

# Accounting for Pension Obligations in the European Union: A case study for EPSAS and transnational budgetary supervision

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## **Abstract:**

Pension obligations constitute a critical issue for public finances and budgets. This is especially true for the European Union whose institutional mechanism aims to supervise Member States' spending through centralised budgetary rules based upon financial covenants. In this context, accounting methods of recognition and measurement of pension obligations become an integral and critical aspect of Europe's transnational budgetary and financial supervision. Drawing upon a comprehensive overview of pension management and regulation, this article aims to analyse the ongoing debate on accounting for pension obligations with a specific attention to the harmonisation of European Public Sector Accounting Standards (EPSAS). While the European Commission has been favouring the 'indisputable reference' to the International Public Sector Accounting Standards (IPSAS), European Member States' practices and views remain inconsistent with the normative solution imposed by the IPSAS 25, which favours and facilitates Definite Contribution pension schemes. In this context, we do summarise the IPSAS position mimicking the IFRS, review the pension's accounting in national statistics and EPSAS debate, and provide some building blocks for a comprehensive model of accounting for pension obligations that admits and enables several viable modes of pension management.

## **Keywords:**

Pension provision, pension benefit, pension liability, IPSAS, EPSAS, pension fund management, actuarial evaluation, public sector accounting regulation, public finances

**JEL Codes:** H55; G23; G28; M41; M48; K23

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# **Accounting for Pension Obligations in the European Union: A case study for EPSAS and transnational budgetary supervision**

## **Introduction**

Pension obligations constitute a critical issue for public finances and budgets. This is especially true for the European Union whose institutional mechanism aims to supervise Member States' spending through centralised budgetary rules based upon financial covenants.

In this context, accounting methods of recognition and measurement of pension obligations become an integral and critical aspect of Europe's transnational budgetary and financial supervision. While the European Commission has been favouring the 'indisputable reference' to the International Public Sector Accounting Standards (IPSAS), European Member States' practices and views remain inconsistent with the normative solution imposed by the IPSAS 25, which appears to favour and facilitate Definite Contribution pension schemes. This normative solution bases upon a view of pension management as a funded financial placement on behalf of each single beneficiary. Accordingly, pension obligations must be accounted for through an actuarial representation and added to the liability-side of the balance sheet of their sponsors. This accounting method adopts then a stock basis of accounting consistent with an asset-liability accounting approach.

After having reviewed alternative positions expressed through the IPSAS, the IFRS, the national statistics and EPSAS debate, this article aims to analyse the ongoing debate on accounting for pension obligations with a specific attention to the EPSAS and to suggest several building blocks to develop a comprehensive model that admits and enables alternative viable modes of pension management. The aim of this article is to elaborate a theoretical perspective to disentangle some key features of existing practice and regulation (especially accounting standards). We intend to offer a frame of analysis - an accounting model for pension's funds and flows over time - to better understand current practice, to disentangle positions in standard setting and to provide recommendations for an improved accounting representation. This model adopts a flow basis of accounting consistent with a revenue-expense accounting approach.

The rest of the paper is organised as follows. The first section summarises the IPSAS position and its development, paying attention to the private sector standards which inspired the standards. The second section reviews the international and the EPSAS debates in national statistics, including the Eurostat's position, now in charge of the EPSAS. The third section develops some building blocks for a comprehensive model of accounting for pension obligations, a model that admits and enables several viable modes of pension management. A summary of the main argument and results concludes. An Appendix, through numerical examples, illustrates sustainability and accountability needs of alternative management modes of pension obligations, arguing that funding and sustainability are not necessarily linked and that application of current discounted values is inconsistent with making management modes accountable for pension obligations over time.

## **Section I - Pension obligations under the IPSAS: Insights, Issues and Perspectives and**

The European Commission (2013a, p. 8) has been favouring the ‘indisputable reference’ to the International Public Sector Accounting Standards (IPSAS) to harmonise public sector accounting standards in Europe (EPSAS), including accounting standards for pension obligations. This section will summarize the IPSAS position, overview the private sector standards which the IPSAS draw upon, and pay attention to the debate around the IPSAS proposal, including responses to the IPSASB Exposure Draft on pension recognition.

### **1.1 Presentation of the IPSAS**

The International Public Sector Accounting Standards (IPSAS) are issued by the IPSAS Board under the auspices of the International Federation of Accountants (IFAC). This privately-run body has been transplanting the IFRS developed by the International Accounting Standard Board (IASB) into the public sector. According to Chan (2008), by imitating the IFRS, the Public Sector Committee (IPSAS Board’s predecessor) spent resources over six years and incurred considerable opportunity costs. The IPSAS Board has been fostering a convergence between public and private sector accounting standards, although a conceptual framework that is specific to the public sector is under development since November 2006 (IPSASB, 2015).

Since 2014, the IFAC, the six leading accountancy firms and international institutions such as the Organization for Economic Co-operation and Development (OECD), the International Monetary Fund (IMF) and the World Bank Group established a coalition called “Accountability Now”, in order “to help drive awareness of the critical need for high-quality, transparent, comparable public sector financial reporting [based on International Public Sector Accounting Standards], and of the importance of engaging citizens in the process of holding governments to account” (IFAC, 2015).

The influence of the private sector accounting representation is fundamental here. In 2012, Hoogervorst (2012), chairman of the IASB, criticized “governments [using cash-based accounting to] give very incomplete information about the huge, unfunded social security liabilities they have incurred<sup>1</sup>” and argued in favor of the adoption of the IPSASB standards that were only used “haphazardly”.

The IPSAS Board approach to pension obligations, since 2002 (first exposure draft issuance) through 2008 (issued standard 25), has constituted a paradigmatic example of fostering an actuarial representation of pension obligations. This normative solution bases upon a view of pension management as a funded financial placement on behalf of each single beneficiary (Biondi & Boisseau, 2015). Accordingly, pension obligations must be accounted for through an actuarial representation discounted back to the present time moment and recognised in the liability-side of the balance sheet of their sponsors. This accounting method adopts then a stock basis of accounting consistent with an asset-liability accounting approach. Our Box 2 summarises the requirements for pension obligations as stated by the IPSAS 25.

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<sup>1</sup> The complete quotation reads as follows: “Public sector accounting also demonstrates the primitive anarchy that results without the discipline and transparency that good financial reporting provides. While the IPSASB has created good standards for the public sector, based on IFRS, they are used only haphazardly. Around the world, governments give very incomplete information about the huge, unfunded social security liabilities they have incurred. Many executives in the private sector would end up in jail if they reported like Ministers of Finance, and rightly so”.

In this way, according to Le Lann (2010, p. 17), accounting standards-making contributes to reshape ongoing pension reforms by establishing a “single mode of assurance through assets financial accumulation”.

Issued in February 2008, the IPSAS 25 deals with employee benefits in general, including pension benefits. Accordingly, accounting for pension obligations is based on a dual accounting treatment that disentangles Defined Contribution (DC) and Defined Benefit (DB) schemes. Accounting treatment for other schemes (such as multi-employers, including employers under common control, state plans and composite social security programs) must make reference to one of these two alternative treatments (see IPSAS 25, 32, 33, 25.43 and 25.47).

According to IPSAS 25, Defined Contribution plans are defined in a way that excludes any current obligation to pay for future pensions (IN6; par. 28). For a pension scheme to be qualified as Defined Contribution plan, the only obligation that exists and is then recognised is the current annual contribution paid by the reporting entity to existing employees as part of their current remuneration in exchange for service rendered by them. In fact, the series of future contributions may represent an implicit liability under constructive obligation, but the IPSAS standard excludes its recognition (par. 55). This accounting treatment for Defined Contribution plans actually undermines accountability and responsibility of the reporting entity for ongoing and future pension obligation fulfilment, since no pension obligation is assumed to exist under this accounting treatment. Therefore, if government were to adopt IPSAS 25, potential beneficiaries would not receive information concerning the ongoing accumulation of their contributions, and the foreseeable level of pension payment that has been reached and may be sustained under the ongoing Defined Contribution scheme process. Moreover, beneficiaries do not receive information on ongoing investment policies and their past, current and foreseeable returns over time.

As long as some commitment to pay future pensions exists under legal or constructive obligations, including through informal practice and social expectation (par. 63), the Defined Benefit accounting treatment should be adopted. Termination rights by the sponsoring entity do not exclude this constructive obligation (par. 64), while ‘pay-as-you-go’ pension schemes are explicitly considered as a kind of Defined Benefit plan (par. 34 (a)).

In this case, pension obligations should be considered as ‘deferred remuneration’ while their outstanding liability should be included into the sponsor’s balance sheet through an actuarial method of evaluation labelled ‘Projected Unit Credit Method’ (see paragraphs 77-78). This method applies a current value accounting approach, which relates to a stock basis of accounting. The recourse to qualified actuary’s expertise is then encouraged (par. 68), while the reference to market expectations for choosing actuarial hypotheses is required (par. 90). The IPSAS Board’s preference for full actuarial representation of pension obligations is clearly expressed by paragraph 61 of the IPSAS 25 (IPSASB, 2008):

Accounting by an entity for defined benefit plans involves the following steps:

- (a) Using actuarial techniques to make a reliable estimate of the amount of benefit that employees have earned in return for their service in the current and prior periods. [...]
- (b) Discounting that benefit using the Projected Unit Credit Method in order to determine the present value of the defined benefit obligation and the current service cost (see paragraphs 77–79);
- (c) Determining the fair value of any plan assets (see paragraphs 118–120);
- (d) Determining the total amount of actuarial gains and losses and the amount of those actuarial gains and losses to be recognized (see paragraphs 105–111); (...)

Moreover, although the IPSAS standard does not address the funding issue, the representation of pension obligations points to a ‘saving account’ model represented through an actuarial approach. Appendix part A shows a numerical example illustrating this ‘saving account’ model.

