	[detailed %]	[total %]		
Land use	Area transformation	34,8%		
transformation	Land value variation	0,4%	35,2%	
Physical obsolescence	Obsolescence due to ordinary maintenance missing	23,8%	25,2%	
	Material or structural deficit	3,5%		
echnical or Inadequacy in the present requiremen		22%		
functional obsolescence	Inadequacy in the human fruitions	0,9%	22,9%	
Unpredictable physical damages	Fire	7%	7%	
A lack in design	Expensive requalification	1,8		
adjustments	Expensive maintenance	0,4%		
	A fall in the brand image competitiveness	3,5%	3,770	
Other causes	-	1,8%	1,8%	

Source: Athena Sustainable Material Institute, 2004

Table n. 2 – Useful service life

Structure Type	Useful service life expected* [years]
bricks	77,5
wood	51,6
concrete	87,2
Iron	77,3

Source: Athena Sustainable Material Institute, 2004

<sup>16</sup> See: Athena Sustainable Material Institute 2004, Cited in "J. O' Connor, *Survey on actual service lives,* Conference Acts, Las Vegas, 2004".

Table n. 3 – Average demolition age

Demolition age	Demolition
	frequency**
0 – 25	11,65%
25- 50	45,63%
51 - 75	17,48%
76 - 100	18,45%
100 +	6,80%

<sup>\*\*</sup>on the basis of a 103 units sample

Source: Athena Sustainable Material Institute, 2004

Furthermore, the Canadian study proposes a comparison between the average expected service life of buildings (see table n. 2) and the average demolition age (table n. 3): the data collected show that demolitions take place when the building is still functional from a strictly-structural point of view, on average within 50 years. The buildings economic duration is in fact discretionary and depends on the several aspects that play a peculiar depreciation role.

Last but not least the buildings global efficiency is even more appreciated according to those performances above introduced (as well as security level, environmental quality, plants performances and so on). As the Italian Research Institute *Nomisma* (2004)<sup>17</sup> reminds, these types of requirements give a strong contribution in the building outdating process. A similar remark has been proposed by M. Polelli<sup>18</sup> in 1996: "...in recent appraisals the annual depreciation has becoming higher than in the past...". In other words the useful service life of buildings isn't a standard variable: it can be modified and adjusted following the corporate Real Estate strategic decisions in order to:

- keep the properties in running order;
- adequate the buildings use and market values during the business activity;
- manage the "buildings global cost";

Each global cost solution can be optimized if the impairment causes are rightly identified.

To comprehend the risk nature, the necessary measure to adopt and the involved cost, we propose, in the next paragraph, a brief comment of each of the 5 impairment causes introduced. For any of them we have tried to define the inner predictability.

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<sup>&</sup>lt;sup>17</sup> www.nomisma.it.

<sup>&</sup>lt;sup>18</sup> M. Polelli, *Nuovo Trattato di Estimo*, Maggioli Editore, p. 420, 1996.

#### The Impairment risk nature and classification

# 1. Potential impairment at Balance Sheet

It can be caused by changes in the Real Estate market or in the appraisal criteria. The result emerges at Balance Sheet as a non alignment between the book value and the market one. The IAS 16 "fair value" effect belongs to this category and it is acquainted.

#### 2. Strategic competitiveness risk

It can be related to land use transformations. In the course of its life a location generally gains attractiveness and competitiveness due to the surrounding infrastructure implementation or environmental improvements. Anyway, in some cases, the area development can attract Competitors who may threaten the business. Otherwise the Local Government may change the land use of the Company site and/or surroundings, requiring a relocation, or simply implying a land value variation. This type of risk is quite predictable, as the urban development is a constant changeable variable.

# 3. Physical obsolescence risk

During the buildings and plants service life, the Companies need to set aside funds or to activate a proper maintenance activity, in order to avoid that a technical or physical obsolescence of the building can reduce the business performances.

This type of risk is highly predictable. To contrast its effects Companies use to draw up a "global cost<sup>19</sup>" budget plan. As in common knowledge, the budget plan include all type of ordinary costs to be considered during the property life cycle (general consumptions, energetic expenditures, ordinary and extraordinary maintenance, etc.): together they represent the yearly mix amount of costs useful to maintain constant the buildings "value of use".

# 4. Physical damage risk

It includes fire, flooding, terroristic attacks and other unpredictable damages. Companies generally secure themselves against these risks.

# 5. Intangible impairment risk

Nowadays a fall in the brand image is an emerging risk against which many companies react through continuous restyling interventions as well as transformations and modernizations. These operations imply high costs even if they are considered strongly necessary for some special purpose companies dealing with leisure and retail or Entertainment Centers, Expo Districts, Theatres and similar.

