EN

EUROPEAN COMMISSION

Brussels, 20.12.2010
COM(2010) 774 final
Annex A/Chapter 17

ANNEX A to the

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the European System of national and regional accounts in the European Union

ANNEX A

CHAPTER 17: Social insurance including pensions

1. INTRODUCTION

17.01 Definition:	Social insurance schemes are schemes in which participants are obliged, or encouraged, by a third party to take out insurance against certain social risks or circumstances that may adversely affect their welfare or that of their dependants. In these schemes, 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 dependents or survivors. Contributions to social insurance schemes can also be paid by, or on behalf of, non-employed or self-employed persons.

17.02 There are two types of social insurance schemes:

a) The first consists of social security schemes covering the entire community, or large sections of the community, that are imposed, controlled and financed by government units. Pensions payable under these schemes may or may not be related to levels of salary of the beneficiary or history of employment. Non-pension benefits are less frequently linked to salary levels;

b) The second type consists of other employment related schemes. These schemes derive from an employer-employee relationship in the provision of pension and possibly other entitlements that are part of the conditions of employment and where responsibility for the provision of benefits does not devolve to general government under social security provisions.

17.03 The scope of social insurance schemes varies from country to country, and from scheme to scheme within the same country. Examples of such schemes are the following:

a) General government obliges all employees to participate in a social security scheme;

b) Employers make it a condition of employment that employees participate in an insurance scheme specified by the employer;

c) An employer encourages employees to join a scheme by making contributions on behalf of the employee; or

d) A trade union arranges advantageous insurance cover available only to the members of the trade union.

e) The schemes other than social security may be arranged with an insurance corporation as a group policy or series of policies, or they may be managed by an insurance corporation in return for a fee. Alternatively, the schemes may be managed by an employer directly on his own behalf or by employers on behalf of their employees and their dependants or by others on behalf of a specified group.

Table 17.1: Social insurance schemes

Characteristics	Social insurance scheme	
	The beneficiary is obliged or encouraged to insure against contingencies (old age, unemployment, health, long-term care) by intervention of a third party.	
	Social security	Employment-related social insurance schemes other than social security
Form of organisation	Organised by general government via social security funds	Organised by employers on behalf of their employees and their dependents or by others on behalf of a specified group
Sector or sub-sector classification	Social security funds (S.1314)	Sector or sub-sector of employer, insurance corporations, pension funds or non-profit institution serving households

1.1 Social insurance schemes, social assistance and individual insurance policies

17.04 Social assistance is not part of social insurance. Social assistance benefits are payable independently of participation in a social insurance scheme, i.e. without qualifying contributions having been made to a social insurance scheme.

17.05 Social assistance is distinguished from social security, by the eligibility to receive social assistance benefits from general government and is not dependent on having elected to participate as demonstrated by the payment of contributions. Usually all members of resident households are entitled to apply for social assistance but the conditions under which it is granted are often restrictive. Frequently there is an assessment of available income including social insurance benefits, in relation to the perceived needs of a household. Only those households falling below a given threshold may be entitled to this type of social assistance.

17.06 Individual insurance policies qualify as social insurance schemes if they cover social risks and needs such as sickness and old age. In order for an individual policy to be treated as part of a social insurance scheme, the eventualities or circumstances against which the participants are insured shall correspond to the risks or needs listed in paragraph 4.84, and in addition, one or more of the following conditions shall be satisfied:

a) Participation in the scheme is obligatory either by law or under the terms and conditions of employment of an employee, or group of employees;

b) The scheme is a collective one operated for the benefit of a designated group of workers, whether employees, self-employed or non-employed, participation being restricted to members of that group;

c) An employer makes a contribution (actual or imputed) to the scheme on behalf of an employee, whether or not the employee also makes a contribution.

17.07 Insurance claims on policies taken out with the sole purpose of obtaining a discount, even if those policies follow from a collective agreement, are excluded from social insurance. These individual insurance policies are recorded as life and non-life insurance. Insurance claims based on policies taken out solely on the own initiative of the insured, independently of his employer or government are also excluded from social insurance.

1.2 Social benefits

17.08 Social benefits become payable when certain events occur, or certain conditions exist that may adversely affect the welfare of the households concerned either by imposing additional demands on their resources or reducing their incomes. Social benefits are provided in cash or in kind. There are a number of circumstances in which social benefits are payable:

a) The beneficiaries, or their dependants, require medical, dental or other treatment, or hospital, convalescent or long-term care, as a result of sickness, injuries, maternity, chronic invalidity, old age, etc. The social benefits may be provided in kind in the form of treatments or care provided free or at prices that are not economically significant, or by reimbursing expenditures made by households. Social benefits in cash are also be payable to beneficiaries needing health care.

b) The beneficiaries have to support dependants of various kinds: spouses, children, elderly relatives, invalids, etc. The social benefits are usually paid in cash in the form of regular dependants' or family allowances.

c) The beneficiaries suffer a reduction in income as a result of not being able to work, or to work full-time. The social benefits are usually paid in cash regularly for the duration of the condition. In some instances a lump sum may be provided additionally or instead of the regular payment. Examples of why people may be prevented from working are as follows:

(1) Voluntary or compulsory retirement;

(2) Involuntary unemployment, including temporary layoffs and short-time working;

(3) Sickness, accidental injury, the birth of a child, etc., that prevents a person from working, or working full time.

d) The beneficiaries receive payments to compensate for suffering a reduction in income because of the death of the main income earner.

e) The beneficiaries are provided with housing either free or at prices that are not economically significant or by reimbursing expenditure made by households. These are social benefits in kind.

f) The beneficiaries are provided with allowances to cover education expenses incurred on behalf of themselves or their dependants. Education services may be provided as social benefits in kind.

1.2.1 Social benefits provided by general government

17.09 General government provides social benefits as payments under social security, social assistance or social transfers in kind.

17.10 Social security refers to social insurance schemes operated by general government.

17.11 The definition of social benefits includes the provision of health and education services. Typically general government makes such services available to all members of the community without requiring participation in a scheme or qualifying requirements. These services are treated as social transfers in kind and not as part of social security or social assistance. In addition to health and education services provided by general government, such services may also be provided to individuals by non-profit institutions serving households. These also are treated as social transfers in kind and not as part of social insurance schemes.

1.2.2 Social benefits provided by other institutional units

17.12 Social benefits can be provided by employers to their employees and their dependents or provided by other units such as trade unions. All social benefits provided by units other than general government are made under a social insurance scheme.

1.2.3 Pensions and other forms of benefit

17.13 Social insurance benefits and the corresponding contributions are divided between those relating to pensions and those relating to all other forms of benefit. The most important pension benefit covered by social insurance schemes is income in retirement, but there are other examples. For instance, pensions may be payable to widows and widowers or to people who suffer an industrial injury and are no longer able to work. The main income earner is no longer able, through death or incapacity, to provide an income, and so payments are made and recorded as pensions.

17.14 All other benefits are grouped together as non-pension benefits. The distinction between the pension and non-pension benefits is important because liabilities are recorded for pensions whether there are actually assets set aside to meet the entitlements or not, but reserves are recorded for non-pension benefits only when the reserves actually exist.

2. SOCIAL INSURANCE BENEFITS OTHER THAN PENSIONS

17.15 Definition:	Other social insurance benefits, or non-pension benefits, are benefits which beneficiaries receive, directly or indirectly, depending on specific events and usually under predetermined legal or contractual terms.

Excluding income in retirement, a number of other contingencies may be covered such as health insurance, unemployment insurance and long-term care insurance benefits.

17.16 Other social insurance benefits are provided to beneficiaries under social security and under employment-related schemes other than social security.

2.1 Social security schemes other than pension schemes

17.17 Definition	Social security schemes other than pension schemes are contractual insurance schemes where the beneficiaries as participants of a social insurance scheme are obliged by general government to insure against risks other than old age and other age-related risk. Social security benefits other than pension benefits, known as non-pension benefits, are provided to beneficiaries by general government.

17.18 Beneficiaries usually make compulsory contributions towards a social security scheme other than a social security pension scheme which is frequently financed on a pay-as-you-go basis. Pay-as-you-go contributions in a period are used to finance the benefits in the same period. There is no saving element involved, neither for general government nor the employer operating the scheme nor for the beneficiaries participating in it. So there is generally no question of a surplus arising and, if there is a shortfall in resources, government may have powers to change the commitments not just relating to future employment but also for the past. However, in some countries social security schemes other than pension schemes may accumulate reserves, known as buffer funds.

