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**RECORDING PENSION EXPENDITURE IN NATIONAL ACCOUNTS: ARE SNA 93  
CRITERIA ADEQUATE?**

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*(preliminary draft)*

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## **1) Introduction**

Population ageing is putting pressures on public finances: the expected evolution of the demographic scenario – with the increase of the relative weight of the elderly people – raises doubts about the long term sustainability of demographically sensitive expenditures programs (such as pensions and welfare systems), calling for a reflection about the reforms to be implemented to cope with the issue.

Alongside this discussion, the worldwide statistical community (national accounts experts, international organizations and national statistic offices) has started a debate about the adequacy of existing SNA framework to account fully for the impact of population ageing on public finances.

The discussion has focused on the extension of the notion of liabilities currently adopted in National Accounts to include the implicit debt arising from the commitments of governments to pay pensions to currently workers after their retirement.

This paper deals with this issue, analysing the different aspects involved in the proposal.

The work is structured as follows. In the first section we briefly summarise the theoretical arguments supporting the extension of current definition of debt to include pension liabilities. In the second, we present the existing criteria for recording pension expenditures in National Accounts. The third section is devoted to the analysis of the main reasons adduced for the revision of the criteria currently adopted in SNA93 manual for the recording of pension schemes. The fourth section illustrates the new method proposed for recording the transactions of pension schemes in National Accounts. Finally, in section five we highlight some issues of the new method, focussing mainly on boundaries and cross cutting aspects, with a special emphasis on the distinction between social insurance and social assistance benefits.

## **2) The treatment of pensions in SNA93**

### **2.1) The notion of liabilities in SNA 93**

In existing SNA framework, government liabilities consist of securities, loans, currencies, deposits and accounts payable. This definition does not include the government obligations to future payments of pensions, which are reflected in pension entitlements accumulated by households through the crediting of social contributions to a public managed pension scheme.

As pointed out by some author, a direct consequence of the non recognition of pension related liabilities of Governments is that “the amount of explicit debt on their balance sheets seriously

*understates* the magnitude of their future fiscal obligations” [Heller, 2005]. According to this opinion, liabilities recorded in governments’ balance sheets as formal debt reflect only legally binding obligations and whose timing of the payments and their amount are clearly specified. Such obligations are usually defined “legal obligations”.

However, other forms of obligations exist, differing for the strength of government constraint to make payments and for the degree of flexibility in terms of timing of payments and their amount.

The most relevant example of similar obligations is the so-called “constructive obligation”. According to the International Accounting Standards (IAS) set by the International Accounting Standards Board (IASB), a constructive obligations is the one “that derives from an enterprise’s actions where: a) by an established pattern of past practice, published policies or a sufficiently specific current statement, the enterprise has indicated to other parties that it will be accept certain responsibilities and b) as a result, the enterprise has created a valid expectation on the part of those other parties that it will discharge those responsibilities” [IAS, No 37].

It is easy to understand that the adoption of such a broader definition of liability implies that the *real* size of the debt can be valuated by taking into account not only the liabilities recorded in governments’ balance sheet (explicit liabilities) but also the *implicit* liabilities of governments arising from the future obligations to pay pensions to their citizens.

In the pension literature, three definitions of pension liabilities at least exist, which mainly differ for the scope of entitlement included in the estimation:

- *accrued to date liabilities*: they are equal to the present value of future pension benefits to be paid on the basis of the accrued rights;
- *projected current workers and pensioners’ net liabilities*: they are equal to the value of the accrued to date liabilities plus the present value of pension entitlements will be accrued to current cohort of workers<sup>1</sup>, as result of the contributions they will credited in the future to the scheme
- *open-system net liabilities*: they are equal to the value of the previous aggregate plus the present value of pension entitlement credited to new entrants in the scheme as counterpart of their future contributions to the scheme.

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<sup>1</sup> The underlying hypothesis is that contributions are credited to a pension scheme until the last contributor dies, while it is not allowed for new entrants joining the scheme.

As it is easy to understand, each of the three definitions of pension liabilities described above yields different values of pension entitlements, due to the different hypothesis and estimation methods underlying each concept.

It should be stressed, however, that only the accrued-to-date definition of liabilities seems appropriate for national accounts purposes: this measure, in fact, relies on the same backward-looking approach followed in National Accounts framework, while the others approaches record not only the accrued pension rights but also those that are yet to accrue. It follows that only the accrued to date definition of pension liabilities can be assimilated, in some ways, to the conventional concept of public debt<sup>2</sup>.

Because of this, in the rest of the paper, we will refer to pension liabilities in this meaning.

## **2.2) Current treatment of Pension Schemes in National Accounts according to SNA 93**

As a starting point of the analysis, it is important to clarify what exactly the word "pension schemes" means.

According to OECD Pension Glossary a pension scheme is "a legally binding contract having an explicit retirement objective. This contract may be part of a broader employment contract, it may be set forth in the plan rules or documents, or it may be required by law". In other words, a pension scheme is the set of financial, administrative, legal and social arrangements established for the purpose of providing pensions to a designated group of workers or their survivors.

In SNA93, the institutional units involved in the management and provision of pension benefits are named "social insurance schemes", defined as "schemes in which social contributions are paid by employees or others, or by employers on behalf of their employees, in order to secure entitlement to social insurance benefits in the current or subsequent periods, for the employees or other contributors, their dependants or survivors" [SNA93, §8.55]. They can be paid when certain events occur that may adversely affect the welfare of the households.

More specifically, an insurance scheme can be qualified as social insurance scheme in the System of National Accounts if:

- a) the provision of social insurance benefits is conditional to the participation to the scheme, usually evidenced by the payment of contributions: "eligibility for social insurance benefits requires social contributions to have been paid by, or on behalf of, the beneficiaries or their dependants in the previous accounting periods" [SNA93, §8.58];

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<sup>2</sup> There is not a full consensus about the closeness of pension liabilities to the conventional concept of public debt . For an analysis of this issue, [Franco and others, 2004]

- b) at least one of the following conditions are met:
- i) the participation to the scheme is compulsory, either by law or under the terms and conditions of employment
  - ii) the scheme is collective one operated for the benefit of a designed group of workers
  - iii) an employer makes a contribution (actual or imputed) to the scheme on behalf of an employee.

Social insurance schemes are, thus, schemes in which "workers are obliged or encouraged by their employers or by general government to take out insurance against certain eventualities or circumstances that may adversely affect their welfare or that of their dependants [SNA93, § 8.61].

The circumstances covered by social insurance institutions are listed in SNA93, §8.56. However, SNA93, §8.56 reports different events, only a few covered by pension system, the rest being related to different kind of risks (as, for example, unemployment or sickness), which are covered to other types of social benefits<sup>3</sup>.

As a consequence, it appears important to fix the boundaries of the pension system, through a clarification of what has to be defined as a pension.

According to a narrow definition, a pension is defined as a post retirement benefit (usually called Old Age pension) providing protection against the risk of "a loss or a reduction of income due to a voluntary or compulsory retirement" [SNA93, § 8.56, point c, (i)].

However, "pension plans can offer additional benefits, such as disability, sickness and survivors benefits" [OECD Pensions Glossary, 2003].

The boundaries of the pension system are, thus, strictly related to the adopted definition of pension. Following the broader definition, in fact, also the benefits providing insurance against the risk of a reduction of income due to the death of the main income earner [SNA93, §8.56, point c, (ii)] and to sickness or accidental injury that prevents a person from working [SNA93, §8.56, point c, (iii)] should be considered as pensions. These types of pensions are usually defined called survivor and disability pensions, respectively<sup>4</sup>.