They are quite predictable especially if the Company is informed on the competitors intangible Brand strategies.

<sup>&</sup>lt;sup>19</sup> S. Simonotti, *La stima immobiliare*, UTET, Torino 1997. See, in particular: Chapter "3.26 - Stima del costo di esercizio"

Even if these types of risk aren't always predictable, we tried to relate the costs they imply to their potential management in a "global cost" framework in order to suggest an optimization of the yearly rates to be considered in the Balance Sheet.

Figure 1 – Impairment risk analysis



<sup>\*</sup>In literature: for example 5. Simons' suggestion in "A note on Identifying Strategic Risk, Harward Publishing, Boston, 1999".

Source: Authors, 2010

#### The synthetic multi-level approach:

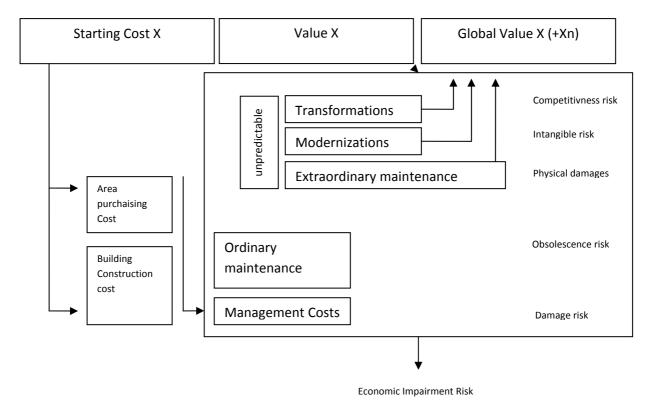
#### from the "global cost framework" to the optimization of the depreciation plan

The properties cost-accounting items should be classified and verified according to the starting investment value (the building construction value or market one, called, for instance "X") as well as to its "global value" (X+Xn) intended as the increased value of the property, thanks to a proper impairment risk management. However, as previously said, there isn't a standard global cost solution. It has to optimize the specific requirements of the building type and the company business.

Anyway, besides the specific business sectors and activities, a "global cost" structure can be represented in the following framework (Figure 2) in which the cost-accounting items have been associated with the risk types above identified.

<sup>\*\*</sup>Our proposal

Figure 2 – Properties "global cost" framework



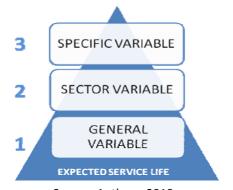
Source: Authors, 2010

During the building life cycle (generally distinguished by structural or functional characteristics) the 5 risk typologies (more or less predictable) can be related to three main levels of "staying power". They represent a three step test to which corporate properties can be processed. Step by step it is possible to diminish the service life threshold attributing the righter "service life" to the buildings.

They are (see Figure 3):

First level: general variable
 Second level: sector variable
 Third level: specific variable

Figure 3 – Properties "global cost" framework



#### First level: the general variable

It concerns the building and typological characteristics. Through it is possible to attribute the theoretical service life of the structure alone (for example: buildings in concrete, iron, etc). The physical-functional variable tends to reach 80-90 years (see table n. 4).

#### Second level: the sector variable

The first level ordinarily turns down according to the corporate activity and the use. A concrete building, for example, used as a warehouse, is expected to last for a longer time than a one used for offices. In this case we have to address the different impairment effects to the strategic, competitiveness and intangible risks.

#### Third level: the specific variable

The third level checks the specific performance requirements of a building, considered in its structure, destination and fruition. It comprises all those new aspects recently introduced in a corporate property management such as security, design adjustments, environmental and energy consumption respect and so on. The final service life can finally be halved in comparison to the one guaranteed by the structure alone. Of course, in this case, the building requests more expenditures in accounting items as modernizations, transformations and managements costs (all quite unpredictable).

A proper managerial activity has to optimize the mix of costs in and outside the budget as well as the depreciation plan<sup>20</sup> to which the accounting items are related.

Furthermore, the maintenance costs and the depreciation rates should correspond to the "value of use" of the building and its components.

In the following paragraph we apply the synthetic multi-level method proposed to the case study of an Expo District.

Table n. 4 –the prudential service life identification

DESTINATION	CONSTRUCTION	LIFE SPAN (years)			PRUDENTIAL
AND USE	TECHNOLOGY		SERVICE LIFE		
		General variable	Sector variable	Specific variable	
COMMERCIAL	concrete	80 - 90	60 - 70	-	60
OFFICIES	concrete	80 - 90	60 - 70	40	33
	iron	70 - 80	50+	35	33
ACCESSORY	Iron/concrete	60 +	40+	-	40

<sup>&</sup>lt;sup>20</sup> Polelli recalls the American Institute of Real Appraisers (1978) and the studies by De Rossi.