Public accounting standards prior to IPSAS seem to have very little influence on the IPSAS elaboration. Interestingly, in its basis for conclusions, the IPSASB (2008) candidly acknowledges that its requirements are inconsistent with widespread public sector practices:

BC17. The IPSASB acknowledged that applying the requirements of this Standard in relation to liabilities relating to obligations arising from defined benefit plans may prove challenging for many public sector entities. Currently, many public sector entities may not be recognizing liabilities related to such obligations, and may therefore not have the systems in place to provide the information required for reporting under the requirements of this Standard. Where entities are recognizing liabilities relating to obligations arising from defined benefit plans, this may be on a different basis to that required by this Standard. In some cases, adoption of this Standard might give rise to tensions with budgetary projections and other prospective information.

Both the IAS/IFRS and the IPSAS have adopted an asset-liability accounting approach (asset-liability accounting model), rejecting the revenue-expense accounting approach (Oulasvirta, 2008). Among others, Napier (2009) stresses the historical shift toward this balance sheet accounting approach: “early attempts to develop accounting standards were based on a cost orientation and reflected funding considerations. More recently, a balance sheet focus led to issues over identification and measurement of pension liabilities and assets.” The IPSAS-Board has consistently maintained this balance sheet preference and focus over various amendments since 2002 to the final publication in February 2008<sup>2</sup>.

This IPSASB choice mimics the choice done for the standard IAS 19 issued for the private sector by the IASC (IASB nowadays) in the nineties. However, the specificity of public sector economy and finances casts doubts over this convergence regarding technical feasibility and the overall consistency with governmental economy and finances. The following paragraph will explore the influence of private sector standards over the IPSAS 25.

## **1.2 Influence of the IPSAS: the private sector standards**

This ‘saving account’ model to account for Defined Benefit plans (the only ones that assure future pension obligations) is consistent with the approach endorsed by the IASB for the private sector at least since the issuance of the IAS 19 in 1998<sup>3</sup>.

Street and Shaughnessy (1998) give a historical perspective of private pension accounting in countries represented in the G4+1 working group<sup>4</sup>. Accordingly, “historically, pension accounting

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<sup>2</sup> In November 2002, the Public Sector Committee (PSC) issued a draft on Employee Benefits for PSC Review. Then, a revision of this draft was prepared by John Stanford for the IPSASB Paris meeting and discussed on the 25 May 2006. In October 2006, the IPSAS Board published the Exposure Draft (ED) 31 for Employee Benefits. Comments on ED 31 were requested by 28 February 2007. As at 28 May 2007, thirty comments had been received. Then, an analysis of these submissions on ED 31 “Employee Benefits” by John Stanford is available online, date 29 May 2007, and was presented in July 2007 in Montreal meeting of the IPSASB. The final standard IPSAS 25 was published in February 2008.

<sup>3</sup> IAS 19 concerns pension accounting and more precisely the determination of the cost of retirement benefits in the financial statements of employers having plans. This standard should be distinguished from the IAS 26 dealing with accounting and reporting by retirement benefit plans themselves. The IASC published its first Exposure Draft E16 on “Accounting for Retirement Benefits in Financial Statements of Employers” in April 1980, further issued as standard in January 1983. Actuarial methods were suggested for pension obligations since then.

standards provided for flexibility in the choice of actuarial methods and assumptions (Skinner, 1987). However, in 1985, the Financial Accounting Standards Board (FASB) introduced an approach that has since been adopted by other G4+1 members.” Therefore, the US led the adoption of a balance sheet focus for pensions through the Financial Accounting Standard on Employers’ Accounting for Pensions (FAS 87) issued in 1985, followed by the International Accounting Standards Committee (IASC) that proposed a single actuarial method in its ED 54 published in 1996 (eventually adopted in 1998 as IAS 19).

Concerning the UK, the private pension’s schemes accounting standard, UK Financial Reporting Standard 17, which became mandatory in 2005 and was the UK equivalent of the IAS 19, forced UK companies to recognize pension liabilities in their financial statements through a current value approach (Chitty, 2002; Slater & Copeland, 2005).

In this context, Glaum (2009) explains that “pension accounting has caused controversies ever since standard-setters started to regulate the recognition and valuation of pension-related liabilities, assets, and costs”. The author further argues that the American Accounting Principles Board had to concede that, with FAS 87, ‘improvements in pension accounting were necessary **beyond what was considered practical at those times**” [ (FASB, 1985) bold added]. Glaum (2009) provides then a comprehensive analysis of harsh debate and resistance raised by this standard in the US private sector, echoing the overall lack of consensus on the legal-economic nature of corporate pension obligations (Klumpes, 2001; Napier, 2007; Blake, Z, Pickles, & Tyrrell, 2008).

The standard IAS 19, which inspired IPSAS 25, defines accounting for Defined Benefit plans as follows:

The measurement of a net defined benefit liability or assets requires the application of an actuarial valuation method, the attribution of benefits to periods of service, and the use of actuarial assumptions. [IAS 19 (2011).66]

The fair value of any plan assets is deducted from the present value of the defined benefit obligation in determining the net deficit or surplus. [IAS 19 (2011).113]

The present value of the defined benefit obligation should be determined using the Projected Unit Credit Method. [IAS 19 (2011).67-68]

In this context, it is relevant to remember that accounting has an impact on the management mode, framing and shaping purposes and behaviours. Josiah et al. (2014) investigate “migration from defined benefit (DB) to defined contribution (DC) pension schemes focusing on this change’s interface with accounting” and argue that, “particularly from the mid-1980s, there have been many significant changes in the concept and detail of pension provision in both public and private sectors. These changes are occasioned by government policy and influenced by capital markets”.

For instance, Arnold and Oakes (1998) showed “reductions in benefits that occurred coincident with the passage of Statement of Financial Accounting Standard 106 requiring companies to accrue a liability for unfunded retiree health benefits.” Baker and Stephan (1995) “investigate the negative effects on employee welfare as a result of actions taken by the management of a company which it attributes to the adoption of an accounting standard, focusing on McDonnell Douglas Corporation.”

Pension accounting can lead to “some degree of expropriation of employee’s wealth”. According to Reiter and Omer (1992), “the accounting changes in the 1980s related to pension terminations changed “distribution of wealth between shareholders and employees” as corporate recapture of billions of dollar of pension surplus occurred”. Concerning the US private sector, Thomas and William (2009) argue that the standards “have failed to satisfy the condition of neutrality” and show

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<sup>4</sup> The G4+1 was a working coalition of accounting regulators from the Anglo-Saxon world active in the 90’s.

how the switch from Defined Benefit to Defined Contribution schemes have facilitated the shifting of economic risk from sponsors to employees.

In line with criticism of IAS 19, the IPSAS 25 was also questioned by academics and practitioners, as summarised in the following paragraph.

### **1.3 Critiques of the IPSASB solution**

Some issues raised by the approach adopted by IAS 19 and IPSAS 25 are common to the private and the public sector (point i), while other issues do only concern the public sector (point ii).

Academic scholars such as Oulasvirta (2008) and Bohn (2011) addressed the pension funding issue. Concerning pension benefit liabilities and social policy cash transfers, Oulasvirta (2008) concluded that “the way IPSAS standards handles liabilities is not as such optimal for government financial statement reporting”. Bohn (2011) further developed an economic model “where most taxpayers hold debt and face intermediation costs”, while “returns on pension assets are less than taxpayers” cost of borrowing”. Accordingly, “pension funding is costly” and hence “zero funding is optimal”

From the one hand (point (i) above), problems are common to both private and public sectors, as accounting is supposed to facilitate accountability and responsibility by the reporting entities. Indeed, technical problems occur with complexity, cost, subjectivity and volatility implied by the actuarial representation. They become especially sensitive for the public sector, which discloses and discusses budgets along with financial reports. Among others, Oulasvirta (2008, p. 231) argues that:

Even small changes in certain parameters (for instance, the discount rate and life expectancy) may cause tremendous changes in the amounts of liabilities in the balance sheet.

Concerning the discount rate and the hazard of volatility attached to it, Lequiller (2014, p. 24) counsellor to the OECD Statistics Directorate at Eurostat, expresses concerns on the recognition of pension obligations in the balance sheet of EU countries:

However, if it was decided one day that pension obligations were to be recorded on balance sheet in the EU, there would be two necessary technical conditions which would need to be implemented: (1) a common discount rate. Indeed, considering the massive impact of the choice of the discount rate on the amount of the estimated obligation, and its arbitrariness, it would be irresponsible to allow using different discount rates among Member States; (2) the headline surplus/deficit should be protected from the volatility of the changes in the estimate of pension obligations. If not, it would be made useless for fiscal target making.

From the other hand (point (ii) above), overall concerns refer to the specific economic nature of the public sector. Private sector entities are expected to go on allocating residual earnings to their shareholding recipients, period after period. It may then be consistent with their accountability and responsibility to include a fair estimation of pension obligations, in view to better protect beneficiaries against mismanagement and unsustainability over time. This estimated inclusion protects pension funds from being appropriated by incumbent shareholders. Biondi (2014) raises similar concerns for covering environmental liabilities. However, public sector entities are not expected to generate and distribute residual earnings. Inclusion of pension obligations as operating expenses is then less significant at the income statement level. Moreover, public finances

systematically employ debt issuance and refinancing to cover for asset positions (Biondi, 2014). Inclusion of pension obligations in the balance sheet may then raise undue financing costs and risks. In particular, if public sector accounting standards put pressure over entities to include future obligations into their balance sheet, these entities may be encouraged or constrained to increase their debt position and incur additional cost to fund them, transforming their pension management into a speculative hedge fund strategy leveraged on debt. On this matter, Coeuré (2007, p. 6), French economist appointed to the Executive Board of the ECB since 2011, casts doubts about converting non-financial pension obligations into straight financial liabilities:

Inclusion of pension commitments implies adding to the portfolio of financial debt another portfolio of pension obligations, of a gilt kind but with very long duration. In principle, this should lead to significantly reduce the duration objective for the financial debt. In other terms, does it valuable to increase very long-term governmental commitments through either gilts lasting thirty or fifty years, or interest rate swaps over similar duration, while the states are already committed to their employees over those time horizons?