17.19 Social security entitlements other than pension entitlements, as outstanding amounts for a social security scheme, are not recognised in the core national accounts of the ESA. Estimates of the outstanding amounts of entitlements under social security schemes other than pensions, as well as of any other employment-related pension schemes provided by general government, are not included in the core accounts and not recorded in the supplementary Table 17.5.

2.2 Other employment-related social insurance schemes

17.20 Definition:	Other employment-related social insurance schemes are contractual insurance schemes, either compulsory by law or encouraged by a third party. In other employment-related social insurance schemes employers can make it a condition of employment that employees, the beneficiaries, participate in a social insurance scheme specified by the employer to insure against risk other than old age and age-related. These employment-related schemes are provided to beneficiaries either by the employer or by other units on behalf of the employer.

17.21 Other employment-related social insurance schemes are seen, like related pension schemes, as part of the compensation package, and negotiations between employees and employers may focus on current conditions of service and pay scales. Often social insurance benefits other than pensions are provided by private employers from schemes that the employers control or contract to a third party such as an insurance corporation providing social benefits like private medical coverage.

2.3 Recording of stocks and flows by type of non-pension social insurance scheme

2.3.1 Social security schemes

17.22 In recognition of the fact that social security is normally financed on a pay-as-you-go basis, entitlements accruing under social security such as social benefits including pensions, are not shown in the core national accounts.

17.23 Pension entitlements arising from social security schemes are included in the supplementary table for pensions, but this is not the case for entitlements arising from social security schemes, other than pension schemes.

17.24 The recording of the flows for social security schemes other than pensions refers to contributions made by the employer and by the employees and to social security benefits.

17.25 Any contribution made by the employer is treated as part of compensation of employees. It is recorded as a distributive transaction payable by the employer and receivable by the employee. The employee then pays an amount equal to what he receives from the employer together with any contribution of his own to the social security fund. This amount is recorded as a use for households and a resource for government.

17.26 Any contributions made by self-employed or non-employed people are also included with the contributions by households to government.

17.27 Social security benefits are recorded as distributive transactions, from general government to households.

17.28 Table 17.2 shows the transactions related to a social security pension scheme. They are identical to the transactions related to social security schemes excluding pensions.

2.3.2 Other employment-related non-pension social insurance schemes

17.29 For other employment-related non-pension social insurance schemes, entitlements of the participants are usually recorded as they build up. Investment income earned on existing entitlements is recorded as being distributed to the beneficiaries and reinvested by them in the scheme.

17.30 The social contribution made by an employer to an insurance scheme on behalf of an employee is treated as part of compensation of employees.

17.31 The investment income on accumulated entitlements is recorded as being distributed to households by the scheme . The investment income includes interest and dividends plus the distributed income of collective investment schemes if the institutional unit holds shares in them. It is possible that the scheme may own property and so generate net operating surplus, and this is included with the investment income distributed to the beneficiaries. In this case, the term investment income is to be interpreted as to include this source of income. Holding gains and losses generated by the investment of the cumulated entitlements are not included in investment income but are recorded as other changes due to revaluations.

17.32 Part of the income distributed to households is used to meet the costs of operating the scheme. This cost is shown as output of the scheme and household final consumption expenditure. The remaining part of the distributed income is treated as contribution supplements paid back by households to the scheme.

17.33 Social contributions are shown as paid by households to the scheme. The total amount of the social contributions is made up of the actual contributions from the employers as part of compensation of employees, actual contributions by employees and by individuals formerly participating in a scheme, self-employed and non-employed persons as well as retirees, and the contribution supplements specified in 17.32.

17.34 Those who contribute to a social insurance scheme, who are not employees, may be self-employed persons or persons not employed, who participate by virtue of their profession or former employment status.

17.35 The social benefits paid to households by the scheme administrator are shown as distributive transactions under other social insurance benefits.

17.36 The payment of the service provided by the scheme administrator, equal to the value of the scheme's output, is recorded as final consumption expenditure of households.

17.37 An increase in entitlements caused by an excess of contributions over benefits is shown as paid by the social insurance scheme to households. The rationale for this is that since this increase in entitlements directly affects the net worth of households, it should be included in the saving of the household sector.

17.38 The adjustment for the change in the entitlements paid by the scheme to households is recorded as a claim from households to the scheme.

17.39 Table 17.3 shows the transactions for an employment-related pension scheme. They are identical to the transactions related to social insurance schemes other than pension schemes.

3. PENSIONS

17.40 Definition:	Social insurance pensions are benefits which beneficiaries receive upon retirement, usually under predetermined legal or contractual terms and typically in the form of a guaranteed annuity.

The most important pension benefit of social insurance schemes is income in retirement, but a number of other cases occur. For example, pensions may be payable to widows and widowers or to people who suffer an industrial injury and are no longer able to work. All events that give rise to payments because the income earner is no longer able, through death or incapacity, to provide an income for him or her and dependants are treated as pensions.

3.1 Types of pension schemes

17.41 Pensions provided to beneficiaries can take the following forms:

a) Social insurance pension schemes;

b) Social assistance; and

c) Individual insurance policies related to pensions.

They are usually provided by social security funds, other government entities, insurance corporations and pension funds, or institutional units as employers. However other institutions could be involved, depending on national circumstances. The use of the term social security funds does not mean that there is always an actual fund of assets created within the scheme. Social security funds and social security schemes are synonymous terms.

17.42 Social insurance pensions are provided to beneficiaries as participants in social insurance schemes. The part provided by general government is called social security pensions, including social security funds, and the part by other units is called other employment-related pensions. The division between which pensions are provided by social security and which by other employment-related schemes varies considerably from country to country with the consequence that the coverage and therefore national perceptions of the term "social security" vary considerably.

3.1.1 Social security pension schemes

17.43 Definition:	Social security pension schemes are contractual insurance schemes where the beneficiaries as participants of a social insurance scheme are obliged by general government to insure against old age and other age-related risks such as disability, health etc. Social security pensions are provided to beneficiaries by general government.

17.44 When general government takes over the responsibility for providing pensions to large sections of the community, the social security function is in effect filling the role of a multi-employer scheme.

17.45 Beneficiaries usually make compulsory contributions towards a social security pension scheme which is frequently financed on a pay-as-you-go basis. The contributions in a period are used to finance the benefits in the same period. There is no saving element involved, neither for general government nor the employer operating the scheme nor for the beneficiaries participating in it. So a surplus on the scheme will not exist, and, if there is a shortfall in resources, government may have powers to change the commitments not just relating to future employment but also for the past. In some countries however social security pension schemes may accumulate reserves, known as buffer funds.

17.46 The narrowest form of social security pension is very basic. The level may be fixed independently of the size of contributions, though not of the fact that contributions have been made for a given period of time or under other specific conditions. An employee's right to a pension under social security is often transferable from one employer to another.

17.47 By contrast, in some countries most or all pension provision may be made via social security. In this case, government acts as an intermediary for employers so that once the government has received the contributions to the scheme paid by the employer and the households; the government then takes on the risk of making the eventual payment. Government relieves the employer of the risk that the cost of pensions may be too great for his enterprise to meet and assures the population that pensions will be paid, though it may do so with the qualification that it may alter the amount of pensions due, even retrospectively.

17.48 Pension entitlements as outstanding amounts for a social security pension scheme are not recognised in the core national accounts of the ESA. Estimates of the outstanding amounts of entitlements under social security pension schemes as well as of any other employment-related defined benefit pension schemes provided by general government are not included in the core national accounts but are recorded in the supplementary table shown in Table 17.5.

3.1.2 Other employment-related pension schemes

17.49 Definition:	Other employment-related pension schemes are contractual insurance schemes, either compulsory by law, or encouraged by government, or where employers make it a condition of employment that employees, the beneficiaries, participate in a social insurance scheme specified by the employer to insure against old age and other age-related risks. These employment-related pensions are provided to beneficiaries either by the employer or by other units on behalf of the employer.

17.50 Unless employers and beneficiaries agree to change the amounts payable, pension schemes run by private employers are usually not subject to retrospective adjustments. However there is a risk that the employer may be unable to pay because he has gone out of business. Protection for the pension entitlements of individuals is becoming more common. The pension built up with one employer may not be transferable to a new employer. Employer schemes are increasingly likely to have reserves set aside. Even if there are no reserves, accounting conventions may require them to recognise pension entitlements of present and past employees in their accounts.

17.51 Other employment-related pensions are seen as part of the compensation package, and negotiations between employees and employers may focus on current conditions of service and pay scales and pension entitlements. Often pensions are provided by private employers from schemes that the employers control or contract to a third party such as an insurance corporation. It is sometimes possible for a specialised unit to agree to assume responsibility for providing pensions for a number of employers in return for assuming the risk of ensuring adequate funding is available to make the promised pensions. Such an arrangement is called a multi-employer pension scheme.

