VALUATION IN THE PUBLIC SECTOR. REFERENCE FACTOR IN A CREDIBLE AND FAIR ADMINISTRATION

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Abstract

Public administration reform aims at the transformation of public institutions in business entities in which the principles that govern them are very close to the ones from the sphere of private entities. Public valuation is an accepted and implemented concept in public administration as a condition for ensuring complete, accurate and transparent images of available resources and their use. The present research determines through an empirical approach the regulation convergence of valuation in the public sector and presents its determinant factors and effects. The referentials subject to comparative analysis are International Valuation Standards (IVS), the last two editions, and International Public Sector Accounting Standards (IPSAS).

The findings highlight the achievement of the objective of accounting and valuation standard setters, IPSASB and IVSC, with regard to the convergence of valuation concepts and tools, in its last edition from 2011; however, the findings indicate certain differences regarding the guidance extent and the reference to markets and atypical cases triggered by the global economic crisis. Our research has further found that the public accounting referential is closer to IVS 2011 than to IVS 2007 in what concerns disclosure requirements. This is in favor of the requirements imposed by the current economic environment regarding financial reporting, namely to provide more detail on the process of value estimation, the hypotheses and predictions used in this respect, and the risk of change of the estimated value.

Keywords: public sector, effective governance, assets, liabilities, value, IVS, IPSAS, convergence.

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1. Introduction

The use of correct and credible value in the public sector has at least three fundamental objectives (Kaganova, 2012): the adequate management of government finance, which includes financial reporting, the decision making regarding the management of assets, and the transactions with government assets. The link between evaluation and the principle of fair and effective governance is obvious. Kueng and Krahn (1999) argue that if you cannot control, you cannot measure, if you cannot measure you cannot manage, if you cannot manage, you cannot improve and be performant.

The last three decades have witnessed significant efforts to achieve a global reinvention of the public sector (Wynne, 2008). Policy paradigms have changed substantially from the 'old public administration', to 'New Public Management', and finally to the prospect of 'good governance'. The scarcity of financial resources in all activities and areas, which has been emphasized by the present economic crisis, makes it necessary, now more than ever, to implement and apply corporative governance principles in the public sector (Nistor *et al.*, 2010). Considering that the guidance of public institutions by the principles of private organizations implies a combination of a variety of areas such as social sciences, management, sociology, accounting, psychology, mathematics, IT (Mitu *et al.*, 2007), this research discusses and compares two areas: accounting and (assets) valuation.

From the beginning of the 1980s, the increasing need for reforming the public system led the world states to adopt in the public sector some accounting and managerial instruments that were widely used in the private sector.

Their implementation by worldwide governments involved in particular the accrual reform. The public sector financial reporting has been adapted and developed in accordance with the new public financial management and accrual accounting is probably the most obvious phenomenon in this shift of accounting (Lapsley, 1999; Guthrie *et al.*, 1999).

The debate on the accounting model of public organizations which would serve best new management is not recent. For the past decades a rich literature presented the advantages and disadvantages of the two concurred systems, cash and accrual accounting (Goldman and Brashares, 1991; Guthrie, 1998; Gillibrand and Hilton, 1998; Perrin, 1998; Yamamoto, 1999; Hodges and Mellett, 2003; Chan, 2003; Van der Hoek, 2005). Without making a genuine literature review we could state that the opinions in favor of accrual accounting prevail as this system ensures, among other things, a clearer image of assets and liabilities of public institutions. The introduction of accrual accounting globally is considered by some a reform of financial management and accountability (Scott *et al.*, 2003). Another term used to describe it was 'new public financial management' and it targeted significant change in the scope, scale and style of management and activity in the public sector (Windels and Christiaens, 2007).

IPSAS represents the 'world revolution of public sector accounting' (Heald, 2003). Therefore, there are several authors in the field of public sector accounting research who argue that national governments must apply a set of international accounting

standards for the public sector (Adhémar, 2002; Chan, 2003). Pragmatically, the European Commission (2013) argues that the adoption of a single set of accounting standards on an accrual basis at all levels of government throughout the EU would have undeniable benefits for public sector management and governance.

