

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

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The following complements the Eurostat Contribution to the EDG on pensions posted December 3, 2004 (“Pensions: Eurostat Communication to the Advisory Expert Group”) with an accounting annex designed to provide clear suggestions on what would be the impact under each of the 6 options mentioned in that contribution.

The numerical example

It is assumed that two government pension schemes exist: an unfunded employer schemes for civil servants and a social security scheme.

(1) **Employer scheme for civil servants.** The employer contribution is 9.5 (though the cost of labour to the employer as actuarially calculated is 12). The employee contribution is 1.5. Pensions paid are 11.

The actuarial valuation of stocks of pension obligations is 80 in the opening balance sheet and 86.5 in the closing balance sheets. The property income on those is 4 (5% rate).

(2) **Social security scheme.** The cash contributions are 14.5: 11 paid by (private) employers, 3.5 paid by employees (although actuarially calculated to be of 5.5). Pensions paid are 13. The actuarial valuation of stocks of pension obligations is 120 in the opening balance sheet and 129.5 in the closing balance sheets. The property income on those is 6.

Government assets start at 50 and finish at 42. Liabilities other than pensions remain at 150. **No changes in pension obligations arises other than due to contributions, property income and pension payments.**

Presentation of tables

Table 1. Under 1993 SNA (**Option 1 and 2**), none of the pension obligations above are recognized on balance sheet. The impact on the deficit (B.9—*net lending / net borrowing*) is measured by the cash flows. The cost of labour arising from the unfunded employer pension scheme can be calculated on the basis of the pensions paid (net of employee contribution)—as here: 9.5— though SNA recommends an actuarial valuation (here of 12).

Table 2. Under the EDG propositions (**Option 3**), only the pension obligations of the unfunded employer schemes are recognized as liabilities. Two phenomenons happen:

(1) ***Pension obligations are recognized as liabilities*** in a form of insurance technical reserves: AF.6X. The scheme is recorded as if it were funded. Accordingly, government net worth is degraded. Changes to those obligations (excluding those arising from actuarial changes) are recorded as financial transactions. The net incurrence in liability, of 6.5, arises from contributions of 17.5=5.5+12 minus pensions paid 11.

(2) ***Actuarial valuations are used for cost of labour and of capital***, to allow reconciliation between flows and changes in stocks. This allows also a more appropriate measure of the cost of labour, and a more appropriate impact on GDP and on gross operating surplus of market producers. The employers' costs increase for compensation of employee by 2.5 (12-9.5) (owing to the use of an actuarial formula) and for a new cost of capital by 4 (5% of 80). Those amount return as a resource of the employer in the form of employer imputed contribution and employee contribution, respectively. An entry under *adjustment for the change in net equity of households in pension funds* (D.8), of 6.5, needs to be recorded in the use of disposable income accounts.

The net worth of government is much degraded: -180 instead -100. Its change over the accounting period of -14.5 instead of -8 now reflects the fact that the pension liability (now recognized) increases.

Similar calculation can be done for social security pensions (**Option 4**). However, under the EDG proposals, those are not taken on board.

Table 3. Under the **new accumulation accounts option (Option 5)**, two further developments happen:

(1) The ***adjustment entry D.8 is moved below the capital account*** (and becomes D.8X), so that B.9 is left unchanged in the new SNA from 1993 SNA. Because a new SNA accumulation account is created, **a new balancing item appears: B.9X.**

(2) ***Social security*** obligations are recognized in addition to employer unfunded obligations.

In relation to social security obligations, and similarly to the change in employer contribution due to the switch to actuarial calculation (from 9.5 to 12), social security contributions (supposed to be employee contributions) are adjusted to capture the actuarial value of additional rights in excess of the actual contributions. This adjustment is presumed to be of 2 here and recorded as current transfers to households. This avoids entering artificial other economic flows and presents in a transparent manner the **actuarial imbalance of the social security pension scheme**. In total, social security employee contributions equal 11.5, instead of the 3.5 paid: they account also for 6 of property income and 2 of current transfer. The classification of this latter transfer may be debatable: is it a subsidy? a type of social benefit? a current transfer? Who should be the appropriate counterpart? Households or employers? The transfer in question can go in either direction.

