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# ISSUE NOTE: Action point A.10: Treatment of holding gains/losses and capital income in the measurement of insurance output

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Prepared jointly by Peter van de Ven, with the support of Pete Harper, Benson Sim, Herman Smith and Jorrit Zwijnenburg

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*This action point consists of two quite distinct issues. The first one concerns the consistency of the definition of property income attributed to insurance policy holders, as compared to other types of property income and the definition of income more generally. This includes a related request to provide clarifications on the treatment of holding gains and losses in the measurement of insurance output. The second issue concerns whether or not capital income derived from investing the insurer's own funds should be included in the calculation of insurance output.*

## Section 1: The issues

*Issue 1. The definition of property income attributed to insurance policy holders, and the treatment of holding gains and losses in the measurement of insurance output*

1 Regarding the first issue, the main problem relates to the consistency of the definition of property income attributed to insurance policy holders, as compared to other types of property income, and also the definition of income more generally. The 2008 SNA states, in paragraphs 17.18 and 17.19, that for non-life and (individual) life insurance, all investment income should be recorded as investment income attributable to insurance policy holders (D441), regardless of the fact that some of this income may be derived from holding gains. The relevant income is subsequently "repaid" to the insurance corporation in the form of premium supplements, either as part of net non-life insurance premiums (D71) in the case of non-life insurance, or as part of financial transactions in the case of life insurance.

2 Furthermore, as explained in paragraph 17.145 and 17.147, in the case of defined benefit pension schemes, the investment income payable on pension entitlements is equal to the unwinding of the discount factor on future entitlements, again disregarding the source of this income. On the other hand, in the case of defined contribution pension schemes, the investment income should exclude income from holding gains on the accumulated assets; see paragraph 17.134 of the 2008 SNA.

3 A paper on this topic, discussed at the 9th meeting of the Advisory Expert Group (AEG) on National accounts, held on 8 – 10 September 2014, addresses these issue and a number of related issues, as follows:

- the inconsistency in defining the imputed income from non-life, (individual) life insurance and defined benefit schemes versus the imputed income from defined contribution schemes;

- the lack of guidance for the measurement of imputed investment income in the case of reinsurance, annuities and standardized guarantee schemes;
- whether or not the holding gains to be included for non-life and life insurance should only comprise realized holding gains; and
- the lack of explicit guidance on the treatment of holding gains/losses from the change in life insurance and annuity technical reserves, and the change in pension entitlements in the calculation of the implicit service charges.

4 Regarding the first item, the AEG concluded as follows: "*confirmed the 2008 SNA recommendations on the treatment of holding gains/losses in the estimates of investment income attributable to insurance policy holders and pension beneficiaries and clarified the recommendations as follows: in measuring the investment income payable on pension entitlements, a distinction is made in the 2008 SNA between defined contribution pension schemes and defined benefit pension schemes. In the latter case, the risks of making an adequate return on investments are with the pension fund or the unit managing the fund. The investment income payable on pension entitlements is generally disconnected from the actual returns on investments, and is typically set equal to the product of the discount rate used for measuring the net present value of future entitlements and the value of the entitlements. In the case of defined contribution schemes, the risks regarding the returns on investments are with the pension beneficiaries. Consequently, the returns on investments exclude any holding gains/losses*", also noting "*that the issue related to holding gains/losses in investment income should be discussed under the broader issue of the concept of income*".

5 On the second item, as explained in the paper discussed at the 9th meeting of the AEG, one may conclude that, given the links between direct insurance and reinsurance and that the 2008 SNA notes that the item "*investment income attributable to the annuitants" is "parallel to the concept of premium supplements in the life insurance context" and the recording of transactions is the same for non-life insurance and standardized guarantee schemes, … holding gains/losses should be included in the supplement items in the calculation of the implicit service charges for reinsurance, annuities and standardized guarantee schemes*".

6 When it comes to the third item, whether or not to restrict the inclusion of holding gains to realized ones, the paper is inconclusive. The conclusions of the AEG also do not provide any further guidance in this respect. The same holds for the fourth item, i.e., the lack of explicit guidance on the treatment of holding gains/losses from the changes in insurance technical reserves and pension entitlements when calculating implicit service charges.

*Issue 2:* The *inclusion of capital income of the insurer's own funds in the measurement of insurance output*

7 Regarding the second issue of concern, the possible inclusion of capital income derived from investing the insurer's own funds in the measurement of insurance output, the 2008 SNA clearly states that the calculation of output and value added of insurance corporations excludes the capital income derived from the investment of those

corporations' own funds. It includes only the investment income earned from the funds allocated to the insurance policy holders. The Global Federation of Insurance Associations, however, suggested that the capital income derived from the investment of an insurer's own funds should also be included in the calculation of output and value added of insurance corporations, based on the notion that all of the assets of an insurer serve the ultimate purpose of improving the risk-bearing capacity of an insurer — and thus the interests of policy holders — irrespective of whether they have been acquired through the investment of an insurer's own funds or through the investment of funds that are to be considered as liabilities towards the insurance policy holders.