In this context, the emergence of International Public Sector Accounting Standards (IPSAS) designed by the International Federation of Accountants (IFAC) for International Public Accounting Standards – IPSASB represents a step towards standardization of the public accounting systems in the countries that are members of International Federation of Accountants (IFAC). In order to develop a common reference base, IFAC (2012) issued 32 IPSAS which support the implementation of accrual basis accounting. IPSAS are constantly spreading around the world as international organizations like the United Nations, OECD or NATO are in favor of their implementation.

The same (economic) convergence process implies today that accounting regulators should be aware and correlate the content of their own standards to the content of the standards issued by professional organizations and related disciplines for the public interest. It is also the case for correlation between valuation in public sector accounting and the international valuation practice which is significantly influenced by the International Valuation Standards Council (IVSC) both because of its largely spread presence and also mainly because of its actions in recent years (Deaconu and Buiga, 2010). In few words, the goal of the IVSC is to develop robust and transparent procedures for performing international valuations on the basis of a single set of globally recognized valuation standards that will be acceptable to the world's capital markets. Also, the valuation normalizator assesses annually each new edition of IPSAS. IVS refers to these accounting standards each time they apply in the work of evaluators as IVSC recommends appraisers to be familiar with the accounting requirements concerning the results of their valuations.

Concluding, this research focuses on the normative analysis of the public accounting and valuation regulations in this respect; particularly, the aim is to observe and comment the level of convergence between these regulations. Public accounting standards on value concepts and valuation process are going to be analyzed by comparing them with the International Valuation Standards (IVS), which are designed for financial reporting, particularly in the public sector. We used a set of standards which will be further referred to as accounting and valuation referentials.

The rest of the paper is organized as follows. In Section 2 we establish the themes of the analysis by correlating the content of accounting and valuation referentials analyzed with certain theses present in the literature or observations emerging from valuation practice which we consider applicable to value measurements in the present context. In Section 3 we conduct the content analysis of the referentials in order to develop the databases which then will be statistically processed. In the last part (Section 4) we will interpret the empirical analysis results in order to observe the status of the convergence process of accounting and valuation standards, and we formulate recommendations regarding future actions of the two standard setters in discussion.

2. Analysis of the themes approached in the context of accounting and valuation referentials convergence

The accounting and valuation referentials for the public sector, which cover assets and liabilities measurement issues, aim to clarify the definition of values (fair value, but also other types of value), to indicate the moment and methods for measurements and to present disclosures about these measurements.

Starting from these general objectives of the referentials that are the center of the comparative analysis conducted in this research, we established discussion themes. When we made this selection we took into account the findings in the literature regarding some weaknesses or needs in order to improve the quality of accounting and valuation standards, respectively themes already selected in studies related to the objective of this current research (for example, Deaconu and Buiga, 2010, respectively Nistor *et al.*, 2010).

This enables us to determine the extent to which the content of the standards meet the requirements of financial reporting, with focus on the present period, and what is the common ground of them, which is important for obtaining quality information in the public sector.

2.1. Guidance extent and quality

Accounting standards in general, and public sector accounting standards make no exception, were subject to criticism with conceptual arguments brought against them, but mostly technical and implementation related arguments (Deaconu and Buiga, 2010). Their message brought forward the idea that valuation techniques need to be improved along with the frequency of valuations, finding technical solutions that are flexible in time and increasing the level of implication of a third party (the valuer) when assessing or confirming the valuation (Kraft, 2005). In a similar manner, Rérolle (2008) shows that accounting standards on valuation items did not took into consideration the reaction of valuation practitioners and financial reality, despite the logic of the definitions they present (Rérolle, 2008).

Initially, IVSC standards were also criticized because they did not provide actual solutions for fair value estimation (market value or another current value), providing only the general objective and the basic principles, while the specific techniques had to be searched in manuals and other papers with technical characteristics (Deaconu *et al.*, 2009). As a consequence, in the past years IVS evolved in this direction. The 8th edition from 2007 comprised the standards per se, which were considered a basic and fixed part of the valuation set of standards, and served as basis for the applications and as guidance offering suggestions on specific matters of valuation and on how the standards should be applied in specific matters (such as financial reporting). However, in the current edition, 9th from 2011, IVSC turns back to the initial framework and basic principles, eliminating the technical guidance from its standards as it intends to transfer it in a distinct educational material. In the current research we try to answer whether or not this decision was appropriate and if it took into account the present requirements of accounting standards.

