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Agenda item: 2.3

The treatment of holding gains/losses in the estimates of investment income attributable to insurance policyholders and pension beneficiaries

<u>Introduction</u>

The 2008 SNA recommends that in the absence of explicit fees, service charges should be implicitly calculated for non-life insurance, reinsurance, life insurance, annuities, standardized guarantee schemes, defined contribution and defined benefit pension funds. The 2008 SNA appears to provide conflicting guidance on whether to include holding gains/losses in the estimates of investment income attributable to insurance policyholders and pension beneficiaries that are treated as premium or contribution supplements in the calculation of the implicit service charges for insurers and pension funds. In instances where the 2008 SNA appears to recommend the inclusion of holding gains/losses in the estimates of this investment income, it is silent on whether these holding gains/losses should include only realized ones. The 2008 SNA is also not explicit on whether holding gains/losses should be included in the change in life insurance and annuity technical reserves and the change in pension entitlements when calculating the implicit service charges for life insurance, annuities and pension funds.

<u>Documentation</u>

An issues paper: The treatment of holding gains/losses in the estimates of investment income attributable to insurance policyholders and pension beneficiaries

<u>Main issues to be discussed</u>

The AEG is requested to:

- Discuss points raised in section VI of the issues paper

The treatment of holding gains/losses in the estimates of investment income attributable to insurance policyholders and pension beneficiaries

I. Introduction

1. This issues paper seeks guidance from the Advisory Expert Group (AEG) on the treatment of holding gains/losses in the estimates for investment income attributable to insurance policyholders and pension beneficiaries.

2. The System of National Accounts 2008 (2008 SNA) recommends that in the absence of explicit fees, the service charges for non-life insurance, reinsurance, life insurance, annuities, standardised guarantee schemes, defined contribution and defined benefit pension funds should be implicitly calculated. The 2008 SNA appears to provide conflicting guidance on whether to include holding gains/losses in the estimates of investment income attributable to insurance policyholders and pension beneficiaries that are treated as premium or contribution supplements (herein after called supplement items[2]) in the calculation of the implicit service charges for insurers[3] and pension funds. In instances where the 2008 SNA appears to recommend the inclusion of holding gains/losses in the estimates of this investment income, it is silent on whether these holding gains/losses should include only realized ones. The 2008 SNA is also not explicit on whether holding gains/losses should be included in the change in life insurance and annuity technical reserves and the change in pension entitlements when calculating the implicit service charges for life insurance, annuities and pension funds. Thus, there is a need for explicit and consistent guidance on these issues.

3. This issues paper comprises seven sections. Following the introduction in the first section an overview of the methods recommended by the 2008 SNA to calculate the implicit service charges for insurers and pension funds is provided in section II. Section III describes the current treatment of holding gains/losses in investment income disbursements to insurance policyholders and pension beneficiaries in the 2008 SNA. The need for consistent guidance on the treatment of holding gains/losses in the estimates of such investment income disbursements and the change in life insurance and annuity technical reserves and change in pension entitlements in the calculation of the implicit service charges for insurers and pension funds is presented in section IV. Section V assesses the impact of including holding gains/losses in the investment income disbursements which are treated as premium supplements in the calculation of the implicit service charge for life insurers. Section VI concludes by assessing the impact on other

[1] As defined in paragraph 12.80 of the 2008 SNA, a holding gain (loss) is realized when an asset that has increased (decreased) in value due to holding gains (losses) since the beginning of the accounting period is sold, redeemed, used or otherwise disposed of, or a liability incorporating a holding gain or loss is repaid. An unrealized holding gain is one accruing on an asset that is still owned or a liability that is still outstanding at the end of the accounting period.

[2] For brevity, the term “supplement items” refers to premium supplements, the investment income attributable to the annuitants, fee supplements or contribution supplements.

[3] In this paper, the term “insurers” collectively refers to non-life insurance, reinsurance, life insurance, annuities and standardized guarantees.

relevant transactions in the sequence of accounts and the entries in the revaluation account and balance sheet. Issues for discussion are provided in section VII. An annex showing working examples on the recording of transactions and other flows related to life insurance in the alternative cases where holding gains/losses are excluded or included from investment income disbursements to policyholders is also provided.