Inclure les engagements de retraite revient à adjoindre au portefeuille de dette financière un portefeuille de droits à retraite, de type obligataire mais de durée très longue. En toute logique, ceci devrait conduire à raccourcir significativement l'objectif de durée assigné à la dette financière. En d'autres termes, cela vaut-il la peine d'accroître les engagements à très long terme de l'Etat en émettant des obligations à 30 ou 50 ans, ou en payant des contrats d'échange de taux (swaps) très longs, quand l'Etat est déjà engagé vis-à-vis de ses employés à de tels horizons ?

These and other issues have been raised throughout the public consultation process regarding the IPSAS 25. The next paragraph will analyse some comment letters to the Exposure Draft.

#### **1.4. An overview of the consultation process of IPSAS 25**

The consultation process to the Exposure Draft 31 on Employee Benefits gathered comment letters from thirty one constituencies, including the State of Geneva (2007), the Swedish National Financial Management Authority (2007), the American Academy of Actuaries (2007) and the Quebec Ministry of Finance (2007). We will draw upon these latter to summarise critical issues in the international accounting standard.

The State of Geneva (2007) “does not support, in general, the Exposure Draft”, outlining that “the accounting treatments proposed do not correctly reflect the economic reality of public pension plans in Switzerland” and that, under its actuarial approach through profit and loss, “financial statements would give no warning signs to users when a public pension plan experiences real financial difficulties.” Accordingly, “this treatment does not reflect the reality of the obligations of states regarding public pension plans, as mixed funding by capitalization and repartition has proven sustainable in the long run.” To conclude:

[The State of Geneva] believes that if there is one subject on which IPSAS should depart from IAS, it would be on pension plans, as the perennality of states does change the economic reality of obligations on this matter compared to the private sector.

[The State of Geneva] believes that the IPSASB should depart from the accounting treatments set by the IASB on pension funds and develop an approach that takes into account the specificities of public pension plans and their relationship with State Communities.



The Swedish National Financial Management Authority (2007) argues that the “proposed Standard ED 31, according to postemployment benefit pensions, are not applicable for Swedish Central Government [as for its pension funds] don’t have any plan assets according to the obligation and there is also very much uncertainty in e.g. demographic assumptions, rates for employee turnover, future salary and benefit level.” Furthermore, according to the Swedish authority:

[T]he actuarial assumptions decided by The Swedish Financial Supervisory Authority are sufficient to measure the amount of the post-employment defined benefit pension obligation in Swedish Central Government.

On a general level [they] believe that the same reasoning is applicable to most countries. There are for example no economic implications for setting aside assets to meet specifically long-term employee benefits. The implications for the financial targets for a public sector organization are not the same as for a business organization. The targets are not linked solely to the single organization itself but to the society.

The American Academy of Actuaries (2007) argues that “the proposed standards in ED 31 represent[s] a significant departure from current United States accounting standards related to public-sector pension and other post-employment plans.” Accordingly:

Last year the Governmental Accounting Standards Board (GASB) in the US published their 2006 white paper “Why Governmental Accounting and Financial Reporting is - and should be - different” (2006) explaining their reasons why public pension plans should be treated differently than private sector pension plans.

According to this White Paper (Governmental Accounting Standards Board, 2006):

Governments are fundamentally different from for-profit businesses in several important ways. Their organizational purposes, processes of generating revenues, stakeholders, budgetary obligations, and propensity for longevity differ. These differences require separate accounting and financial reporting standards in order to provide information to meet the needs of stakeholders to assess government accountability and make political, social, and economic decisions.

The Quebec Ministry of Finance (2007) argues “that the new standards proposed for the public sector would be essentially those currently used in the private sector”. It explains why “such a situation would not be appropriate, in the Ministry view” by referring to the perennial character of governments (limiting the risk associated with termination of retirement plans) and the different purpose of financial statements depending on the different economic nature of private enterprises and governments. In particular, the Quebec Ministry of Finance stresses that:

[I]n the case of governments, the “market value” is an indicator that is not significant.

For retirement plans offering equivalent benefits in the future, the actuarial liability of a public entity (estimated on the basis of the rate of central government bonds) would be greater than that of a private enterprise (estimated on the basis of the rate of high quality corporate bonds, which is higher than the rate of central government bonds). It is absurd that two identical retirement plans show different actuarial liabilities depending on whether one plan is in the public sector and the other in the private sector.

Notwithstanding this unsettled debate, the IPSAS Board decided to adopt an approach consistent with the 'saving account' model (Appendix Part A) by considering that the time value of money should be computed and that pension obligations are liabilities. This choice seems to imply that other approaches are no longer admissible. By adopting the IPSAS 25, the IPSASB has overridden the issue whether pension obligations should be funded, arguing against reasons for underfunding pension commitments and for excluding them from public sector balance sheets.

In sum, international accounting standards for both the private and the public sector are consistent with, and endorse the emergent trend toward pension as an individual saving account and a financial placement. To be sure, the IPSAS are not currently adopted by any major jurisdictions, although the IPSAS Board has been developing a professionally endorsed 'best practice' that has been having a significant influence on the ongoing public sector accounting debate and regulation (Brusca, Caperchione, Cohen, & Manes-Rossi, 2015). Contrary to the IAS/IFRS (which have been adopted by the European Union), the IPSAS do not have compulsory authority to rule public sector accounting practices in Europe or abroad.

In fact, in 2013, the European Commission started a project to harmonise European Public Sector Accounting Standards (EPSAS), drawing upon the IPSAS experience. The question whether the standard IAS 19 should be applied to the public sector directly or through the IPSAS 25 has already been discussed by professionals of national statistics (De Rougemont, 2003)<sup>5</sup>. Through the EPSAS project, this very discussion has shifted from national statistics to governmental accounting and reporting. The following section will address accounting for pension obligations in the context of ongoing harmonisation of European Public Sector Accounting Standards (EPSAS) led by Eurostat.

## **Section II - Pension obligations under the EPSAS: Insights, Issues and Perspectives**

The EPSAS project aims at bridging the gap that exists among the different public financial reporting systems and at minimizing incoherence's between the micro level public sector accounting and reporting framework and the European System of Accounts (ESA) macro level financial system<sup>6</sup>. In Europe, according to Frericks, Maier and de Graaf (2009), two extreme directions are currently being taken for pensions management, one toward privatization and the other one toward solidarity.

This section will summarise the critique of pension funding and pension liability recognition as raised by economists in the debate on national statistics standards, including the Eurostat's position, now in charge of EPSAS project<sup>7</sup>. We will also present European Commission's previous work on pensions obligations and finally focus on the EPSAS project and current pension recognition practice by Member States.

### **2.1 Review of the international debate on pension recognition in national statistics**

The two main drivers of pension funding appear to be the World Bank with its 1994 report and the IMF with its report authored by Donaghue (2003). According to the World Bank (1994), "population aging, which is predictable, makes it very costly to reduce poverty and replace wages through a single pillar that is pay-as-you-go financed." Therefore, the World Bank recommended "separating the

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<sup>5</sup> The treatment of pension schemes in macroeconomic statistics is analysed by Pitzer (2002).

<sup>6</sup> Van Schaik and Haakman (2013) explore the differences between ESA and IPSAS.

<sup>7</sup> Eurostat is a directorate general of the European Commission. Therefore, the terms Eurostat and Commission are used as synonyms.

saving function from the redistributive function and placing them under different financing and managerial arrangements in two different mandatory pillars - one publicly managed and tax-financed, the other privately managed and fully funded - supplemented by a voluntary pillar for those who want more." According to Le Lann (2010), Donaghue (2003) provides a clear-cut illustration of the 'saving account' model while recommending the treatment of pension obligations as financial liabilities in national statistics (see also Feldstein (1997)). In particular, Donaghue (2003) focuses on the "passage of time" as the determinant of accruing liabilities.

As a consequence of these international positions, a debate on pension funding and liability recognition in national statistics emerged in the 1990's and continued in the 2000's.

In 1990, Rizzo (1990) argues that the analogy done by economists between unfunded pension promises and the issuance of governments bonds has its limitations, summarised by Holzmann (2004) as follows:

The creditors in a pay-as-you-go (PAYG) pension scheme do not enter into the agreement voluntarily, but rather are forced by law to participate. Furthermore, the return on the government bond is known (at least the nominal yield), while the ultimate value of a PAYG pension promise depends on a wide array of variables entering the defined benefit formula as well as the possibility that the government may change the formula itself in response to other fiscal demands.

In 2000, McKinnon and Charlton (2000) argue that the World Bank's (1994) approach "essentially prioritising financial sector issues over social welfare considerations in pensions reforms is problematic". According to the authors, "it is insecure in its increasingly, dogmatic prioritisation of private over public sectors (...) [and] it is short-sighted in its implicit assumptions that historical patterns of retirement provision have failed to consider the importance of the public private interface in financial sector development in general, in pension provision in particular".

In 2003, in response to Donaghue (2003)'s article, pension experts - among others, Bosworth, Petrie - argued against pension obligations to be recognized as liabilities in financial statements (Aaron, et al., 2003). For instance Bosworth argued that "at the national level, there is still a substantial interest in cash flow accounting to measure the short term economic effects of fiscal actions" while stressing that "private firms game the system by choosing among about 15 different formulas for measuring the accrued liability" (Aaron, et al., 2003).