8 In response, one could argue that insurers will set the levels of premiums, and possibly premium supplements from investing reserves that can be allocated to insurance policy holders, in such a way that it will cover the administrative expenses (intermediate consumption and compensation of employees) and provide an adequate return to the capital, or the own funds, invested. Imputing an income from the insurance corporation's own funds to the measurement of output, and consequently to (gross) operating surplus, would thus lead to a kind of double-counting. Therefore, it is proposed to not consider this income when compiling estimates of the services provided by insurance corporations. In addition, it is proposed to close this research issue, by also removing it from the SNA Research Agenda.

9 This issues note will thus be restricted to a discussion of the first issue. In doing so, it showed to be quite problematic to arrive at a clear exposé of the issues without a fuller explanation of measuring insurance, because of all interrelations and interdependencies between transactions and positions. Therefore, this issues note first discusses the recording of transactions and positions for the main types of insurance, including some pros and cons of possible alternative ways of recording: non-life insurance (including reinsurance and standardized guarantees) in Section II; life insurance (including annuities) in Section III; and pension schemes in Section IV. To assist the reader, numerical examples showing the overall impact on transactions (and positions) are used to further clarify the text.

10 After the discussion on the measurement of the three main types of insurance, Section V provides a number of recommendation for the measurement of output and property income attributable to insurance policy holders/investment income payable on pension entitlements. It also presents a request to the AEG on National Accounts to express its opinion on the preferred recording of property income attributable to insurance policy holders for non-life insurance.

## Section II: Non-life insurance

11 When it comes to the recording of transactions and positions for non-life insurance, the 2008 SNA provides guidance in paragraphs 6.184 – 6.191, which is further elaborated in Part 1 of chapter 17, especially paragraphs 17.26 – 17.29 and paragraphs 17.34 – 17.50. Most importantly for the discussion here is the guidance related to the measurement of output, in paragraph 17.27, and its possible implications for the recording of property income attributable to insurance policy holders:

*"If an expectations approach is being used, the formula to calculate output takes the following form:*

*Actual premiums earned;*

*plus premium supplements;*

*minus adjusted claims incurred;*

*where adjusted claims are estimated from past experience. In such a case, conceptually premium supplements should also be estimated on the basis of past experience. However since premium supplements are less volatile than claims, in practice no such adjustment may be necessary".*

As an alternative, an accounting approach may be used, whereby adjusted claims are estimated by using claims due plus the changes in equalization provisions and, if necessary, changes to own funds; see paragraph 17.28.

12 The whole idea behind the calculation of output is that non-life insurance corporations take into account the return from investing insurance technical reserves when setting the levels of the actual premiums. As a consequence, the latter premiums can be lower than the (average) claims to be covered via the insurance policy. A question may arise around what income should be used, with or without holding gains and losses. Given the rationale for calculating output, it is assumed that total income, thus including average holding gains and losses, should preferably be used.

13 Having said that, a question also arises regarding the income that should be attributed to insurance policy holders. Here, the 2008 SNA is less clear. From paragraph 17.35 of the 2008 SNA, stating that net premiums are equal to (adjusted) claims, one could derive that the property income attributable to insurance policy holders is equal to the expected income used in calculating output. Others would argue in favour of using actual income, with reference to, for example, paragraphs 7.142 and 8.117 of the 2008 SNA.

14 Given the above discussion, one can distinguish a number of options for recording property income attributable to insurance policy holders. To illustrate these options, a numerical example is used, as presented on the next page. It first shows the profit and loss account and the balance sheets of a non-life insurance corporation, simplified to the extent possible. For example, it is assumed that premiums earned are equal to premiums actually received, and also that claims incurred are equal to claims actually paid. As a consequence, the insurance technical reserves do not change because of possible additions from these sources. Moreover, it is also assumed that none of the income received on the investment of funds available from the insurance technical reserves is actually allocated to insurance policy holders.

**Non-life insurance corporation**

**Profit and loss account**

| | |
|---|---|
| Premiums earned = premiums actually recieved | 150 |
| Interest received | 3 |
| Holding gains and losses | 7 |
| **Total income** | **160** |
| | |
| Claims incurred = claims actually paid | 100 |
| Compensation of employees | 30 |
| Consumption of fixed capital | 5 |
| **Total costs** | **135** |
| | |
| **Profits excluding holding gains and losses** | **18** |
| **Profits including holding gains and losses** | **25** |

| **Balance sheet** | **Beginning of year** | **End of year** |
|---|---|---|
| Fixed asset | 100 | 95 |
| Currency and deposits | 0 | 23 |
| Other financial assets | 200 | 207 |
| **Total assets** | **300** | **325** |
| | | |
| Own funds | 100 | 125 |
| Insurance technical reserves | 200 | 200 |
| **Total liabilities and net worth** | **300** | **325** |