In this paper we first analyze the stipulations in the accounting and valuation standards regarding guidance extent, which we selected as proxy for definitions extent and complexity, respectively types of assets and transactions which are subject of explicit stipulations regarding valuation. With respect to definitions extent and complexity we determined the number of value types or procedures which were defined. Then we determined which of the referentials provided a complete presentation supporting valuation reliability. Furthermore, we tried to determine to what extent the analyzed referentials aid valuation with explicit stipulations, mostly for those elements that raise questions regarding the correct nature of the values obtained. Thus, regarding guidance quality we considered relevant proxies the reference to measurement bases and valuation approaches and techniques, respectively the extent to which specific procedures were detailed.

It is to be noted that valuation standards contain a description of essential IPSAS elements with impact on valuation. We will not conduct a content analysis of IVSC stipulations regarding IPSAS but only on those parts of the standards which refer to the valuer's own actions. The content analysis of IPSAS is conducted directly on the original documents issued by the IPSASB. We are interested only in the type of IPSAS and assets that are important when selecting the paragraphs from IPASAS by the IVSB, for example in the Appendix of IVS 300 'Valuation for financial reporting'.

2.2. Disclosure requirements

Lately, in correlation with the effects of the global economic crisis, the need to extend public information is brought to discussion (Deaconu and Buiga, 2010). Gottdiener (2008) argues in favor of this need by arguing that financial information transparency is vital so that investors can understand the methodology and make their own judgments. In this respect, the importance of international standards (accounting and valuation) needs to be underlined. Dunckley (2000) considers the contribution of international accounting standards a critical factor, and the key to avoid crisis, in the context of global economy and uncertainty conditions, is better information

In the case of valuation reporting, the standards stipulate that the valuation report must contain at least the requirements contained by IPSAS. Within the content analysis performed we did not take into account this stipulation so that we could analyze distinctively the content of each valuation and accounting standard (which are connected) regarding data disclosure, and observe similarities and differences.

We selected as proxies for this analysis the conceptual, methodological and temporal stipulations. Conceptual stipulations indicate the information to be disclosed, distinguishes between certain concepts, provide relevant classifications for understanding the values obtained for the elements of financial statements and imply the development of analytical valuation processes. We consider being methodological stipulations those disclosure requirements that illuminate the assumptions, approaches and techniques used. Finally, temporal stipulations complete the image of the quantity and the nature of disclosed data by mentioning the moment when the estimation

of the appraiser is valid, a need that is triggered by one of the valuation principles, namely the validity of the valuation only at the valuation date.

2.3. Markets and atypical cases

The theme of this analysis refers to illiquid markets or atypical transactions, respectively less active markets specific to emergent economies, in line with Deaconu and Buiga's (2010) study. Several studies argue that exit price (market value) and the hypotheses on the perfect market are not applicable to every type of market or economy (Hitz, 2007; Ronen, 2008; Whittington, 2008). In what concerns specific requirements for imperfect or incomplete markets, accounting standards on valuation features are designed to meet the needs of passive investors and creditors, or, in the mentioned cases, financial reports must meet the need of current shareholders by using entity-specific measurements capable to reflect the opportunities actually available to the entity (Whittington, 2008). Moreover, IVSC shows that in the falling markets prevalent in the past years, sellers are not willing to sell at the reduced price and therefore market values are not relevant to them (IVSC, 2009b).

For the theme of this analysis we considered as proxies the consistency of stipulations regarding illiquid markets, not-ordinary transactions and specialized assets. In what concerns less active markets specific for emergent economies, IPSASB and IVSB as international organizations, do not deal with these cases by singularizing their valuation requirements and methods. Thus, we were not able to include in our database a proxy for this situation. Furthermore, in order to perform the content analysis, we divided this theme into stipulations regarding the content and the conclusions of the valuation according to the reference to these markets and atypical cases in the content of the referentials.

Specific elements to this theme were taken over from the assembly of investigated standards, even though they were included in the group of standards on valuation reporting which was the subject of theme B – Disclosure requirements. In this case, elements that made reference to markets or atypical situations were not discussed within theme B, but in theme C.

