

APPENDIX II. INSURANCE TRANSACTIONS AND POSITIONS, STANDARDIZED GUARANTEES AND PENSION SCHEMES

I. INSURANCE TRANSACTIONS AND POSITIONS

A. Introduction

Reference BPM6 Chapter 10; Appendix 6c; and 2008 SNA, Chapter 17; Property-Casualty Insurance Accounting (IASA)

1. Insurance companies produce services to their policyholders over the lifetime of insurance contracts, for which they do not charge explicitly. These services are an undifferentiated component of premiums, and need to be derived from amounts accruing to the insurers and amounts accruing to the policyholders. These amounts are reflected in various accounts of the balance of payments depending on the type of the activity, that is the primary income account, secondary income account, financial account, and, in some cases, the capital account. Service fees explicitly charged by insurance companies (e.g. for agents' commissions, salvage, claims adjustment, actuarial services) are recorded as auxiliary insurance services.
2. Two types of insurance schemes are distinguished in the international standards, social insurance and other insurance. Social insurance schemes differ from other insurance in that they are often linked to contractual public insurance programs that provide protection against various social and economic contingencies (e.g., loss of income due to sickness, old age, or unemployment), and in which participation is often compulsory. Other insurance includes freight insurance on goods imports and exports, other types of direct insurance (i.e., life and nonlife insurance), and reinsurance. Here, the policies are taken out by an institutional unit on its initiative and for its own benefit, independent of any social insurance scheme.
3. Within other insurance, nonlife insurance and reinsurance are treated similarly, which is a change to previous international standards. However, there are differences between nonlife and life policies leading to different types of entries in the international accounts. For life insurance, the pre-benefits period generally extends throughout the entire life of the contract and there is little or no uncertainty about the payment. The payments made over the years are regarded as a financial investment (or saving), which will be returned to the policyholder in later years. Thus the recording of premiums and benefits is made in the financial account.
4. Balance of payments compilers are confronted with different situations regarding the availability of data on cross-border insurance activities. The data for estimating exports of insurance services will be best obtained by surveying resident insurance companies, in

collaboration with national accounts compilers. The data collected through this survey should cover data on the nonresident policyholders' share in premiums, claims, and reserves. This will enable the conceptual adjustments necessary for the recording of these operations in the balance of payments and IIP statistics.

5. The same will not be possible for the imports of insurance services with the provider of the insurance services being nonresident to the compiler's economy. Thus estimates have to be either based on ratios available from the domestic insurance sector, information derived from a cash settlements system (ITRS), or partner country data.

6. The chapter is organized as follows. Section B starts with an overview of (nonlife) insurance accounting, followed by Section C on how the insurance accounting data needs to be manipulated in order to derive balance of payments and IIP components according to *BPM6*. The underlying *BPM6* methodology is summarized in Box 1. Section F explains how to approximate insurance transactions when the necessary data cannot be fully collected through surveys. Part G, H, and J briefly address reinsurance, life insurance, and insurance on imports respectively.

B. Overview of Insurance Accounting: Nonlife insurance

7. In nonlife insurance, policyholders make regular premium payments to an insurance company. In return, the company guarantees financial protection against the occurrence of events, such as accidents, sickness, and fire. Term life insurance (as opposed to whole life insurance) is also treated as nonlife insurance in external accounts.

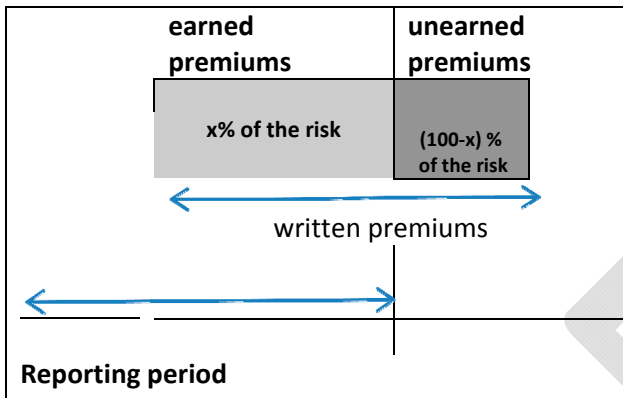
8. The chief function of nonlife insurers lies in the proper redistribution of premiums earned and other income to individuals of homogeneous groups that have incurred losses. A special form of financial intermediation is also involved, in which funds at the disposal of the insurance unit, called (nonlife) insurance technical reserves, are invested in financial and other assets to generate income. Nonlife insurance technical reserves cover unearned premiums, reserves for unexpired risks and claims outstanding at the end of the reporting period. For the purpose of financial reporting, these funds and the corresponding investment income, called premium supplements, are assets of the policyholders and liabilities of the insurance companies.