17.52 Both current employees and former employees, who are the beneficiaries, may make contributions to the scheme and are assumed to receive property income from it. This property income is then treated as contribution supplements payable by them.

17.53 Pension schemes are categorised according to their nature into defined contribution schemes and defined benefit schemes.

3.1.3 Defined contribution schemes

17.54 Definition:	A defined contribution scheme is a pension scheme where the benefits are defined exclusively in terms of the level of the fund built up from the contributions made over the employee's working life and the increases in value that result from the investment of these funds by the manager of the pension scheme.

17.55 The entire risk of a defined contribution scheme to provide an adequate income in retirement is borne by the employee.

17.56 Providing detail on defined contribution schemes is relatively straightforward since full accounts must be available and no actuarial estimation is involved. Most of these are in the corporations sectors (column A of Table 17.5) but it is possible that in some cases government acts as a scheme manager. The pension entitlements of all defined contribution pension schemes are included in the core national accounts.

3.1.4 Defined benefit schemes

17.57 Definition:	A defined benefit scheme is a pension scheme where the benefits payable to the employee on retirement are determined by the use of a formula, either alone or in combination with a guaranteed minimum amount payable.

17.58 The risk of a defined benefit scheme to provide an adequate income in retirement is borne by the employer or a unit acting on his behalf.

3.1.5 Notional defined contribution schemes and hybrid schemes

17.59 Notional defined contribution schemes and hybrid schemes are grouped as defined benefit schemes.

17.60 Definition	A notional defined contribution scheme is similar to a defined contribution scheme but with a guaranteed minimum amount payable.

17.61 In a notional defined contribution scheme, contributions (both from employee and employer) are credited to, and accumulated on, individual accounts. These individual accounts are notional, in the sense that the contributions to the schemes are used to pay pension benefits to current pensioners. At retirement, the accumulated balance is converted into an annuity through a formula, based, among other factors, on a measure of life expectancy, and is revised annually to catch up with a measure of the standard of living.

17.62 Hybrid schemes are those schemes which have both a defined benefit and a defined contribution element. A scheme is classified as 'hybrid' either because both defined benefit and defined contribution provisions are present or because it embodies an notional defined contribution scheme and, at the same time, a defined benefit or defined contribution provision. The provision might be combined for a single beneficiary, or differentiated according to groups of beneficiaries by type of contract, pension provided, etc.

17.63 The risk to provide an adequate income in retirement is shared between the employer and the employee under a notional contribution scheme and under a hybrid scheme.

17.64 In certain cases, the employer’s risk may be borne by the multi-employer scheme that operates the defined benefit pension scheme on behalf of the employer.

3.1.6 Defined benefit schemes as compared to defined contribution schemes

17.65 The fundamental difference in accounting for a defined benefit pension scheme as compared to a defined contribution pension scheme is that, for the defined benefit pension scheme, the benefit to the employee in the current period is determined in terms of the undertakings made by the employer about the level of pension, whereas for the defined contribution pension scheme the benefit to the employee in the current period is determined by the contributions made to the scheme, and the investment income and holding gains and losses earned on these and previous contributions. Thus while there is in principle complete information available on the benefits for the participant in the defined contribution pension scheme, the benefits for the participants in a defined benefit pension scheme are estimated actuarially.

17.66 There are four sources of changes in pension entitlements in a defined benefit pension scheme. The first of these, the current service increase, is the increase in entitlement associated with the wages and salaries earned in the current period. The second source, the past service increase, is the increase in the value of the entitlement due to the fact that for all participants in the scheme, retirement (and death) are one year nearer. The third change in the level of entitlement is a decrease due to the payment of benefits to retirees of the scheme. The fourth source of change comes from other factors, factors that are reflected in the other changes in assets account.

17.67 As with a defined contribution pension scheme, the employer and/or employee may make actual contributions to the scheme in the current period. However, these payments may not be sufficient to meet the increase in the benefits accruing from the current year's employment. Therefore an additional contribution from the employer is imputed to bring equality between contributions (actual and imputed) and the increase in current service entitlements. These imputed contributions are usually positive but it is possible for them to be negative if the sum of the contributions received exceeds the increase in current service entitlements.

17.68 At the end of an accounting period, the level of the pension entitlements due to past and present employees can be calculated by estimating the present value of the amounts due to be paid in retirement using actuarial calculations. One element in the increase of this amount year by year is the fact that the present value of the entitlements existing at the beginning of the year, and still due at the end of the year, have increased because the future is one year nearer and so one fewer discount factor must be used to calculate the present value. It is this unwinding of the discount that accounts for the past service increase in entitlements.

17.69 A further basic difference between a defined benefit pension scheme and a defined contribution pension scheme concerns the payment for the cost of operating the pension scheme. Under a defined contribution pension scheme all of the risk is borne by the beneficiaries. The pension scheme is operated on their behalf and they pay for the cost of it. Since a unit other than the employer may operate the scheme, it is appropriate to treat the operating cost as part of the investment income that is retained by the scheme to meet its costs and generate a profit. In keeping with accounting for insurance, the investment income is treated as being attributed in full to the beneficiaries, part being used to meet the cost and the remainder being reinvested with the scheme.

17.70 For a defined benefit pension scheme, the situation is different. The risk that the fund may be insufficient to meet pension entitlements is borne in part or in whole by the employer, or a unit acting on his behalf, and not by the beneficiaries alone. The scheme may be directly controlled by the employer and be part of the same institutional unit or may be purely notional. Even in this case, there are costs associated with operating the scheme. Although these are initially borne by the employer, it is appropriate to regard this as a form of income in kind provided to the employees and for convenience it may be included with the employers' contributions. This assumes all the costs are borne by current employees and none by retirees. It also assumes that the attribution that must be made in the case of notional schemes can be applied in other circumstances.

17.71 For a defined benefit scheme, it is unlikely that self- and non-employed persons currently contribute, though it is possible if they were previously in employment giving rise to a defined benefit pension and have the right to continue to participate. Those previously in employment, whether currently in receipt of a pension or not, receive property income and pay contribution supplements.

3.2 Pension administrator, pension manager, pension fund and multi-employer pension scheme

17.72 The social insurance schemes may be organised by employers or by government, they may be organised by insurance corporations on behalf of employees or separate institutional units may be established to hold and manage the assets to be used to meet the pensions and to distribute the pensions. The pension fund subsector consists of only those social insurance pension funds that are institutional units separate from the units that create them.

17.73 An employer may contract with another unit to manage the pension scheme and arrange disbursements to the beneficiaries. There are different ways in which this may happen.

17.74 First, the operator of the pension scheme, the pension administrator, simply acts as the employer's agent, undertaking the day-to-day administration of the pension scheme, and the responsibility for any shortfall in the scheme, or the benefit of any excess, remains with the employer.

17.75 Second, the pension manager is responsible for determining the terms of an other employment-related pension scheme and bears the ultimate responsibility for pension entitlements. The pension manager also retains a significant degree of responsibility over the long-term policy of investment in assets, including the selection of investment options and the structure of administrative providers. Although the same unit may frequently carry out both functions of a pension manager and of a pension administrator, in some cases these are the responsibilities of different units.

17.76 Third, it is not uncommon for a single unit to contract with several employers to manage their pension schemes as a multi-employer pension scheme. The arrangements are such that the multi-employer pension scheme accepts the responsibility for any shortfall in the funds to meet the entitlements in return for the right to keep any excess funds. By pooling the risks over a number of employers the multi-employer scheme expects to balance under- and over-funding so as to emerge with an excess over all the schemes taken as whole in a similar way that an insurance corporation pools risk for many clients. In this case, the multi-employer pension scheme is the pension manager.

17.77 When government takes responsibility for providing benefits to large sections of the community, the social security function fills the role of a multi-employer scheme. Like the insurance corporation, the government then takes on the responsibility for any shortfall in funds to meet the pension liabilities or may be entitled to retain any surplus generated. It is often the case, though, that social security is funded on a pay-as-you-go basis so there is no question of a surplus arising and, if there is a shortfall in resources, government may have powers to change the entitlements not just relating to future employment but also for the past.

17.78 The pension manager's responsibility for any under-funding, or the benefit of any over-funding, of a pension scheme is recorded as a liability/asset relationship with the pension administrator. The change in the liability between the pension manager and the pension administrator is recorded period by period. It is not the pension entitlements of the scheme that are recorded as liabilities of the pension manager, but rather the difference between the pension entitlements and the assets held by the scheme. Where assets held by the scheme are greater than the pension entitlements, a situation described as over-funding, a liability/asset relationship with the pension manager will be recorded where it is certain that any over-funding would become the property of the pension manager in case of liquidation of the scheme.