3. Research design

3.1. The study approach and the database

In order to measure the convergence between public accounting and valuation referentials we analyzed the standards that serve the research objective. We selected, in relation to the observations regarding valuation of financial statements elements, 5 IPSAS namely IPSAS 12 Inventories, IPSAS 13 Leases, IPSAS 16 Investment property, IPSAS 17 Property, plant and equipment, and IPSAS 21 Impairment of non-cash-operating assets.

In what concerns the international valuation referential we decided to analyze the last two editions of IVS, the 8th (2007) (hereafter Valuation Referential 2007) and the 9th (2011) (hereafter Valuation Referential 2011). From each of them we selected IVS

which focus directly or indirectly on valuation for financial reporting purposes. Valuation referential 2007 includes IVA 3 – Valuation of public sector assets for financial reporting, and IVS 3 – Valuation reporting. Valuation referential 2011 refers to IVS 300 – Valuation for financial reporting/Appendix: Fixed assets in public sector. International Accounting Standards for public sector, and IVS 103 – Valuation reporting. To be noted that we did not conduct a content analysis on the whole IVS 300 but only on the Appendix dedicated to public sector and we referred to the main text of the standard only when in the Appendix there was a reference to it. Thus, we focused only on those stipulations regarding public sector in relation to valuation for financial reporting.

We resorted to the content analysis of the referentials in order to identify and quantify the elements that could reflect the analysis themes presented in Section 2, obtaining the database presented in Appendix 1. According to the literature that describes it (see for example Smith, 2003 or Lye *et al.*, 2005), the content analysis consists of comparing, sorting and synthesizing all the cases that imply valuation of the public institutions assets and liabilities. These work procedures were preceded by identifying the different elements that the standard setters mentioned in the analyzed referentials and which are connected to the themes selected for analysis. We copied these elements for each referential, through a vertical (within one standard) and horizontal (of all the standards which are subject to each of the referentials) analysis. The elements were embodied in the standards using a sentence or a phrase, for example 'Current replacement cost is the cost the entity [...]', or 'The financial statements shall disclose, for each class of property, plant and equipment [...]: (a) the measurement bases used for determining the gross carrying amount [...]'. We have separated the established themes in subthemes and topics. For example, theme C 'Markets and atypical cases' was separated in the subthemes 'Stipulations in the content of the standards', and 'Stipulations on presenting the valuation conclusion'. Moreover, the subtheme 'Stipulations in the content of the standards' included topics such as 'Reference to the specialized nature of certain class of assets and the implications for valuation' or 'Reference to lack of transactions for an asset and indications on appropriate approaches'.

From all the analyzed documents which formed the valuation referential we selected for analysis only those elements with direct reference to valuation in the public sector. For themes 'A. Guidance extent and quality' and 'C. Markets and atypical cases' data was processed from the 5 selected IPSAS in the accounting referential, respectively from the valuation standards 2007 and 2011 which are dedicated to financial reporting in the public sector and the standards that treat valuation reporting in general. In what concerns disclosure requirements data was obtained from each IPSAS subject of the present research and part of the public accounting referential taking into account the fact that international accounting standards do not contain a singular norm on valuation disclosure, but the concept appears in each standard with specific requirements. In what concerns valuation referentials, disclosure is referred to in a dedicated standard and in specific standards where information is required in addition to general stipulations.

Data obtained after the content analysis has been transferred into two dimensions with binary variables (Deaconu and Buiga, 2010) which were allocated value 1 if the analysis theme exists and value 0 otherwise.

3.2. Statistical tests

According to the customs specific to economic and especially accounting literature (Ashbaugh and Pincius, 2001; Deaconu and Buiga, 2010; Larcker and Rusticus, 2010; Nistor *et al.*, 2010; Deaconu *et al.*, 2010), we have considered the similarity and dissimilarity measures as the best instruments for determining the connection between the analyzed referentials. From the diversity of this type of measures we selected in relation to the nature of the variables in the database, binary, for coefficients applicable to nonparametric correlations of distance type. Thus, we used three similarity measures and one dissimilarity measure in order to reduce the risk of error and provide robustness to our findings. This is because these coefficients reflect possible asymmetries and therefore provide a different point of view for looking at the data (e.g. Leisch *et al.*, 1998). Also, our selection focused on the optimal discriminative power of the coefficients, demonstrated by empirical studies (Lourenço *et al.*, 2004).