Moreover, Petrie (Aaron, et al., 2003), another pension expert, questioned the value added of this new recognition and further encouraged the IFAC (better, the IPSAS-Board) to comparatively assess existing different approaches on pension obligations:

The [Donaghue 2003]'s paper fails to justify why pensions should be recognized when contingent liabilities should not. [...] The paper does not consider the practical effect of recognition on the value of the financial statements to users. [...] [Petrie] would expect that well-informed users would quickly strip out the "pension effect" and calculate some kind of "underlying deficit." In which case, what has been gained? Less well-informed users will find the reported deficit measure less informative. [...] There is arguably far less information disclosed from simple recognition on its own compared to the kind of detailed information that can be provided through supplementary reporting. [...]

Perhaps IFAC should be encouraged to put out a discussion document that compares and contrasts different approaches to pension obligations, rather than an exposure draft of a standard they are heading towards.

Some international organizations servants stressed the limits of funding. Although advocating for funding, the World Bank's report prepared by Holzmann (2005) highlighted its costs and limitations:

While we claim that funding provides some (gross) benefits in many circumstances, we are also very much aware that it introduces new or additional costs, most importantly through additional risks (such as investment risks), higher transaction costs (such as fees), and fiscal transition costs (when replacing an unfunded scheme) (p.44).

Palmer (2002) argues that "countries in the OECD have been reluctant to make [the] transition [from pay-as-go schemes to individual financial-account systems] (...) due not only to the high initial cost for the transition generation, but also to the financial risk involved".

A joint work published by an academic, Ponds, together with two OECD servants, Severinson and Yermo (2011), deals with the funding issue in public sector pension plans and states, among other points, that if circularity in government funding occurs, pensions funding systems has little value added relative to a 'pay-as you-go' system<sup>8</sup>:

First, to the extent that funding risks can be smoothed over time as they can be shared with future generations of tax payers, underfunding in market value terms may be an optimal strategy (Cui, Jong, & Ponds, 2011; Munnell, Kopcke, Aubry, & Quinby, 2010). Secondly, a funding surplus might also mobilize pressure to increase benefits which in turn leads in the longer term to higher funding costs and so underfunding. So for taxpayers it is rational to aim at underfunding rather than full funding or overfunding. Moreover, a funding surplus will enforce contribution cuts and once contributions are reduced, it is difficult to get them increased. The accountability horizon of pension fund management and politicians is much shorter than the horizon over which pension promises have to be met by adequate funding. This horizon gap may lead to pressure to underestimate costs and risks and to overestimate the earning capacity of assets. Thirdly, to the extent that prefunding leads to investment in domestic government bonds, a circularity in government funding may be created, with little added value relative to a PAYG system.

Eurostat, now in charge of the EPSAS project in name of the European Commission, took position in the pension recognition debate for national statistics standards, referring to the IPSASB work in that context. The next paragraph will summarise the Eurostat's position.

## **2.2. Eurostat's position in the national statistics debate on pension obligations**

The national statistic debate allows to disentangle the past Eurostat's position on: (i) the current international trend of integrating pensions as a liability in the balance sheets of national accounts, and (ii) the Eurostat's ruling on pensions.

Eurostat's opinion on the treatment of pension schemes in macroeconomic statistics (point (i) above) was included in the Eurostat communication to the Advisory Expert Group (AEG) on national

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<sup>8</sup> As for as examples are concerned, Sauviat (2014) notes that Chili pension fund's portfolio is composed of national public debt and Holzmann (2005, p. 46) mentions the circularity of the American Federal pension and social security plan.

accounts issued in 2004<sup>9</sup>. This Electronic Discussion Group (EDG) on the treatment of pension schemes was established because differences existed in treatments between different macroeconomic systems<sup>10</sup>. In particular, the *System of National Accounts 1993 (SNA 1993)* – the United Nations system – and the *European System of Accounts (ESA95)* were based on the SNA 1993. They do not include liabilities for government employee unfunded pension schemes, while the IMF's Government Finance Statistics Manual (GFSM) does (see GFSM (2001), paragraph 4.35).

In its communication to the AEG, Eurostat (2004)<sup>11</sup> summarises the EDG main proposal and expressed relevant reservations on it (bold in the original):

The EDG main proposals for changes of the SNA are (1) to treat unfunded employer pension schemes similarly to funded schemes, (2) to use actuarial valuation for flows and stocks and (3) to allocate the net assets of pension funds to the sponsor.

At the same time, it can be questioned whether unfunded or pay-as-you-go schemes are economically the same as funded schemes. This concerns the less solid nature of the claim – as its value can be unilaterally altered by the debtor. Moreover, it should be taken into account to what extent this value depends on all kinds of assumptions on uncertain future events and whether or not it can be estimated within narrow margins. In order to reconcile the importance of providing information on pensions liabilities in the SNA – and perhaps in the accounts themselves – with the hesitation to give to such liabilities the same status to others, some innovative alternative accounting option.

**(...) It is strongly suggested the EDG needs to examine more in detail the other identified options, with the aim to indicate the pros and cons of each of those options also in view of the concerns and borderline issues mentioned above.**

Interestingly, in 2004, Eurostat (2004, p. 3) argued that the IPSASB invitation to comment on accounting for old age pensions does “not articulate the reasons whether and why civil servants unfunded employer pension schemes should be treated differently (i.e., treated as pension funds) from social security pensions”. Eurostat (2004, p. 3) further commented on the importance of the reference to the IAS in the IPSASB proposal as follows:

It is noted that the International Public Sector Accounting Standards (IPSAS) of the [Public Sector Committee] (PSC) does not include guidance yet on the recording of civil servants pensions. It is sometimes assumed that the International Accounting Standards Board (IASB) standards' on pensions (IAS 19) applies (see the EDG contribution by IFAC PSC staff).

Concerning current European requirements for the Member States (point (ii) above), they include publication of “a special compulsory table in which government pension liabilities”. In 2008, the final report of the Eurostat/ECB Task force on the statistical treatment of pension schemes summarised the compromise that was reached in the new SNA (Eurostat, 2008, p. 17) by arguing for six “basic principles”. The following two principles are relevant here:

(iv) *Concerning government sponsored systems:* Pension entitlements of unfunded, pay-as-you-go government sponsored systems which provide the basic social safety net type of

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<sup>9</sup> The AEG was the result of an Electronic Discussion Group (EDG), including social security and unfunded employer pension schemes established by the IMF Statistics Department. The discussions in this EDG resulted in a report that was presented in the February 2004 meeting of the Advisory Expert Group (AEG) on National Accounts.

<sup>10</sup> Reimund Mink (2008), senior advisor at European Central Bank, summarises the main standards of the existing national accounts systems in a paper titled “General government pension obligations in Europe”.

<sup>11</sup> Lequiller (2004) personally supported Eurostat's Communication to the AEG.

provision, sometimes referred to as pillar one type provision, will be only recorded in the supplementary table (but not in the core account);

(v) The recommendation of the new SNA regarding the recording of unfunded pension schemes sponsored by government for all employees (whether private sector employees or government's own employees) will be flexible.

These principles were largely supported by senior statistical staff in summer 2006 (Eurostat, 2008, p. 17). In 2013, this supplementary table was included in the Chapter 17 dealing on "social insurance including pensions" in the ESA 2010 (Eurostat, 2013). This table provides detailed and reliable estimates of stock and flow data on both pensions which are included in core accounts and pensions which are excluded. Unfunded defined benefit schemes were excluded by core accounts:

The [supplementary] table also covers stock and flow data not fully recorded in the core national accounts for specific pension schemes such as government-unfunded defined benefit schemes with government as the pension manager, and social security pension schemes (Eurostat, 2013, p. 379).

In this way, detailed and comparable information is provided at the level of each Member States, while impact on governmental accounts, affecting measurement of public sector deficit and debt, is excluded (Dabbicco, 2015).

The following paragraph will analyse the European Commission's previous work on pension obligations.

### **2.3 European Commission's previous work on pensions obligations**

It is important to bear in mind that, in 1997, the European Commission endorsed the 1994's World Bank « three pillar grid » analysis while recognizing that, at that time, 88% of EU pension payments are covered by the first pillar which is a 'pay-as-you-go' (PAYG) system (European Commission, 1997, p. 5).

In 2010, the European Commission's Green Paper (2010, p. 5) titled "Towards adequate, sustainable and safe European pension systems" acknowledges the ongoing shift from PAYG pensions towards more prefunded private schemes, which are often of a Defined Contributions nature, in most but not all Member States, in order to lower the share of public PAYG pensions in total pension provision<sup>12</sup>. In fact, the Commission acknowledges that:

Member States are responsible for pension provision: this Green Paper does *not* question Member States' prerogatives in pensions or the role of social partners and it does *not* suggest that there is one 'ideal' one-size-fits-all pension system design.

This same Green Paper (European Commission, 2010) aims strengthening the internal market for pensions, claiming that:

Completing the internal market for pension products has a direct impact on the EU's growth potential and therefore directly contributes towards meeting the Europe 2020 objectives.

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<sup>12</sup> A figure in this report presents "the share of occupational and statutory funded pensions in total gross theoretical replacement rates in 2006 and 2046" that will be rising for a lot of countries such as Italy, Poland Belgium, Germany Denmark and shows that "funded pensions will provide for a larger share of retirement income in 2046 than in 2006" (European Commission, 2010, p. 36).

The Green Paper mentions that the 2003 Directive on Institutions for Occupational Retirement Provision (IORP) was a major achievement. This IORP Directive (European Parliament & Council, 2003) deals, in article 15, with technical provision and, in article 16, with the funding of technical provision. The Directive requires “a prudent calculation of technical provisions (...) calculated on the basis of recognized actuarial methods and certified by qualified persons” and “sufficient and appropriate assets to cover the technical provisions protect the interests of members and beneficiaries of the pension scheme if the sponsoring undertaking becomes insolvent.”