## Table 1: Recording of non-life insurance

| | **(1)** | **(2)** | **(3)** | **(4)** |
|---|---|---|---|---|
| Output | 65 | 65 | 65 | 65 |
| Compensation of employees | -30 | -30 | -30 | -30 |
| **Operating surplus (gross)** | **35** | **35** | **35** | **35** |
| Consumption of fixed capital | -5 | -5 | -5 | -5 |
| **Operating surplus (net)** | **30** | **30** | **30** | **30** |
| Property income received | 3 | 3 | 3 | 3 |
| Investment income attributable to insurance policy holders | -15 | 0 | -3 | -10 |
| **Primary income (net)** | **18** | **33** | **30** | **23** |
| Net non-life insurance premiums | 100 | 85 | 88 | 95 |
| Non-life insurance claims | -100 | -100 | -100 | -100 |
| **Disposable income (net) = Saving (net) = Changes in net worth due to saving and capital transfers** | **18** | **18** | **18** | **18** |
| Consumption of fixed capital | 5 | 5 | 5 | 5 |
| **Net lending/borrowing** | **23** | **23** | **23** | **23** |
| Transactions in financial assets (currency) | 23 | 23 | 23 | 23 |
| Transactions in liabilities | 0 | 0 | 0 | 0 |
| **Changes in net worth due to holding gains and losses** | **7** | **7** | **7** | **7** |
| **Total changes in net worth** | **35** | **35** | **35** | **35** |

15 Table 1 then shows four options for recording property income attributable to insurance policy holders. In all cases, assuming that expected income from investing the insurance technical reserves equals 15, output is calculated, in line with paragraph 17.27 of the 2008 SNA, as actual premiums earned (150) *plus* premium supplements (15) *minus* adjusted claims incurred (100). Output would therefore amount to 65. However, for property income attributable to insurance policy holders, four options are presented:

- Column (1): Property income is equal to expected income, as used in the calculation of output (15).
- Column (2): Property income is equal to what the insurance corporation has actually allocated to the policy holders (0).
- Column (3): Property income is equal to actual investment income, excluding holding gains and losses, derived from the investment of the insurance technical reserves (3).
- Column (4): Property income is equal to actual income, including holding gains and losses, derived from the investment of the insurance technical reserves (10).

16 The options for recording property income attributable to insurance policy holders all have a direct impact on the measurement of net premiums, equalling premiums earned (150) *plus* premium supplements (i.e., property income attributable to insurance policy holders) *minus* output (65).

17 Looking at the impact of the various options, option (4) could be disqualified for two reasons. First, it would be inconsistent with the notion on investment income which typically excludes holding gains and losses. Secondly, the inclusion of actual holding gains and losses would lead to an unacceptable volatility in primary income, with the possibility of arriving at (substantial) negative amounts in years of decreasing stock markets. Option (1) has the advantage of already arriving at an income concept in line with profits according to business accounting at the level of primary income. It would also lead to an equality of net premiums and claims in the secondary distribution of income account, although one could argue that the need for having this equality is somewhat overemphasized, because in the case of catastrophic events net premiums and claims will start to differ anyhow.

18 Option (2) has the advantage of being in line with annual reporting by non-life insurance corporations. In this option, the property income attributed to insurance policy holders represents the income which is actually allocated to insurance policy holders in the profit and loss account.

19 People may also feel attracted to option (3), because it reflects the underlying economic reality of what is occurring. If it is assumed that households indeed gain a benefit from reduced premiums by way of premium supplements, then it would make sense to first realize the benefit by the insurance policy holder in terms of investment income, which is then ‘returned’ to the insurance corporation by way of premium supplements. Some would also add that the SNA is quite clear that there should be investment income payable to insurance policyholders — the issue at stake is only whether or not this should include holding gains.

20 At the end of this issues note, the AEG on National Accounts is requested to express its preference for options (1), (2) or (3).

21 A final comment concerns the recording of reinsurance and standardized guarantees. These types of non-life insurance are not further discussed here. The conclusion in the paper discussed at the 9th meeting of the AEG on National Accounts, is simply confirmed, i.e. that the recording according to the 2008 SNA for these types of insurance, including possible alternative options, resemble the accounting for non-life insurance presented in the above.

## Section III: Life insurance and annuities

22 Guidance on life insurance and annuities is provided in paragraphs 6.192 – 6.199, paragraphs 17.30 – 17.31, paragraphs 17.51 – 17.55, and paragraphs 17.66 – 17.75 of the 2008 SNA. Furthermore, as defined in paragraph 17.6 of the 2008 SNA, "*life insurance is an activity whereby the policy holder makes regular payments to an insurer in return for which the insurer guarantees to provide the policy holder … with an agreed sum, or an annuity, at a given date or earlier of the policy holder dies beforehand*". Two quite different types can be distinguished. In the first one, which is not explicitly addressed in the 2008 SNA, the insurer "guarantees" a certain percentage, or interest, on the funds accumulated by the payments of premiums. One could also classify these life insurance schemes as without profits schemes. In the second type, the with profits schemes, the insurance technical reserves of the life insurance policy depend, in one way or another, on the returns from investing the accumulated funds. An annuity can be considered as a special case of the first type. However, in the case of an annuity, the "premiums" consist of a lumpsum payment by the policy holder, in return for which a stream of future payments is guaranteed.