In general, binary similarity measures are based on a contingency table that compares the feature values for each pair of cases x, and y, where: a – number of times $i_x = 1$ and $i_y = 1$; b – number of times $i_x = 0$ and $i_y = 1$; c – number of times $i_x = 1$ and $i_y = 0$; d – number of times $i_x = 0$ and $i_y = 0$ (Deaconu and Buiga, 2010). The computation formulas for these measures are combinations of values from a to d, considering the [0,1] range. We selected the following coefficients as similarity measures: Simple Matching (1958), Rogers and Tanimoto (1960), and Sokal and Sneath (1963).

The dissimilarity measure used, the Euclidean Distance Coefficient (EDC), compares two cases x, and y. For a binary variable, EDC = 0 if cases x and y both have a certain attribute k 'present' or both 'absent', or 1 if attribute k is 'present' in one case and 'absent' in the other case (Deaconu and Buiga, 2010). The greater the Euclidean distance between referentials, the more dissimilar they are in terms of their characteristics.

The coefficients were applied to previously standardized variables in order to avoid altering the findings in the case of extreme values. We preferred standardizing to z-scores, a procedure which is generally preferable to standardizing by range because the resulting values are not determined by the two extreme values, but by the dispersion of values on variable k.

4. Analysis results

4.1. Analysis of the general convergence between public accounting and valuation referentials

Appendix 1 with the elements A.1 to A.28, B.1 to B.18, respectively C.1 to C.11, was used to measure the proximity between the binary variables of the database. Table 1 below presents the general values of similarity and dissimilarity measures.

Table 1: General convergence of accounting and valuation referentials

Measures	IPSAS/ IVS 2007	IPSAS/ IVS 2011	IVS 2011/ IVS 2007
Simple Matching coefficient[a]	0.642	0.453	0.434
Rogers and Tanimoto coefficient[a]	0.472	0.293	0.277
Sokal and Sneath I coefficient[a]	0.782	0.623	0.605
Euclidean distance coefficient[b]	4.359	5.385	5.477
Degree of convergence rank	I	II	III

[a]Similarity measure; [b]Dissimilarity measure

This first stage of the empirical analysis offers a general result regarding the convergence degree between the three referential in discussion. The values of the statistical coefficients applied to the binary variables in relation to the interpretation range for each of them are coherent in establishing the following hierarchy regarding the convergence level: IPSAS/IVS 2007, IPSAS/IVS 2011, respectively IVS 2011/IVS 2007. We note that this sequence is based on all four measurement coefficients used. Binary Euclidian distance coefficient needs to be interpreted opposed to the first three coefficients by the fact that the greatest proximity exists between those referentials for which this coefficient has the smallest value.

We determined a high level of proximity between valuation standards, as we anticipated. However, the similarity is not perfect, which shows that the changes made by IVSC in the last edition of standards compared to the content of the previous edition are statistically relevant. The proximity degree between the two sets of valuation standards under analysis is fairly small, with values of 0.2 - 0.6 in the [0,1] range for the interpretation of similarity measures. The result is confirmed by the value of dissimilarity measure which shows a certain distance between the two reference systems.

If each of the valuation referentials is compared to the public accounting referential, valuation standards 2007 seem to be quite compatible with accounting standards, at a smaller distance than 2011 standards (for example, the value of the coefficient Simple Matching is 0.642 for the valuation referential 2007 compared to IPSAS, respectively 0.453 for the valuation referential 2011 compared to IPSAS). Thus, we observe a greater correlation of public accounting standards with the previous edition of valuation standards, which comprises a more consistent technical guidance, being more useful for valuations conducted for public accounting reporting.

4.2. Analysis of the analytical convergence between public accounting and valuation referentials

The empirical analysis of the discussion themes allows us to estimate the factors in the convergence hierarchy observed, our finding being presented in Table 2.

Based on the data presented in Table 2, the causes of the global status quo previously discussed are as follows.