II. Implicit service charges for insurers and pension funds

4. The recommendations of the 2008 SNA for calculating the implicit service charges for insurers and pension funds are presented in this section.

5. The implicit service charge for non-life insurance is calculated as:

Total premiums earned
plus premium supplements (equal to the investment income attributable to policyholders)
less adjusted claims incurred

6. The method to calculate the implicit service charge for non-life insurance is also applicable to standardized guarantee schemes, except that the terms in the formula are replaced by "fees earned", "fee supplements (equal to the investment income attributable to guarantee holders)" and "calls under standardized guarantees" respectively.

7. The implicit service charge for reinsurance is calculated as:

Total premiums earned less commissions payable
plus premium supplements (equal to the investment income attributable to policyholders)
less adjusted claims incurred and profit sharing

8. The implicit service charge for life insurance is calculated as:

Total premiums earned
plus premium supplements (equal to the investment income attributable to policyholders)
minus benefits due
minus increases (plus decreases) in actuarial reserves and reserves for with-profits insurance

9. The method to calculate the implicit service charge for life insurance is also applicable to autonomous defined contribution and defined benefit pension funds for which no explicit service fee is charged, except that the terms in the formula are replaced by "social contributions", "contribution supplements (equal to the investment income payable on pension entitlements)", "pension benefits payable", and "minus increases (plus decreases) in pension entitlements" respectively.

10. The implicit service charge for annuities is calculated as:

the investment income attributable to the annuitants
minus the amount payable to the annuitants (or surviving beneficiaries) under the terms of the annuity
minus the change in the annuity reserves but excluding the initial payments for new annuities

11. In each formula in the above paragraphs, the item "premium supplements", "fee supplements" or "contribution supplements" is included in calculation of the implicit service charges. In the case of non-life insurance, life insurance, standardized guarantee schemes and defined contribution pension funds, this item corresponds to the actual investment income payable to policyholders or pension beneficiaries arising from investing the technical reserves of these insurance providers or pension entitlements in financial assets or real estate. In the case of defined benefit pension funds, the item "contribution supplements" corresponds to the investment income payable on pension entitlements. This amount represents the actuarially-calculated flow of investment income from the pension funds to households due to past service increase because retirement is one year nearer (i.e. unwinding of the discount rate). In the case of annuities, paragraph 17.72 of the 2008 SNA notes that the item "investment income attributable to the annuitants" is equal to the discount factor times the start of year reserves and is independent of actual investment income earned by the insurance corporation. The item is parallel to the concept of premium supplement in the life insurance context." As in the case of defined benefit pension funds, this item is actuarially calculated.

III. Treatment of holding gains and losses in investment income disbursements by insurers and pension funds in the 2008 SNA

12. This section presents an overview of the 2008 SNA recommendations on the treatment of holding gains/losses in the investment income attributable to policyholders or pension beneficiaries, and consequently in the supplement items, the change in life insurance and annuity technical reserves and the change in pension entitlements in the calculation of the implicit service charges.

13. In the case of non-life and life insurance, paragraph 17.18 of the 2008 SNA states the following:

> "It is common with life insurance policies for amounts to be explicitly attributed by the insurance corporation to the policyholders in each year. These sums are often described as bonuses. The sums involved are not actually paid to the policyholders but the liabilities of the insurance corporation towards the policyholders increase by this amount. This amount is shown as investment income attributed to the policyholders. The fact that some of it may derive from holding gains does not change this designation; as far as the policyholders are concerned it is the return for making the financial asset available to the insurance corporation. In addition, all the income from the investment of non-life reserves and any excess of income from the investment of life reserves over any amounts explicitly attributed to the policyholders, are shown as investment income attributed to policyholders, regardless of the source of the income."