Another important distinction among social benefits is between social insurance and social assistance benefits.

The latter are defined as "current transfers payable to household by governments units [...] but which are not made under a social insurance scheme incorporating social contributions and social

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<sup>3</sup> Following the updated SNA, they can be grouped together as "non-pension benefits".

<sup>4</sup> The EUROSTAT/ECB Task Force on Pensions referred to this extended concept of pension in defining the coverage of the supplementary table that should be attached to standard core accounts.

insurance benefits” [SNA93, § 8.81]. It follows, from the previous definition, that the provision of social assistance benefits is not conditional to the payment of social contributions, usually being paid out of general revenue.

Paragraph 8.82 mentions the circumstances under which social assistance benefits can be paid:

- 1) no social insurance scheme exists to cover the circumstances in question;
- 2) although a social insurance scheme, or schemes, may exist, the households in question do not participate and are not eligible for social insurance benefits;
- 3) Social insurance benefits are deemed to be inadequate to cover the needs in question, the social assistance benefits being paid in addition.

However, the distinction between the different forms of social benefits can be problematic, due the specific institutional setting of a country's welfare system.

From an organizational point of view, the provision of social insurance benefits can be arranged through two institutional forms:

- a) social security schemes
- b) employer schemes

Social security schemes are defined as “schemes imposed and controlled by Government units for the purpose of providing social benefits to members of the community as a whole or a particular sections of the community” [SNA 93, § 8.63]. In other words, a social security scheme is one where certain groups or the entire population are obliged by law to participate and where General Government is responsible for the management of the institution in respect of the settlement of the approval of the contributions and benefits.

On the other hand, employer schemes are schemes set within "an employment relationship between the plan member and the plan sponsor" and organised by an employer in order to provide social benefits (pensions and other kind of benefits) to its employees.

When the benefits concerned are pensions, social insurance schemes can be defined "pension schemes".

Both these institutional arrangements can be classified according to several criteria.

Firstly, all pension schemes can be distinguished in *defined benefit* and *defined contribution pension schemes* [SNA93, §13.78 and §13.79], according to the manner by which the level of benefits is valued.

In a *defined contribution pension scheme*, the level of social contributions that an employer is obligated to contribute to the scheme by contractual agreement or by law is fixed and "benefits to members are based solely on the amount contributed to the plan by the sponsor or members plus the investment return thereon" [OECD Pensions Glossary, 2003]. On the contrary, in a *defined benefit scheme*, "benefits to members are typically based on a formula linked to members' wages or salaries and length of employment" [OECD Pensions Glossary, 2003]; the level of pension benefits is guaranteed, without a direct and strict connection with the value of the funds credited to the scheme and the financial or longevity risks are born by the plan sponsor. Social security schemes are by definition defined benefit<sup>5</sup>.

Secondly, pension schemes can be *funded* or *unfunded*, in respect with the manner the benefits are financed.

In a *funded* pension scheme, the contributions paid by the employee or the employer on behalf of the employer are accumulated in segregated reserves in order to meet the obligation to pay future benefits accrued to present. A further distinction can be found within this category between autonomous and non-autonomous pension schemes. In the first case, "social contributions are paid to insurance enterprises or autonomous pension funds that are *separate institutional units* from both the employers and the employees. The other type refers to schemes where "employers maintain special reserves which are segregated from their other reserves *even though such funds do not constitute separate institutional units from the employers*" [SNA 93, § 8.63, point (b)]

On the contrary, in an unfunded scheme, "employers pay social benefits to their employees, former employees or their dependants out of their own resources without creating special reserves for the purpose" [SNA 93, § 8.63, point (c)].

Both social security and employers' pension schemes can be funded or unfunded. An important difference, nevertheless, exists in the manner they are recorded in the Accounts.

SNA93, Annex IV, § 13 states that "social security schemes may be either funded or unfunded. Even where separate funds are identified, they remain the property of the government and not of the beneficiaries of the schemes". This means that a social security scheme may be funded through the

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<sup>5</sup> The only relevant exception are the so-called Notional defined contribution schemes which mimic the functioning of a pure DC scheme (the benefits are computed on the basis of the value of contributions credited to the scheme) and that of a pure defined scheme (the funds credited to the scheme are not invested on market but they are yearly revaluated at a notional rate of return). Moreover, this scheme is integrated in PAYG mechanism (current contribution being addressed to the payment of pension of current retirees).

accumulation of assets for the fulfilment of future commitments but *these assets remain property of the government*. In other words, differently to the treatment of employer pension schemes, SNA 93 does not recognise a liability for social security schemes, either funded or unfunded.

The transactions related to the different types of pension schemes in SNA 93 are described in more detail in the subsequent sections.

### 2.3 Social security schemes

Employers' social security contributions are shown as part of the compensation of the employees and they are recorded in the Generation of the Income Account as payable by the sector in which the employer is located and receivable to the household sector in the Distribution of primary income Account.

In the Secondary distribution of income Account, contributions from employers and employees are recorded as payable by households and receivable by Government sector, which includes the subsector of Social Security. Social security benefits in cash paid to households are shown in the same Account, as payable by Government sector and receivable by households.

The net lending/net borrowing<sup>6</sup> of social security scheme is equal to the difference between the credited contributions (12,5) e pension benefits paid (14), and it exactly matches the item B9 closing the financial accounts.

Table 1 summarizes the transactions described above<sup>7</sup>.

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<sup>6</sup> Under SNA 1993, B9 is the balancing item of the Capital Accounts, which follows the use of income account (the related balancing item is Saving . B8). However we assume that there is no nonfinancial assets, which implies that B8 is equal to B9 in the complete sequence of accounts. The same simplification applies to the tables in the rest of the paper.

<sup>7</sup> Table 1 shows a stylized scenario, when the employer is located only in the corporate sector. This simplification has been introduced in order to make easy the statistical treatment of pension scheme in the current SNA and to guarantee a better understanding of the changes implied by the proposed new method. A more complete analysis can be found in SNA93, Annex IV, Table A.IV.1.



*Table 1 Accounts for Social Security Schemes*

|           |  | General Government |                      | Household       |                      | Corporation     |                      |
|-----------|--|--------------------|----------------------|-----------------|----------------------|-----------------|----------------------|
|           |  | Uses               | Resources            | Uses            | Resources            | Uses            | Resources            |
| D122      | <i>Generation of Income Account</i><br>Employers social security contributions           |                    |                      |                 |                      | 10              |                      |
| D122      | <i>Distribution of primary income account</i><br>Employers social security contributions |                    |                      |                 | 10                   |                 |                      |
| D6112     | <i>Secondary distribution of income account</i><br>Employees' social contributions       |                    | 2,5                  | 2,5             |                      |                 |                      |
| D612      | Employers social security contributions  |                    | 10                   | 10              |                      |                 |                      |
| D62       | Social Benefits (pensions)   | 14                 |                      |                 | 14                   |                 |                      |
| <b>B9</b> | <b>Net Lending (+) / Net Borrowing (-)</b>   | <b>-1,5</b>        |                      | <b>11,5</b>     |                      | <b>-10</b>      |                      |
|           | <i>Financial Accounts</i>  | <b>Δ assets</b>    | <b>Δ liabilities</b> | <b>Δ assets</b> | <b>Δ liabilities</b> | <b>Δ assets</b> | <b>Δ liabilities</b> |
| F2        | Cash   | -1,5               |                      | 11,5            |                      | -10             |                      |
| <b>B9</b> | <b>Net Lending (+) / Net Borrowing (-)</b>   | <b>-1,5</b>        |                      | <b>11,5</b>     |                      | <b>-10</b>      |                      |

## 2.4 Unfunded employers pension schemes

In an unfunded pension scheme, an employer manages the scheme, providing directly social benefits to its employees out of its own resources, without the involvement of an insurance corporation or an autonomous pension fund.