Table 2: Analytical convergence of accounting and valuation referentials

Coefficients	Guidance extent and quality			Disclosure requirements			Markets and atypical cases		
	IPSAS/ IVS 2007	IPSAS/ IVS 2011	IVS 2011/ IVS 2007	IPSAS/ IVS 2007	IPSAS/ IVS 2011	IVS 2011/ IVS 2007	IPSAS/ IVS 2007	IPSAS/ IVS 2011	IVS 2011/ IVS 2007
Simple Matching [a]	0.667	0.370	0.407	0.500	0.625	0.500	0.800	0.400	0.400
Rogers and Tanimoto[a]	0.500	0.227	0.256	0.333	0.455	0.333	0.667	0.250	0.250
Sokal and Sneath I[a]	0.800	0.541	0.579	0.667	0.769	0.667	0.889	0.571	0.571
Euclidean distance[b]	3.000	4.123	4.000	2.828	2.449	2.828	1.414	2.449	2.449

[a] Similarity measure; [b] Dissimilarity measure

A. Guidance extent and quality

For the assembly of measurement coefficients used a high level of convergence is noted between IPSAS and IVS 2007 at a fairly large distance from IVS 2011. Correlated with the findings in Appendix 1 this shows that the valuation referential 2011 does not provide sufficient conceptual details relevant for public accounting (for example, the definition of net realizable value, residual value, public business entities). Also, certain technical solutions for determining the value are not sufficiently detailed. In what concerns assets and types of transactions presented, the 2011 referential focuses only on the ordinary types and does not mention leases, investment properties or other elements for which public accounting requires the use of fair value or current values, other than historical cost. Finally, we note the lack of technical details which we included in the subtheme 'Measurement bases and valuation approaches/ techniques'.

In what concerns Guidance extent and quality, the proximity degree between IVS 2007 and IVS 2011 is situated on the second place, after IPSAS and IVS 2007.

B. Disclosure requirements

For this analysis the hierarchy is somewhat different from the findings of the other two analyses. The calculated coefficients indicate the highest convergence level between IPSAS and IVS 2011, followed at relatively short distance by IPSAS and IVS 2007. This suggests that the latest IVS edition meets better than the previous edition the disclosure needs specific to public accounting standards. This is also confirmed by the descriptive analysis in Appendix 1 which indicates the presence of more common elements between the two referentials in general regarding the selected items related to conceptual, methodological and temporal disclosure stipulations. Furthermore, Appendix 1 shows that in some cases similarity manifested also as a result of lack of disclosure requirements of the referentials if we compare them to IVS 2007.

For this analysis theme the proximity between the two valuation referentials is identical with the proximity between IPSAS and IVS 2007 with respect to values of the similarity/dissimilarity coefficients.

C. Markets and atypical cases

For this analysis theme the value of the coefficients confirms the hierarchy identified for theme A. A higher convergence degree is noted between IPSAS and IVS 2007, followed at a relatively large distance by the relation between IPSAS and IVS 2011. These findings are explained both by the convergence between elements that present in detail markets and atypical cases and by the lack of certain stipulations which IVS 2011 provides. Considering the assembly of items included in this theme, IPSAS and IVS 2007 provide 7 stipulations while IVS 2011 provides 6.

In what concerns the proximity between IVS 2007 and IVS 2011 this is equal in terms of value to the proximity between IPSAS and IVS 2011.

5. Conclusions and standard setting implications

The study shows that public organizations of tomorrow will have to behave quite different from current ones: they must be able to change as a living organism, creating prototypes and evolving in such a way as to meet the needs of society as they grow up. The evolution process will provide an increased role for information. Valuation and its correct form will represent a guarantee of credibility for accounting information, useful in decision-making process. Carrying out processing will request a nimble and inspirational leadership, where the correct information will play a key role. Valuation and its correct form will represent a guarantee of credibility of accounting information provided as support for decision-making capacities.

The empirical analysis conducted in this study allows us to draw conclusions regarding public accounting and valuation regulation convergence, respectively the determinant factors underlined. Starting from here we can conclude on the consequences of our findings over the relation between international public accounting referentials (a selection of international standards on assets and liabilities valuation issues), and then on the evolution of the international regulatory process for valuation (in this case the 8th and 9th editions of IVS).