14. Thus, the 2008 SNA appears to recommend that holding gains/losses should be included in premium supplements in the calculation of the implicit service charges for non-life and life insurance. This recommendation appears to be more explicit in the case of life and non-life insurance. However, in both cases, the 2008 SNA is silent on whether the holding gains/losses to be included should only comprise realized holding/gains. In the case of reinsurance, annuities and standardized guarantee schemes, the 2008 SNA is not explicit on whether holding gains/losses should be included in the supplement items in the calculation of the implicit service charges. However, 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 supplement in the life insurance context" and the recording of transactions is the same for non-life insurance and standardized guarantee schemes, it can be inferred that 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.

15. In the case of defined contribution pension funds, paragraph 17.134 of the 2008 SNA states "holding gains and losses generated by the investment of the cumulated pension entitlements are not included in investment income." Similarly, paragraph 17.140 of the 2008 SNA states that holding gains are not included in the contribution supplements of participants in defined contribution pension schemes. This implies that holding gains/losses are not included in contribution supplements in the calculation of the implicit service charge for defined contribution pension funds.

16. In the case of defined benefit pension funds, paragraph 17.156 of the 2008 SNA notes that in the case of investment income payable on pension entitlements "No deduction is made for any amount that may be funded from holding gains or that is not actually matched by existing funds." Paragraph 7.150 of the 2008 SNA also notes that this amount "is not affected by whether the pension scheme actually has sufficient funds to meet all the obligations nor by the type of increase in the funds, whether it is investment income or holding gains, for example." Thus, unlike the case of defined contribution pension funds, holding gains/losses are included in the contribution supplements, through the actuarial calculation, in the implicit service charge for defined benefit pension funds.

17. The 2008 SNA does not provide explicit guidance on whether to exclude holding gains/losses from the change in life insurance and annuity technical reserves and change in pension entitlements in the calculation of the implicit service charges.

IV. Need for explicit and consistent guidance

18. There is a need to provide explicit and consistent guidance on whether holding gains/losses should be included in the supplement items and the change in life insurance and annuity technical reserves and change in pension entitlements in the calculation of the implicit service charges for insurers and pension funds. If yes, a related question is whether these holding gains/losses should comprise only realized ones. In a world where premiums earned plus investment income (excluding holding gains/losses) are enough to cover the service charge and leave some to add to technical reserves along with any

holding gains/losses, the SNA methods for measuring insurance services are easy to understand and work well, but not when the service charge exceeds premiums plus investment income.

19. Three main arguments can be made for including holding gains/losses in the investment income attributable to policyholders or pension beneficiaries and consequently in the supplement items in the calculation of the implicit service charges for insurers and pension funds. Firstly, the output of other financial services depends on holding returns in addition to other property income such as dividends and interest. This also applies to the insurance and pension services described in this paper.

20. Secondly, the investment income attributable to policyholders and pension beneficiaries need to reflect the total investment income that is earned by policyholders and pension beneficiaries from placing their funds with these financial services providers. Policyholders and pension beneficiaries are only concerned with the total rewards from putting financial assets at the disposal of financial institutions rather than the source of the return. Excluding holding gains/losses from this investment income will result in an understatement of the total returns on the investment of policyholders and pension beneficiaries.

21. Thirdly, the holding gains/losses in investment income represent a flow of income between the asset holder (i.e., insurance policyholder or pension beneficiary) and liability holder (i.e., insurers or pension funds), not a flow of income between a buyer and seller of financial assets. In other words, this flow represents a transaction in the form of a redistribution of income between institutional sectors. This argument also suggests that only realized holding gains/losses should be included in investment income disbursements to insurance policyholders and pension beneficiaries. This is because the realization of holding gains/losses is always the outcome of a transaction between two units (i.e., the insurer or pension fund and a counterparty in this case) so that these realized gains/losses are always financed by a counterparty. There is a transfer of actual income/wealth from the counterparty to the insurer or pension fund which is then redistributed to the insurance policyholders or pension beneficiary in the form of property income.