## The multi-level approach to the case-study of Expo Districts

The Expo Districts are particular types of properties, characterized by an high level of complexity that need, especially during last years, a strong technological enhancing of buildings and plants, causing a continuous out-of-budget charge. Furthermore, they started to be quoted in the stock exchange since 2004. As a consequence they can be exposed to the IAS N. 16, that causes, as argued, a current liabilities cut (the depreciation rate diminution).

In addition, the recently private management introduced, has stimulated a more careful vision, aware of impairment risks. The Expo Districts are, in fact, used for short periods during the year. During the previous public management they were in activity for a 20% only of workdays<sup>21</sup>. For the time being, the number of expositions have been gradually increased, but it is more and more difficult to keep up the preventive budget expenditures during time.

According to the results emerging in 2006 from a survey of AEFI (Association of Italian Expo Districts) <sup>22</sup>, it is possible to compare the incidence of maintenance costs declared by the Expo administration centers on the property book value (see tables n. 5). What emerges is a general low estimation of the real maintenance costs incidence (ordinary and extraordinary), from 1% up to 6%. The results have then been compared to other sources (scientific literature and other on-line available information <sup>23</sup>).

At the same time the table n. 4 shows the "buildings and plants expected service life". The information collected through the AEFI inquiry demonstrate that on average the Expo Districts life span in the Balance Sheet is never longer than 30 -40 years. It means that the yearly depreciation rate is around 2% - 3%. Since the IAS 16 requests to depreciate the only building component, the percentage is supposed to decrease, causing a cut in the Balance Sheet liabilities.

Table n. 5 - the incidence of maintenance costs in the Italian framework

		AEFI sample  Main results for the Expo Districts examined			Literature and other studies			
					www.lavoripubblici.it		scientific literature	
BUILDINGS AND PLANTS BY FUNCTIONAL AND TECHNOLOGICAL CHARACTERISTICS		cost-incidence on	cost-incidence on	expected service life	yearly cost- incidence on the	Plants: expected service life	Total maintenace yearly cost- incidence on the Book Value (historic cost) [%]	and Plants: expected service life
BUILDINGS	Expo pavilions	1% - 3%	<3% - 6%	21 - 40	5% - 7%	20 - 30 - 33	3% - 4%	65
	Offices	<1% - 3%	<3% - 6%	11 - 40		20 - 30 - 33	3% - 4%	65
	Restaurants - Coffes	<1% - 3%	<3% - 6%	11 - 30	5% - 7%	20 - 30 - 33	3% - 4%	65
	Pedestrian passages	<1%	<3% - 6%	11 - 30	-	20 - 30 - 33	3% - 4%	120
	Toilets	<1%	<3% - 6%	11 - 30		20 - 30 - 33	3% - 4%	•
	Parkings		<3% - 6%	11 - 30		20 - 30 - 33	3% - 4%	
	Wharehouses	(2)	<3% - 6%	11 - 30	-	20 - 30 - 33	3% - 4%	-
PLANTS	Electrical systems	<1% - 3%	<3% - 6%	11 - 30	-	20 - 30 - 33	3% - 4%	
	Water systems	<1% - 3%	<3% - 6%	11 - 20	8% - 10%	5-10-12		
	Communication systems	<1% - 3%	<3% - 6%	11 - 20	8% - 10%	5 - 10 - 12		7
	Air conditioning systems	<1% - 3%	<3% - 6%	11 - 20	8% - 10%	5 - 10 - 12	-	
	Lifting systems	<1%	<3% - 6%	11 - 20	8% - 10%	5 - 10 - 12	4%	18

<sup>&</sup>lt;sup>21</sup> R. Brioli, M. Camporesi, *La rendita catastale di un quartiere fieristico,* in "Teoria e pratica professionale", Catasto; UT 3/2008, pp. 49-50.

<sup>&</sup>lt;sup>22</sup> The AEFI survey was produced in 2006 through a questionnaire. The database collected and quoted refers to the Expo Districts of Varese, Riva del Garda and Rimini.