17.79 Any holding gains and losses on the assets managed by the pension administrator are attributed to the pension manager so that the net worth of the pension fund remains exactly zero at all times.

3.3 Recording of stocks and flows by type of pension scheme in social insurance

3.3.1 Transactions for Social security pension schemes

17.80 In recognition of the fact that social security is normally financed on a pay-as-you-go basis, pension entitlements accruing under social security are not shown in the core national accounts. If all countries had similar benefits provided under social security and under social insurance schemes, international comparisons would be straightforward. However, this is not the case and national perceptions of what is covered by social security vary considerably.

17.81 The pension entitlements arising from social security schemes are not included in the core national accounts. The diversity of these schemes and employer schemes varies across EU countries. Pension entitlements arising from social security schemes are included in the supplementary table (Table 17.5) for pensions to allow comparison of country data.

17.82 The recording of the flows for social security pension schemes refers to contributions made by the employer and by the employees and to social security benefits.

17.83 Any contribution made by the employer is treated as part of compensation of employees. It is recorded as a distributive transaction from the employer to the employee. The employee then pays what he receives from the employer together with any contribution he makes on his own behalf to the social security fund. This amount is recorded as paid by households to government.

17.84 Any contributions made by self-employed or non-employed people are also included with the contributions made by households to government.

17.85 Social security benefits are recorded as distributive transactions from general government to households.

17.86 Table 17.2 shows the transactions of a social security pension scheme.

Table 17.2 Accounts for social contributions and pension benefits paid through social security

Uses					Type of account and transaction	Resources				
Em-ployer	Social security fund	House-holds	Other sectors	**Total economy**		Em-ployer	Social security fund	House-holds	Other sectors	**Total economy**

Generation of income account										
139.0				**139.0**	Employers' actual pension contributions (D.1211)					
Allocation of primary incomeaccount										
					Employers' actual pension contributions (D.1211)			139.0		**139.0**
Secondary distribution of income account										
		226.0		**226.0**	Social security contributions (pensions)		226.0			**226.0**
		139.0		**139.0**	Employers' actual pension contributions (D.6111)		139.0			**139.0**
		87.0		**87.0**	Household actual pension contributions (D.6131)		87.0			**87.0**
	210.0			**210.0**	Social security pension benefits (D.6211)			210.0		**210.0**

3.3.2 Transactions for Other employment-related pension schemes

17.87 For other employment-related schemes, pension entitlements of the participants are usually recorded as they build up. Investment income earned on existing pension entitlements is recorded as being distributed to the beneficiaries and reinvested by them in the pension scheme.

17.88 The recording of transactions for a defined contribution scheme is less complicated than the recording of transactions for a defined benefit scheme.

17.89 For both types of schemes, a pension fund is assumed to exist. For a defined contribution pension scheme, a real fund must exist. For a defined benefit pension scheme a fund may exist in reality or it may be a notional fund. If it exists, it may be part of the same institutional unit as the employer, it may be a separate institutional unit with an autonomous pension scheme, or it may be part of another financial institution, either an insurance corporation or a multi-employer pension scheme.

3.3.3 Transactions for Defined contribution pension schemes

17.90 The contribution made by an employer to a defined contribution pension scheme on behalf of an employee is treated as compensation of employees.

17.91 The investment income on accumulated pension entitlements is also recorded as being distributed to households from the pension fund. The investment income includes interest and dividends plus the distributed income of collective investment schemes if the pension fund holds shares in them. It is possible that the pension fund may own property and generate net operating surplus, which is included with the investment income as being distributed to the pension beneficiaries. In this case, the term investment income includes this source of income, if it exists. Holding gains and losses generated by the investment of the cumulated pension entitlements are not included in investment income but are recorded as other changes due to revaluations.

17.92 Part of the income distributed to households is used to meet the costs of operating the pension fund. This cost is recorded as output of the pension fund and as household final consumption expenditure. The remaining part of the distributed income is treated as pension contribution supplements paid back by households to the pension fund.

17.93 Social contributions are recorded as paid by households to the pension fund. The total amount of the social contributions is made up of the actual contributions by the employers as part of compensation of employees, actual contributions by employees and possibly by other individuals, such as individuals formerly participating in a scheme, self-employed and non-employed persons as well as retirees, and the contribution supplements specified in 17.92. For clarity, and to enhance the comparison with defined benefit schemes, the supplements are shown at full value. The total contributions made by households to the pensions fund are net in the same way that insurance premiums are net, that is to say they are the total of all contributions made less the service charge.

17.94 Those other than employees who contribute to a defined contribution pension scheme may be self-employed persons participating in a defined contribution pension scheme or may be persons not employed who participate in a defined contribution pension scheme by virtue of their profession or former employment status.

17.95 The pension benefits to households from the pension fund are recorded as distributive transactions under other social insurance pension benefits (D.6221).

17.96 There is also a transaction for the service provided by the pension fund (equal to the value of the pension fund's output), recorded as final consumption expenditure by households.

17.97 The increase in pension entitlements caused by an excess of contributions over benefits is recorded as paid by the pension fund to households. Similarly, a decrease in pension entitlements caused by a deficit of contributions compared to benefits is recorded as a payment from households to the pension fund. The change in pension entitlements directly affects the net worth of households, and so the saving of the household sector. Because much of the increase in the pension entitlement of participants in a defined contribution pension scheme, and thus ultimately the funding for the benefits, come from holding gains that are not included in the contribution supplements of participants in defined contribution pension schemes, the adjustment for the change in pension entitlements for these individuals will frequently be negative.

17.98 The adjustment for the change in pension entitlements paid by the pension fund to households is recorded as a claim from households to the pension fund.

17.99 Table 17.3 illustrates the entries necessary to record the transactions related to a defined contribution scheme. It is simpler than the corresponding table for a defined benefit scheme, because of the absence of any imputed transactions.

Table 17.3: Accounts for pension benefits payable under a defined contribution scheme

Uses					Type of account and transactions	Resources				
Em-ployer	Pension fund	House-holds	Other sectors	Total economy		Em-ployer	Pension fund	House-holds	Other sectors	Total economy

					Production account					
					Output (P.1)		1.4			1.4
					Generation of income account					
11.0				11.0	Employers' actual pension contributions (D.1211)					
					Distribution of primary income					
					Employers' actual pension contributions (D.1211)			11.0		11.0
			3.0	3.0	Property income (D.4)	3.0				3.0
	16.2			16.2	Investment income payable on pension entitlements (D.442)			16.2		16.2
					Secondary distribution of income account					
		37.3		37.3	Household total pension contributions		37.3			37.3
		11.0		11.0	Employers' actual pension contributions D.6111)		11.0			11.0
		11.5		11.5	Household actual pension contributions D.6131)		11.5			11.5
		16.2		16.2	Household pension contribution supplements (D.6141)		16.2			16.2
		-1.4		-1.4	Social insurance scheme service charges (D.61SC)		-1.4			-1.4
	26.0			26.0	Social insurance pension benefits (D.6221)			26.0		26.0
					Use of income account					
		1.4		1.4	Final consumption expenditure (P.3)					
	11.3			11.3	Adjustment for the change in pension entitlements (D.8)			11.3		11.3
-11.0	-11.8	25.8	-3.0	0	Saving					
Changes in assets					**Financial account**	**Changes in liabilities**				
					Net borrowing/lending (B.9)	-11.0	-11.8	25.8	-3.0	0.0
		11.3		11.3	Change in pension entitlements (F.63)		11.3			11.3
-11.0	-0.5	14.5	-3.0	0.0	Other financial assets					

- Other flows related to defined contribution pension schemes

17.100 The other factors affecting the change in the balance sheet entry for the change in pension entitlements are shown in the other changes in assets accounts. In particular, the entitlements of the scheme's beneficiaries show holding gains or losses in the revaluation account corresponding exactly to those on the assets held by the pension fund to meet these obligations.

17.101 The investment of the entitlements of defined contribution pension schemes leads to holding gains or losses. These come about through value changes of the assets held by the pension fund, and an amount exactly equal to the holding gains and losses is attributed as an increase in the pension entitlements of the beneficiaries. This is recorded in the revaluation account.

3.3.4 Transactions for Defined benefit pension schemes

17.102 For defined benefit pension schemes the employer retains responsibility for meeting the pension payments. Alternatives involving the use of a multi-employer scheme or where government assumes responsibility on behalf of the employer follow the definitions given in the paragraphs 17.76.and 17.77.