B.1. Premiums

Written, unearned and earned premiums

9. An insurance premium represents the price the insurance company charges for the policy and the service it renders to the policyholder. The concept of unearned premiums is important to the insurance business, as it deals with the recognition of revenue for the time period in which the policy is in force. In the jargon of an insurance company, at the time a policy is first *written*, the total of the premium may be *unearned*, as premiums are often fully

paid at the inception of the policy. *Direct written premiums* are the amounts charged to and actually paid over the life of a contract by the policyholders for insurance coverage. Each day thereafter, the premium amount accrues to the insurance unit until the end of the policy. At the end of the reporting period, the insurance unit assesses the premium reserves representing the unexpired terms of the policy. The earned premium plus the unearned premium for a policy equals the written premium.



Net written premiums and reinsurance premiums

10. In most of the cases the direct written premiums constitute the basis for compilers to determine the amounts of premiums related to direct business and to derive earned premiums at the end of the period. However, an *intermediate* step may be necessary in case the premium amounts in the accounts of insurers are already further adjusted for reinsurance premiums. Insurance companies purchase reinsurance to protect themselves against the risks of losses above certain thresholds. If a risk is reinsured, the insurance company will *cede* to a reinsurer a part of the premiums in proportion to the risk assumed. The other part is used by the insurance company to finance the risk that remains.

11. On the other hand, insurance companies themselves may act as reinsurer and accept indirect business from another insurance company in form of *assumed* premiums. Thus *gross written premiums* in insurers' accounts could include both, written premiums charged to policyholders (also called direct written premiums)¹ and assumed reinsurance premiums from insurance companies. *Net written premiums* then constitute *gross written premiums* minus ceded reinsurance premiums.²

¹ Direct written premiums are the premiums received from policies issued directly by the primary insurance company to its policyholders.

² It should be noted the different meaning of "net" in the context of *BPM6*: "Net" as applied to premiums implies that the service charge for the insurance services has been deducted from actual premiums to record the

(continued)

B.2. Claims

Insurance claims³ incurred and paid

12. At the time the policy becomes effective, the policyholder has transferred the uncertain loss of assets to the insurance company in form of potential claims in exchange for the premium paid. Claims *incurred* refer to the expected financial obligations that cover the insured risks as provided by the policy. Claims may be *known* or *unknown* by the company, *reported* or *unreported*. Paid claims occur when actual payments of cash have been made to claimants for insured events of the current or previous periods. To properly match the income earned (premiums) of the insurance company with the expenses incurred in the relevant period, provisions are made in the insurers' accounts as of the accounting date for claims incurred that will be settled after the current accounting period. Claim associated expenses (also called claim/loss adjustment expenses, incurred to investigate and settle losses) are generally considered part of the claim cost for an insurance company.

In insurance accounting, claims incurred for the accounting period are calculated as follows:

Claims/losses paid during the year for nonlife insurance contracts

Minus loss reserves outstanding (at the beginning of the accounting period)

Plus loss reserves outstanding (at the end of the accounting period)

Equals: Claims incurred

13. Loss reserves are the unpaid part of *claims incurred* as of the accounting date, as explained in B.3.

premiums in the secondary income account, whereas here net written premiums are net of ceded reinsurance premiums. See *BPM6* 12.42.

³ Claims incurred are also called *losses incurred* in insurance accounting.

Example 1: Insurance company profit and loss account:

Income in million	2007	2006
Gross premiums written	5 488.9	5 255.7
Reinsurance premiums ceded	-288.7	-272.0
Net premiums written	5 200.2	4 983.7
Net change in unearned premium reserve	-35.6	-24.6
Net earned premiums	5 164.6	4 959.1
Interest and dividend income	793.8	704.4
Gains and losses on investments (net)	130.2	291.4
Income on investment property	194.4	186.4
Other income	89.1	89.4
Total operating income	6 372.1	6 230.7
Expenses in million		
Claims incurred including claims handling costs (non-life)	-1 610.9	-1 465.8
Claims and benefits paid (life)	-2 369.8	-2 226.3
Change in actuarial reserve	-591.1	-738.0
Reinsurers' share of benefits and claims	205.9	160.8
Policyholder dividends and bonuses	-173.4	-166.7
Insurance benefits and claims (net)	-4 539.3	-4 436.0
Acquisition costs	-692.4	-647.4
Operating and administrative expenses	-534.2	-509.8
Interest payable	-44.6	-41.8
Other expenses	-51.7	-29.3
Total operating expenses	-5 862.2	-5 664.3
Profit or loss from operating activities	509.9	566.4
Finance costs	-7.2	-6.0
Share of profit or loss of associates	2.8	1.8
Profit or loss before tax	505.5	562.2
Income taxes	-103.5	-138.4
Profit or loss for the period	402.0	423.8

B.3. Insurance technical reserves and expected income attributable to policyholders**Insurance technical reserves**

14. An insurance company must apply sound methods to estimate potential claim liabilities on its balance sheet to cover all expected and unexpected claims and expenses, as there is always a delay between the times the insured events occur and the times the claims are reported and settled. The insurance company has incurred a potential liability at the time the policy becomes effective. Until the insured incident occurs, the potential liability is reflected in unearned premiums and the other components of insurance technical reserves.