23 The measurement of output and other transactions according to the 2008 SNA for the first type of life insurance, including annuities, should be relatively straightforward, at least from a conceptual point of view. The investment income attributed to insurance policy holders, and therefore also the premium supplements, is equal to the guaranteed fixed percentage, or the discount rate in the case of annuities. Output can then be derived from the equation in paragraph 17.30 of the 2008 SNA: actual premiums earned *plus* premium supplements *minus* benefits due *minus* increases (less decreases) in actuarial reserves[1]. In the case of an annuity, the first element does not need to be taken into account; the full lumpsum payment is recorded as a financial transaction.

24 An example of the profit and loss account and the balance sheets for a without profits scheme is provided on the next page. In respect of this simplified example, it should be noted that direct information on the fees charged by the insurance corporation are usually not directly available. As a consequence, output has to be estimated indirectly, in line with the guidance of the 2008 SNA: 150 (premiums) *plus* 12 (premium supplements) *less* 100 (benefits) *less* 12 (change in insurance technical reserves) = 50, where premium

[1] Please note that the wording of the 2008 SNA is slightly inconsistent. Paragraph 6.195 refers to "life insurance technical reserves", while paragraph 17.30 refers to "actuarial reserves and reserves for with-profits insurance". This inconsistency will need to be addressed in the updated SNA.

| Life insurance corporation | Without profits | | With profits | |
|---|---|---|---|---|
| **Profit and loss account** | | | | |
| Premiums earned | 150 | | 150 | |
| Premiums allocated to insurance technical reser | 100 | | 100 | |
| Renumeration for services provided | 50 | 50 | 50 | 50 |
| Interest received | | 16 | | 16 |
| Holding gains and losses | | 24 | | 24 |
| **Total income** | | **90** | | **90** |
| Benefits paid out of insurance technical reserves | 100 | | 100 | |
| Compensation of employees | | 20 | | 20 |
| Consumption of fixed capital | | 5 | | 5 |
| Property income allocated to policy holders | | 12 | | 20 |
| Minimum guaranteed amount (3%) | | 12 | | 12 |
| Bonuses/dividends | | 0 | | 8 |
| **Total costs** | | **37** | | **45** |
| **Profits excluding holding gains and losses** | | **29** | | **21** |
| **Profits including holding gains and losses** | | **53** | | **45** |

| **Balance sheet** | **Beginning of** | **End of year** | **Beginning of** | **End of year** |
|---|---|---|---|---|
| Fixed asset | 100 | 95 | 100 | 95 |
| Currency and deposits | 0 | 46 | 0 | 46 |
| Other financial assets | 400 | 424 | 400 | 424 |
| **Total assets** | **500** | **565** | **500** | **565** |
| Own funds | 100 | 153 | 100 | 145 |
| Insurance technical reserves | 400 | 412 | 400 | 420 |
| **Total liabilities and net worth** | **500** | **565** | **500** | **565** |

## Table 2: Recording of life insurance and annuities

| | **(1)** | **(2)** | **(2)*** |
|---|---|---|---|
| Output | 50 | 50 | 50 |
| Compensation of employees | -20 | -20 | -20 |
| **Operating surplus (gross)** | **30** | **30** | **30** |
| Consumption of fixed capital | -5 | -5 | -5 |
| **Operating surplus (net)** | **25** | **25** | **25** |
| Property income received | 16 | 16 | 16 |
| Investment income attributable to insurance policy holders | -12 | -20 | -16 |
| **Primary income = Disposable income = Change in net worth due to saving and capital transfers** | **29** | **21** | **25** |
| Consumption of fixed capital | 5 | 5 | 5 |
| **Net lending/borrowing** | **34** | **26** | **30** |
| Transactions in financial assets (currency) | 46 | 46 | 46 |
| Transactions in liabilities (insurance technical reserves) | -12 | -20 | -16 |
| **Changes in net worth due to holding gains and losses** | **24** | **24** | **20** |
| **Total changes in net worth** | **53** | **45** | **45** |

supplements, and the related investment income attributable to policy holders, are fixed at 3% of the insurance technical reserves (12). Column (1) of Table 2 shows the full recording in the system of national accounts. From this column, one can also derive that disposable income is equal to the company profits excluding holding gains and losses. The recording also looks quite logical, in the sense that, similar to say a saving deposit, a fixed interest, or in the case of annuities, the unwinding of the entitlement with a fixed discount rate, is allocated to the policy holders.

25 In the second type of life insurance schemes, the insurance company from time to time declares a bonus (or profit share) on its plans. Generally, fees charged for a with profits scheme is higher than that for a without profits scheme. The amount of bonus payable is based on the net profits earned by the insurers. Therefore, returns on these life insurance policies vary from year to year and can be more or less than the returns on without-profit policies. Usually, with profits schemes employ the concept of smoothing, i.e., a proportion of the profits earned during good years is held back to aim to ensure that a reasonable return is paid during years of poor performance. A particular case of a with profits scheme is one in which all returns on investment of the insurance technical reserves would be passed, one-to-one, to the insurance policy holder.