<sup>&</sup>lt;sup>23</sup> See, for example:

<sup>-</sup> www.lavoripubblici.it

<sup>·</sup> Itea, 1991

<sup>-</sup> Training aids

<sup>-</sup> Istat

Considering the increasing weight of costs for soft modernizations and plants renewal request (without which we could produce impairment risks type 3 and 4) on the one hand, and, the IAS 16 decreasing effect on depreciation rates (strictly linked to the impairment risk 1) on the other hand, our proposal consists in a rebalance of the annual competence costs by the redefinition of the following variables:

- the useful service life (by means of the synthetic multi level process herewith presented), in order
  to fix a longer useful period at Balance Sheet. In particular, we consider useful to lengthen it from
  33 years (the common tax Italian limit, used for Balance Sheet depreciation too), up to 40-50-60
  years (on the basis of main building material and construction);
- 2. <u>the deprecation rate</u>, according to the IAS 16 "component approach" can be reduced, expressing a more correct relation to the longer service life;
- 3. <u>the budget items and amounts should be increased</u>, in order to support the "stated" longer service life of the buildings. The current liabilities to be increased should refer to maintenance and, overall, modernization and transformation operations to contrast competitiveness and intangible impairment risks.

The three introduced actions are intended to realize a better connection between the two targets of IAS 16 provisions and new regulations enforced.

Figure n. 4

Fixed asset: Expo Pavilion
Typology: concrete + iron

Time: **t=0** 

Construction cost =Global cost =: X value

#### 3 steps analysis

- 1. General variable: physical obsolescence → 80 90 years
- 2. <u>Sector variable</u>: strategic, competitiveness and intangible risks suggest to diminish the technical-economic life of Pavilions to **50 70 years.**
- **3. Specific variable**: the Pavilions need high performance environment, livable, workplaces and technology; the expected service life is lower than **50 years.**

#### Maintenance expenditures

- If the physical service life < 100 years → the yearly incidence of maintenance costs has to exeed 1%
- If the technical-economic service life (sector variable) is around 33 50 years the yearly incidence of maintenance expenditure should be comprised within 2% 3%.
- Considering the specific variable, as the building life cycle get shorter, it's recommended to arise the budget expenditure up to 5% on the construction cost X.
- At the same time the depreciation rate (applied to the building component only, in force of the IAS 16 provision) can be maintained to 2% - 3%, thanks to the extended life- cycle of properties.
- Considering higher incidences it's suggested to address further value at time "n".

Time: t=n

Typology: concrete + iron

Construction cost < Global cost= X (+Xn)

The Expo Districts are generally compounded by several buildings playing different functions (offices, warehouses, expo pavilions, pedestrian circuits, multi-stored car parks etc.) and roles (main and accessory). The table n. 5<sup>24</sup> shows the way to assume by a synthetic approach a "prudential service life" for offices and expo pavilions, in concrete and iron materials, according to our impairment risk approach.

Finally, in the scheme n. 4, according to our framework, we apply the multi level approach to an exemplification: an instrumental building (for instance an Expo Pavilion), constructed in iron and concrete. What emerges indicates that increasing the total amount of the yearly preventive budget it is possible to maintain and repower both the use and market value.

The co-operation of the changes requested contribute, infact, in re-balancing the Balance Sheet variables (in in Assets and Liabilities Account and in the Income Statement) as well as to improve the management result.

Depreciation rate

Book value

FAIR VALUE
REPOWERING

INCOME STATEMENT

Maintenance
& extraordinary
costs

Revenues

Source: Authors, 2010

Figure n. 5

ASSETS & LIABILITIES ACCOUNT

<sup>&</sup>lt;sup>24</sup> This scheme had been produced in 2009 for the Expo District of BolognaFiere (BO).

#### **Conclusions**

Our paper aims to offer Companies a synthetic approach to optimize the corporate property management thanks to a more correct impairment risk identification, analysis and assessment. In particular our conclusions focus the attention on a maintenance cost management in order to prevent the corporate properties from the effects of generic and strategic risks to which buildings nowadays are exposed. The synthetic approach herewith suggested may be particularly useful in countries where the Real Estate market and strategies are just developing and need a support in comprehending how to align the book value to the use value as well as to the market value.

In brief, our results suggest the usefulness of a U-turn in the accounting, budgeting and investments strategies in order to protect the Corporate properties from ordinary and particular impairment risks. Above all, Special purpose properties, such as Expo Districts, some of which in Italy are already supported by external Real Estate services providers, have to propose a longer life and higher maintenance costs for their buildings together with a more dynamic management on their operational and maintenance costs.

The approach can furthermore be useful to contrast the economic risks to which Balance Sheet is exposed by means of IAS 16 provisions.

In other words our study suggests that, to contrast any predictable (and, at least unpredictable) impairment risk, Companies could develop and promote a more competitive management vision, moving from the idea of "instrumental asset" as a patrimonial stock reserve, to the wider concept of corporate building as an "income factor".

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