15. There are various reasons why unearned premiums are established as a liability. One main reason is that insurance companies receive premiums in advance of some or all of the

policy period that is covered by the policy. Also, insurance companies may need to refund these premiums to policyholders if the policy is cancelled before its stated ending date.

16. The nonlife insurance technical reserves set aside on the balance sheet for future commitments that arise out of insurance contracts (including any related administration expenses, taxes, etc.) consist of mainly two components:

- a. *Unearned premium reserves* are that part of premiums written that apply to the unexpired part of the policy period. These reserves are to be carried forward to the following accounting period. The insurance policy period for which the premium is paid in advance and during which the insurance company bears the risk does (usually) not correspond with the reporting period. If an insurance company expects its unearned premium reserves to be insufficient to cover estimated claims and expenses in the following year from contracts concluded by the end of the reporting period, it may create so-called unexpired risk provisions (URP). Some insurance companies also separately disclose provisions to meet costs of discounts to be granted to certain policyholders.
- b. *Estimated loss reserves and reserves for claims incurred but not reported* are provisions set aside to meet the estimated costs of settling claims that have occurred up to the end of the accounting period from policies currently in force and policies written in the past, after the deduction of amounts already paid. This amount includes funds for unpaid claims, claims adjustment and handling expenses known but not yet settled, and estimates for claims incurred but not yet notified (so called IBNR – Incurred But Not Reported) by the balance sheet date. Depending on legal national arrangements, insurance companies may also include additional provisions for claims arising from events which have occurred and been reported, but the amount reported may be understated (so called IBNER, Incurred But Not Enough Reported). Insurance companies may also set aside funds for preventing cash-flow depletion for significant unforeseen events or catastrophes, when many policyholders may be affected at about the same time. These kinds of reserves should however only be taken into account if there has been an event that triggered the increase of liabilities vis-à-vis the policyholders. Otherwise these amounts are seen as internal reserves set aside for saving purposes and should not be included in nonlife technical reserves of the balance of payments and IIP.

Example 2: Excerpt from an insurance company balance sheet:**Insurance company XY: Insurance liabilities at year end**

In millions of euros	Life	General	Total
Participating contracts	12,383.7	-	12,383.7
Unit-linked non-participating contracts	9,998.4	-	9,998.4
Other non-participating contracts	9,359.1	-	9,359.1
Outstanding claims provisions	-	1,111.8	1,111.8
Provision for claims handling expenses	-	78.4	78.4
Provision for claims incurred but not reported	-	480.6	480.6
Provision for unearned premiums	-	396.4	396.4
Provision for unexpired risks	-	3.0	3.0
Total	31,741.2	2,070.3	33,811.5

Expected income (attributable to policyholders)

17. Insurance companies generally distinguish two sources of income, from investing shareholder (equity) capital and from investing policyholders' funds (also referred to as holdings of own assets and technical reserves respectively). The investment of policyholders' funds is a distinct feature of insurance companies and made possible because of the time span between the collection of premiums and the eventual loss settlements.

C. Manipulating the insurance companies accounting data to derive balance of payments and IIP components:

18. Box 1 below summarizes the *BPM6* methodology as described in Annex 6c. of the *Manual*. Although the terms used to describe transactions of the insurance sector in the *BPM6* and the *2008 SNA* are based on and in strong accordance with the accounting terminology that insurance companies use to set up their accounts (as explained in B), compilers may need to make certain adjustments before data can be used to derive relevant balance of payments entries according to *BPM6*. These adjustments are necessary, for instance, to determine and differentiate the amounts of premiums related to direct business with policyholders, and the amounts related to reinsurance (both *ceded* and *assumed*), as further explained below.

Box 1:**All BPM6 entries in the balance of payments related to nonlife insurance transactions:**Services account:

The insurance service charge is derived implicitly with the following formula (see BPM6 Appendix 6c):

Insurance services = gross premiums earned + premium supplements (investment income attributable to policyholders in insurance) – claims due/incurred (adjusted for claims volatility, if needed)

Primary income account:

Investment income attributable to policyholders in insurance (premium supplements)

Secondary income account:

Net premiums earned = gross premiums earned + premium supplements – insurance services

Claims payable/due

Financial account:

Insurance technical reserves

Currency and deposits (for actual premiums written and claims paid)

19. The paragraphs below aim at identifying the terms and the necessary adjustments needed to compile balance of payments data.