26 On the previous page, also a numerical example for the profit and loss account and the balance sheets of a with profits life insurance scheme is presented, next to the one for a without profits life insurance scheme. Column (2) in Table 2 shows the recording according to guidance of the 2008 SNA. Looking at the guidance of the 2008 SNA, paragraphs 17.18 and 17.53 clearly state that premium supplements, and thus also the investment income attributed to insurance policy holders, consist of all income attributed to the life insurance policy holder, disregarding the fact that some of this income may have originated in holding gains and losses.[2] The latter is an important point, as it basically states that the source of income potentially includes holding gains and losses, not the relevant income item itself. Whatever the case, output can be calculated with the use of the formula: 150 (premiums) *plus* 20 (premium supplements) *less* 100 (benefits) *less* 20 (change in reserves) = 50.

27 An alternative recording is presented in column (2)*. Here, premium supplements and property income attributable to insurance policy holders are set equal to the investment income, excluding holding gains and losses. Output is not affected, as the lower premium supplements (16) are counterbalanced by lower increases in insurance technical reserves, which equal the balance sheet change (20) *minus* holding gains allocated to the reserves (4) = 16.

28 However, the impact on the distribution of primary income account is quite different, in the first case leading to a primary income, and also disposable income, of 21, while in the other case the relevant balancing items amount to 25. Importantly, the former, i.e., column (2), is consistent with the company profits excluding holding gains and losses. It

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[2] In this respect, paragraph 6.197 should be slightly rephrased, as it can be interpreted as referring only to investment income, thus excluding holding gains and losses.

thus shows that, perhaps counterintuitively, primary and disposable income would end up to be equal to company profits in the case the income that may stemming from holding gains is included in the property income attributable to insurance policy holders. As such, the current guidance of the 2008 SNA seems to be more in line with the current notion of income in the system of national accounts, which typically excludes holding gains and losses.

29 Notwithstanding the above conclusion, in the case of a with profits scheme where all returns on investment of the insurance technical reserves are one-to-one passed on to the insurance policy holder, and where the risks and rewards are thus fully allocated to the policy holder, one may prefer a recording in which the investment income attributable to insurance policy holders only consists of investment income, excluding holding gains and losses, also in view of possible negative amounts of income in years of significant holding losses. This case, which resembles defined contribution schemes, is further discussed in the next section dealing with pension schemes.

## Section IV: Pension schemes

30 Regarding pension schemes, the 2008 SNA provides guidance on the measurement of output in paragraphs 6.201 – 6.205. Further details on the recording of pension schemes are provided in paragraphs 17.116 – 17.190. Concerning the measurement of output, the 2008 SNA basically recommends the use of the sum-of-costs method in the case the employer operates his own scheme, including the case where the employer establishes a segregated pension fund to manage the scheme; or to use the fees charged by an insurance corporation in case the employer uses an insurance corporation to manage the scheme on his behalf. An exception is made for multi-employer schemes where it is recommended to apply the formula for life insurance policies.

31 Concerning the investment income payable on pension entitlements, there is a clear difference between defined benefit schemes and defined contribution schemes. In the former case, investment income, and thus also the pension contribution supplements, are equal to the unwinding of the discount rate, whether or not this income is derived from property income or from holding gains; see paragraph 17.147 of the 2008 SNA. In the latter case, the investment income payable on pension entitlements is equal to the investment income received by the pension fund, thus excluding holding gains and losses; see paragraph 17.134 of the 2008 SNA.

32 Numerical examples for the profit and loss account and the balance sheets of a defined benefit scheme as well as defined contribution scheme are presented on the next page. A couple of additional remarks are needed in relation to these examples. In both cases, it is assumed that the costs only consist of compensation of employees and consumption of fixed capital (or alternatively, fees). More specifically related to defined benefit schemes, it is assumed that the discount rate is 5%, as a consequence of which the investment income payable on pension entitlements is equal to 20 (= 5% of 400). As the total income on accumulated assets, including holding gains and losses, amounts to 40, the pension scheme actually receives more funds (after deduction of the costs) than what is needed to cover the past service of pension entitlements, the latter being equal to the unwinding of the entitlements. In line with the newly developed guidance on the recording

of flows between a defined benefit pension fund and the pension manager/sponsor who is responsible for any shortfall or surplus[3], this surplus would result in an increase of the liabilities towards the employer, in the example presented as a decrease of assets towards the employer. In line with the recommendations agreed at the 11th meeting of the Advisory Expert Group (AEG) on National Accounts, the difference between the unwinding of the entitlements (20) and the actual property income received (16) should be recorded as an income item for the pension scheme, to be paid by the employer (4)[4]. The remainder of the change in the relevant liabilities should be recorded as holding gains and losses.