17.103 The total contribution made by an employer to a defined benefit pension scheme on behalf of his employee must be sufficient that, together with any actual contribution by the employee and excluding the cost of operating the scheme, it matches the current service increase in the employee's pension entitlements. The contribution by the employer is divided into an actual and an imputed part, the latter being calculated so as to be an exact match between all contributions to the fund adding to the entitlements of the employee and the current service cost of these entitlements.

17.104 The contribution by the employer is calculated in relation to the pension entitlement earned in the period regardless of any investment income earned by the scheme in the same period or any over-funding of the scheme. The current period entitlement is part of compensation of employees, and not including the full value of the employer's contribution will result in an understatement of compensation of employees, and an overstatement of the employer's operating surplus. It is important that contributions continue to be recorded even in the event of a contributions holiday, when the employer does not make an actual contribution, the benefit to the employer being regarded as a change in liabilities between the pension fund and the employer. This leaves the net worth of both the same as when contributions are not recorded under a contributions holiday, without reducing compensation of employees artificially.

17.105 In defined benefit schemes, a qualifying period before an employee becomes eligible to receive a pension in retirement is possible. Despite this qualifying period, both contributions and entitlements are to be recorded from the start of employment, adjusted by a factor reflecting the probability that the employee will in fact satisfy the qualifying period.

17.106 The sum of employers' actual and imputed pension contributions is treated as compensation of employees. It is recorded as a use of the employer in the generation of income account, and a resource of the employee in the distribution of primary income account.

17.107 The increase in the present value of the entitlements of continuing employees and those who no longer contribute but remain eligible for pensions in future, represents the investment income distributed to the employees. No deduction is made for any amount that may be funded from holding gains or that is not actually matched by existing funds. It matches the amount that is unequivocally due to the employee under the prevailing agreements; the means by which the employer may ultimately match this obligation is not relevant for the recording of this as investment income any more than the means by which interest or dividends are actually financed affect their recording as investment income. The investment income is recorded as a use for the pension fund and a resource for households. It is immediately reinvested by the households in the fund and included in pension contribution supplements.

17.108 In the secondary distribution of income account, social contributions are shown as a use of households and a resource for the pension fund. The total amount of the social contributions payable is made up of the actual and imputed contributions of the employers as part of compensation of employees, excluding the amount of the costs of running the pension scheme, plus actual contributions by employees plus the contribution supplements specified in 17.107. As explained in the discussion under defined contribution schemes, the accounts show the full value of the contributions and contribution supplements with an offsetting item representing the service charge payable. The amount actually paid is a net contributions figure.

17.109 The pension benefits to households from the pension scheme are recorded in the secondary distribution of income account. When the benefits are taken in terms of an annuity, the annuity payments are shown here, not the lump sums payable at the time of retirement.

17.110 In the use of income account, there is an entry for the payment of the service provided by the pension fund, equal to the value of the pension fund's output plus the output of the enterprises operating annuities bought with pension entitlements. It is a use for households and a resource for the pension fund.

17.111 Also in the use of income account, there is an entry showing the increase in pension entitlements caused by the granting of further pension entitlements by the employer on the one hand less the decrease from the benefits receivable on the other. This amount is shown as a resource for households and a use for the pension fund. The rationale for this is that since this change in pension entitlements directly affects the net worth of households, it should be included in the saving of the household sector.

17.112 The amount in the use of income account as paid by the pension fund to households is shown in the financial account as change in assets of households vis-à-vis the pension fund. .

17.113 Other organisations, such as a trade union, may operate a defined benefit pension scheme for its members, that is in all respects parallel to an employer's defined benefit pension scheme. Exactly the same recording is followed except that references to the employer should be understood to refer to the pension manager and references to the employee should be understood to refer to the participant in the scheme.

17.114 To illustrate the recording of transactions connected with a defined benefit pension scheme, Table 17.4 shows a numerical example. Figures that are imputed are shown in bold; those that result from re-routing are shown in italics.

Table 17.4: Accounts for pension benefits payable under a defined benefit scheme

Uses					Type of account and transactions	Resources				
Em-ployer	Pension fund	House-holds	Other sectors	Total economy		Em-ployer	Pension fund	House-holds	Other sectors	Total economy
					Production account					
					Output (P.1)		**0.6**			**0.6**
					Generation of income account					
10.0				10.0	Employers' actual pension contributions (D.1211)					
4.1				**4.1**	Employers' imputed pension contributions (D.1221)					
					Allocation of primary income account					
					Employers' actual pension contributions (D.1211)			10.0		10.0
					Employers' imputed pension contributions (D.1221)			**4.1**		**4.1**
			2.2	2.2	Property income (D.4)		2.2			2.2
	4.0			**4.0**	Investment income payable on pension entitlements (D.442)			**4.0**		**4.0**
					Secondary distribution of income account					
		19.0		19.0	Household total pension contributions		19.0			19.0
		10.0		10.0	Employers' actual pension contributions (D.6111)		10.0			10.0
		4.1		**4.1**	Employers' imputed pension contributions (D.6121)		**4.1**			**4.1**
		1.5		1.5	Household actual pension contributions (D.6131)		1.5			1.5
		4.0		**4.0**	Household pension contribution supplements (D.6141)		**4.0**			**4.0**
		-0.6		**-0.6**	Social insurance scheme service charges (D.61SC)		**-0.6**			**-0.6**
	16.0			16.0	Pension benefits (D.6211)			16.0		16.0
					Use of income account					
		0.6		**0.6**	Final consumption expenditure (P.3)					
	3			3	Change in pension entitlements (D.8)			3		3
-14,1	-1,2	17,5	-2.2	0	Saving					

Changes in assets					Financial account	Changes in liabilities				
					Net borrowing/lending (B.9)	-14.1	-1,2	17,5	-2.2	0
		3		3	Change in pension entitlements F.63)		3			3
	4.1			**4.1**	Pension fund claim on employer (F.64)	**4.1**				**4.1**
-10.0	-2.3	14.5	-2.2	0	Other financial assets					

17.115 Actuarial calculations show that the increase in pension entitlements coming from current service, that is the net amount of the further pension entitlements "earned" in the year in question is 15. Households (the policyholders/ employees) contribute 1.5. The employer therefore is obliged to provide 13.5. In addition the cost of operating the scheme is estimated at 0.6. In total therefore the employer must provide 14.1. He actually contributes 10 so the remaining 4.1 is an imputed contribution. The output of 0.6 is shown in the production account; the consumption of this service is reported in the 'use of income account'. The contributions by the employer are shown as a use for the employer in the generation of income account and a resource for the households in the allocation of primary income account.

17.116 In the allocation of primary income accounts, property income is shown. The increase in pension entitlement coming from past service, due to the unwinding of the discount factor because retirement is one year nearer, is 4. This is shown as an imputed flow of property income from the pension fund to households. At the same time, the pension fund actually earns 2.2 from investment income of the funds they manage. At this point, therefore, there is a shortfall of 1.8 in the pension fund resources but it is not shown in the current accounts.

17.117 In the secondary distribution of income accounts, the payments from households to the pension fund are shown. This can be viewed in one of two ways. The sum of the contributions paid by households should be equal to the increase in entitlements coming from current service (15) plus that coming from income on past entitlements (4) or 19 in total. The amounts actually paid are 10 received as the employers' actual contributions, 4.1 as the imputed contributions, 1.5 of the households own contributions, contribution supplements of 4 less the service charge of 0.6; again 19 in total.

17.118 In the use of income account, as well as the purchase of the service charge as part of household final consumption expenditure, the change in pension entitlement is shown as a use for the pension fund and a resource for households. In this example, the amount of household contributions of 19 is set against pension benefits of 16. There is thus an increase in pension entitlements of 3 owing to households.

17.119 Households have saving of 17.5 of which 3 is the increase in their pension entitlements. This means that they have acquired other financial assets (or reduced liabilities) by 14.5. This figure is the difference between the benefits received (16) and households' actual contributions of 1.5.

17.120 In the financial account of the pension fund, the figure of 4.1, which was the imputed contribution, is shown as the claim of the pension administrator on the employer. There is a claim by households on the pension fund of the change in pension entitlements of 3. In addition the pension fund either runs down financial assets or increases liabilities by 2.3, the figure corresponding to disposable income excluding the imputed contribution element from the employer.

4. SUPPLEMENTARY TABLE FOR PENSION SCHEMES IN SOCIAL INSURENCE

4.1 Design of the supplementary table

17.121 The supplementary table (Table 17.5) on pension schemes in social insurance provides a framework for compiling and presenting comparable balance sheet, transaction and other flow data of all types of pension entitlements from a debtor (pension manager) and also from a creditor (household) point of view. The 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.