Full funding is required only for cross-border activity (Art. 28), while Member States can permit underfunding for national institutions, if a proper plan is established to restore full funding and without prejudice for protection of employees in the event of the insolvency of their employer (Council Directive 80/987/EEC of 20 October 1980).

In 2011, the European Commission worked on public and private pension systems in the EU and their contingent liabilities and assets. This report stated that “some pension reforms (...) induce front loaded costs which will be accounted as Maastricht relevant government debt”, acknowledging that the revised Stability and Growth Pact required “accounting for implicit pension debt in the computation of the medium term objective”. Accordingly, “Member States with high implicit debt will have to run budget surpluses in the medium term” (European Commission, 2011, p. 77).

Concerning public sector accounting, the European Commission (2013b, p. 6) believes that an accrual basis of accounting helps assessing fiscal sustainability:

[T]he important advantage of accruals over cash accounting is that both assets and liabilities are consistently recorded, making it possible to have a complete and consistent picture of the real financial position and of whether it is sustainable.

Having dealt with pension obligations through the 2003 IORP Directive and the 2010 Green Paper, the European Commission is now dealing with pensions accounting through the EPSAS project.

#### **2.4 The EPSAS project, pensions accounting and the Member states**

Concerning the EPSAS project, the IPSAS were declared to be an “indisputable reference” (European Commission, 2013a, p. 8) for the ongoing process of harmonisation of public sector accounting standards by the European Commission which leads this project since 2013 (announced in 2011). However, some countries express concerns and resistance. For example, according to the German Bundestag (2015), “it is doubtful that the benefits of introducing European accounting standards are in a reasonable proportion to the necessary costs.” In the EPSAS project, accounting for pension obligations is especially relevant. According to the German Bundestag (2015):

New European accounting rules only make sense if the collection and evaluation of assets and liabilities – particularly with respect to implicit indebtedness, which in particular has to fully reflect risks such as pension provision - guarantee transparency and comparability, for which purpose uniform standards must be defined.

In this context, Lequiller (2014, p. 24), argues that pension accounting is ultimately “political and it is typically one that should be decided upon, in the European context, by an appropriate governance body for public accounting.”

According to the report prepared by PricewaterhouseCoopers (2014, p. 108) which examines existing accounting standards in Europe on behalf of the European Commission in the ongoing harmonisation of European Public Sector Accounting Standards (EPSAS):

Pension liabilities in respect of defined benefit schemes rank among the most significant areas in terms of impact on the opening balance sheet, when making the transition from a cash-based accounting system to IPSAS. (...) IPSAS 25 on employee benefits would require recognition of large pension liabilities on the balance sheet. This could lead to negative reactions from stakeholders if negative net assets are disclosed.

In the previous preparatory report (European Commission, 2013b, pp. 125-126), the IPSAS 25 was included among standards that “need adaptation, or for which a selective approach would be needed”. Further technical discussion was then encouraged with a panel of accounting experts. This report further stated that “the difficult areas are pensions, and to a lesser extent, other long-term benefits such as long service leave, which represent a large problematic part of the standard.”

It is then clear that accounting for pension obligations constitute one of the main issues underlying this accounting process of harmonisation, although it was excluded by the main topics of the first survey led by Ernst & Young on behalf of Eurostat to provide supporting documentation for the EPSAS project.

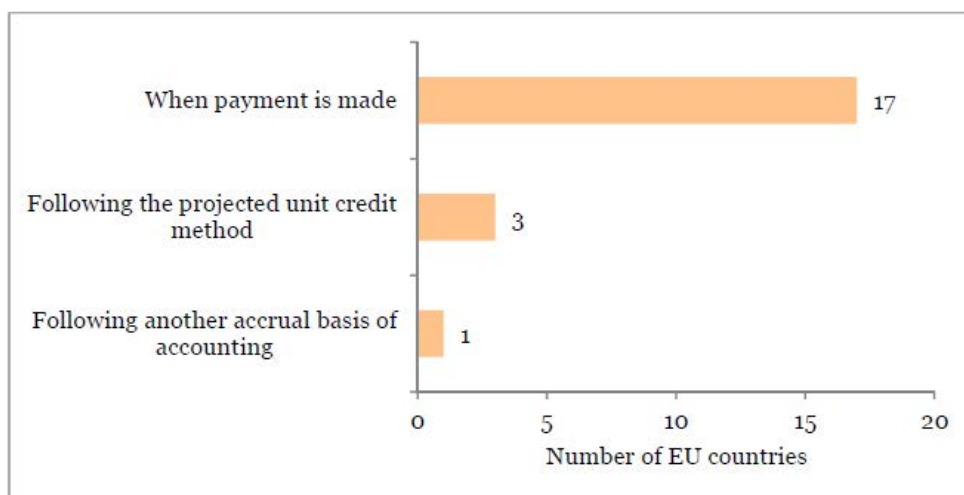
In this context, it should be remembered that pension provision modes differ across Europe’s Member States. Since the issuance of the IPSAS 25, very few European countries have adopted its actuarial accounting approach. As stated in PricewaterhouseCoopers (2014) report, “the average accounting maturity score” - which denotes compatibility with the IPSAS - “for employee benefits is only 25%, which is the lowest score of all accounting areas.”

Throughout Europe, most public sector pension expenses are paid by Defined Benefit pension schemes that recognize those expenses when payment is made (Figure 1). According to PriceWaterhouseCoopers (2014):

Out of 22 [Member States that confirmed that defined benefit pension schemes (or equivalent) have been granted to civil servants/government employees], only four countries recognise defined benefit pension liabilities in the statement of financial position. Three EU central governments recognized defined benefit schemes following the projected unit credit method, one follows another accrual basis of accounting.

Figure 1. Timing of recognition of pension expenses for defined benefit pension schemes





Source: PricewaterhouseCoopers (2014, p. 108)

Respondents explained the lack of liability recognition especially by the nature of the obligation, the complexity of actuarial calculations, the lack of expertise on the latter, and the potential impact on governmental net financial position. Moreover, “some argue that if such liabilities are recognised, one should also recognise future tax revenues on the balance sheet” (PriceWaterhouseCoopers , 2014). The very existence of this liability is contested as governments can unilaterally decide to modify pension terms and conditions over time.

According to the Bundesrechnungshof (2014), the Supreme Audit Institution of Germany at the federal level, “introducing uniform accounting standards involves significant risks” and underlines that “up to now, the Commission has not supplied any justification on how harmonization can help solve the data quality problems it pointed out. Also so far no assessments are available substantiating that EPSAS will actually afford enhanced protection against manipulations.”

The Bundesrechnungshof (2014) notices that “Eurostat has not expressed any reservations about the reliability of German statistical data and the underlying accounts” and that “the data reported by Germany largely meet the requirements set by the European System of Accounts”. Therefore, it deduces that “- with regard to data quality - there is no compelling need to introduce EPSAS”.

The German Bundestag (2015), the German Federal Parliament, stressed that any harmonization “must take into account the constitutional principles of the sovereignty of the German Bundestag over the budget”and “should not be undertaken until after evaluation of the measures already introduced and once alternatives have been examined and also only on the basis of a thorough examination of the need for and effectiveness of introducing European standards”. The German Bundestag (2015) expressed then a relatively clear-cut position:

The German Bundestag calls on the Federal Government to ensure the freedom of choice which currently exists in Germany with respect to cash based and double-entry systems of budget planning, financial management and accounting is maintained; in the event of EPSAS being developed, there should be provision, on a voluntary basis if need be, for the introduction of double-entry and accrual accounting.

Several viable alternative modes exist in current practice in Europe, moving from the individualistic saving account plans at one extreme of the pension world, toward unfunded ‘pay-as-they-go’<sup>13</sup>

<sup>13</sup> Hereafter, we replace the usual expression ‘pay-as-you-go’ with ‘pay-as-they-go’, to highlight the collective dimension of this system, where current contributors pay for other people’s pension period after period.

schemes under collective responsibility at the opposite extreme (Frericks, Maier and de Graaf (2009)). Governmental pension funds are still largely unfunded and based upon 'pay-as-they-go' schemes. Some countries in Europe such as Belgium, France, Germany, Ireland, and Luxemburg have separated unfunded schemes for civil servants pensions (Pinheiro, 2004). Drawing upon this empirical evidence, pension regulation may develop and enforce a set of clear and consistent options which enable various existing modes to fulfil their specific prudential and accounting needs for accountability and responsibility for pension management over time.

The following section will develop some building blocks for a comprehensive accounting model for pension obligations. This model is based upon a flow basis of accounting that fits with a revenue-expense accounting approach, giving priority to revenues, costs, contributions and expenditures.

### **Section III – Toward a comprehensive accounting model for pension obligations**

The current state of pension affairs in Europe shows that the 'saving account' model that has been affirmed for accounting and management of pension obligations by the IPSAS Board is not consistent with all the existing practices that still characterise pension management and reporting across Europe's countries and jurisdictions. Moreover, unsettled debates still exist even within this 'saving account' model, especially concerning the preferred actuarial method to estimate remote and uncertain flows subject to unforeseeable change and hazard, as well as the appropriate discount rates of reference and related updating over time (Dietz, 1968; Exley, Mehta, & Smith, 1997; Bader & Gold, 2003; American Academy of Actuaries, 2007; Waring, 2009; Keating, Settergren, & Slater, 2013; Mortimer & Henderson, 2014).

In this section, we will introduce a new frame of analysis to comprehend the existing variety of pension management modes and to better cope with the funding and the sustainability issues.