| **Pension scheme** | **Defined benefit** | | **Defined contribution** | |
|---|---|---|---|---|
| **Profit and loss account** | | | | |
| Pension contributions earned | 150 | | 150 | |
| Premiums allocated to insurance technical reser | 125 | | 125 | |
| Renumeration for services provided (= sum-of-c | 25 | 25 | 25 | 25 |
| Interest received | | 16 | | 16 |
| Holding gains and losses | | 24 | | 24 |
| **Total income** | | **65** | | **65** |
| Benefits paid out of insurance technical reserves | 100 | | 100 | |
| Compensation of employees | | 20 | | 20 |
| Consumption of fixed capital | | 5 | | 5 |
| Allocation of income to pension entitlements | | 20 | | 40 |
| Property income | | n.r. | | 16 |
| Holding gains and losses | | n.r. | | 24 |
| Imputed income from employer | | 20 | | 0 |
| Property income | | -4 | | n.r. |
| Holding gains and losses | | 24 | | n.r. |
| **Total costs** | | **65** | | **41** |
| **Profits excluding holding gains and losses** | | **0** | | **0** |
| **Profits including holding gains and losses** | | **0** | | **0** |
| **Balance sheet** | **Beginning of year** | **End of year** | **Beginning of year** | **End of year** |
| Fixed asset | 100 | 95 | 100 | 95 |
| Currency and deposits | 0 | 46 | 0 | 46 |
| Other financial assets | 400 | 424 | 400 | 424 |
| Changes in assets towards employer | 0 | -20 | 0 | 0 |
| **Total assets** | **500** | **545** | **500** | **565** |
| Own funds | 100 | 100 | 100 | 100 |
| Insurance technical reserves | 400 | 445 | 400 | 465 |
| **Total liabilities and net worth** | **500** | **545** | **500** | **565** |

33 Columns (1) and (2) of Table 3 on the next page provide the recording in line with the guidance of the 2008 SNA, for a defined benefit scheme and a defined contribution scheme, respectively. In both cases, net primary income is equal to 0, while net lending/borrowing is equal to 5. Using another numerical example, with holding losses, instead of holding gains, of 24 would not change the recording in the current and capital account; see columns (1)* and (2)*. Only the revaluation accounts and the balance sheet positions would be affected. For defined contribution schemes, pension entitlements at the end of the year would amount to 417, instead of 465, while for defined benefit schemes, the change in the assets towards the employer would change from -20 to 28. In both cases, this change represents the difference between holding losses of 24, instead of having holding gains of 24.

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[3] See SNA News and Notes, Nr. 39/40.

[4] See the relevant document discussed at the 11th meeting of the AEG, including the summary outcome of the AEG-consultation and the conclusions of the meeting.

34 Looking at the impact of the current guidance in the 2008 SNA on the recording of these pension schemes, as presented in columns (1) and (2), the recording looks quite logical and intuitive. Importantly, net operating surplus and net primary income amount to (zero), which one would expect in the case of non-profit type of organisations. Disposable income is only affected by the dual recording of pension contributions and pension benefits, as current transactions and as financial transactions.

**Table 3: Recording of pension schemes**

| | **(1)** | **(2)** | **(3)** | **(1)*** | **(2)*** |
|---|---|---|---|---|---|
| Output | 25 | 25 | 25 | 25 | 25 |
| Compensation of employees | -20 | -20 | -20 | -20 | -20 |
| **Operating surplus (gross)** | **5** | **5** | **5** | **5** | **5** |
| Consumption of fixed capital | -5 | -5 | -5 | -5 | -5 |
| **Operating surplus (net)** | 0 | 0 | 0 | 0 | 0 |
| Property income received | 16 | 16 | 16 | 16 | 16 |
| Imputed investment income attributed to the shortfall in defined benefit pension funds | 4 | 0 | 0 | 4 | 0 |
| Investment income payable on pension entitlements | -20 | -16 | -20 | -20 | -16 |
| **Primary income** | **0** | **0** | **-4** | **0** | **0** |
| Net pension contributions | 145 | 141 | 145 | 145 | 141 |
| Pension benefits | -100 | -100 | -100 | -100 | -100 |
| **Disposable income** | **45** | **41** | **41** | **45** | **41** |
| Adjustment for change in pension entitlements | -45 | -41 | -45 | -45 | -41 |
| **Change in net worth due to saving and capital transfers** | **0** | **0** | **-4** | **0** | **0** |
| Consumption of fixed capital | 5 | 5 | 5 | 5 | 5 |
| **Net lending/borrowing** | **5** | **5** | **1** | **5** | **5** |
| Transactions in financial assets (currency) | 46 | 46 | 46 | 46 | 46 |
| Transactions in financial assets (assets towards the employer) | 4 | 0 | 0 | 4 | 0 |
| Transactions in liabilities (insurance technical reserves) | -45 | -41 | -45 | -45 | -41 |
| **Changes in net worth due to holding gains and losses** | **0** | **0** | **24** | **0** | **0** |
| HGLs on financial assets (assets towards the employer) | -24 | 0 | 0 | 24 | 0 |
| HGLs on financial assets (investments in financial assets) | 24 | 24 | 24 | -24 | -24 |
| HGLs on liabilities (pension entitlements) | 0 | -24 | 0 | 0 | 24 |
| **Total changes in net worth** | **0** | **0** | **20** | **0** | **0** |

35 When it comes to multi-employer pension schemes[5], it is somewhat surprising that the 2008 SNA recommends to use the formula for life insurance policies for the compilation of estimates for output. As in the above cases, the output usually can be appropriately measured by using the sum-of-costs method in the case of autonomous pension funds; or to use the fees charged by an insurance corporation in case the employers use an insurance corporation to manage the scheme on their behalf.