22. These arguments suggest that only realized holding gains/losses should be included in the investment income attributable to policyholders and pension beneficiaries. They also imply that only realized holding gains/losses should also be included in the supplement items in the calculation of the implicit service charges for insurers and pension funds. As life insurance, annuities and pension funds involve an accumulation of financial assets, the realized holding gains/losses should also be included in the change in life insurance and annuity technical reserves and change in pension entitlements in the calculation of the implicit service charges for insurers and pension funds.

V. Impact of including holding gains and losses in supplement items in the calculation of the implicit service charges

23. The impact of holding gains/losses (hgl) on the calculation of the implicit service charge can be illustrated in the derivation of the implicit service charge for life insurance in the following way: Opening level of reserves + premiums earned – benefits due + investment income (excluding realized hgl) + realized hgl – closing level of reserves. Let us assume the following:

Start of period technical reserves	= 200
Premiums earned	= 2
Benefits due	= 0
Investment income (excluding hgl)	= 1
Realized hgl	= 6
End of period technical reserves	= 205

The implicit service charge can be calculated in two ways:

Method I – realized hgl are excluded
Service charge equals premiums earned – benefits due + investment income (excluding realized hgl) – (end of period reserves – start of period reserves – realized hgl)
= 2 – 0 + 1 – (205 – 200 – 6)
= 4

Method II – realized hgl are included
Service charge equals premiums earned – benefits due + investment income (excluding realized hgl) + realized hgl – (end of period reserves – start of period reserves)
= 2 – 0 + 1 + 6 – (205 – 200)
= 4

24. Method I is also applicable to the calculation of implicit service charges for defined contribution pension funds in the 2008 SNA, which appears to say that contributions plus investment income (excluding realized hgl; (2 – 0 + 1 = 3)) cover the service charges of 4, which is not the case. The economic interpretation of this approach is not intuitive.

25. Method II treats realized hgl as part of premium supplements. The implicit service charge can be explained as the difference between how reserves would change if there were no charges (i.e. adding investment income, premiums and realized hgl and deducting benefits due (200 + 2 – 0 + 1 + 6 = 209)) and what is actually observed (200 + 2 – 0 + 1 + 6 – 4 = 205)) as the increase in technical reserves. This method provides the correct economic interpretation.

26. The estimate of the implicit service charges for life insurance, annuities and pension funds is indifferent to whether realized holding gains/losses are included or not, since this item will be recorded in both premium supplements or contribution supplements and the change in life insurance and annuity reserves and change in pension entitlements. However, including realized holding gains/losses in investment income attributable to policyholders will have an impact on sectoral primary income, saving, net lending/net borrowing and some changes in assets.

VI. Impact on other relevant transactions in the sequence of accounts

27. The inclusion of investment income attributable to policyholders and pension beneficiaries sourced from realized holding gains and losses in the calculation of implicit service charges for insurers and pension funds will also have implications for other transactions in the sequence of accounts. By extension, the values of the following transactions are impacted:

(a) Investment income attributable to policyholders or pension beneficiaries in the allocation of primary income account;

(b) Net non-life insurance premiums and net social contributions in the secondary distribution of income account;

(c) Adjustment for change in pension entitlements in the use of disposable income account;

(d) Change in actuarial reserves and reserves for with-profits insurance, change in annuity reserves and change in pension entitlements in the financial account.

28. The tables in the annex illustrate worked examples on the recording of all the relevant transactions between a life insurer and households, other flows and balance sheets using Method I and Method II. Some simplifying assumptions have been included in the worked examples:

(a) No unearned premiums;

(b) No benefits due;

(c) A closed economy;

(d) An initial investment portfolio of the insurers equal to technical reserve in period 0: 200;

(e) Realized holding gain of 6 units arising from the disposal of financial assets during the period;

29. The entries in the balance sheet and revaluation account are the same for both methods. However, the sectoral primary income, saving and net lending/net borrowing are different, depending on whether realized holding gains/losses are included in investment income attributable to policyholders or not. In addition, for Method I an entry in the other changes in volume account is needed to transfer the realized hgl from the life insurer to the households (paragraph 12.117, 2008 SNA).