It is a matter of convention as to whether:

- A property income should be recognized on the instrument F.6X (as this Uses entry is matched by a Resources entry, under *social contribution*).
- Contributions are valued using actuarial valuations.

The advantage of either is to avoid artificial entries in the other economic flows as well as to show in a transparent manner the components of the change in pension obligations.

In total, the new B.9X is degraded by 6.5 in relation to the unfunded employer scheme and by 9.5 in relation to the social security—or a total of 16—: it is therefore -24, instead of -8 for B.9. This degradation of 16 arises from higher labour cost (2.5), from the actuarial imbalance of the social security (2), from the cost of capital (10=4+6) and from the elimination of the surplus of the pension schemes previously recognized as revenue (1.5)¹.

The net worth of government is much degraded: -300 instead -100. Its change over the accounting period of -24 instead of -8 reflects the fact that the pension liability (now recognized for both employer and social security) increases, and those are accounted as transactions in the financial accounts as well as in the nonfinancial accounts.

In total, the sequence of the accounts is nonetheless minimally changed:

- **Before the balance B.9**, in comparison to 1993 SNA: a property income is recognized on pension unfunded obligations, the cost of labour is adjusted and a new transaction appears (current transfers) to measure the actuarial imbalance of social security. But all those government flows (Uses/expenditure) are returned via social contributions (Resources/Revenue).
- **Before the balance B.7**, in comparison to the EDG proposal.

Put it simply, this proposal relocates the existing entry D.8, currently located in 1993 SNA in the *use of disposable income accounts* before B.9, **in a new accumulation account after B.9**.

Separately, Table 5 shows how a lump-sum payment (of 10), paid to government pension schemes against the assumption of pension obligations (of 10), is treated in the system.

Table 4. Under the **new other economic flow accounts option (Option 6)** (“K.13”), the increase in pension liabilities transits via an other economic flow.

Again, it is a matter of convention as to whether a property income is recognized (to be matched by a social contribution) or not.

The net worth of government is much degraded: -300 instead -100. However its change of -24 instead of -8 transits via an other change in assets for the part that reflects the increase in pension liability. Nonfinancial accounts balances are therefore left unchanged in comparison to 1993 SNA.

General

(1) Under 1993 SNA, B.9 *net lending / net borrowing* is both the balancing item of the capital accounts (B.9A) and that of the financial accounts (B.9B). In concept, they are equal; in practice compilation may give rise to differences.

(2) In those numerical examples, there is no nonfinancial asset. Hence B.9 *net lending / net borrowing* is equal to B.10.1 *changes in net worth due to saving and capital transfers*.

(3) Changes to 1993 SNA (change in data or in items) appear in red bold and in italics.

¹ 1.5+3.5+9.5+11-11-13=1.5. It was this surplus that allowed net lending/net borrowing to be limited to -8 in this example despite labour costs of 9.5.

Table 1 : Current SNA recording (Options 1 and 2)

		Employer	
		<i>Uses</i>	<i>Resources</i>
D122	Imputed employer contributions	9.5	
D6112	Employee contribution (employers schemes)		1.5
D6112	Employee contribution (social security)		3.5
D612	Employer contribution (employers schemes)		9.5
D6111	Employer contribution (social security)		11.0
D623	Pensions (employers schemes)	11.0	
D621	Pensions (social security schemes)	13.0	
B9A	Net lending / net borrowing	-8.0	
	<i>Financial accounts</i>	<i>ΔAssets</i>	<i>ΔLiabilities</i>
F2	Cash (1.5+3.5+11-11-13)	-8.0	
B9B	Net lending / net borrowing	-8.0	
	<i>Opening balance sheet</i>	<i>Assets</i>	<i>Liabilities</i>
	Various financial instruments	50.0	150.0
B90	Net worth	-100.0	
	<i>Closing balance sheet</i>	<i>Assets</i>	<i>Liabilities</i>
	Various financial instruments	42.0	150.0
B90	Net worth	-108.0	