C.1. Secondary income account: net premiums earned

20. For the compilation of balance of payments purposes according to *BPM6*, there is no netting between direct insurance and reinsurance. Therefore, compilers should distinguish between the amounts related to direct business, and the amounts related to reinsurance (both ceded and assumed). *This means that direct written premiums received from policyholders should not be netted for any premiums ceded to reinsurers, and exclude premiums assumed from other insurance companies.* The rationale is that the direct insurance company is fully liable vis-à-vis the policyholder, regardless of whether or not part of the risks are reinsured (see 2008 SNA 17.57)

21. The written premiums from direct business are used to determine the earned premiums from the insurers' accounts of the reporting period.⁴

⁴ The results are measured on an accounting period basis, which could be the calendar or financial year; as opposed to the policy period.

From the business with nonresident policyholders:

Written premiums (for direct business only)

Plus unearned premium reserve (at the beginning of the reporting period)

Minus unearned premium reserve (at the end of the reporting period)

Equals: Earned premiums (from direct business)

22. The adjusted written premiums and derived earned premiums constitute the first two components for the compilation of the insurance accounts according to international standards. Written premiums correspond to *premiums received* in *BPM6*, and are recorded in other investment, as an increase in the insurance companies' deposits.

23. In Example 1 (see page 7), compilers would have to use the gross premiums written (including the reinsurance premiums ceded) excluding premiums assumed, and the net change in unearned premium reserves, and inquire about the share of nonresident policyholders to determine the earned premiums. Benefits are payments to life insurance policyholders and would need to be separated from nonlife claims paid.

C.2. Secondary income account: Claims payable/due

24. Claims incurred in insurance accounts correspond to *claims payable* in *BPM6*, and are recorded in the secondary income account of the balance of payments (see *BPM6* 12.44); while *claims paid* are recorded in other investment, as a decrease in the insurance companies' deposits.

25. For insurance companies to accurately estimate future loss payments, especially for claims unknown, predictions are in general based on historical data of settlement and reporting patterns of homogenous groups of policyholders, and actuarial methods that take account of uncertainties to determine the amount of reserves. Certain lines of business with expected individual large risks involved, with high frequency of losses or with cumulative risks (such as natural disasters) are likely to be hedged by insurance companies through customized reinsurance.

26. In case of a significant unforeseeable event during the accounting period, the derived insurance services rendered by the insurance company to the policyholders should *not* turn into a negative figure, i.e., neither the volume nor the price of insurance services should be affected by the volatility of claims. The SNA 2008 therefore recommends the use of *adjusted claims incurred* when measuring the output of insurance companies. The adjustment would be negative in periods when large values of claims are incurred, thus increasing the value of the service by reducing the difference between actual claims in a particular period and a normally expected level of claims. There are three different accounting methods to help

estimate the expected level of claims (see *BPM6* A6c.22): (i) the *expectations approach* is based on expected claims using smoothed past figures of gross claims incurred or ratios of gross claims over premiums, applied to current premiums. It replicates the ex-ante model of insurance companies when pricing the premiums based on expectations of loss. (ii) the *accounting approach* uses ex-post data of observed claims incurred and is based on changes in insurance companies' equalization reserves and changes in own funds. (iii) the *sum of costs plus "normal" profit approach* measures output by taking the sum of costs plus an estimate of normal profit based on smoothed past actual profits.

27. According to international standards, exceptionally high claims following a natural disaster or catastrophe are recorded as secondary income or a capital transfer provided by the insurance company to the policyholders. The rationale for treating certain claims as *capital transfers* is that these claims may cover losses from the destruction of buildings and structures, rather than increasing the disposable income of the claimants. The net worth of policyholders will thus show the effects of the destruction of assets and an offsetting increase in financial assets from the capital transfers (see 2008 SNA 17.40 and *BPM6* 13.24).

C.3. Primary income account: premium supplements

28. When a policy is written, insurance companies receive cash, which is at their disposal to invest until claims are later reported and settled. Distinguishing between technical reserves and own assets is relevant for deriving the insurance services according to *BPM6*.

29. In international standards, the income earned from the investment of insurance technical reserves are called *premium supplements* (see *BPM6* 11.83) and are imputed as primary income *receivable* by policyholders, as the technical reserves are assets of the policyholders. This income is retained by the insurance enterprises in practice. The same amount is then shown as *payable* to the insurance company by the policyholder as premium supplements in the secondary income account.

30. In the example below, the income retained from investing policyholders' funds is called policyholder dividends (and bonuses). Bonuses are amounts in life insurance policies that are explicitly attributed to policyholders each year. Compilers would need to inquire about the estimated share of income payable to nonresident policyholders for nonlife business.