#### **3.1 A variety of pension managements leading to the need for a new frame of analysis**

Pension management generally occurs through organised entities that perform it on behalf of sponsors and beneficiaries. This entity dimension is not consistently included in the view of pension obligations as individual saving / deferred remuneration accounts. A saving account can exist independently from managerial delegation to a specialised financial entity, while an entity-held pension account does not necessarily feature all the characteristics - regarding appropriability, transferability, remuneration and so forth - that functionally define an individual saving account. For instance, an entity-held pension account may not be appropriable or transferable at will, while it may not be fully funded at every time<sup>14</sup>.

Separately incorporated or not, a financial entity specialised in pension management (generally labelled 'pension fund') is purposively devoted to pension obligation fulfilment over time. This fulfilment constitutes its constitutive mission. Perform this mission involves two complementary working processes to be accounted for:

- i. One process does concern the series of cash (cash-receivable, and cash-promised) flows that pass through the entity from ongoing contributing members (including future expected beneficiaries and committed sponsors) to incipient and future beneficiaries. This process involves cash and non-cash financial funds and flows to be accounted for. It points to the financial dimension and this cash process of entity economy is consistent with a cash basis of accounting.

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<sup>14</sup> Bohn (2011) reflects on the ambiguous meaning of full funding, stating that there are several conceptually different ways to its interpretation.

- ii. The other process does concern the economic recovery of the outward flow of payments that are due over time to incumbent beneficiaries. This process involves recognition and measurement of ongoing payments and matching contributions, as well as dedicated assets and outstanding liabilities that are generated by ongoing management of pension entity over time and hazard. It points to the economic dimension of entity economy and is consistent with an accruals basis of accounting.

From this perspective, an individual saving account approach to pension obligations involves a quite narrow view on both processes. Accordingly, each individual is expected to collect his own series of cash settlements, which, through financial placement, are the only way to get future pension payments by ongoing financial accumulation that is dependent on cumulated cash funds and proceeds (Appendix Part A). To expand on this view, it may be useful to disentangle its implicit understanding of pension management through a dualistic approach that identifies couples of contrasting terms. This dualistic approach draws upon a review of existing practice, as follows:

- Individualistic vs collective: this discriminating concept distinguishes between individualistic and collective approaches to pension obligations. This concept especially refers to the economic process. According to individualistic approaches, each individual is expected to pay for himself. Social solidarity through mutualistic transfers is then excluded, in principle. According to collective approaches, the whole of constituting members assure the coverage of pension payments over time. Individualistic appropriation is then excluded, in principle.
- Funded vs. unfunded: this discriminating concept distinguishes between funded and unfunded pension obligations. This concept especially refers to the financial process. Under funded schemes, the pension account(s) is expected to contain cash and cash-receivables to be invested to recover future pension payments. Under unfunded schemes, the pension account(s) is not expected to contain cash. It identifies outstanding pension rights and obligations that do not necessarily match some underlying financial investment process.
- Stock vs. flow basis of accounting: this discriminating concept distinguishes between the two most general families of accounting models (Biondi, 2012). This concept especially refers to the accounting representation. A stock basis of accounting adopts a balance sheet accounting approach which gives priority to recognition and measurement of assets and liabilities as they stand at one point of time, to represent and account for overarching managerial processes. A current (fair) value accounting measurement is generally consistent with this stock accounting basis. A flow basis of accounting adopts an income statement accounting approach which gives priority to revenues, costs, contributions and expenditures. An historical cost (historical nominal amount) accounting determination is generally consistent with this flow basis of accounting.
- Deferred remuneration vs. social protection: this discriminating concept distinguishes between two alternative understandings of pension rights and obligations. This concept allows an overarching definition of modes of pension management. On the one hand, pension is understood as deferred remuneration that is due to the individual along with the current remuneration. In its pure form, this implies that both accrued pension payment and its cash liquidation are performed in the accruing period when the current remuneration is paid. On the other hand, pension is understood as social protection that is granted by a whole of constituencies (pension fund members, citizenship) and delegated to a pension-purpose entity (mutual, governmental). In its pure form, this implies that ongoing pension payments are assured by that entity (including on behalf of sovereign powers) and do not belong to beneficiaries before they are due and liquidated.

Table I summarises these couples of contrasting terms.

Table 1. Couples of contrasting terms

Dimension of Reference	Discriminating concept
Economic process	Individualistic vs. collective
Financial process	Funded vs. unfunded
Accounting representation	Stock basis vs. flow basis of accounting
Overarching definition	Deferred remuneration vs. social protection

According to this frame of analysis (Table I), the pension as individual saving account view that has been recently affirmed corresponds to an individualistic approach which involves funded financial management and a stock basis of accounting, as for pensions are understood as deferred remuneration. At the opposite side, we can situate the pure unfunded ‘pay-as-they-go’ scheme that has been generally adopted by public sector pension funds. This latter collective approach fosters an unfunded financial management, it prefers a flow basis of accounting and it understands pensions as social protection assured by the pension-purpose entity on behalf of the whole union (pension fund members, citizenship).

Our frame of reference overcomes the alleged ‘saving account’ view that defines pension as an individual saving account. Overarching managerial processes exist and are sustainable (depending on conditions and circumstances) under various models which correspond to, and can be classified through each couple of discriminating concepts. For instance, Table 2 shows a classification of existing practices according to two discriminating concepts: individual vs. collective, and stock vs. flow basis.

Table 2. A theoretically-informed classification of existing modes of pension management

	Stock basis	Flow basis
Individualistic	Defined Contribution Schemes	Individual saving accounts
Collective	Defined Benefit Schemes	Pay-as-they-go Schemes

Accordingly (Table 2), under individualistic regimes, Defined Contribution (DC) schemes apply a stock basis of accounting and management. Each individual is then expected to hold a share of the pension joint stock. Individual saving accounts are by definition personal, but they are generated by progressive accumulation of savings flows and related reinvestment proceeds. Under collective regimes, Defined Benefit (DB) schemes promise continued pension payments on behalf of the whole of constituencies (including beneficiaries and sponsors). ‘Pay-as-they-go’ schemes make the same promise, but fulfil it through ongoing matching between contributions and pension payments over time.

In this context, a stock basis of accounting points to the notion and function of money as reserve and measure of value (Le Lann, 2010), while a flow basis of accounting points to the notion and function of money as symbol, means of payment and unit of account (Biondi, 2010). In the first case, dedicated asset portfolio refers to the very existence and accumulation of identifiable assets that are expected to pay for future pensions. In the latter case, pension commitments stand as acknowledgement of stated promises of future payments by the entity responsible for the fulfilment of these promises.

From this perspective, the ‘saving account’ view that understands pension as an individual saving account appears to be inconsistent with received social meaning of pension. This meaning has been related to protection granted to the old or the sick. In its pure form, the pension as saving account view holds each individual - independently from all the others - responsible for its own financial

sustainability over old age, making it dependent on the hazardous results of the ongoing financial investment process. However, according to the Merriam-Webster dictionary, pension means ‘an amount of money that a company or the government pays to a person who is old or sick and no longer works’, while its meaning as ‘wage’ is considered as archaic. According to the Oxford, pension means ‘a regular payment made by the state to people of or above the official retirement age and to some widows and disabled people’.<sup>15</sup> Late Middle English (in the sense 'payment, tax, regular sum paid to retain allegiance') derives from Old French, as well as from Latin pensio(n-) that means 'payment', from pendere 'to pay'. This current verb sense dates from the mid-19th century.

### 3.2 Disentangling funding and sustainability

Illustrations and numerical analysis (see Appendix) show here that funding and sustainability are not necessarily linked.

In this context, notwithstanding discredit that has been claimed against them, unfunded ‘pay-as-they-go’ schemes can be sustainable as long as current and future contributions from constituencies (including sponsors and future beneficiaries) go on matching current payments that becomes due to incumbent beneficiaries over time. In particular, Appendix Part B shows a numerical illustration denoting this sustainability. Symmetrically, an actuarial representation of pension obligations can hide significant issues and hazard related with pension provision over time. Appendix Part C shows a numerical illustration denoting these limitations.

Our numerical analysis further implies that funded schemes do not guarantee better provision and security of pensions. Shortcomings of funded schemes have been occurring especially in the aftermath of financial crises. For instance: in the UK, in 1992, the Maxwell scandal (Augusztinovics, 2002, p. 26); in 2000, the UK insurance company Equitable Life, and in 2007, the UK pension fund of Allied Steel and Wire. In France, the additional pension fund for civil servants named CREF (‘caisse complémentaire de retraite de la fonction publique’), which was partly funded, incurred financial distress and was transferred in 2002 to the COREM under the supervision of the State<sup>16</sup> (Pouzin, 2014).

Since unfunded ‘pay-as-they-go’ pension schemes can be sustainable (Appendix Part B), while partially funded, financial-return-based pension plans can be unsustainable (Appendix Part C), we can conclude that funding and sustainability are not necessary linked. According to Augusztinovics (2002, p. 26):

Contrary to the new pension orthodoxy’s major arguments, there is ample conceptual evidence in the literature to demonstrate that the method of finance and the type of management are no panacea (...).

From our perspective, the overarching accounting and management purpose concerns the *protection* of pension promises through enhanced reporting and disclosure. Accountability for pension management involves being accountable for the main purpose of that management, i.e., timely and continued provision of pension payments as they become due at their previously committed levels.

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<sup>15</sup> To be sure, Oxford Dictionary also adds the following definition: ‘A regular payment made during a person’s retirement from an investment fund to which that person or their employer has contributed during their working life’.

<sup>16</sup> Thousands of contributors claimed in court for compensation for their damages and were partially satisfied (Pouzin, 2014). Some lawsuits remain unsettled (Prache, 2008), while the new fund COREM has been reducing past pension promises as a consequence of the financial distress of 2002.