This institutional setting has two main consequences.

First, differently from the previous case, the transactions involve now only the households and the employer.

Second, because the payment of social benefits is made directly through the employer's own resources, without the creation of segregated reserves, the employees may be considered as being protected against several risks, even though no payment of contributions are being made to cover them. In this case, “remuneration should therefore be imputed for such employees equal in value to the amount of social contributions that would be needed to secure the de facto entitlements to the social benefits they accumulate [SNA93, § 8.72]”

Following SNA93 rules, this imputed employer's contribution has to be recorded in the Generation of Income Account, as payable by the sector in which the employer is located and receivable by Households in the Distribution of primary income Account.

In the Secondary distribution of income Account, employer's imputed contributions and employees' contributions are recorded as payable by households and receivable by the employer. Pensions and

other benefits are recorded in the same Account, as payable by the employer and receivable by households.

*Table 2 Accounts for unfunded employer pension scheme*

|           | <i>Imputed flows are in italics</i>   | General Government |                      | Household       |                      |
|-----------|---|--------------------|----------------------|-----------------|----------------------|
|           |   | Uses               | Resources            | Uses            | Resources            |
| D122      | <b>Generation of Income Account</b><br><i>Imputed employers contributions</i>           | 10                 |                      |                 |                      |
| D122      | <b>Distribution of primary income account</b><br><i>Imputed employers contributions</i> |                    |                      |                 | 10                   |
| D6112     | <b>Secondary distribution of income account</b><br>Employees' social contributions      |                    | 2                    | 2               |                      |
| D612      | <i>Imputed social contributions</i>   |                    | 10                   | 10              |                      |
| D62       | Social Benefits (pensions)  | 12                 |                      |                 | 12                   |
| <b>B9</b> | <b>Net Lending (+) / Net Borrowing (-)</b>  | <b>-10</b>         |                      | <b>10</b>       |                      |
|           | <b>Financial Accounts</b>   | <b>Δ assets</b>    | <b>Δ liabilities</b> | <b>Δ assets</b> | <b>Δ liabilities</b> |
| F2        | Cash  | -10                |                      | 10              |                      |
| <b>B9</b> | <b>Net Lending (+) / Net Borrowing (-)</b>  | <b>-10</b>         |                      | <b>10</b>       |                      |

## 2.5 Funded employers pension schemes

In a funded pension scheme<sup>8</sup>, the contributions paid by employees and employers are accumulated in segregated reserves and reinvested in order to meet the future payment of benefits.

Employer's actual social contributions to funded pension scheme are recorded as payable by the sector in which the employer is located in the Generation of Income Account and a receivable by households in the Distribution of primary income Account.

A property income, resulting from the investments of the accumulated funds, is recorded in the Distribution of the primary income Account, as receivable by the household sector and payable by the employer operating the scheme.

In the secondary distribution of income Account, the employer's contributions plus the employees' contributions plus the property income earned on funded investments (viewed as supplementary contributions) are recorded as payable by the household sector and receivable by the employer's sector.

The assets of the funded pension scheme are recorded in the Balance Sheet as assets of the household sector. The value of these assets is increased in any period by the amounts credited as contributions by employers and employees plus any supplementary contributions minus the payments made by the scheme to current pensioners.

An adjustment item (D8) is showed in the Use of disposable income Account. This entry is needed in order to guarantee the full reconciliation between the transactions recorded in the Economic Accounts and those in the Financial Accounts. Sheet. In fact, all the transactions originating a variation in the value of assets belonging to households are viewed in the secondary distribution of income account as receivable by the sectors operating the pension scheme. Without any adjustment, the disposable income accrued as effect of credited contributions would be considered as part of the saving of receivable sectors and not of households. The item D8 allows to reattribute the saving from the sector operating pension funds to households sector, by offsetting the payable and receivable transactions in respect of contributions and benefits recorded in the secondary distribution of income account.

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<sup>8</sup> Because the analysis focuses on Pension schemes managed by General Government in its role of employer, the transactions described in this section refer to funded *non-autonomous* pension schemes, which are schemes where special reserves are segregated from the others employer's reserves, but which do not constitute separate institutional units. As a consequence, these funds remain classified in the same institutional sector as the employer. A specific feature of non autonomous pension funds is that the costs of managing the funds are included with the other elements of cost in the production account of the controlling entity. Therefore no service charge is applied in this case and thus no output of the funds.

It should be stressed however, that the presentation reported here has an analytical purpose, because such a type of scheme are very rare for government employees.

For a description of full set of transactions of funded *autonomous* pension fund, see SNA 93, Annex IV, Table A.IV.6.

The increase in the households' saving resulting from the adjustment for the change in net equity of households is recorded in the Financial Account as a change in financial assets of the household sector and liabilities of the sectors operating pension funds (net equity of households in pension fund - F612). Table 3 summarizes the transactions described above.

*Table 3 Accounts for funded employer pension schemes*

|                    |   | General Government |                      | Household       |                      |
|--------------------|---|--------------------|----------------------|-----------------|----------------------|
|                    |   | Uses               | Resources            | Uses            | Resources            |
|                    | <b>Generation of Income Account</b>                   |                    |                      |                 |                      |
| D122               | Employers actual contributions                        | 15                 |                      |                 |                      |
|                    | <b>Distribution of primary income account</b>         |                    |                      |                 |                      |
| D122               | Employers actual contributions                        |                    |                      |                 | 15                   |
| D44                | Property income attributed to policy holders          | 6                  |                      |                 | 6                    |
|                    | <b>Secondary distribution of income account</b>       |                    |                      |                 |                      |
| D6112              | Employees' social contributions                       |                    | 8<br>(2 +6)          | 8<br>(2 +6)     |                      |
| D612               | Employers actual contributions                        |                    | 15                   | 15              |                      |
| D62                | Social Benefits (pensions)                            | 12                 |                      |                 | 12                   |
|                    | <b>Use of disposable income account</b>               |                    |                      |                 |                      |
| D8                 | Adjustement for change in net equity in pension funds | 11<br>(2+15+6-12)  |                      |                 | 11<br>(2+15+6-12)    |
| <b>B9</b>          | <b>Net Lending (+) / Net Borrowing (-)</b>            | <b>-21</b>         |                      |                 | <b>21</b>            |
|                    |   |                    |                      |                 |                      |
| Financial Accounts |   | <b>Δ assets</b>    | <b>Δ liabilities</b> | <b>Δ assets</b> | <b>Δ liabilities</b> |
| F2                 | Cash  | -10                | 0                    | 10              |                      |
| F612               | Net equity of household in pension funds              |                    | 11<br>(8+15-12)      | 11<br>(8+15-12) |                      |
| <b>B9</b>          | <b>Net Lending (+) / Net Borrowing (-)</b>            |                    | <b>-21</b>           | <b>21</b>       |                      |

### **3) Reasons for changing existing recording rules**

The review of the statistical treatment of pension schemes in SNA 93 has shown that pension liabilities are recognised only for funded employer schemes while this rule does not apply to unfunded pension schemes and to social security schemes.

The reason for this different treatment is that the recognition of pension liabilities implies that segregated reserves are accumulated by the scheme in order to fulfil future commitments, which are recorded as assets held by policyholders. Because for unfunded and social security schemes there are not segregated reserves, no liabilities are recognised by the System.