36 Using this methodology, the recording of multi-employer schemes would be similar to what is presented in columns (1) and (2) in Table 3, with one important exception for defined benefit type of schemes. This exception concerns the impact of cases where it is not possible to allocate the difference between the accumulated assets and the pension entitlements to a pension manager/sponsor, be it the group of relevant employers, or an insurance corporation taking charge of the risks and rewards. In these cases, the pension fund may have net worth, which is positive in the case of overfunding, i.e., accumulated assets being larger than pension entitlements, and negative in the case of underfunding. Moreover, in line with the non-recognition of liabilities towards the employers, no income should be imputed for the shortfall of property income compared to the unwinding of the pension entitlements.

37 The recording of such a case is shown in column (3) of Table 3, using the same numbers as in the above numerical example (obviously without the allocations of liabilities and property income to the employer). As a consequence, net lending/borrowing is 1, representing the difference between property income received (16) and the investment income payable on pension entitlements (20) (and the impact of consumption of fixed capital). Net worth would increase with 20, instead of being stable, because the surplus of investment income (16) and holding gains (24) over the winding down of the pension entitlements (20) now ends in the books of the pension fund, instead of being allocated to the pension manager/sponsor.

38 Regarding the measurement of output, using the formula, one would arrive at the same numbers for output in this multi-employer example. In the case of defined benefit schemes, output would be equal to pension contributions (150) *plus* contribution supplements (20) *minus* benefits (100) *minus* change in pension entitlements (45), which adds up to 25, while in the case of defined contribution schemes the contribution supplements would amount to 16, compensated by a lower change in pension entitlements

[5] Please note that the 2008 SNA is somewhat inconclusive when it comes to multi-employer pension schemes. It seems to suggest that such schemes are primarily operated by insurance corporations who also take the responsibility for any surplus or shortfall; see e.g., paragraphs 6.201 and 17.92 of the 2008 SNA, although paragraphs 17.129, 17.131 and 17.164 also open the door for other modalities. Whatever the case, the pension system in The Netherlands, for example, is based on fully funded defined benefit pension schemes. Strict regulations have been put in place to make sure that future entitlements can be met with the accumulated assets, by setting very strict thresholds for the accumulated assets compared with the pension entitlements. These thresholds are well beyond 100%. If they drop below these thresholds, the pension fund is obliged to take measure, such as not indexing benefits, or increasing pension contributions. The responsibility for any surplus or shortfall can therefore not be allocated to one of the actors involved, as a consequence of which the relevant pension funds may have a positive (or negative) net worth. See also the issue note on the treatment of trusts and similar type of funds.

(41) which is equal to change in the relevant balance sheet item, adjusted for holding gains and losses.

39 Having said that, one should acknowledge that all of this is dependent on the implicit assumption that the pension schemes are operated on a non-profit basis, apart from possible profits appropriated by insurance corporation via the fees charged for taking care of the management and administration of the scheme. In the case of a multi-employer defined benefit scheme, the fund may have a positive (or negative) net worth, but this is to be interpreted as a kind of positive (or negative) buffer[6]. Arriving at a better balance in this net worth will depend on future adjustments of contributions paid by employees and employers, the future adjustments of benefits, and the total income generated via the investment of accumulated assets.

40 In respect of the latter, one should also acknowledge that in practice it may be quite difficult to apply the formula for estimating output of multi-employer pension schemes, mainly because in the case of defined benefit schemes relevant data for an appropriate estimate of the changes in the pension entitlements may not be available. The change in the positions of entitlements may not only be affected by the addition of pensions contributions (after deduction of output), the withdrawal of benefits, and the investment income payable to pension entitlements, but also by various other developments such as renegotiations about the terms and conditions of pension arrangements, changes in the formula used to determine benefits and demographic assumptions about life length, and transfers of pension entitlements from one pension fund to another. This makes it hard to single out the relevant numbers for the measurement of output from the change in balance sheet positions.

## Section V: Recommendations for measuring output and income across different types of insurance

41 Looking at the impact of the current guidance of the 2008 SNA, or better to say the interpretation of this guidance, the recording looks generally fine, when considering the income perspective. In all cases, disposable income is in line with the current national accounts' notion of income, which is typically defined excluding holding gains and losses.

42 Having said that, the **recording of non-life insurance** has raised quite a number of questions on how to interpret the current guidance. Four different options have been presented for the measurement of property income attributable to insurance policy holders:

- Equal to expected income, as used for the calculation of output (i.e., expected total returns on investments from the funds available through insurance technical reserves).
- Equal to income actually allocated to the insurance technical reserves, at the detriment of the profits of the non-life insurer.
- Equal to the actual investment income on investments from the funds available through insurance technical reserves, excluding holding gains and losses.