The pension model as saving account and funded financial placement assures this protection through the financial accumulation process, which exposes funded pension liability to financing cost and risk, as well as investment cost and risk, including misappropriation and misallocation by controlling parties. From this perspective, its actuarial mode of accounting representation affords the danger to undermine control and accountability, as for the discounting/unwinding measurement method cannot track actual cash flows and funds that are involved in overarching managerial processes. Moreover, this actuarial representation introduces subjectivity and volatility of valuation, making ongoing valuation dependent on assumptions over critical variables concerned with the financial accumulation process, including discount rates of reference, and forecasts over very long periods of time (Biondi, et al., 2011; Biondi, 2014).

Unfunded 'pay-as-they-go' model assures pension protection through collective responsibility for incumbent beneficiaries, discharged by the managed entity on behalf of entity constituencies. This has historically led to a lack of accounting reporting and disclosure by both public sector and private sector sponsors. Few information (if any) was provided through their accounting reporting, while no quantitative determination was included in their balance sheet concerning outstanding positions. However, Appendix Part B shows how the ongoing structure of flows and funds can be represented without having recourse to current (discounted) values that are inconsistent with this model.

In this context, notwithstanding discredit that has been claimed against them, unfunded 'pay-as-they-go' schemes can be sustainable as long as current and future contributions from constituencies (including sponsors and future beneficiaries) go on matching current payments that becomes due to incumbent beneficiaries over time. Appendix Part B shows a numerical illustration denoting this sustainability.

Symmetrically, an actuarial representation of pension obligations can hide significant issues and hazard related with pension provision over time. Appendix Part C shows a numerical illustration denoting these limitations.

To conclude, our frame of analysis develops a more comprehensive and neutral perspective on management modes for pension obligations, including viable accounting representation of related funds and flows over time. Accordingly, regulatory authorities and policy-makers are not so much requested to endorse one particular mode of pension management, as to rule accounting and prudential options that make them consistently represented and accountable for pension obligations over time. In particular, Appendix Part B shows how an actuarial mode of accounting would provide information that is inconsistent with governance and managerial needs for pension obligations under 'pay-as-they-go' schemes, while Appendix Part C shows how this very method undermines disclosure on cash management by managing entities.

### **Conclusive remarks**

According to Frericks, Maier and de Graaf (2009), two extreme directions are currently being taken concerning pension management in Europe, one toward privatization and the other one toward solidarity : "European welfare reforms transfer many services, needs, and responsibilities to the market [which corresponds to a neoliberal tendency]. However, there is also a contrasting and striking development toward solidarity, based on extensive regulatory policies [which corresponds to a neostatist tendency]. (...) On one hand, pension investments are more individualized, partly transferred to capital-funded investment funds, with the emphasis on self-responsible planning; on the other hand, possibilities to invest are more highly regulated."

The accounting debate is a critical issue in this unsettled debate about pension management in Europe. Accounting choice will definitely have an impact on which trend may eventually prevail and on the overarching socio-economic organisation of pension management.

Our analysis shows that existing practices are still inconsistent with the requirements and underlying view adopted by the IPSAS 25 for pension accounting. Therefore, the IPSAS reference constitutes a fundamentally normative choice. Accounting does impact on citizens, governments and market confidence. Concerning citizens, Frericks, Maier and de Graaf (2009) argue that the move toward a neoliberal Europe “redefines social rights, and therefore transforms social identity and citizenship”. Concerning governments, a shift concerning pensions’ accounting from ‘pay-as-they go’ to pre-funded pensions schemes and the implementation of accruals basis of accounting would result in large liabilities for public sector bodies on governmental balance sheets. Herman Von Rampuy, current President of the European Council, argues that “in Europe, [...] discussions about fiscal policy largely revolve around two key indicators of fiscal sustainability, deficit and debt” (Van Rampuy, 2013). As a consequence, at a governmental level including pensions in deficit and debt figures may significantly alters perception of Member States’ fiscal sustainability with potentially unexpected consequences. Concerning market confidence, this novel accounting representation may lead to reconsider well-established practices of market-based governmental debt funding and refinancing which do not currently draw upon accruals-based measurement of net assets (Biondi, 2015). Moreover, if public sector accounting standards put pressure over entities to include future obligations into their balance sheet, these entities may be encouraged or constrained to increase their debt position and incur additional costs and risks to fund them, transforming their pension management into a speculative hedge fund strategy leveraged on public debt. Induced pension policy may be led to reduce established levels of pension protection for incumbent and future beneficiaries.

The overall concern of this article is the protection of pension promises through accounting and reporting.

The article has reviewed European modes of management and accounting for pension’s obligations and showed that funding and sustainability are not necessarily linked (see Appendix). These modes prove to be inconsistent with the ‘actuarial view’ that has been fostered by IPSAS 25. The ongoing debate on the latter further shows technical and conceptual difficulties with its actuarial representation of pension management.

Throughout debates on private sector and national statistics standards, international organisations professionals, scholars and national accounting boards stressed limits and concerns on pension funding and pension recognition in public sector balance sheets. Eurostat itself, now in charge of the EPSAS, has expressed reservations on pension liability recognition in national accounts.

From a theoretical perspective (Oulasvirta, 2008; 2014) the fundamental accounting choice is between the two most general families of accounting models (Biondi, 2012): the stock versus the flow basis of accounting. A stock basis of accounting adopts asset-liability accounting approach which gives priority to recognition and measurement of assets and liabilities as they stand at one point in time, to represent and account for overarching managerial processes. The actuarial representation adopted by the IPSAS Board is consistent with this balance sheet accounting approach. However, our alternative model adopts a flow basis of accounting that fits with a revenue-expense accounting approach, giving priority to revenues, costs, contributions and expenditures.

Therefore, both practice and theory show that several viable alternative modes exist for pension management in Europe. Drawing upon this result, pension regulation may develop and enforce a set of clear and consistent options which enable various existing modes to fulfil their specific prudential

and accounting needs for accountability and responsibility for pension management over time. Accounting standard-setting should be especially concerned with relevant and material issues raised by applying discounting to measurement of pension liability. Such a measurement proves to be particularly difficult and subjective to be performed. Off-balance sheet disclosure may then provide a better solution.

Accordingly, in order to make various alternative and viable management modes comparable by users of financial reporting and disclosure, accounting standard-setting may focus on supplementary disclosure of raw data on flows and funds that characterise the ongoing processes of pension management over time (see Appendix). A supplementary table that standardises this basic information and schedule may be more useful, reliable and financially stabilizing than a hazardous recourse to an ever-changing actuarial evaluation to be included in financial statements. This financial accounting disclosure solution echoes that retained for the ESA 2010, which includes a supplementary table on alternative pension systems while excluding their impact on the core accounts of public sector systems in national statistics.



## Appendix

### Part A. The 'saving account' model of accounting and management for pension obligations

Our main text shows how critique of 'pay-as-you-go' pension mechanisms – based upon an alleged 'actuarial view' to define and manage pension funds – treat them as close monetary funds.

Part A provides a numerical example of this treatment and its accounting representation. It shows how pension contributions are cumulated period through period during the work life time by the employees and reinvested through time to earn an interest yield on the cumulated cash amounts. When employees get retired, this cash account is spent to pay their pension through retirement life time. Table A.1 provides a numerical illustration. Work life time is supposed to last for 5 periods; retirement life time is supposed to last for two periods. For sake of simplicity, interest yield is fixed at 5% over all the investment periods (with no investment return volatility or investment loss).

**Table A.1. A numerical illustration of the 'saving account' model<sup>17</sup>**

Hypothesis and parameters implications								
Discount rate for future payments	0,05	1,00	0,95	0,91	0,86	0,82	0,78	0,75
Cohort duration (periods number)	7	6	5	4	3	2	1	-

Flow representation								
Periods	CUM/INIT	1	2	3	4	5	6	7
		During work life				After retirement		
<b>Statement of flows</b>								
Pension payment	120	0	0	0	0	0	60	60
Net wage	400	80	80	80	80	80	0	0
Pension cash contribution	100	20	20	20	20	20	0	0
<i>Gross wage</i>	<i>500</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>		
Cash Investment Return	11	0	1	2	3	4	0	0
<b>Statement of Funds</b>								
Cumulated Cash Contributions		20	40	61	83	106	111	51
Cash Investment Returns		0	1	2	3	4	0	0
Pension payment (outflow)		0	0	0	0	0	-60	-60
Accrued Pension Fund (Cash)		20	41	63	86	111	51	-9

#### Assumptions and Notes

- We assume net wage to be stable.
- We assume pension cash contributions to be paid at the end of the period and reinvested at the reference discount compound rate.

<sup>17</sup> In the tables from the Appendix, data are rounded to the nearest unit.

## Part B. Sustainability of unfunded pay-as-they-go pension schemes: A Numerical example

Part B provides a numerical example to show how ‘pay-as-you-go’ mechanisms can be sustainable over time without having recourse to an actuarial representation and control of their ongoing economic and financial process. Moreover, it shows how the latter representation misunderstands this overarching process, undermining its functional operations and accountability for the latter.

For illustration purpose (Table B.1), we assume one cohort of fund incipient members (which pay contributions) along with one cohort of fund current beneficiaries (which receive pension payments). Since the ‘pay-as-you-go’ scheme is collective, its functional process is expected here to balance current payments (outflows) against current contributions (inflows), period through period. More sophisticated mechanisms may be designed while maintaining a flow basis of accounting and control. Period balance of these two flows shows the over/under paid amount of the period.

From this perspective, a statement of funds may represent, on the asset-side, the remaining contributions to be collected, by cumulating outstanding future commitments to be received at their nominal amount. On the liability-side, it may represent the remaining notional gross commitment for pensions to be paid at their nominal amount. Period balance between these two funds shows residual balance that is accrued at that period. Total balance is provided by adding cumulated balance from the past to cumulated balance from the future. It shows the outstanding balance of the ongoing pension operations across time.