Table 2 : New recording — EDG current proposal (Option 3)

	<i>Bold italics are changes to 1993 SNA</i>	Employer	
		<i>Uses</i>	<i>Resources</i>
D122	Imputed employer contributions	12	
D44	Property income attributed to policy holders	4.0	
D6112	Employee contribution (employers schemes)		1.5+4=5.5
D6112	Employee contribution (social security)		3.5
D612	Employer contribution (employers schemes)		12
D6111	Employer contribution (social security)		11.0
D623	Pensions (employers schemes)	11.0	
D621	Pensions (social security schemes)	13.0	
D8	Adjustment for the change in net equity of households in pension funds	6.5	
B9A	Net lending / net borrowing	-14.5	
	<i>Financial accounts</i>	Δ <i>Assets</i>	Δ <i>Liabilities</i>
F2	Cash (1.5+3.5+11-11-13)	-8.0	
F6X	Change in unfunded employers pension liabilities (actuarial calculation)		5.5+12-11=6.5
B9B	Net lending / net borrowing	-14.5	
	<i>Opening balance sheet</i>	<i>Assets</i>	<i>Liabilities</i>
	Various financial instruments	50.0	150.0
F6X	Unfunded employers pension liabilities		80.0
B90	Net worth	-180.0	
	<i>Closing balance sheet</i>	<i>Assets</i>	<i>Liabilities</i>
	Various financial instruments	42.0	150.0
F6X	Unfunded employers pension liabilities		86.5
B90	Net worth	-194.5	

Table 3 : New recording – New accumulation account option (Option 5)

<i>Bold italics are changes to 1993 SNA</i>		Employer	
		Uses	Resources
D122	Imputed employer contributions	12	
D44	Property income attributed to policy holders	4+6=10	
D6112	Employee contribution (employers schemes)		1.5+4=5.5
D6112	Employee contribution (social security)		3.5+2+6=11.5
D612	Employer contribution (employers schemes)		12
D6111	Employer contribution (social security)		11.0
D623	Pensions (employers schemes)	11.0	
D621	Pensions (social security schemes)	13.0	
D7X	Transfers to households (Social security actuarial imbalance)	2.0	
B9A	Net lending / net borrowing	-8.0	
	New accumulation account for unfunded pension liabilities		
D8.1X	Adjustment for the change in net equity of households in unfunded employer schemes	12+5.5-11=6.5	
D8.2X	Adjustment for the change in net equity of households in social security pension schemes	11+11.5-13=9.5	
B9X	Net lending/ net borrowing adjusted	-24.0	
	<i>Financial accounts</i>	Δ Assets	Δ Liabilities
F2	Cash (1.5+3.5+11-11-13)	-8.0	
F6X	Change in unfunded employers pension liabilities (actuarial calculation)		6.5
F6Y	Change in unfunded employers pension liabilities (actuarial calculation)		9.5
B9X.B	Net lending / net borrowing adjusted	-24.0	
	<i>Other changes in volume of assets account</i>	Δ Assets	Δ Liabilities
B10.2	Changes in net worth due to other changes in volume of assets	0	
	<i>Revaluation account</i>	Δ Assets	Δ Liabilities
B10.3	Changes in net worth due to nominal holding gains/losses	0	
	<i>Opening balance sheet</i>	Assets	Liabilities
	Various financial instruments	50.0	150.0
AF6X	Unfunded employers pension liabilities		80.0
AF6Y	Unfunded social security liabilities		120.0
B90	Net worth	-300.0	
	<i>Closing balance sheet</i>	Assets	Liabilities
	Various financial instruments	42.0	150.0
AF6X	Unfunded employers pension liabilities		86.5
AF6Y	Unfunded social security liabilities		129.5
B90	Net worth	-324.0	