Several reasons have been identified for a revision of the treatment of pension schemes in National Accounts.

#### **3.1 Consistency with other accounting systems**

This argument is based on the existence of an incoherence between the statistical treatment of unfunded pension schemes (either organised by employers or through social security) in SNA93-based National Accounts and other accounting systems. In fact, as explained above, SNA 93 does not recognise any liability for unfunded pension schemes. This criterion appears inconsistent with different accounting frameworks, as IMF Government Financial statistics manual (2001) and International Accounting Standards (IAS).

Contrary to SNA93, in IMF'GFSM 2001 "transactions in unfunded government employer retirement schemes are considered [...] to involve a contractual liability for a government to its employees. As a result, the receipt of contributions to such schemes is considered to be an incurrence of a liability, and the payment of retirement benefits is considered to be a reduction of the same liability" [GFSM, § 4.35].

It follows that, according to GFS Manual, both funded and unfunded pension schemes are treated in the same manner, by explicitly recognizing employer liabilities: the liability of a defined benefit scheme is equal to the present value of the promised benefit while the liability of a defined contribution pension fund is valued at the current market value of the fund's assets. [GFSM 2001, §. 7.122]

However, GFSM does not recognize a liability for social security systems, because they "do not result in a contractual liability for the government" because government can change unilaterally the structure of benefits. But, the Manual underlines that a contingent liability arises from social

security programs, justifying the recording of the net present value of future benefits already earned according to the existing laws and regulations in a memorandum item.

Analogously, following the International Accounting Standards (IAS) n. 19 “Employees benefits” a company has to recognize (a) “a liability when an employer has provided service in exchange for employees benefits to be paid in the future and an expense when the enterprise consumes the economic benefits arising from service provided by an employee in exchange for employee benefits”. The same treatment applies to all institutional frameworks providing pension benefits (or post-employment benefits, according to the IAS vocabulary), “whether or not they involve the establishment of a separate entity to receive contributions and pay benefits”.

IAS 19 does not cover general government units. Nevertheless, the Federation of Accountants (IFAC) has developed a dedicated set of accounting rules (named International Public Sector Accounting Standards-IPSAS) for General Governments units. IPSAS criteria are strictly related to IAS, with only small changes justified by the different nature of the institutional units concerned.

More specifically IPSAS 19 states that a provision has to be recorded when:

- i) an entity has a present obligation as a result of a past event;
- ii) it is probable that an outflow of resources will be required to settle the obligation;
- iii) a reliable estimate can be made of the amount of the obligation.

Because the criteria described above do not refer to the concept of segregated asset as requisite for the recognition of a liability, it seems obvious that the statement of ISPASA19 covers also defined benefit schemes (which are, by definition, unfunded) and their provisions have to be included into the accounts as liabilities.

### **3.2 Avoiding the discrepancy between funded and unfunded pension schemes**

SNA93 adopts a different treatment for funded and unfunded pension schemes. This difference is due to the fact that in an unfunded scheme there are not segregated reserves explicitly addressed to the payment of pensions, which would represent the value of accumulated pension liabilities. Consequently, no assets are recorded as counterpart in the households accounts.

The different criteria adopted for the recording of transactions of funded and unfunded pension scheme can introduce distortions in the System, as effect of the interaction between the financing channel and the characteristics of the benefits provided.

In fact, in a defined benefit scheme, (which are usually unfunded but that can be also funded) the level of pension benefits promised to participating employees is guaranteed. If the scheme is unfunded, no pension liabilities are recognised. If the scheme is funded, the value of the pension liabilities should be estimated on the basis of the actuarial valuation of future benefits to be paid by the employer, without any consideration for the value of pension reserves: “the liability of a defined benefit pension plan is equal to the present value of the promised benefits and the net worth of pension funds includes an amount that is positive or negative if the assets of defined benefit pension funds exceeds or falls short of the funds’ liabilities for guaranteed benefits” [SNA93, §13.78].

It follows that such a treatment creates an internal inconsistency within the system, defined benefit schemes being treated differently only in consideration of the way they are financed: liabilities are recognised for *funded* defined benefit schemes but not for *unfunded* defined benefit schemes.

One of the basic principle of the System of National Account is that similar economic events should be treated similarly. Funded and unfunded pension schemes appear extremely similar because both are based on a contractual agreement between employers and employees and the nature of the benefits provided and the eligibility criteria for benefits are analogous. It follows that “the legal nature of the obligation, the valuation of the obligation at any given time and the factors governing the evolution of the value of the obligation over time are independent of the means for funding” [Pitzer, 2002].

Moreover, the non recognition of liabilities for unfunded pension schemes in the balance sheets seems to reduce the informative role attributed to this account in the systems: “Balance sheets provide information necessary for analysing a number of topics. For example, in studies of the factors determining household behaviour, consumption and saving functions have often included wealth variables” [Pitzer, 2002] which can be underestimated if unfunded pension entitlements are not added to households assets.

### **3.3 Macroeconomic considerations**

Due to the different criteria adopted in National Accounts for the recording of the transactions of unfunded and social security schemes, the international comparison of government financial positions can be misleading. In fact, if certain countries recognize totally government pension obligations while others do not make the same, government public budget figures will be altered, the formers showing a level of government debt overstated relative to the latter.

Moreover, the existing recording criteria can distort the valuation of important macroeconomic indicators, as, for example, the cost of labour or the saving ratio.

Concerning the first aspect, this distortion arises from the fact that in unfunded employers pension schemes the actual social contributions credited by the employers to the plans reflect the payments for *current* pension benefits and not the true cost of pension entitlements that the scheme will have to provide in the future. This implicit burden is measured only by the present value of future pension promises.

It follows that because employers contributions are recorded in the Generation of income Account as part of the remuneration of the worker and reflect the value of the cost of labour, the recording of the actual (cash-based) value of the contributions and not of the “true” (actuarial) values origin an underestimation of the cost of labour, which, at the same time, distorts the measure of GDP (for non market units) or the gross operating surplus (when the unit is market).

The second consequence of non recognition of liabilities for unfunded pension schemes is that under SNA93 any liabilities recorded in the employer or General Government accounts has to be balanced by corresponding assets in households' accounts, which are recorded as part of the household's saving. As direct effect of this, if a country's pension system relies mainly on unfunded pension schemes (employer or social security) the lack of pension liability recognition (and of the related assets) for these schemes originates a distortion in the valuation of the households' saving ratio.

#### **4) The new proposed method for recording pensions expenditures in National Accounts**

The issues raised by the existing recording criteria for pension schemes in SNA 93 have generate a great debate among National Accountants about the best way to cope with the issue in the updated SNA.

The outcome of this debate has been the proposition of a new method for the recording of pension schemes into National Accounts, whose main elements can be summarised as follows:

- 1) Unfunded pension schemes will be treated as if they were funded employers' pension schemes
- 2) for defined benefit pension schemes, actuarial valuation are included into the Accounts with reference to the employers social contributions and the property income attributed to insurance policy holders



- 3) pension liabilities are recorded in the sponsor's sector, with related assets credited to households sector

Let us briefly analyse these changes.

Point 1 means that the distinction between funded and unfunded pension schemes (the latter including employer pension schemes as well as social security schemes, which are, by definition, unfunded) is not important anymore, by the fact that the statistical treatment applied to all these schemes is analogous.

The relevant distinction among pension schemes is now reduced to Defined Benefit (DB) and Defined Contribution (DC) schemes.

In a Defined Contribution scheme, in fact, the level of benefits is related to the value of credited contributions and the return of their reinvestment.