In what concerns the proximity between public accounting standards on value and valuation process and IVS, the latest and previous edition of the latter we determined, as expected, a smaller convergence degree compared to the convergence degree between the two editions of IVS. In general, the accounting referential is closer to IVS 2007 than to IVS 2011. We believe that the main cause of similarity is Guidance extent and quality. It is noted that accounting standards need more details in what concerns the concepts and types of value, respectively more technical guidance than that provided currently by the 2011 edition of IVS. From this point of view the lack of details on valuation methodology, uncompensated by the issue of professional guides provided by IVSC, leads to the incomplete support of financial reporting in public institutions. Thus, even though we understand the intent of the regulatory body of international valuation practice, we underline the need to standardize valuation methodology internationally, for the support of the two professions, accounting and valuation, and for the public interest. The actions taken by the IPSASB in recent years can be seen as

a clear intention to create a uniform accounting framework within public institutions. The intent stated in the IPSASB forum shows that IPSAS will have a major part to play in the creation of any Harmonized European Union-wide public accounting rules. According to Eurostat (2012), there are a lot of benefits for public sector management and governance in adopting a single set of accruals-based accounting standards at all levels of government throughout the EU. This approach also applies for the valuation process.

Regarding the analysis theme 'Markets and atypical cases', which is the second theme to present similarities between the accounting referential and IVS 2007, we agree that these less common cases suffered a change in their approach, correlated with the period of elaboration/update of the two referentials, in the context of the global economic crisis. Thus, we explain the greater distance between IPSAS and IVS 2011 as the latter reflects the latest economic and financial reality. From this perspective we do not necessarily consider unfavorably the dissimilarity between IPSAS and IVS 2011, moreover as the number of atypical cases regarding markets and types of assets are found in a relatively balanced number within the three sets of standards which we analyzed. Furthermore, we would suggest the update of IPSAS to more recent situations which do not always allow for market values determination, or the application of the most relevant valuation approaches, namely market comparisons. Finally, the public accounting referential is closer to IVS 2011 than to IVS 2007 in what concerns 'Disclosure requirements'. This is in favor of the requirements imposed by the economic crisis regarding financial reporting, namely to provide much more details on the process of value estimation, hypotheses and forecasts used, respectively in what concerns the risk of change in the estimated value. From this perspective we support both the IPSAS and the IVS 2011 approach.

If we consider the valuation standards IVS 2007 and IVS 2011 our findings show the materialization of IVSC's intention concerning the update of its referential. The difference from the previous edition, which is statistically significant, as shown by the content analysis, demonstrates that the objective of IVSC to update its latest edition has been reached. Thus, according to the international regulatory body (IVSC, 2011) the standards are supposed to identify frequently used valuation methods without presenting in detail their application. Also, the intent was to provide explicit comments in order to aid understanding of each standard in context, but without including technical guidance regarding valuation techniques. Other objectives were the elimination of recurrent subjects and concepts and a bigger focus on principles.

In conclusion, there are premises for the materialization of benefits provided by quality valuation standards, globally acknowledged, with a uniform approach on the classification of definitions and measurement principles, respectively stipulations on disclosure requirements concerning value. Moreover, we note the partial convergence for one of the three analysis themes between public accounting standards and IVS 2011. We take into account the fact that this convergence process did not reach the end, and the two standard setters can still intervene in certain aspects where the

referentials are different, or in other aspects which could improve the usefulness of valuation accounting in decision making. Mainly, we noticed that there are certain differences regarding guidance extent and quality which should be rectified in a short period of time by the IVSC with issue of additional professional guides. Likewise, IPSASB should pay more attention to markets and atypical cases in the light of the global economic crisis. In this respect we recommend IPSASB to give valuation practice more preeminence.

The results of this research should be interpreted in the light of a number of limitations, some of which leading to research perspectives. Future research could extend the analysis in relation to macroeconomic and sectorial variables which could determine clusters with somewhat different needs of financial reporting and valuation issues. Also, this research has limitations related to the inherent shortages of content analysis as a research tool, although we have tried to complete the empirical findings, in order to confirm their robustness, with elements of the context of accounting and valuation regulation obtained from additional information sources.