Example 3: Excerpt from an insurance company income statement:

Expenses in million	2009	2010
Claims incurred including claims-handling costs (non-life)	-1 610.9	-1 465.8
Claims and benefits paid (life)	-2 369.8	-2 226.3
Change in actuarial reserve	-591.1	-738.0
Reinsurers' share of benefits and claims	205.9	160.8
Policyholder dividends and bonuses	-173.4	-166.7

C.4. Financial account: Insurance technical reserves

31. Reserves are reduced when premiums are earned and claims are paid from outstanding loss reserves. In the accounting system of the company, the payment is matched to the loss reserve and a corresponding entry is made to reduce the reserve for the payment made to the policyholder. At the end of the accounting period, insurance technical reserves can decrease in net terms when claims paid out of reserves exceed amounts added to respective reserves.

32. These reserves for unearned premiums and against outstanding insurance claims are recorded in the other investment category of the financial account under *Insurance, pension and standardized guarantee schemes*, see *BPM6* 5.64, and the IIP, see *BPM6* 7.63. The split of these reserves between liabilities to residents and nonresidents may have to be undertaken according to a suitable indicator such as premiums earned or written.

33. For the recording of insurance technical reserves in the IIP, flows that result from exposure to the effect of exchange rates will have to be taken into account. See Chapter XY for more details on other changes in financial positions.

C.5. Goods and services account: Deriving insurance services

34. All components are now available to the compiler to derive the insurance service charge according to *BPM6* 10.111.

35. The implicit insurance service the insurance company renders is a measurement of the output of the insurance industry, information needed to derive the production account in national accounts. The service provided to residents and nonresidents is derived by determining the output of the insurance in a way that mimics the accounting practices based on premiums earned and losses incurred pertaining to the accounting period:

Gross premiums earned (from direct business)

Plus net income from investments attributable to policyholders (premium supplements)

Minus estimated claims incurred (adjusted for claim volatility, if necessary)

Equals: insurance service charge

D. Data Sources

D.1 Conducting a Survey of Domestic Insurance Companies

36. Compilers can obtain most comprehensive data for exports of insurance services from surveying resident insurance companies. To enable an appropriate coverage of the domestic insurance sector, a survey frame should be available including a list of insurance companies, which may be provided by the authority issuing the licenses for insurance business. Insurance agents and brokers are usually required to register with insurance authorities; therefore, a list of these businesses should be readily available from official sources (see also Box 2).

37. Through surveying domestic insurance companies, compilers are able to request information on a conceptually correct basis as explained in C—that is, premiums earned and claims due—as well as insurance technical reserves and the income earned on those reserves.

38. Resident insurance enterprises should report details of premiums and claims in respect of business obtained from abroad and in respect of international reinsurance flows. In addition, these enterprises may be asked to report details of premiums and claims in respect of insurance written by them on imports.

39. Insurance terms may differ due to different accounting practices that are being applied in worldwide insurance accounting.⁵

40. A prototype of an insurance survey form is presented in Appendix VII.

Box 2: Insurance sales agents and brokers

Insurance sales agents or brokers commonly sell one or more types of insurance, such as property and casualty, life, health, disability, and long-term care. They either work exclusively for one insurance company based on a contractual agreement, or work independently and represent several companies at the same time. As facilitators, agents help match insurance policies for their clients with the company, and help policyholders settle their insurance claims. Insurance agents and brokers are usually required to register with insurance authorities; therefore, a list of these businesses should be readily available from official sources. An exploratory survey could be undertaken to identify agents and brokers placing insurance abroad.

The agent's commission is generally a percentage of each premium. If the insurance company that is surveyed collects premiums directly from its policyholders, the premiums balance

⁵ A joint IASB and FASB project on the accounting of insurance contracts currently focuses on the recognition and measurement of insurance contracts, and the presentation of income and expenses arising from those contracts, see <http://www.ifrs.org/Current+Projects/IASB+Projects/Insurance+Contracts/About+Insurance.htm>.

receivable would include the full amount of premiums due from policyholders. If agents act as intermediary between insurance company and policyholder, there are generally two possibilities. If the insurance company uses an agent but charges directly the policyholders for premiums due, the commissions payable to the agent will reduce the amount that is received and recorded. If the agent collects premiums on behalf of the insurance company, the premium shown in the insurance accounts would normally be recorded net of commissions. The possibility of collected premiums by agents not yet transferred to the insurance company (uncollected premium balances) or commissions not yet having been deducted has to be taken into account. Insurance companies keep periodic statements of the sums due and owed to an agent sometimes referred to as agents' balances.