In a Defined Benefit scheme, on the other hand, the value of actual contributions credited to the scheme does not reflect fully the value of benefits paid to the worker at the moment of the retirement. Because of this, an actuarial adjustment has to be introduced into the accounts, which exactly matches the difference between the credited actual contributions and the present value of future pensions.

In both cases, a property income is credited to policyholder. This property income is showed by the System as immediately reinvested in the pension fund; such an entry can be seen, thus, as a supplementary contribution to the scheme. However, the nature of this entry is different for DC and DB scheme. In a DC scheme, the property income credited to households reflects the return of the assets investment on markets; in a DB, this item is equal to the increase in the value of the pension entitlements due to the fact that, after one period, they are discounted one period less.

The pension rights accruing to households by crediting contributions to the pension scheme are recorded in their balance sheets as assets, with a counterpart liability in the government's balance sheet. Any expenditure in pension benefits is recorded in the balance sheets of government as a reduction of the accumulated liability (point 3).

In order to analyse more in detail the changes introduced by the new method for both employer pension schemes and social security schemes, we compare the existing treatment envisaged in SNA93 (as described in section 2) with the transactions implied by the adoption of the new approach.

As regards to employers pension schemes<sup>9</sup>, several changes are introduced into the accounts as a consequence of the new method (see Table 4).

Firstly, the value of imputed employer contribution recorded in the Generation of primary income Account changes from 10 to 15, due to the fact that now the imputed contributions reflect the present value of future expenditure and not, as previously, the current outlays.

In the Distribution of primary income Account, a property income (valuated, in the example, equal to 6) is recorded, as payable by the employer and receivable by the household; the meaning of this entry has been already described above.

In the Secondary distribution of income Account, employees contributions are higher than in the previous scenario, due to the fact that this heading includes now not only the actual employees contributions (2) but also the property income<sup>10</sup> granted to the scheme to the policy holder (6, as recorded in the previous account), with an offsetting item represented by the pension scheme service charge. Concerning the latter, it reflects the cost of operating the scheme and it is viewed as a charge to be paid by the beneficiaries as part of their final consumption expenditure, with a corresponding entry as output in the Production account of the employer managing the scheme.

Another difference with the existing treatment is the introduction, in the use of disposable income account, of the item "adjustment for change in net equity in pension funds" (D8). This transaction allows for a full reconciliation between economic accounts and the financial accounts, as already explained in 2.5 as regards to funded pension schemes. Finally, the net lending/net borrowing changes from -10 to -21, as a result of the accounting for the net change of pension liabilities. This change (equal to 11 in this example) is recorded in item F6Y "change in the employers pension liabilities", which should replace the heading "Net equity of households in pension funds"<sup>11</sup>.

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<sup>9</sup> Employer pension schemes has to be interpreted here as "unfunded pension schemes". The new method, by applying to unfunded pension schemes the criteria stated in SNA93 for the recording rules of funded pension schemes, has modified only the statistical treatment of the former, leaving unchanged the rules for the latter.

<sup>10</sup> This heading is viewed as fully reinvested in the scheme and recorded as supplementary contributions.

<sup>11</sup> The function of the item is not modified as regard to the traditional transaction. The change of name is only due to a question of symmetry with the treatment of social security scheme described below.

**Table 4 Accounts for (unfunded) employer pension schemes (New method)**

| <i>Imputed flows are in italics</i> |   | General Government      |                      | Household            |                         |
|-------------------------------------|---|-------------------------|----------------------|----------------------|-------------------------|
|                                     |   | Uses                    | Resources            | Uses                 | Resources               |
| P1                                  | <b>Production Account</b><br>Output   |                         | 0.5                  |                      |                         |
| D122                                | <b>Generation of Income Account</b><br><i>Imputed employers contributions</i>           | 15                      |                      |                      |                         |
| D122                                | <b>Distribution of primary income account</b><br><i>Imputed employers contributions</i> |                         |                      |                      | 15                      |
| D44                                 | <i>Property income (imputed)</i>  | 6                       |                      |                      | 6                       |
| D6112                               | <b>Secondary distribution of income account</b><br>Employees' social contributions      |                         | 7.5<br>(2 + 6 - 0.5) | 7.5<br>(2 + 6 - 0.5) |                         |
| D612                                | <i>Imputed employers contributions</i>  |                         | 15                   | 15                   |                         |
| D62                                 | Social Benefits (pensions)  | 12                      |                      |                      | 12                      |
| P3                                  | <b>Use of disposable income account</b><br>Final Consumption Expenditure                |                         |                      | 0.5                  |                         |
| D8                                  | Adjustement for change in net equity in pension funds                                   | 10.5<br>(2+15+6-0,5-12) |                      |                      | 10.5<br>(2+15+6-0,5-12) |
| <b>B9</b>                           | <b>Net Lending (+) / Net Borrowing (-)</b>  | <b>-21</b>              |                      |                      | <b>21</b>               |

| Financial Accounts |  | $\Delta$ assets | $\Delta$ liabilities | $\Delta$ assets     | $\Delta$ liabilities |
|--------------------|--|-----------------|----------------------|---------------------|----------------------|
| F2                 | Cash                                       | -10             | 0                    | 10                  |                      |
| F6Y                | Change in Employers Pension Liabilities    |                 | 10.5<br>(7.5+15-12)  | 10.5<br>(7.5+15-12) |                      |
| <b>B9</b>          | <b>Net Lending (+) / Net Borrowing (-)</b> |                 | <b>-21</b>           | <b>21</b>           |                      |

The treatment of social security schemes under the new method is more complicated than the previous case<sup>12</sup>.

In fact, the transactions to be recorded involve now the corporation sector, viewed as contributor to social security scheme on behalf of employees.

In addition to that, social security schemes are usually defined benefit, providing a guarantee with respect the value of pension benefits. This means that the sequence of transactions has to account for the (implicit) contribution that the scheme credits to households in order to guarantee them the expected value of benefit.

In the literature, the issue of recording pension liabilities of social security schemes has been tackled in different ways<sup>13</sup>.

The approach follows in this paper has been the one of adopting a treatment of social security schemes as close as possible to the existing framework without introducing the relevant changes implied by other proposals.

The proposed set of transactions to be recorded in order to account for social security pension liabilities is summarized in Table 5.

Firstly, employers pay social contributions, which are recorded in the Generation of income Account as payable by corporation, with a correspondent entry in the Distribution of primary income Account as receivable by households. In the same account, a property income is credited to households and a related expenditure is recorded for the Social security scheme: this entry has the same function of the analogous entry for employer pension scheme; this value is only imputed to households (there is not a real outflow for social security scheme) and it is recognised in the System as immediately reinvested in the social security scheme, as additional social contributions.

In the Distribution of secondary income Account, social security schemes receive contributions from employers (equal to 10) and from employees. A further explanation is needed as reference to the value of employees contributions<sup>14</sup>: the reported value (8,5) is obtained as sum of "pure" employees social contributions (2,5) plus property income imputed (4) plus an actuarial adjustment of 2 (this imputed value matches the difference between the value of social contributions and the present value of future pension; this entry is balanced with line D7X, see below).

Line D621 records the payments of pensions made by the scheme in favour of households.

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<sup>12</sup> It should be stressed the presentation of the statistical treatment of Social Security schemes is relevant only for analytical purposes, because the update SNA will continue to follow the existing rules, at least in the core accounts.

<sup>13</sup> See, for example the proposal advanced by Lequiller (2005) or by de Rougemont (2005)

<sup>14</sup> Differently to employer pension schemes, in the updated SNA the costs of operating a social security scheme are treated as part of the expenditure of General Government. Because of this, no service charge has subtracted from employees social contributions and no output is recorded in the production account of the scheme.