Table 4 : New recording – Other Change in Volume option (Option 6)

		Employer	
<i>Bold italics are changes to 1993 SNA</i>		Uses	Resources
D122	Imputed employer contributions	12	
D44	Property income attributed to policy holders	4+6=10	
D6112	Employee contribution (employers schemes)		1.5+4=5.5
D6112	Employee contribution (social security)		3.5+2+6=11.5
D612	Employer contribution (employers schemes)		12
D6111	Employer contribution (social security)		11.0
D623	Pensions (employers schemes)	11.0	
D621	Pensions (social security schemes)	13.0	
D7X	<i>Transfers to households (Social security actuarial imbalance)</i>	2.0	
B9A	Net lending/ net borrowing	-8.0	
	<i>Financial accounts</i>	Δ Assets	Δ Liabilities
F2	Cash (1.5+3.5+11-11-13)	-8.0	
B9B	Net lending/ net borrowing	-8.0	
	<i>Other changes in volume of assets account</i>	Δ Assets	Δ Liabilities
B10.2	Changes in net worth due to other changes in volume of assets	0	
	<i>Revaluation account</i>	Δ Assets	Δ Liabilities
B10.3	Changes in net worth due to nominal holding gains/losses	0	
	<i>New other flow for unfunded pension liabilities (K.13)</i>	Δ Assets	Δ Liabilities
AF6X	<i>Change in unfunded employers pension liabilities (actuarial calculation)</i>		12+5.5-11=6.5
AF6Y	<i>Change in unfunded social security liabilities (actuarial calculation)</i>		11+11.5-13=9.5
B10.4	Changes in net worth due to unfunded pension liabilities	-16.0	
	<i>Opening balance sheet</i>	Assets	Liabilities
	Various financial instruments	50.0	150.0
AF6X	<i>Unfunded employers pension liabilities</i>		80.0
AF6Y	<i>Unfunded social security liabilities</i>		120.0
B90	Net worth	-300.0	
	<i>Closing balance sheet</i>	Assets	Liabilities
	Various financial instruments	42.0	150.0
AF6X	<i>Unfunded employers pension liabilities</i>		86.5
AF6Y	<i>Unfunded social security liabilities</i>		129.5
B90	Net worth	-324.0	

Table 5 : Treatment of a lump-sum payment of 10 New recording – New accumulation account option (Option 10)

	<i>Bold italics are changes to 1993 SNA</i>	Employer	
		Uses	Resources
D.9	Capital transfer	0	
B9A	Net lending/ net borrowing	0	
	<i>New accumulation account for unfunded pension liabilities</i>		
D8.1X	<i>Adjustment for the change in net equity of households in unfunded employer schemes</i>	0	
B9X	<i>Net lending/ net borrowing adjusted</i>	0	
	<i>Financial accounts</i>	Δ Assets	Δ Liabilities
F2	Cash	10.0	
F6X	<i>Change in unfunded employers pension liabilities (actuarial calculation)</i>		10.0
B9B	Net lending/ net borrowing	0	
	<i>Other changes in volume of assets account</i>	Δ Assets	Δ Liabilities
B10.2	Changes in net worth due to other changes in volume of assets	0	
	<i>Revaluation account</i>	Δ Assets	Δ Liabilities
B10.3	Changes in net worth due to nominal holding gains/losses	0	
	<i>Opening balance sheet</i>	Assets	Liabilities
	Various financial instruments	50.0	150.0
F6X	<i>Unfunded employers pension liabilities</i>		80.0
F6Y	<i>Unfunded social security liabilities</i>		120.0
B90	Net worth	-300.0	
	<i>Closing balance sheet</i>	Assets	Liabilities
	Various financial instruments	60.0	150.0
F6X	<i>Unfunded employers pension liabilities</i>		90.0
F6Y	<i>Unfunded social security liabilities</i>		120.0
B90	Net worth	-300.0	