D2. Insurance technical reserves for life and non-life insurance policies derived from standardized reporting forms (SRFs) in Monetary and Financial Statistics

Reference: IMF Compilation Guide for Monetary and Financial Statistics (MFSCG), Chapter 4

41. In the compilation of monetary statistics, insurance technical reserves receive separate treatment and appear as liabilities in the accounts of insurance corporations and pension funds in the other financial corporations' (OFC) subsector.⁶ In many countries such reserves constitute a significant contribution to the total liabilities of the financial corporations' sector. The separate identification therefore supports the analysis of activities of this particular subsector, which is reflected in their specialized treatment in national financial reporting and international statistical standards.

42. Technical reserves have three components. Firstly, the liabilities account for obligations for prepaid insurance premiums received from all resident and nonresident policyholders. Included are prepayments for both life insurance and nonlife insurance policies as well as premium prepayments for reinsurance (see *MFSCG* 4.72). The second component of insurance technical reserves comprises changes in reserves for claims outstanding, which insurance enterprises hold in order to cover the amounts for (valid) claims that are not yet settled or claims that may be disputed. The third component covers the obligation from net equity of households in life insurance corporations and pension funds reserves, which reflect the present value of the insurance corporation's estimated (actuarial value of) liabilities for future claims by life insurance policyholders.

⁶ Other financial corporations are part of *other sectors* in the *BPM6* classification of institutional sectors (see *BPM6* Table 4.2)

43. The assets account in the sectoral balance sheet is used to record the amount of financial corporations' prepayments of premiums to insurance corporations. It also includes prepayments that insurance corporations have made to other insurance corporations (that is, to reinsurance companies abroad). In general, the asset category is relatively minor compared to the liability account. Prepayment of insurance premiums is the only category of insurance technical reserves for which there are both asset and liability accounts in the sectoral balance sheet. Report 4SR of the monetary statistics is the report form used to compile the data on all resident insurance corporations and pension funds.

44. Monetary statistics do not contain income statements (see *MFSCG* 4.74). Data on the investment income from insurance reserve assets could be estimated by applying an appropriate return rate calculated as a specified percentage of the amount of the outstanding balances.

Excerpt from the Sectoral Balance Sheet for the Financial Corporations Subsector (Liability Side)

Insurance technical reserves

Net equity of households in life insurance reserves

Residents

Nonresidents

Net equity of households in pension funds

Residents

Nonresidents

Prepayment of premiums and reserves against outstanding claims

D3. Nonlife insurance services - deriving insurance services payable from incomplete information

45. Compilers may not always be able to compile comprehensive set of accounts in order to approximate insurances services exports in a given reporting period, especially for shorter time periods (e.g. quarterly data). Therefore, in conjunction with national accounts compilers, the insurances services provided to the rest of the world could be estimated from the total estimated output⁷ of the insurance sector and the average ratio of total premiums earned from abroad to total premiums earned. From the ITRS, there may be data available on a cash basis of premiums received from abroad, and claims paid. Premiums are a better indicator than claims for determining the share of insurance services attributable to the rest of the world. The reason is that claims are contingent on events incurred to trigger payments, and there may be periods without claims or with irregularly large claims.

⁷ See SNA 2008, 6.185, on the calculation of output for the insurance industry. (*Total premiums earned, plus premium supplements, less adjusted claims incurred.*)

Example 4:

Estimated domestic insurance output in period x (could also be based on period x-1):	50	
Total premiums written:	200	
Premiums received/written from abroad:		70
Estimated insurance service provided to nonresidents:		$17.5=50*70/200$

D.4 Import of insurance services with and without an insurance company resident in the reporting country

46. Insurance services receivable (imported) are much more difficult to capture, as compilers are not able to request information directly from insurance corporations. Data from an ITRS will be on a cash basis and capture premiums paid and claims received. In case there is an insurance sector in the domestic economy, an appropriate ratio derived from the domestic insurance industry can be applied to premiums paid. If this ratio cannot be obtained, the compiler should estimate the ratio by using the long-term relationship between premiums and claims. The ITRS provides information on countries to which premiums are paid and from where claims are received. Compilers could contact the authorities in these countries respectively, to obtain appropriate ratios for their services estimates.

47. Services receivable from reinsurance companies abroad⁸ can be best captured through surveying the domestic recipient insurance company, as described above.

Example 5:

Premiums residents pay to nonresident insurance companies	80	
Claims received from nonresident insurance companies		50
Average long-term ratio between claims received and premiums paid		15 %
Estimated service transaction		$12 (=80*15\%)$
Net premiums		$68 (=80-12)$
Claims received		50

E. Reinsurance

48. Reinsurance is the primary vehicle used by insurance companies to diversify, mitigate and manage their risk. Reinsurance is the acceptance by the reinsurance company of all or part of the risk of loss of the primary insurance company (also called the ceding company). There are different types of reinsurers: those whose basic business is reinsurance, and those which conduct reinsurance business in addition to their primary business. Reinsurance companies either use direct negotiation channels, or contact primary insurance companies

⁸ Reinsurers are concentrated in few financial centers, and therefore almost always cross-border.

through brokers or intermediaries, compensated by commissions as a percentage of the reinsurance premium.