A new entry (D7X) is introduced in the secondary distribution of income account, reflecting the adjustment in social contributions needs to correct the value of actual social contributions for the value of accrued pension rights. This flow is viewed as a (implicit) transfer from government to households and is returned to Social security scheme through line D6112.

In the use of income account, the item D8X is recorded, similarly to the treatment of employer pension scheme. This item is equal to the value of credited contributions (actual plus imputed) minus the pensions paid by the scheme.

As result of the new treatment, the net borrowing/net increases from 1.5 to 6. This increase is originated from the recognition of pension liability into the economic accounts

Moving to the analysis of the financial accounts, the line F2 records the cash expenditures of social security schemes, which is equal to the difference between the actual social contributions from employees (2.5) and employers (10) minus pensions paid (14).

Line F6X records the net change in liability incurred by social security scheme as effect of the credited contributions (actual plus additional contributions plus actuarial adjustment) minus pensions paid.

The balancing item B9 closing the financial account perfectly matches the balancing item of non-financial accounts and it reflects the value of accrued liabilities.

**Table 5 Accounts for Social Security Schemes (New Method)**

|           | <i>Imputed flows are in italics</i>  | <b>General Government</b> |                      | <b>Household</b> |                      | <b>Corporation</b> |                      |
|-----------|--|---------------------------|----------------------|------------------|----------------------|--------------------|----------------------|
|           |  | <b>Uses</b>               | <b>Resources</b>     | <b>Uses</b>      | <b>Resources</b>     | <b>Uses</b>        | <b>Resources</b>     |
|           | <i>Generation of Income Account</i>  |                           |                      |                  |                      |                    |                      |
| D122      | Employers social security contributions  |                           |                      |                  |                      | 10                 |                      |
|           | <i>Distribution of primary income account</i>  |                           |                      |                  |                      |                    |                      |
| D122      | Employers social security contributions  |                           |                      |                  | 10                   |                    |                      |
| D44       | <i>Property income imputed</i>   | 4                         |                      |                  | 4                    |                    |                      |
|           | <i>Secondary distribution of income account</i>                                      |                           |                      |                  |                      |                    |                      |
| D6112     | Employees' social contributions  |                           | 8,5<br>(2,5+4+2)     | 8,5<br>(2,5+4+2) |                      |                    |                      |
| D612      | Employers social security contributions  |                           | 10                   | 10               |                      |                    |                      |
| D62       | Social Benefits (pensions)   | 14                        |                      |                  | 14                   |                    |                      |
| D7X       | <i>Transfers to households (Actuarial adjustment)</i>                                | 2                         |                      |                  | 2                    |                    |                      |
| D8X       | Adjustment for change in net equity of households in social security pension schemes | 4,5<br>(10+8,5-14)        |                      |                  | 4,5<br>(10+8,5-14)   |                    |                      |
| <b>B9</b> | <b>Net Lending (+) / Net Borrowing (-)</b>   | <b>-6</b>                 |                      | <b>16</b>        |                      | <b>-10</b>         |                      |
|           |  |                           |                      |                  |                      |                    |                      |
|           | <i>Financial Accounts</i>  | <b>Δ assets</b>           | <b>Δ liabilities</b> | <b>Δ assets</b>  | <b>Δ liabilities</b> | <b>Δ assets</b>    | <b>Δ liabilities</b> |
| F2        | Cash   | -1,5                      |                      | 11,5             |                      |                    |                      |
| F6X       | Change in Pension Entitlements of social security schemes                            |                           | 4,5                  | 4,5              |                      |                    |                      |
| <b>B9</b> | <b>Net lending/net borrowing</b>   | <b>-6</b>                 |                      | <b>16</b>        |                      | <b>-10</b>         |                      |

## **5 Recognising Pension liabilities: some critical aspects**

As explained in section 3, many arguments exist in favour of a revision of the current treatment of pension schemes in National Accounts.

On the other hand, several issues are raised by this proposal. This part deals with the analysis of some of these critical aspects.

### **5.1 Recognition boundaries**

As showed in the previous section, the new recording criteria sensibly modify the treatment of unfunded and social security pension scheme.

The harmonisation of employers pension schemes' treatment, (by removing the distinction between funded and unfunded schemes) can appear, in some ways, supported by the fact that both schemes shared the same functioning rules (as for example, the existence of a contractual engagement between scheme's sponsor to future pensioners to pay pension benefits), with the only relevant exception of the financing channel.

The situation appears, nevertheless, quite different for social security schemes. In fact, even by referring to the concept of "constructive obligation", in a social security scheme no commitment (explicit or implicit) exists about the payment of pensions. While employers have always a legal and moral obligation to meet their pension obligations, Government could refuse (at least on a theoretical ground) to pay pensions to beneficiaries without incurring in the risk of being involved in a judicial controversy and to be forced to pay the benefits, as it is possible with reference to employers pension scheme. In addition to that, even when a Government regularly fulfils its obligations, at any time it can unilaterally modify the value of pension benefits or the years of contributions needed to be entitled for a pension; the same does not apply to an employer pension scheme, where the contents of the pension contract can be modified only with the agreement of employees.

The different nature of obligations underlying an employer pension schemes and a social security scheme is recognised also by IMF GFSM2001, which, in fact, does not record liabilities for the latter.

Directly related to the recognition boundary issue is the impact of the new method on deficit and debt figures. In fact, as explained in 3.3, the new method of recording pension expenditure can origin an upward revision of deficit and debt figures, which can be very massive when the borderline is extended to include both employer pension schemes and social security schemes. This

effect is particularly important for European Countries, where large part of social insurance system is organised through social security units included in General Government sector. Because at European level budgetary constraints are set with reference to the debt and deficit figures, the increase in the value of these parameters implied by the implementation of the new approach would oblige to a revision of Maastricht criteria.

On the basis of the previous arguments, it is not difficult to understand why the boundaries of liabilities recognition have been one of the most contentious issue in the context of SNA review.

Different options were advanced for the recording of pension liabilities in National Accounts, ranging from leaving the SNA unchanged to recording all pension liabilities (including those of social security schemes) into the core accounts<sup>15</sup>.

Two main positions have emerged: one supporting the recording into the accounts of all employer pension schemes' liabilities (including those of schemes managed by General Government for its own employees) but excluding social security liabilities<sup>16</sup>; the other suggesting to leave unchanged the existing rules in the core accounts and to show the liabilities of all pension schemes (including social security schemes) in a set of supplementary accounts<sup>17</sup>.

At the end, a compromise solution has been reached: funded and unfunded pension schemes will be treated in the same way, by a full recognition of their liabilities into the core accounts, while social security schemes will be recorded according to the existing rules. However, a supplementary table will be introduced, which will record pension liabilities of all pension schemes, including social security schemes<sup>18</sup>.

Such a solution appears the only feasible option at this moment: from one hand, it grants a certain degree of flexibility in recording pension liabilities into core accounts, taking into accounts the specificities of each pension system; on the other hand, by showing the liabilities associated to all pension schemes, it makes available more comparable budgetary figures.

## **5.2 Recognising of pension and non-pension liabilities**

When a scheme pays other benefits in addition to pensions (as, for example, unemployment benefits or family allowances, following SNA93, § 8.56) and is not possible in practice to separate social contributions covering pension entitlements and those financing non-pension benefits, the recognition of pension liabilities can be misleading.

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<sup>15</sup> For an analysis of some of the proposal, see Lequiller (2005).