17.122 The supplementary table covers the pension part of social insurance regarding old age pensions only, including those pensions paid before normal retirement age. Social assistance, health and long-term care insurance, separate sick leave and disablement insurance are not covered in this table. Neither are individual insurance policies included. But in practice, it may not be feasible, or sufficiently important, to completely separate the non-pension social insurance elements. Elements of social assistance within pension schemes generally organised as social insurance may not be separable, and so occur in the supplementary table.

17.123 Entitlements for survivors (e.g. dependent spouses, children, and orphans) as well as disability and invalidity type benefits are included in the supplementary table when they are an integral part of the pension scheme.

17.124 All elements of the supplementary table are recorded with no deductions made for taxation, further social contributions or the service charge associated with the pension scheme.

Table 17.5: Supplementary table on pension schemes in social insurance

Relations	Row No.		A	B	C	D	E	F	G	H	I	J
		Recording	Core national accounts						Not in the core national accounts		Total pension schemes	Counter-parts: Pension entitle-ments of non-resident house-holds[4]
		Pension manager	Non-general government			General government						
			Defined con-tribution schemes	Defined benefit schemes and other[1] non-defined contri-bution schemes	To-tal	Defined contri-bution schemes	Defined benefit schemes for general government employees[2] – Classi-fied in finan-cial cor-pora-tions	Classi-fied in general govt 3)	Classi-fied in general govern-ment	Social security pension schemes		
Rela-tions	Row No.	Column number	A	B	C	D	E	F	G	H	I	J
		Opening balance sheet										
	1	Pension entitlements										
		Changes in pension entitlements due to transactions										
Σ 2.1 to 2.4	2	Increase in pension entitlements due to social contributions										
	2.1	Employer actual social contributions										
	2.2	Employer imputed social contributions										
	2.3	Household actual social contributions										
	2.4	Household social contribution supplements[5]										
	3	Other (actuarial) change of pension entitlements in social security pension schemes										
	4	Reduction in pension entitlements due to payment of pension benefits										
2 + 3 - 4	5	Changes in pension entitlements due to social contributions and pension benefits										
	6	Transfers of pension entitlements between schemes										
	7	Changes in pension entitlements due to pension scheme reforms										

		Changes in pension entitlements due to other flows										
	8	Changes in entitlements due to revaluations[6)]										
	9	Changes in entitlements due to other changes in volume [6)]										
		Closing balance sheet										
1+ Σ 5 to 9	10	Pension entitlements										
		Related indicators										
	11	Output										

1) Such other non-defined contribution schemes, often described as hybrid schemes, have both a defined benefit and a defined contribution element. 2) Schemes organised by general government for its current and former employees. 3) These are non-autonomous defined benefit schemes whose pension entitlements are recorded in the core national accounts. 4) Counterpart data for non-resident households will only be shown separately when pension relationships with the rest of the world are significant. 5) These supplements represent the return on members' claims on pension schemes, both through investment income on defined contribution schemes' assets and for defined benefit schemes through the unwinding of the discount rate applied. 6) A more detailed split of these positions has to be provided for columns G and H based on the model calculations carried out for these schemes. The cells shown as █ are not applicable; the cells in ▒ will contain different data from the core national accounts.

4.1.1 The columns of the table

17.125 The columns of the table refer to three different various groupings of pension schemes, as follows:

(1) By type of recording into pension schemes completely recorded in the core national accounts (columns A to F) and those whose entitlements are only recorded in the supplementary table (columns G and H);

(2) By type of pension manager into non-general government (columns A to C) and general government pension schemes (columns D to H); pension schemes including social security classified in general government are shown in columns D, F, G and H; and

(3) By type of pension scheme into defined contribution schemes (columns A and D) and defined benefit schemes (columns B and E to G).

17.126 For the most part, the beneficiaries of pension schemes are resident households. In some countries, the number of non-resident households receiving pension benefits may be significant. In this case, column J is added to show the total for non-resident households.

17.127 The decision to record the pension entitlements of an unfunded employment-related defined benefit pension scheme where government is the pension manager within the standard national accounts or only in the supplementary table depends on the nature of the defined benefit scheme. The guiding principle for inclusion in the national accounts is the closeness of the scheme to the national social security pension scheme.

17.128 There is a wide diversity of schemes in the EU, and including all schemes would lead to inconsistencies in recording. So entitlements of unfunded employment-related defined benefit schemes where government is the pension manager are recorded only in the supplementary table. This affects the calculation method in the core national accounts of the imputed employer social contributions for these schemes.

17.129 Pension schemes are classified further according to the pension manager into government and non-government pension managers. The definition of a pension manager is described in 17.75.

17.130 Some employer pension schemes have a mixed membership, for example including both government employees and employees of public corporations, and many pension schemes have frozen the membership of participants who have moved to other employers. A scheme having a small proportion of non-government employees does not prevent the scheme being described as having a government pension manager.

17.131 General government funded defined benefit schemes for their own employees are shown in columns E and F. Column E shows schemes managed by a pension fund corporation or an insurance corporation and column F those managed by general government itself. Government schemes for their own employees where the pension entitlements do not appear in the core national accounts are shown in column G. The sum of columns D, E, F and G therefore show the total responsibility of government for pension entitlements for their own employees.

17.132 Pension schemes are classified by type of scheme into defined contribution pension schemes (columns A and D) and defined benefit pension schemes (columns B, E, F and G). Column H relates to social security pension schemes.

4.1.2 The rows of the table

17.133 The rows of the table relate to balance sheet positions, transactions and other flows associated with pension entitlements of the schemes included in the supplementary table and they are shown separately in Table 17.7. There is reconciliation between the opening stock of pension entitlements of such schemes at the beginning of a period and the closing stock of pension entitlements at the end of a period, taking account of all transactions and other flows during the period. For schemes recorded in columns G and H, the stocks of pension entitlements are not recorded in the core national accounts, but many of the transactions are recorded in the core national accounts.

Table 17.7: Rows of the supplementary table on pension schemes in social insurance

Row No.	
	Opening balance sheet
1	Pension entitlements
	Changes in pension entitlements due to transactions
2	**Increase in pension entitlements due to social contributions**
2.1	Employer actual social contributions
2.2	Employer imputed social contributions
2.3	Household actual social contributions
2.4	Household social contribution supplements[1)]
3	Other (actuarial) increase of pension entitlements in social security pension schemes
4	Reduction in pension entitlements due to payment of pension benefits
5	Changes in pension entitlements due to social contributions and pension benefits
6	Transfers of pension entitlements between schemes
7	Changes in pension entitlements due to pension scheme reforms
	Changes in pension entitlements due to other economic flows
8	Changes in entitlements due to revaluations [2)]
9	Changes in entitlements due to other changes in volume [2)]
	Closing balance sheet
10	Pension entitlements
	Related indicators
11	Output

1. These supplements represent the return on members' claims on pension schemes, both through investment income on defined contribution schemes' assets and for defined benefit schemes through the unwinding of the discount factor applied.

2. A more detailed split of these positions has to be provided for columns G and H based on the model calculations carried out for these schemes (see paragraphs 17.158 – 17.160)

4.1.2.1 Opening and closing balance sheets

17.134 Row 1 shows the opening stock of pension entitlements, which is exactly equivalent to the closing stock of the previous accounting period. Row 10 shows the corresponding closing stock of pension entitlements at the end of the accounting period.

4.1.2.2 Changes in pension entitlements due to transactions

17.135 Employer and employee actual social contributions are recorded in rows 2.1 and 2.3, as in the core national accounts. In the case of some pension schemes, notably social security pension schemes, it is necessary to distinguish actual social contributions relating to pensions from social contributions relating to other social risks such as unemployment.

17.136 For defined benefit pension schemes, employer imputed social contributions are generally measured as the balancing item – any changes in entitlements over the year not included in other rows of the table are captured in row 2.2. This row covers "experience effects" where the observed outcome of pension modelling assumptions (wage growth rate, inflation rate, discount rate) differs from the levels assumed. Zeroes are shown in this row for defined contribution schemes.

17.137 Row 2.4 shows the property income earned or imputed in the schemes, which is routed via the household sector or the rest of the world sector. It should be noted that for all defined benefit schemes including social security, whether funded or unfunded, this property income is equivalent to the unwinding of the discount rate. In other words the value is equal to the discount rate times the pension entitlements at the beginning of the accounting period.