49. There are two principal forms of reinsurance, pro rata and excess of loss reinsurance, which increase the primary insurance company's capacity to accept larger exposures than normal. Additionally, reinsurance can level out and thus stabilize fluctuations of losses in peak times or in case of catastrophic events. In a pro rata reinsurance contract, the reinsurers and reinsured company share a proportional part of the premiums and losses of the primary insurance company's pro rata reinsured business. In an excess of loss contract, the primary insurance company pays the amount of each claim up to a limit determined in advance, and the reinsurer pays the amount of the claim above that limit either per risk, per occurrence or if reinsured losses incurred in aggregate exceed an agreed amount. A reinsurer can cede all or part of the reinsurance it has previously assumed to another reinsurance company. This transaction is called retrocession.

50. International standards measure transactions of reinsurance companies in a way similar to transactions of direct nonlife insurance companies (see Chapter B). However, there are some payments peculiar to reinsurance. The primary insurance company remits to the reinsurer the net premium after deducting the so-called agreed upon ceding commission. This commission is paid by the reinsurer to reimburse the ceding company for its acquisition expenses and other costs incurred to place the business with the reinsurer.

51. Another commission often found in reinsurance agreements provides for profit sharing. The reinsurer and the ceding company generally agree to a predetermined percentage of the profit realized by the reinsurer on the contracts ceded by the primary insurance companies and the cedants' share of such profits, called profit commission.

52. As it is the case for the primary insurance company, the premiums for the reinsurer are generally not fully earned when received, so provisions are made for the unearned part of the written premiums. Earned premiums are calculated by the sum of premiums written plus the unearned premium reserve at the beginning of the reporting period less the unearned premium reserve at the end of the reporting period. The amount of the unearned premium reserve less the ceding commission is the amount the reinsurer would have to pay back, in case the contract was canceled.

53. Reinsurers are also required to establish reserves for claims outstanding and for expenses associated with settling and adjusting these claims. Claims or losses incurred are calculated as claims incurred and paid during the current period plus claims incurred during the current period that are unpaid at the end of the period.

54. The management of the reserves may differ from those of primary insurance companies due to the longer duration of contracts and the magnitude of losses. Conceptually, the income reinsurers earn from investing the reserves is treated similar to that of primary insurers, as investment income payable to the primary insurance company and returned as

premium supplement. A primary insurance company thus pays investment income to its policyholders based on the whole of the premiums earned, and receives investment income from the reinsurer corresponding to the amount of the premiums it has ceded to the reinsurer.

55. The value of output of the reinsurer can be expressed with the following formula:

Gross premiums earned less commission payable

Plus net income from investments (premium supplements)

Minus claims due (adjusted for claim volatility, if necessary) and profit commission payable

Equals: (re-) insurance services

56. International accounting standards prohibit the offsetting of reinsurance assets against related liabilities and require transactions between the direct insurer and its clients on the one hand and the holder of a policy and reinsurer on the other to be recorded as entirely separate sets of transactions. In insurance companies' accounts of ceding companies net premiums written (received) generally refer to gross premiums written (including direct and reinsurance assumed) less the premiums ceded proportionally to reinsurers. Indirect business accepted from another insurance company is included in gross premiums written as reinsurance assumed.

57. As with direct insurance, in exceptional cases, some part of reinsurance claims may be recorded as capital transfers rather than as current transfers.

58. All other entries in the international accounts are derived and recorded similarly to non-life insurances as explained in B.

F. Life Insurance

59. There are three distinguishing features for life insurance contracts, the relationship between premiums and claims/benefits over time, the length of time for which the contract is written, and the certainty that a claim/benefit will occur. Practically, the insurance company determines the relationship between premium and benefit by combining the saving element of a single policy with actuarial calculations of an insured population.

60. Actuarial calculations are based on valuation assumptions with regard to mortality, disablement and morbidity, taking into account the premiums to be received in the future, the investment earnings potential, and all the future liabilities under the conditions of each current insurance contract. A policyholder who cancels the policy before the agreed expiration date is generally entitled to partial benefits from the insurer. Benefits are thus always paid to the policyholder or to his beneficiary. For these reasons, part of the premiums paid by the policyholders may be regarded as savings and part of the benefits received by the beneficiaries as withdrawals from savings. The recording, therefore, of premiums and

payments of benefits takes place in the financial account rather than the secondary income account according to international standards (see *BPM6* 5.65).