**Table B.1. A numerical illustration of sustainability of unfunded pay-to-go pension schemes**

Hypothesis and parameters implications						
Discount rate for future payments	0,05	0,91	0,86	0,82	0,78	0,75
Cohort duration (periods number)	5	4	3	2	1	-
Flow representation						
Periods	CUM/INIT	1	2	3	4	5
<b>Statement of Flows</b>						
- Pension payments (outflows to current beneficiaries)	520	120	120	120	80	80
+ Pension contributions (inflows from incipient members)	500	100	100	100	100	100
= Operational balance (pension management)		-20	-20	-20	20	20
<b>Statement of Funds</b>						
A Cumulated balance from the past	-20	-20	-40	-60	-40	-20
Remaining notional gross commitment	520	400	280	160	80	0
Remaining contributions to be collected	500	400	300	200	100	0
B Outstanding balance over the future	-20	0	20	40	20	0
C = A+B Total balance		-20	-20	-20	-20	-20
Actuarial Representation						
Actuarial liability	434	325	221	122	60	-
Discounting Unwinding (+profit /-loss)		109	104	99	63	60
Cumulated Actuarial Balance	-	109	213	311	374	434
<i>For disclosure</i>						
Discounted yearly payments to beneficiaries		109	104	99	63	60

### Assumptions and Notes

- Dedicated assets do not apply here: contributions to be collected are not expected to be funded in advance.
- Future contributions are not discounted since they are not expected to be funded. They constitute future revenue that is not yet accrued to the accounting entity.

Table B.1 further provides an actuarial representation of this working process. Since the latter is based upon flow compensation over time, its actuarial representation misunderstands its working and does not provide meaningful and usefulness figures to represent and control it. In particular, it provides an evaluation of initial accrued liability (434) that undermines the actual notional gross commitment (520), while it unwinds a progressively decreasing profit (from 109 to 60 over various years) that misrepresents the ongoing series of inflows (100) and outflows (100 and 80 over various years).

## Appendix C. Actuarial representation of financial and economic processes of pensions payment

This appendix disentangles implicit assumptions made by an actuarial representation. We take the same numerical example as in Appendix A concerning pension payments. However, ongoing pension contributions are replaced by a lump-sum payment at the end of the cohort period.

This working hypothesis shows the impact of discounting involved in an actuarial representation. Its sustainability is fundamentally based upon the compensation of stock values that include implicit compound return rates over time (Biondi, 2011). Table C.1 develops a numerical illustration.

**Table C.1. Numerical illustration of an actuarial representation of pension obligations**

Hypothesis and parameters implications						
Discount rate for future payments	0,05	0,91	0,86	0,82	0,78	0,75
Cohort duration (periods number)	5	4	3	2	1	-
Flow representation						
Periods	CUM/INIT	1	2	3	4	5
<b>Statement of Flows</b>						
- Pension payments (outflows to current beneficiaries)	520	120	120	120	80	80
+ Pension Contributions (inflows from incipient members)	581	0	0	0	0	581
= Operational balance (pension management)		-120	-120	-120	-80	501
<b>Statement of Funds</b>						
A Cumulated balance from the past	61	-120	-240	-360	-440	61
Remaining notional gross commitment	520	400	280	160	80	0
Remaining contributions to be collected	581	581	581	581	581	0
B Outstanding balance over the future	61	181	301	421	501	0
C = A+B Total Balance		61	61	61	61	61
Actuarial Representation						
Actuarial Asset	434	325	221	122	60	60
Actuarial Liability	434	325	221	122	60	-
Discounting Unwinding (+profit / -loss)		109	104	99	63	60
Cumulated Actuarial Balance	-	109	213	311	374	434
<i>For disclosure</i>						
Discounted yearly payments to beneficiaries		109	104	99	63	60
Discounted yearly contribution from beneficiaries		-	-	-	-	434

### Assumptions and Notes

- A pension cohort lasts for five years, with ongoing contributions are paid every year.
- Actuarial representation provides a discounted evaluation of outstanding liability which is progressively unwinded and passed through the statement of flows.

- Future contributions are not discounted since they are not expected to be funded. They constitute future revenue that is not yet accrued to the Table C.1 shows a pension scheme that is balanced under its actuarial representation over time. However, this balance is obtained by recovering negative cash outflows all along the cohort duration

with a lump-sum inflow that compensates both the cash outflows and the negative returns that have been paid to maintain the negative cash imbalance over time. This involves a final payment that is materially bigger than the payment under the 'pay-as-they-go' scheme in Table B.1.

This numerical example illustrates several hazards that are not fully disclosed by an actuarial representation. In particular: cash balance outstanding remains hidden although exposing the pension-providing entity to significant costs and risks; an implicit return is included in the actuarial representation of dedicated asset portfolio (this return is expected to compensate negative return over outstanding liability); an eventual bankruptcy occurring before the final period would undermine the capacity of the fund to cover for pension obligations, notwithstanding its expected balanced actuarial balance that bases upon assumptions on remote future events and conditions.

In sum, an actuarial representation makes the pension provision sustainability dependent on the structure of financial returns related to positive and negative stocks that are computed in a way that neglects time, process and hazard. Biondi (2011) provides further theoretical analysis of discounting in capital budgeting.

- *Defined benefit (DB) schemes.* Pension schemes where the benefits accrued are linked to earnings and the employment career (the future pension benefit is pre-defined and promised to the member). It is normally the scheme sponsor who bears the investment risk and often also the longevity risk: if assumptions about rates of return or life expectancy are not met, the sponsor must increase its contributions to pay the promised pension. These tend to be occupational schemes.
- *Defined contribution (DC) schemes.* Pension schemes where the level of contributions, and not the final benefit, is pre-defined: no final pension promise is made. DC schemes can be public, occupational or personal: contributions can be made by the individual, the employer and/or the state, depending on scheme rules. The pension level will depend on the performance of the chosen investment strategy and the level of contributions. The individual member therefore bears the investment risk and often makes decisions about how to mitigate this risk.
- *Funded scheme.* A pension scheme whose benefit promises are backed by a fund of assets set aside and invested for the purpose of meeting the scheme's liability for benefit payments as they arise. Funded schemes can be either collective or individual.
- *Hybrid pension scheme.* In a hybrid scheme, elements of both defined contribution and defined benefits are present or, more generally, the risk is shared by the scheme's operator and beneficiaries.
- *Pay-As-You-Go (PAYG) schemes.* Pension schemes where current contributions finance current pension expenditure.

Source: European Commission (2010).

**Box 1. Glossary from the European Commission Green Paper**

## Box 2: Accounting for defined contribution and defined benefits plans according to IPSAS 25

IN6. Under defined contribution plans, an entity pays fixed contributions into a separate entity (a fund) and will have no legal or constructive obligation to pay further contributions if the fund does not hold sufficient assets to pay all employee benefits relating to employee service in the current and prior periods. The Standard requires an entity to recognize contributions to a defined contribution plan when an employee has rendered service in exchange for those contributions.

IN7. All other post-employment benefit plans are defined benefit plans. Defined benefit plans may be unfunded, or they may be wholly or partly funded. The Standard requires an entity to:

- (a) Account not only for its legal obligation, but also for any constructive obligation that arises from the entity's practices;
- (b) Determine the present value of defined benefit obligations and the fair value of any plan assets with sufficient regularity that the amounts recognized in the financial statements do not differ materially from the amounts that would be determined at the reporting date;
- (c) Use the Projected Unit Credit Method to measure its obligations and costs;
- (d) Attribute benefit to periods of service under the plan's benefit formula, unless an employee's service in later years will lead to a materially higher level of benefit than in earlier years;
- (e) Use unbiased and mutually compatible actuarial assumptions about demographic variables (such as employee turnover and mortality) and financial variables (such as future increases in salaries, changes in medical costs and relevant changes in state benefits). Financial assumptions should be based on market expectations, at the reporting date, for the period over which the obligations are to be settled;
- (f) Determine a rate to discount post-employment benefit obligations (both funded and unfunded) that reflects the time value of money. The currency and term of the financial instrument selected to reflect the time value of money shall be consistent with the currency and estimated term of the post-employment benefit obligations;
- (g) Deduct the fair value of any plan assets from the carrying amount of the obligation. Certain reimbursement rights that do not qualify as plan assets are treated in the same way as plan assets, except that they are presented as a separate asset, rather than as a deduction from the obligation;
- (h) Limit the carrying amount of an asset so that it does not exceed the net total of:
  - (i) Any unrecognized past service cost and actuarial losses; plus
  - (ii) The present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan;
- (i) Recognize past service cost on a straight-line basis over the average period until the amended benefits become vested;
- (j) Recognize gains or losses on the curtailment or settlement of a defined benefit plan when the curtailment or settlement occurs. The gain or loss should comprise any resulting change in the present value of the defined benefit obligation and of the fair value of the plan assets and the unrecognized part of any related actuarial gains and losses and past service cost; and
- (k) Recognize a specified portion of the net cumulative actuarial gains and losses that exceed the greater of:
  - (i) 10% of the present value of the defined benefit obligation (before deducting plan assets); and
  - (ii) 10% of the fair value of any plan assets.

The portion of actuarial gains and losses to be recognized for each defined benefit plan is the excess that fell outside the 10% corridor at the previous reporting date, divided by the expected average remaining working lives of the employees participating in that plan.

The Standard also permits systematic methods of faster recognition, provided that the same basis is applied to both gains and losses and the basis is applied consistently from period to period. Such permitted methods include immediate recognition of all actuarial gains and losses in surplus or deficit. In addition, the Standard permits an entity to recognize all actuarial gains and losses in the period in which they occur outside surplus or deficit in the statement of changes in net assets/equity for the year in accordance with paragraph 118 (b) of IPSAS 1.

Cf. also Oulasvirta (2008)

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