VII. Questions for AEG discussion

30. The AEG is requested to provide guidance on the following:

(a) Should all investment income, even those derived from holding gains/losses be included in the investment income attributable to pension beneficiaries and consequently in the contribution supplements, when calculating the implicit service charge for defined contribution pension funds? Doing so will ensure consistency with the calculation of the implicit service charges for non-life insurance, reinsurance, life insurance, annuities, standardized guarantee schemes and defined benefit pension funds. In all cases, should this investment income comprise only realized holding gains?

(b) Should all investment income, even those derived from holding gains/losses, also be included in the change in life insurance and annuity technical reserves and change in pension entitlements in the calculation of the implicit service charges for these types of financial services? Should this income investment income comprise only realized holding gains?

(c) If not, should holding gains/losses be excluded from investment income attributable to policyholders or pension beneficiaries and consequently also be excluded from premium supplements, investment income attributable to annuitants, fee supplements and contribution supplements and the change in life insurance and annuity technical reserves and change in pension entitlements in the calculation of the implicit service charges for all these financial services?

(d) Should the guidance provided on the above questions be treated as a clarification beyond dispute, interpretation or change to the 2008 SNA?

Annex – Worked examples on recording life insurance transactions

Method I Worked example on recording life insurance transactions excluding realized holding gains/losses

Table 1 Data on life insurance

Line number	Item	Value
(1)	Earned premiums	2.0
(2)	Benefits due	0.0
(3)	Opening technical reserves	200.0
(4)	Closing technical reserves	205.0
(5)	Increase in technical reserves	5.0
(6)	Realized holding gains/losses (hgl)	6.0
(7)	Investment income (excluding hgl)	1.0

Table 2 Computing life insurance service charge and net premiums

Line number	Transaction	Description	Value
(8)	Implicit service charge	(1)+(7)-(2)-[(5)-(6)]	4.0
(9)	Life insurance and annuity entitlements	(1)+(7)-(8)-(2)	-1.0
(10)	Investment income attributable to policyholders	(7)	1.0

Table 3 Recording life insurance transactions in the SNA (Method I)

2008 SNA code	**Transactions and balancing items**	**Insurance corporation**		**Households**		**Other sectors**		**Total economy**	
		Uses	Resources	Uses	Resources	Uses	Resources	Uses	Resources
Production account									
P1	Output		4.0						4.0
P2	Intermediate consumption								
B1g	Value added, gross	4.0						4.0	
Allocation of primary income account									
D4	Property income	1.0	1.0		1.0	1.0		2.0	2.0
D441	Investment income attributable to insurance policyholders	1.0	1.0		1.0	1.0		2.0	2.0
B5g	Balance of primary income, gross	4.0		1.0		-1.0		4.0	
Use of disposable income account									
P3	Final consumption (service charge)			4.0				4.0	
B8g	Saving, gross	4.0		-3.0		-1.0		0.0	
2008 SNA code	**Transactions and balancing items**	Changes in assets	Changes in liabilities and net worth	Changes in assets	Changes in liabilities and net worth	Changes in assets	Changes in liabilities and net worth	Changes in assets	Changes in liabilities and net worth
Capital account									
B9	Net lending(+)/net borrowing(-)	4.0		-3.0		-1.0		0.0	
Financial account									
B9	Net lending (+)/net borrowing (-)		4.0		-3.0		-1.0		0.0
F2	Currency and deposits	209.0		-2.0		-207.0		0.0	
	Other financial assets	-206.0				206.0		0.0	
F62	Life insurance and annuity entitlements		-1.0	-1.0				-1.0	-1.0

Table 4 Recording other flows related to life insurance in the SNA (Method I)