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Appendix 1

Database obtained by applying content analysis to accounting and valuation referentials

Analysis themes	*Analysis sub-themes*	*Topic no.*	*Considered topics into the sub-theme*	*Referentials*		
				Accounting	*Valuation*	
				IPSAS	*IVS 2007*	*IVS 2011*
A. Guidance extent and quality	*Definitions extent and complexity*	1	Fair value definition	1	1	1
		2	Recoverable amount definition	1	1	1
		3	Value in use definition	1	1	1
		4	Net realizable value definition	1	1	0
		5	Residual value definition	1	0	0
		6	Public business entities definition	0	1	0
		7	Solution for determining value in use	1	1	0
		8	Solution for determining net realizable value	1	1	0
		9	Solution for determining residual value	1	0	0
		10	Definition and details on the concept of cash-generating assets	1	1	0
		11	Details on the usage of cost based techniques	0	1	1
	Type of assets/ transactions approached	12	Property, plant, and equipment	1	1	1
		13	Assets impairment	1	1	1
		14	Leases	1	1	0
		15	Investment properties	1	1	0
		16	Inventories	1	1	0
		17	Business combinations	1	1	0
		18	Non-agricultural biological assets	1	1	0
	Measurement bases and valuation approaches/ techniques	19	Reference to cost and fair value model	1	1	0
		20	Classification of cash-generating assets and non-cash-generating assets; specialized assets; public sector assets; operating or non-operating assets;	0	1	1
		21	Stipulations on fair value estimation based on the market conditions at the valuation date	1	1	0
		22	Stipulations on the fact that fair value is time-specific as of a given date and details on the probability of change	1	0	0
		23	Assets with different services potential than the equity value, with examples and solutions for valuation	1	1	1
		24	Types and content of leases	1	1	0
		25	Definition of accounting specific elements with implications in the valuation process (depreciation, impairment, amortizable value)	1	1	0
		26	Technical details for surplus assets valuation	0	1	0
		27	Technical details when there is no net cash-flow for monopoly	0	1	0
		28	Details regarding the test for the adequate services potential	0	1	0

B. Disclosure requirements	*Conceptual stipulations*	1	Type of value estimated or measurement basis	1	1	1
		2	Reference to observable prices or recent market transactions	0	0	1
		3	Mentioning if the market value was estimated or a different value from the market value	0	1	0
		4	Difference between fair value and cost model	1	0	0
		5	Difference between owner-occupied property and property held for sale in the ordinary course of operations	1	0	0
		6	Details on classifications with impact on valuation approaches (for example, cash or non-cash-generating assets)	1	0	1
		7	Details on the effect of certain hypotheses on the valuation and the importance of this effect	0	0	1
		8	Analytical processes and empirical data used for value estimation	0	1	0
	Methodological stipulations	9	Details on significant assumptions	1	1	1
		10	Details on applicable methods	1	1	1
		11	Whether or not the valuation was conducted by an independent (external in the interpretation of IVSB) valuer, with relevant professional qualification and recent experience	1	1	1
		12	Type of valuer, internal or external	0	1	0
		13	Details on the range of estimates within which fair value (market value) is highly likely to lie (their nature and effect)	1	0	0
		14	Details on deviations from the stipulations of IPSAS/IVS in order to abide by local legislation, requirements or customs	0	1	0
		15	Details on the important arguments that support the valuation conclusions	0	0	1
	Temporal stipulations	16	Valuation (revaluation) date	1	1	1
		17	Valuation report date	0	1	1
		18	The date when the estimated value is valid	0	1	0

C. Markets and atypical cases	*Stipulations in the content of the standards*	1	Difference between assets and liquid market on the one hand and illiquid market on the other hand, with details on the value estimation methods	1	1	1
		2	Stipulations on the specialized nature of certain class of assets and the impact on valuation	1	1	1
		3	Details on the lack of transactions for an asset and the appropriate approaches for valuation	1	1	1
		4	Details on the lack of transactions for an asset as a result of its specialized nature, market data and technical guidance for value estimation (costs, indexed price, others)	0	1	0
		5	The requirement of certain stipulations in the case of market value cannot be reliably determined	1	1	0
		6	Developing the methods for value estimation (as information sources), including less active markets	1	0	0
	Stipulations on presenting the valuation conclusions	7	Indicating valuation's sensitivity to change in the significant entry data	0	0	1
		8	Indicating if the valuation was based on market evidence or other factors, as a result of the nature of the asset and lack of comparable market	1	1	0
		9	Indicating the case when fair value (market value) cannot be determined reliably	1	1	0
		10	Indicating the important uncertainty cases	0	0	1
		11	Indicating the nature and source of relevant information used in the valuation process, but which were not specifically verified by the valuer	0	0	1