<sup>16</sup> See for example de Rougemont (2003).

<sup>17</sup> See for example, Mink and Walton (2005)

<sup>18</sup> For a detailed explanation of the characteristics of this table see the Final Report of ECB/Eurostat Task Force on pension liabilities (2008).



In such a scenario, actual social contributions are set in order to finance both types of benefits. According to the new method, however, all social contributions credited to a defined benefit (pension) scheme are showed as an accruing liability and an imputed actuarial adjustment has to be recorded to meet the difference between the value of contributions credited and the present value of future pension benefits.

A correct valuation of the size of this actuarial adjustment would, thus, require the split of the total stream of actual contributions into the components related to pensions and non-pension benefits<sup>19</sup>.

If this distinction is not possible (because, for example, the credited contributions are viewed in the accounts of the scheme as a single, undistinguished flow), these two components should be estimated.

One possible solution could be the use of current values of unfunded non-pension benefits as a proxy of the imputed *non-pension* contributions, obtaining actual *pension* contributions as difference between the total stream of actual social contributions and the estimated amounts of non-pension contributions.

It follows that the level of estimated non-pension contributions has a direct impact on the size of pension liabilities: because the level of actual pension contributions is valued as difference between the total amount of actual contributions credited to the scheme and the value of non-pensions contributions, the lower is the latter, the higher will be the reported value of pension contributions. In such a scenario, the size of the actuarial adjustment for pensions can differ as effect of the recorded value of actual pensions contributions, which, at the same time, depends on the estimated distribution of total actual contributions between pensions and non-pension benefits.

It is clear that in such a situation, the information about the coverage ratio of actualised pension benefits through contributions paid is distorted and the value of credited social contributions may provide little guidance in estimating the level of accrued-to-date liabilities.

### **5.3 Problems arising from differences in the institutional design of pension systems**

One additional distortion arising from the new method is due to the differences existing in the institutional design of pension system.

Supporters of the new method have emphasised that the new recording rules can increase the international comparability of pension figures by removing the differences which currently exist in the statistical treatment of pension schemes.

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<sup>19</sup> The updated SNA has addressed the issue, by introducing a distinction between the contributions relating to pensions and to the other non pension benefits. (see Updated System of National Accounts 1993,-2008-, Chapter 7).

It should be pointed out, however, that a full comparability of countries' financial position could be reached only with a broad coverage of liabilities recognition, extending the boundaries to include all pension schemes, without any distinction between employers pension schemes and social security schemes.

However, as highlighted in 5.1, the harmonization of the statistical treatment of social security schemes and employers' pension schemes could appear quite arbitrary and not fully funded from an economic point of view.

However, even with a full harmonization of recording criteria for all types of pension schemes, other statistical discrepancies may remain, as a consequence of the differences existing in the institutional design of pension systems.

What is relevant for the present analysis are pension systems characterised by a multipillar structure.

The institutional design of these schemes can be summarised as follows.

The first pillar is, generally, financed by government's general revenue and aims to guarantee a basic income to all citizens reaching a certain age threshold, without any connection with their previous working status. The second pillar is based on the occupational criterion, the main financing source is represented by social contributions paid by employees and employers; the provision of old age benefits is ruled by national law and the value of benefits provided is linked to the employment history of the pensioner (years of contribution, level of contributions, etc). The third pillar can be optional; when it is present, this tier is financed through voluntary contributions of employees to private pension funds.

The problem arising from such a structure concerns the classification of the first pillar as described above: should this scheme be considered as part of social security and, eventually, pension liabilities be recognised? Or it should be qualified as social assistance, with any recognition of liabilities?

Answering to this question is not so easy. As pointed out by Francois Lequiller, the term "social security" has different meanings in different countries: "in some countries, the main pillar for earnings-based pensions is a public system, which is called "social security". In other countries, what is called "social security" is more comparable to a minimum pension, akin to social assistance, which is generally financed by general tax" [Lequiller, 2005].

The two types of social security described above can be defined, according to Palme (1990) respectively as the "contribution" and the "assistance" approach to old age-pensions: the first approach is centred on the notion that there should be some connection between what an individual

pays in and gets out of the system; the second aims at ensuring a floor of provision for those who are unable to finance their retirement from private sources, by providing social benefits to all people reaching the age threshold set by the law to be entitled for a pension, without any reference to the previous employment status.

A first pillar following the "assistance" approach as described above, can be found in several countries.

One relevant example, in our opinion, can be found in Canada. The case of Canada is particularly interesting for the present analysis. In fact, since 2000 year, the Canadian System of National Accounts (CSNA) has revised the treatment of government sector unfunded pension schemes, by aligning it with that of the other employer-sponsored plans.

The Canadian first pillar - called Old Age Security – is an universal scheme providing a flat rate benefit to all people having their residency in Canada and reaching the age of 65 years.

The benefit is provided under condition of a minimum of 10 years' residency, with 2.5 percent of the maximum pension earned for each year of residence after age 18 up to a maximum of 40 years.

The benefit has “no connection to employment, no contributions are made into the plan and no reserves are set aside and benefit payments are charged to federal government expenditure” [Dong, L. and others, 2006]. Moreover, the benefit is means-tested, with a reduction in the value of the pension if the income of beneficiary exceeds a certain threshold.

It appears extremely interesting analyse the criteria followed by Canadian national accountants in recording the expenditure of this scheme.

The accounting rules applied to this scheme are different from the ones used for recording the transactions of pension schemes in a strict sense. In fact, while a pension liability is recognised for the employer-sponsored schemes or the earnings-related second pillar of social security system, (Canada and Quebec Pension Plans), the same does not apply to the Old Age Scheme: the benefits provided by this scheme are treated as current transfers to families and “no other transaction is recorded” [Dong, L. and others, 2006].

The different statistical treatment seems, in our opinion, recognize the different nature of benefits provided by the Old Age Scheme as regards to those provided by the other schemes.

In fact, even though the benefits provided by the first pillar are labelled as “pensions” and they account for 30% of the total pension benefits<sup>20</sup>, they appear much closer to social assistance benefits having a basic redistributive function.

The provision of social assistance benefits for elderly can be organised in different ways: for example, in some country it is based on an universal scheme covering the whole population

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<sup>20</sup> Dong, L and others (2006)

reaching the retirement age fixed by law, as in Canada; in other countries, as for example in Italy, a basic pension (so called "pensione sociale") is guaranteed only to people which are not entitled for a employment related pension.

The different mechanisms for the provision of old age social assistance benefits and their integration with social insurance schemes has represented a minor issue under current SNA93, because social assistance benefits are recorded similarly to social insurance benefits, by reporting the related actual current expenditures.

The recognition of pension liabilities for pension schemes proposed in the updated SNA makes extremely important the clarification of the cross-cutting between social insurance and social assistance, as well as a full understanding of the integrated functioning of different components of the social protection system.

The relevance of these aspects can be explained on the basis of an example.

Let's imagine two countries which have the same characteristics in terms of age structure of population, working force, mortality rate and all other relevant parameters need to compute pension liabilities. For a reason of simplicity, the two systems are viewed as "maturing", in the sense that contributions are credited to the schemes (with accumulation of liabilities) but no pensions are paid, because all contributors are in activity. Moreover, the pension system is viewed as having only one worker currently contributing to the scheme.

Both countries showed pension systems centred on a PAYG pension scheme which provides old age benefits to employees after the retirement; the schemes are both financed through social contributions and the rules concerning retirement rate, retirement benefit formula and all relevant plan details are the same for both schemes. In this example, we suppose that the starting age for work is 30, retirement age is fixed at 65 years and that people lives until 80 years. The yearly wage paid in both countries is 1000.