17.138 Some of the entries in the rows of columns G and H, specifically the actual contributions made by both employers and employees, appear in the core national accounts, even though the entitlements and change in entitlements do not. Other entries in the columns for G and H shown only in the supplementary table are shaded in the table and explained below.

17.139 The imputed contribution by employers for those government schemes for which entitlements appear in column G but not in the core national accounts requires special consideration. Within the core national accounts the imputed contributions are to be estimated on the basis of actuarial calculations. Only in cases where the actuarial calculations cannot obtain a sufficient level of reliability, two other approaches are possible to estimate government employers' imputed pension contributions as follows:

(1) on the basis of a reasonable percentage of wages and salaries paid to current employees or

(2) as equal to the difference between current benefits payable and actual contributions payable (by both employees and government as employer).

Items for household social contribution supplements and the other changes in entitlements are shown on the same basis as for private schemes.

17.140 An item calculated on the same actuarial basis in respect of social security is shown in row 3 as “other (actuarial) accumulation of pension entitlements in social security funds”. It is thus distinguished from employers’ imputed social contributions.

17.141 Given that the supplementary table provides a complete elaboration of the changes in pension entitlements over the accounting period it is necessary to introduce a specific row to deal with the case where actual social contributions to the social security pension scheme are not actuarially based, and therefore there is an imputed contribution, which is not the responsibility of any employer. These imputed transactions of social security pension schemes are shown in row 3 as other actuarial increase of pension entitlements in social security pension schemes. The entries in this row can be positive or negative – the negative cases occur in a social security pension scheme where the discount rate is higher than the scheme's internal rate of return. The internal rate of return of a pension scheme is the discount rate that equalises the present value of the actual contributions paid and the discounted value of pension entitlements accrued through those contributions. Negative entries occur for example when contributions have been raised above the actuarial required level in order to finance a short-run cash shortfall.

17.142 Row 3 does not represent cash transfers from tax revenues, and would be recorded in the standard accounts as current transfers between government units if they have no impact on pension entitlements. In some EU countries governments make transfers to pension schemes which do increase pension entitlements (for example where transfers are made for specific social groups which are unable to contribute directly), which would indicate that the amounts should be implicitly included in this row figure calculated by difference.

17.143 Differences in the accounting period encountered between assumed and actual wage growth (that is the wage growth part of the "experience effects" or "actuarial effects" when modelling) need to be reflected in transactions (employer's imputed social contributions), along with all other experience effects.

17.144 Row 3 captures any "experience effects" observed for social security pension schemes where the observed outcome of pension modelling assumptions (wage growth rate, inflation rate, discount rate) in any one year differs from the levels assumed.

17.145 Row 4 shows pension benefits that are paid during the accounting period. Payment of pension benefits has the effect of "settling" some of the pension entitlements included in the opening stock in row 1.

17.146 Row 5 presents the changes in pension entitlements due to contributions and benefits. It is row 2 plus row 3 less row 4.This balancing item measured from the non-financial accounts is equivalent to that measured from the financial accounts.

17.147 One characteristic of the changing environment of pensions is the increasing possibility of having “portable pensions”, where a person moving jobs can transfer the pension entitlement with the former employer to one with the new employer. When this happens, the pension entitlement of the household concerned is unaffected but there is a transaction between the two pension schemes as the new one assumes the liability of the former. In addition there will be a counterpart transaction in some assets to match these liabilities.

17.148 If government assumes the responsibility for pension provision for the employees of a non-government unit through an explicit transaction, any payment by the non-government unit needs to be recorded as pre-paid social contributions (F.89). There is further discussion of this type of arrangement in paragraphs 20.276.to 20.278.

17.149 When one unit takes over the responsibility for pension entitlements from another unit, two transactions are recorded in row 6. First, there is a transfer of pension entitlements from the original pension scheme to the new pension scheme. Second, there may be a transfer in cash or other financial assets to compensate the new pension scheme. It is possible that the value of the transfer of financial assets is not exactly equal to the value of the pension entitlements transferred. In that case a third entry is needed in transactions of capital transfers to correctly reflect the changes in net worth of the two units concerned.

17.150 Employers are increasingly reforming the pension schemes they manage in response to demographic and other factors. Reforms may take the form of a change to the benefit formula, a change in the retirement age, or a change in other scheme provisions.

17.151 Only enacted pension reforms lead to recording in the national accounts, in the estimates of pension entitlements in the year in which enactment takes place and subsequently in observed flows. An announcement by an employer of its intention to undertake a pension reform is not a sufficient basis to introduce the effects of the reform into national accounts data.

17.152 In some cases of reform, the employer chooses to leave the vested rights of existing members untouched and only applies the reformed arrangements for future acquisition of additional entitlements. There would be no immediate impact on current pension benefits. The impact would be seen in future measures of pension benefits, in line with the accrued-to-date approach.

17.153 However in some cases the employer decides to make reforms which affect the accrued-to-date entitlements for existing members, for example a general increase in retirement age for all members. These types of reforms change the stock of pension entitlements during the year in which they are enacted. This effect must be accounted for as a flow. It may be very large since it affects current and future pension entitlements.

17.154 Changes in pension entitlements are recorded as transactions as follows:

a) If the entitlements of a pension scheme is included in the core national accounts, and the employer agrees to change in the terms of pension entitlements via negotiation with the affected employee, this change is recorded as a transaction in the core national accounts (under imputed employer social contributions);

b) If the entitlements of a pension scheme are not recorded in the core national accounts, and the employer agrees a change in the terms of pension entitlements via negotiation with the affected employees, this change is recorded as a transaction in the supplementary table;

c) In the case of social security, if changes in pension entitlements are agreed by the parliamentary authorities, this is recorded in the supplementary table as if it were negotiated.

17.155 Changes in pension entitlements that are imposed without negotiation are recorded as other changes in the volume of assets.

17.156 Changes in accrued-to-date entitlements arising from past service are recorded as capital transfers.

17.157 Row 7 shows the impact of reforms of pension scheme structures on entitlements relating to past service.

4.1.2.3 Changes to pension entitlements due to other economic flows

17.158 Rows 8 and 9 account for the other flows as revaluations and other changes in volume associated with pension schemes in social insurance. Table 17.8 illustrates the other flows, divided into revaluations and other changes in volume.

17.159 Revaluations are due to changes of key model assumptions in the actuarial calculations. These assumptions are the discount rate, the wage rate and the inflation rate. Experience effects are not included here unless it is not possible to identify them separately. Other changes in actuarial estimates are more likely to be recorded as other changes in volume of assets. The effects of price changes due to the investment of the entitlements are recorded as revaluations appearing in the revaluation account.

17.160 When the demographic assumptions used in the actuarial calculations are changed, they are recorded as other changes in the volume of assets.

Table 17.8: Other flows as revaluations and other changes in the volume of assets

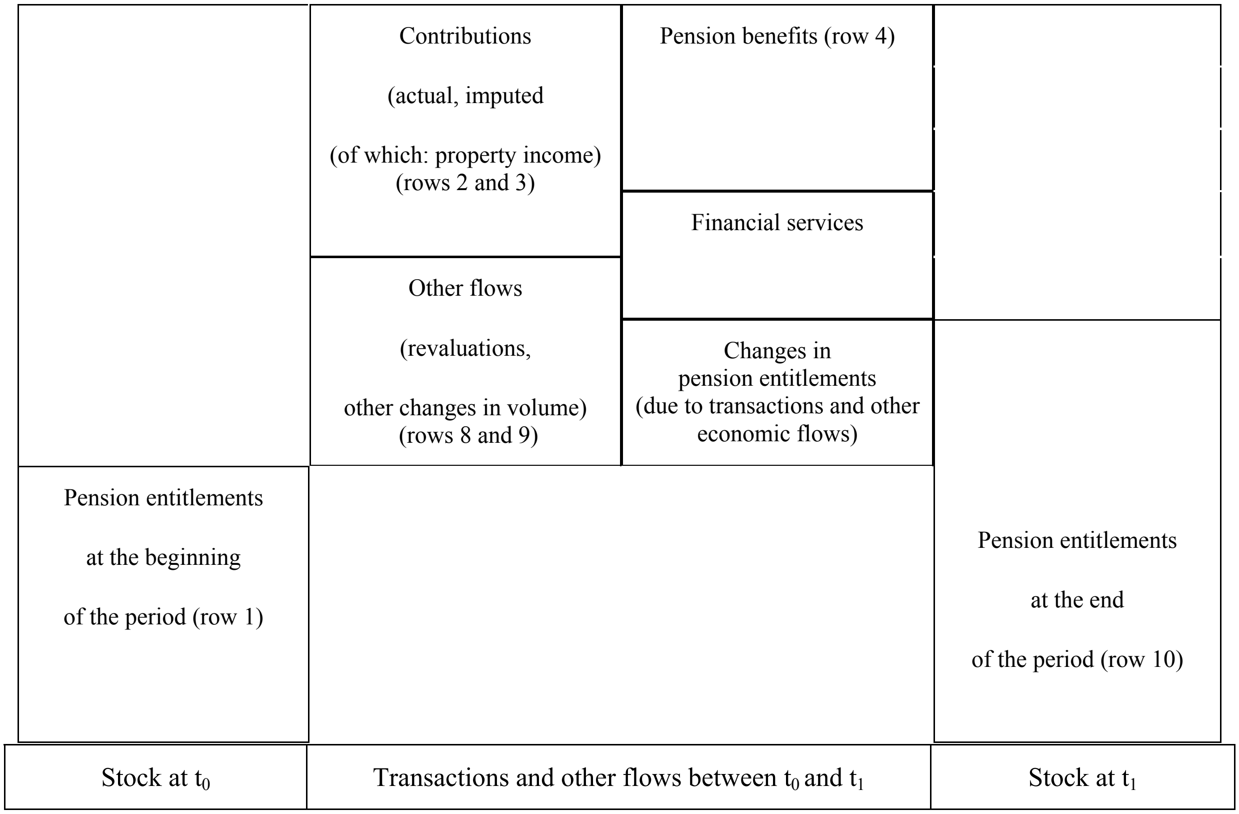
Revaluations
Changes in assumed discount rate
Changes in assumed wage developments
Changes in assumed price developments
Other changes in the volume of assets
Changes in demographic assumptions
Other changes in the volume of assets