2008 SNA code	Stocks and change in assets/liabilities	Insurance corporation		Households		Other sectors		Total economy	
		Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Opening balance sheet									
AF2	Currency and deposits	0.0		2.0		207.0		209.0	
	Other financial assets	200.0				0.0		200.0	
AF62	Life insurance and annuity entitlements		200.0	200.0				200.0	200.0
Financial account									
F2	Currency and deposits	209.0		-2.0		-207.0		0.0	
	Other financial assets	-206.0				206.0		0.0	
F62	Life insurance and annuity entitlements		-1.0	-1.0				-1.0	-1.0
Revaluation account									
AF	Total	6.0						6.0	
Other changes in volume of assets account									
AF62	Life insurance and annuity entitlements		6.0	6.0				6.0	6.0
Closing balance sheet									
AF2	Currency and deposits	209.0		0.0		0.0		209.0	
	Other financial assets	0.0				206.0		206.0	
AF62	Life insurance and annuity entitlements		205.0	205.0				205.0	205.0

Method II Worked example on recording life insurance transactions including realized holding gains/losses

Table 1 Data on life insurance

Line number	Item	Value
(1)	Earned premiums	2.0
(2)	Benefits due	0.0
(3)	Opening technical reserves	200.0
(4)	Closing technical reserves	205.0
(5)	Increase in technical reserves	5.0
(6)	Realized holding gains/losses (hgl)	6.0
(7)	Investment income (excluding hgl)	1.0

Table 2 Computing life insurance service charge and net premiums

Line number	Transaction	Description	Value
(8)	Implicit service charge	(1)+(7)+(6)-(2)-(5)	4.0
(9)	Life insurance and annuity entitlements	(1)+(7)+(6)-(8)-(2)	5.0
(10)	Investment income attributable to policyholders	(7)+(6)	7.0

Table 3 Recording life insurance transactions in the SNA (Method II)

2008 SNA code	**Transactions and balancing items**	**Insurance corporation**		**Households**		**Other sectors**		**Total economy**	
		Uses	Resources	Uses	Resources	Uses	Resources	Uses	Resources
Production account									
P1	Output		4.0						4.0
P2	Intermediate consumption								
B1g	Value added, gross	4.0						4.0	
Allocation of primary income account									
D4	Property income	7.0	1.0		7.0	1.0		7.0	7.0
D441	Investment income attributable to insurance policyholders	7.0	1.0		7.0	1.0		7.0	7.0
B5g	Balance of primary income, gross	-2.0		7.0		-1.0		4.0	
Use of disposable income account									
P3	Final consumption (service charge)			4.0				4.0	
B8g	Saving, gross	-2.0		3.0		-1.0		0.0	
2008 SNA code	**Transactions and balancing items**	Changes in assets	Changes in liabilities and net worth	Changes in assets	Changes in liabilities and net worth	Changes in assets	Changes in liabilities and net worth	Changes in assets	Changes in liabilities and net worth
Capital account									
B9	Net lending(+)/net borrowing(-)	-2.0		3.0		-1.0		0.0	
Financial account									
B9	Net lending (+)/net borrowing (-)		-2.0		3.0		-1.0		0.0
F2	Currency and deposits	209.0		-2.0		-207.0		0.0	
	Other financial assets	-206.0				206.0		0.0	
F62	Life insurance and annuity entitlements		5.0	5.0				5.0	5.0

Table 4 Recording other flows related to life insurance in the SNA (Method II)

2008 SNA code	Stocks and change in assets/liabilities	Insurance corporation		Households		Other sectors		Total economy	
		Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Opening balance sheet									
AF2	Currency and deposits	0.0		2.0		207.0		209.0	
	Other financial assets	200.0				0.0		200.0	
AF62	Life insurance and annuity entitlements		200.0	200.0				200.0	200.0
Financial account									
F2	Currency and deposits	209.0		-2.0		-207.0		0.0	
	Other financial assets	-206.0				206.0		0.0	
F62	Life insurance and annuity entitlements		5.0	5.0				5.0	5.0
Revaluation account									
AF	Total	6.0						6.0	
Closing balance sheet									
AF2	Currency and deposits	209.0		0.0		0.0		209.0	
	Other financial assets	0.0				206.0		206.0	
AF62	Life insurance and annuity entitlements		205.0	205.0				205.0	205.0