The only difference between the two countries is related to the institutional design of their pension systems. In a country (Country A) old age benefits are provided by the PAYG pension scheme alone. In the other country (Country B), pension system is based on a two pillars structure, the PAYG scheme being supported by a first tier providing a basic income pension to all people reaching the standard retirement, without any distinction for their previous employment status.

Both countries pay the same level of after-retirement benefits to retirees. This means that the value of old age benefits paid through the PAYG scheme in Country A will exactly match the sum of the pension benefit provided in Country B by the PAYG scheme and the basic benefit disbursed by the social assistance first pillar. Assume that post retirement benefit is equal to 700 in both countries: this amount (equal to the 70% of current wage) will be paid as pension in country A whereas in

Country B it will be provided through a combination of a pension (650) plus a basic benefit (50) provided by the social assistance scheme.

It is easy to show that in such a scenario, because the value of pensions provided by PAYG scheme in Country B is lower than the ones provided by the scheme in Country A, pension liabilities (equal to the present value of the projected outflows for pensions) will be lower in country B than in Country A.

This has two immediate consequences.

First, because the value of pension entitlement is lower in Country B, a reduced contribution rate can be set in Country B, leaving unchanged the size of the actuarial adjustment to be credited by the scheme. The reduced contribution rate, by lowering the cost of employers in the generation of income account, will improve the value of gross operating surplus.

Second, because the accruing liabilities in Country A are higher than in Country B, the latter will record a lower level of debt for the entire period between the moment of the first contribution ( $t$ ) to the scheme and the moment of employee's retirement ( $t+35$ ).

At the moment of retirement, an increase in taxes should be introduced in Country B in order to finance the basic benefit provided by social assistance program.

Let us imagine that a new tax is introduced, charged on corporations. The revenue of this tax exactly matches the expenditure related to basic social assistance benefit.

The impact on government deficit is null, because the increase in expenditure is completely covered by the increase in revenue.

From the point of view of households, no difference exists, because they receive exactly the same amount of benefits provided in Country A.

The impact of the change in the amount of taxes charged on corporation, is showed in the distribution of secondary income account. Here, taxes on income are recorded as resources for Government and as uses for corporations. The higher taxes paid by corporations produce – other things be equal – a reduction in the value of disposable income. It should be noted, however, that such effect on corporations appears completely neutral when it is viewed in an intertemporal perspective: from an economic point of view, the higher taxes paid now by corporations are in some ways offset by the smaller amounts paid as social contributions in the previous periods.

The analysis developed above – even through a simplified scenario and under several assumptions – has shown that the size of pension liabilities recorded in National Accounts can be influenced by the

institutional design of pension systems, especially as regards to the integration of social insurance and social assistance programs.

## **6 Conclusions**

The paper has reviewed the existing treatment of pension schemes in SNA93 and has summarised the main shortcomings of maintaining a partial recognition of pension liabilities in National Accounts. The analysis of the new proposal for the recording of pension schemes has highlighted the impact of the new criteria on public budget, with special attention for debt and deficit items.

Nevertheless, the analysis has pointed out some critical aspects of the new methods, which appear to limit, in some extent, the capacity of the new recording rules in reaching the proposed goals.

More specifically, the paper has focused on the issue of the boundaries of liabilities recognition, presenting some arguments in favour of maintaining a certain degree of flexibility, in order to take into account the institutional differences existing between employers pension schemes and social security schemes. In addition to that, the paper has analysed the issue of the distinction between pension benefits and other social benefits, pointing out that a lack of a clear cut among these benefits can make problematic a full valuation of pension liabilities and origin an incentive to redesign the country's mix between social insurance and social assistance programs, with the aim of reducing the size of pension liabilities to be recorded into the Accounts.

## *References*

**De Rougemont, P (2005):** Annex on the accounting sequences describing the main options identified in the Eurostat Contribution (of December 3, 2004) to the EDG on pensions

**De Rougemont, P and F Lequiller (2004):** Accounting for Implicit Pensions Liabilities: Proposals from National Accountants for a Change of SNA93/ESA1995, Paper presented at OECD Workshop on Accounting for Future Liabilities, 4 June.

**De Rougemont, P (2003):** The Treatment of Employer Retirement Pension Schemes in Macroeconomic Statistics – The EDG on Pensions December 2003 Report, Report to the Intersecretariat Working Group on National Accounts of the United Nations, <http://www.imf.org/external/np/staueps/index.htm>

**Donaghue, B, (2005)**“Where and How should National Accounts record defined benefit pension schemes”, Washington D.C.

**Dong, L., O’Hagan, P., Wilkinson, J., Wilson, K. (2006),** “The Pension System in Canada”, paper prepared for the 29<sup>th</sup> Conference of IARIW, Joensuu, Finland.

**Eurostat/ECB (2008),** Final Report of the Eurostat/ECB Task Force on the statistical measurement of the assets and liabilities of pension schemes in general government to CMFB, Luxembourg, 31 January and 1 February 2008.

**Eurostat (2004),** "Pensions: Eurostat Communication to the AEG", discussion paper posted on EDG on pensions website, 4 december.

**Franco, D. (2005),** “Pension liabilities – Their use and misuse in the assessment of fiscal policies” Economic Papers, European Commission, No. 10

**Franco, D, Marino M. R. and Zotteri S.(2004):** Pension Expenditure Projections, Pension Liabilities and European Union Fiscal Rules, paper presented at all’International Workshop on the Balance Sheet of Social Security Pensions, Hitotsubashi University, Tokyo, 1-2 November.

**Heller, P (2005),** “Are Governments Overextended? Assessing the Spectrum of a Government’s Debts and Its Exposure to Risk”, IMF Discussion Paper.

**International Monetary Fund (2004),** “The statistical treatment of Employers’ pension schemes”, Issue paper prepared for the December 2004 Meeting of the Advisory Expert Group on National Accounts, Washington D.C.

**International Monetary Fund (2001):** Government Finance Statistics Manual 2001, Washington DC.

**Lequiller, F (2005):** Towards a Compromise for the New SNA, OECD paper for the meeting of the Task Force on Employers' Retirement Schemes scheduled for September 21-23, 2005.

**Lequiller, F.(2004),** Accounting for implicit liabilities, Discussion Paper n. 232, Project on Intergenerational Equity, Institute of Economic Research, Hitotsubashi University, Tokyo.

**Lequiller, F (2004):** Lessons from the OECD Workshop "Accounting for Implicit Liabilities", OECD paper, Parigi.

**Mink, R and R Walton (2005):** Employer Retirement Pension Schemes, Paper presented at the Financial Accounts Working Group meeting on 10-11 June, <http://www.imf.org/external/np/sta/ueps>.

**OECD (2004)** "Conditions for the proposed change in the treatment of unfunded employer pension schemes in SNA: illustration for general government accounts, Paris.

**OECD (2003)** Pension Glossary, Paris

**Palme, J. (1990)** Pension rights in welfare capitalism, Report No. 14, Institute for Social Research, Stockholm

**Pitzer, J, (2002),** "The treatment of Pension Schemes in Macroeconomic Statistics", IMF Discussion Paper, November, Washington D.C.

**Semeraro, G. (2005),** Should financial accounts include future pension liabilities?, IFCB Bulletin, n. 25.

**United Nations (2002):** Report of the Task Force on National Accounts, <http://unstats.un.org/unsd/default.htm>.

**United Nations (1993),** System of National Accounts Manual

**United Nations (2008),** Updated System of National Accounts 1993, Background document.