4.1.2.4 Related Indicators

17.161 Financial services produced by all pension schemes are recorded as being paid by scheme members, and so the costs of pension schemes are not recorded as intermediate consumption of the employer operating the scheme. Accordingly, Chart 17.1 shows financial services separate from social contributions. Presenting financial services in this way means the figures shown as contributions received by employees from their employers are exactly the same as that part of the contributions paid by the employees to the pension scheme. Furthermore, it is not necessary to show which element of social contributions covers the service fee. It is the household contribution supplement for a defined contribution scheme and either the employers' or the household contribution for a defined benefit scheme.

As output is recorded for all employer pension schemes, which the scheme's members consume, row 11 shows the output by type of scheme.

Chart 17.1: Pension entitlements and their changes



This chart is purely illustrative and no specific meaning should be attributed to the size of the different boxes.

4.2 Actuarial assumptions

4.2.1 Accrued-to-date entitlements

17.162 Pension entitlements in national accounts are measured on a gross basis. No assets or accumulated social contributions are taken into account to compile any type of net entitlements. Only pension entitlements due to actual and future pension benefits are covered.

17.163 The accrued-to-date liability concept is appropriate for national accounts purposes. It includes the present value of pension entitlements arising from already accrued pension rights. For example, it covers the pension entitlements accrued by current employees, including deferred pension entitlements, and the remaining pension entitlements of existing pensioners.

17.164 As for all national accounts data, the data are measured ex-post, as they include only the current values of the entitlements that arise from the accrued pension rights at the balance sheet date. The method is based on observable past events and transactions, such as membership of the pension scheme and paid contributions. However, these ex-post measures also rely on a number of assumptions in the modelling process. Estimates are made for the probability of current contributors dying or becoming disabled before reaching the pensionable age. The measures also reflect future changes of the payment stream due to any legislation enacted prior to the year for which pension entitlements are being calculated. Finally, the method requires some important assumptions on future developments, notably regarding the discount rate for future pension disbursements.

4.2.2 Discount rate

17.165 The discount rate applied to estimates of future pension benefits in the case of accrued-to-date entitlements is one of the single most important assumptions to be made in the modelling of pension schemes, since its accumulated impact over many decades can be very large. The discount rate from a chosen approach may change over time, which would lead to revaluations in the accounts.

17.166 The discount rate can be seen as equivalent to the expected risk-free rate of return on assets held by a pension scheme. In case of pension entitlements to be paid in the future, the discount rate can also be seen as the cost of capital in a sense that the future payments have to be financed by government, via the usual sources:

a) Net acquisitions of liabilities, such as loans and debt securities;

b) Net sales of assets; and

c) Government revenue.

A discount rate can be derived from this cost of financing.

17.167 The discount rate should be a risk-free rate. Some criteria for identifying suitable rates are given in the following sentences. The discount rate on high quality government and corporate bonds, e.g. of "AAA"-rating provides an appropriate reference. Yields for high quality corporate bonds are only used where the markets are broad. The bonds are to be of a residual maturity of the same order as the pension entitlements. The use of a discount rate based on a long-term maturity, where long-term is taken to be 10 years or longer, is recommended. The average of several years of the discount rate, linked to the length of the economic cycle, can be applied to smooth the time series of the discount rate. The assumption on the discount rate and the future development of wages should be consistent. Member states are required to provide the elements demonstrating the validity of the discount rate used for pension entitlements in the light of the various criteria mentioned above.

17.168 The same discount rate has to be used for all pension schemes where government is the pension manager (including social security pension schemes) at whatever level of government since the desired result should approximate risk-free yields.

4.2.3 Wage growth

17.169 Defined benefit pension schemes often apply a formula to the member's salary, whether final salary, an average of a period of years, or lifetime earnings, to determine the level of pension. The final pensions paid are affected by the average growth of members' salaries, notably through promotions and career progression.

17.170 It is therefore appropriate to consider what assumptions are made for the future development of wages. The assumed long-term development of wages should correspond with the observed discount rate. Both variables are, in the long-term, interdependent.

17.171 The accounting profession uses two actuarial methods to measure the impact of wage increases. The accrued benefit obligation (ABO) records only the benefits actually accrued to date. It represents the amount the employee could walk away with if he left the firm tomorrow and may be the basis of assessing a person's net worth in the case of a divorce settlement, for example.

17.172 A projected benefit obligation (PBO) is a more prudent measure of what the eventual level of entitlement is likely to be. For an individual, the PBO makes assumptions about how many future promotions the person is likely to receive and calculates his final salary accordingly. Then, if he has in fact only worked 20 out of an expected 40 years, it halves the final salary and calculates pension entitlement for the individual as if this were his current salary. Where an individual's ABO increases in steps as he is promoted, the PBO increases steadily over time. For the individual, PBO is always higher than ABO until the moment of retirement when the ABO catches up with the PBO.

17.173 The impact of wage increases needs to be reflected in transactions, because awarding a wage increase is a conscious economic decision taken by the employer. Moreover, in concept the ABO and PBO approaches lead in the long run to the same transactions recorded, even if the timing of those transactions differ depending on the demographics of the scheme.

17.174 Changes to assumptions of future wage changes, which are generally made every few years in response to a general review of pension modelling assumptions or due to a major restructuring of the workforce, are recorded as other flows (revaluations).

17.175 A number of possible variants in the application of the ABO and PBO methods are observed in practice depending on how price and wage effects are treated.

17.176 One important factor is the treatment of indexation arrangements on pensions, where the pension to be paid will increase in line with nominal wage growth after retirement.

17.177 Given the importance of wage effects, it is recommended that the choice of an ABO or PBO approach depends on the underlying benefit formula in the pension scheme. Where this formula includes implicitly or explicitly a factor for wage increases (before or after retirement) then a PBO approach is followed. Where such a factor is not present, an ABO approach is used.

4.2.4 Demographic assumptions

17.178 Future pension payments are subject to demographic effects, in terms of the age/ gender balance of members and their longevity. Demographic tables are well established for the modelling of pension and life insurance schemes.

17.179 In the case of employment related pension schemes, the membership of the scheme is well defined and therefore the data should be available. In the case of social security schemes, recourse is made to general population data if no specific data are available on social security membership.

17.180 In the use of longevity tables, also known as mortality tables, tables which are specified with regard to gender and groups of employees are preferred. The group of members receiving a disability pension should be modelled with different longevity assumptions, if possible.

17.181 Longevity assumptions should include the increase of longevity over time.

17.182 The modelling of pension schemes may involve the use of demographic assumptions other than longevity, for example future fertility rates, labour participation rates or migration rates in the case where the pension benefit or indexation formula is based on a "dependency ratio" or similar type of approach.

17.183 Where early retirement within a scheme is actuarially neutral, modelling is unaffected. Non-actuarially neutral early retirements have an effect, and these are a common case given the way in which different interest rates are usually applied at early retirement. Therefore, the appropriate modelling of early retirement behaviour is important, particularly where a reform lifts the future pensionable age.