[6] For more details, see also foot-note 4.

- Equal to the actual investment income on investments from the funds available through insurance technical reserves, including holding gains and losses

43 The last option has been disqualified, as it may lead to high volatility of the property income attributable to insurance policy holders, with the possibility of negative results in years with substantial downward adjustment of the stock markets. Moreover, it looks inconsistent with the current notion of income in the system of national accounts. The first option also has its disadvantages, as it would lead to a property income driven by expectations, instead of actual income earned. Therefore, **two viable options are presented, for consideration by the AEG on National Accounts: either use the property income actually allocated to the insurance technical reserves, or use the property income earned on the investment of funds, which are available to the insurer through the insurance technical reserves.**

44 **For the recording of reinsurance and standardised guarantee schemes, it is confirmed that the measurement should be done in line with the recommendations for non-life insurance.**

45 **When it comes to the treatment of life insurance, it is recommended to treat all income which is allocated to the life insurance policy holders as property income, whether or not this income originates from investment income or from holding gains (or losses). An exception may be made for with profits life insurance schemes where all returns on investment, after a reduction for the services provided by the insurer, are allocated one-to-one to the policy holder, thereby basically transferring all risks and rewards to the policy holder. In this latter case, a recording in line with defined contribution pension schemes could be recommended.**

46 **When it comes to the treatment of defined contribution pension schemes versus defined benefit pension schemes, this note recommends to formally endorse the conclusions of the 9th meeting of the AEG**, here repeated again for reasons of convenience: *"… in measuring the investment income payable on pension entitlements, a distinction is made in the 2008 SNA between defined contribution pension schemes and defined benefit pension schemes. In the latter case, the risks of making an adequate return on investments are with the pension fund or the unit managing the fund. The investment income payable on pension entitlements is generally disconnected from the actual returns on investments, and is typically set equal to the product of the discount rate used for measuring the net present value of future entitlements and the value of the entitlements. In the case of defined contribution schemes, the risks regarding the returns on investments are with the pension beneficiaries. Consequently, the returns on investments exclude any holding gains/losses".* The same line of reasoning can be applied to the different cases of life-insurance and annuities.

47 In line with this line of reasoning, one could look upon the fixed rate of return on some types of life insurance policies, and also the discount rate used for annuities and defined benefit pension schemes, as some form of interest on funds made available to the insurers, similar to interest on saving deposits at banks. In the case of with profits life

insurance schemes, this income may be topped up with bonuses, sometimes also referred to as dividends.

48 **In relation to the measurement of multi-employer pension schemes, it is proposed to provide simpler guidance for the measurement of output, in line with the sum-of-costs, or the fees paid to the insurance corporation managing and/or administering the pension scheme.**

49 Concerning one of the other issues raised at the 9th meeting of the AEG, **whether or not holding gains and losses should only refer to realized ones, it is proposed here to include, where relevant, all holding gains**, for two reasons. The SNA simply follows the valuation of the relevant assets, and typically does not make a distinction between realized and non-realized holding gains and losses. Secondly, data on distinguishing between the two types of holding gains may be difficult to apply in practice.

50 Finally, the last item, regarding the **lack of explicit guidance on the inclusion, or not, of holding gains in the measurement of output**, put forward at the 9th meeting of the AEG, can be addressed relatively easily. **When applying the standard formula for (individual) life insurance and pensions (i.e., actual premiums/contributions earned *plus* premium/contribution supplements *minus* benefits due *minus* increases (*plus* decreases) in insurance technical reserves/pension reserves), it should be made clearer that in the case of defined contribution schemes, and also some individual life insurance schemes where all risks and rewards on the investment of the insurance technical reserves are transferred to the policy holder, both element (ii) and element (iv) should be defined excluding holding gains. In the case of other life insurance and pension schemes, no distinction is made between the income attributed to policy holders that originates from investment income and the part that originates from holding gains and losses. The whole is considered as property income attributable to life insurance policy holders, or Investment income payable on pension entitlements.**

51 These above clarifications do not have any impact on the measurement of output. However, in the case of defined contribution pension schemes, one may end up with a situation where the change in pension entitlements is negative, or – formulated differently – where the recorded contributions, including supplements, after deducting the benefits, are not sufficient to cover the service charge, while the balance sheet changes in reserves, including holding gains attributed to the policy holders, are positive.

52 Furthermore, in the paper discussed at the 9th meeting of the AEG, it was argued that, in the case of life insurance, the inclusion of holding gains in the investment income attributable to insurance policy holders leads to a better economic interpretation of contributions plus investment income always covering the service charge, while this may not be the case when excluding holding gains[7]. However, this argument is considered slightly flawed. It is very much related to the numerical example, which assumes positive holding gains. In the case of negative holding gains, the argumentation would not work.

[7] See Section V of the relevant paper.

**53 Finally, in respect of the issue regarding the possible inclusion of capital income from the investment of the insurer's own funds in the measurement of non-life insurance output, it is recommended not to include this item in the measurement of output. Moreover, it is proposed to remove this issue from the SNA Research Agenda.**