61. The actuarial reserves represent the present value of the future cash flows payable at the end of the insurance policy, rather than claims in the current period. Actuarial reserves accrue to *particular* policyholders depending on amounts guaranteed in their policies. Thus the total liability of the insurer is the sum of the actuarial reserves for every individual policy. See *Example 1 Insurance company profit and loss account*.

62. Policyholders with life insurance policies may be eligible for bonuses in each year, which are not actually paid to the policyholders but increase the liabilities of the insurance companies. A company usually has a lot of discretion over the level of bonuses it allocates to contracts. Generally, life insurance products mentioning ‘with profit policy’ or ‘participating policy’ means the policy and thereby the policyholder is eligible to receive a bonus. These bonuses are reflected as investment income attributable to life insurance policyholders and recorded as premium supplements in the income account, see *BPM6* 11.81.

63. The value of output of life insurance can be expressed with the following formula:

Gross premiums earned

Plus bonuses (premium supplements)

Minus Benefits due

Minus Increases (Plus Decreases) in life insurance actuarial reserves

Equals: Life insurance services

64. Insurance companies offer different types of life insurance products. Insurance companies may offer group insurance contracts concluded for companies’ employees, or insurance contracts for individuals. Group insurance has the distinctive feature that the premium is determined by the group of people eligible to purchase insurances as a whole for reasons such as working for a particular employer, rather than related to cover a specific (high-) risk factor. Claims, however, are due individually. With regard to the type of investment, so-called unit-linked life insurance policies are fund-linked products where policyholders can determine the type of investment by choosing a particular fund and thus carrying the investment risk. A life insurance benefit may be paid as a lump sum or as an annuity. The claim may be fixed or may vary to reflect the income earned from the investment of premiums during the period for which the policy operates (with-profit policies). The unit-linked policy is a special kind of with-profit policies, because the claim varies according to the value of the chosen fund. Accruing profits may be paid out in part to the policyholder in the form of dividends. Other policies offer a guaranteed return not dependent on the company's underlying investment performance.

Example 6: Excerpt from an insurance company profit and loss accounts:

Insurance company XY: Gross premiums by business line and region in the life business in million

2010	Country W	Country X	Country Y	Country Z	Other	Total
Individual insurance	545.4	123.0	81.8	72.5	133.0	955.7
Group insurance	1 586.4	78.8	36.0	40.4	–	1 741.6
Unit-linked life insurance	74.9	96.1	–	14.1	4.6	189.7
Reinsurance	–	–	–	–	6.9	6.9
Gross premiums life	2 206.7	297.9	117.8	127.0	144.5	2 893.9
2009	Country W	Country X	Country Y	Country Z	Other	Total
Individual insurance	577.1	118.6	137.4	65.3	133.5	1 031.9
Group insurance	1555.3	28.6	20.4	34.6	–	1638.9
Unit-linked life insurance	84.6	64.1	–	8.4	–	157.1
Reinsurance	–	–	–	–	4.5	4.5
Gross premiums life	2217.0	211.3	157.8	108.3	138.0	2832.4

G. Insurance on Imports

65. The point of uniform valuation is the free-on-board (f.o.b.) statistical value of exports at the customs frontier of the exporting economy (see *BPM6* 10.30). Imports are normally valued at cost, insurance, freight (c.i.f.), at the domestic custom frontier by customs. To convert imports of goods to the FOB valuation, the value of freight and insurance premiums incurred from the frontier of the exporting country to the border of the importing country should be deducted (*BPM6* 10.34), and recorded as balance of payments transport and insurance transactions in case a non-resident transporter or insurer is involved.

66. Insurance premiums are often estimated by compilers together with freight services on imports by sampling importers and agents of foreign transport operators, or extracting data from customs import documentation.⁹ In order to avoid overstating insurance services, a ratio can be used to estimate services from the insurance premiums recorded in the secondary income account. The ratio may be derived from the domestic nonlife insurance industry and applied to premiums paid.

67. It is often the case that freight insurance costs are based on single events (the shipment of a good) and are of short-term nature. They may be determined by the insurance company based on the value of the specific good being shipped (e.g., replacement cost value, or invoice value), and the category of good that is being shipped (e.g., fragile goods, hazardous materials). In those cases, advance payments for insurance coverage can be recorded as current expense by the policyholder and as current revenue by the insurance

⁹ See chapters on goods (c.i.f.-f.o.b. conversion) and transportation.

company, rather than spreading the payments over time. The claims are recorded when paid in the secondary income account. In cases where traders take out insurance policies to cover their freight on a lump-sum and long-term basis, insurance on imports are treated the same way as other non-life insurance policies.

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