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Measuring financial services including FISIM**The new treatment of reinsurance transactions in national accounts****Note by the Federal Statistical Office of Germany***Summary*

One of the major changes in the 2008 SNA concerns the treatment of reinsurance activities. In the 1993 SNA, reinsurance transactions between domestic units should be consolidated and export/ import of reinsurance services were measured “as the balance of all flows occurring between the reinsurers and direct insurers” (Annex IV, par. 27 ff.). This has changed. Reinsurance transactions are now treated in the same manner as direct insurance (SNA 2008 Annex 3, A.3.38 ff.). The same applies for Balance of Payments Statistics (BoP Manual 6ed. par. 10.111).

Given appropriate data by the National Supervisory Authority, reinsurance service output (and exports) of specialized reinsurers and direct insurers can be calculated. The calculation of the value of import of reinsurance services is problematic, because national accounts statisticians of the importing country will hardly have the necessary information. Therefore, it is recommended to use the relation between cross-border actual premiums received by the exporting countries and the corresponding services charge and apply this ratio to the actual premiums paid for reinsurance of the importing country.

I. Introduction

1. The revision of the international systems of national accounting, the System of National Accounts (SNA) of the United Nations etc. in 2008 and the European System of National Accounts (ESA) in 2010 led to a completely new concept for the treatment of reinsurance transactions in these accounting systems. Reinsurance is understood as the insurance of risks at third parties, which arises direct insurers from their business with their policy holders. If the reinsurance policy holder itself is a reinsurer, the business is called “retrocession”. Reinsurance is the insurance of insurers.

2. The terms active and passive reinsurance business describe the views of each transaction partner. In the case of an active reinsurance business the reinsurer takes the risks of the reinsurance policy holder, in the case of a passive reinsurance business the reinsurance policy holder transfers (cedes) his risk to the reinsurer in the business accounting sense.

3. According to the hitherto existing rules (SNA 1993, ESA 1995) the output of reinsurers, i.e. the value of service provided by the reinsurer to the reinsurance policy holder, is calculated as the balance of all transactions between the reinsurer and the reinsurance policy holder. It results as difference between all “premiums” paid by the reinsurance policy holder to the reinsurer and all “benefits” paid by the reinsurer to his client.

4. Inversely, the value of services received by the reinsurance policy holder is calculated in the context of a passive reinsurance business. The value of these services is recorded as an intermediate consumption of the reinsurance policy holder.

5. In a closed economy the value of reinsurance services provided and received cancel out. Total output equals total intermediate consumption of these services and therefore there is no impact on Gross Domestic Product (GDP). This is not valid for an open economy. Output and intermediate consumption are not identical. This results in cross boarder flows which have to be recorded as service exports and imports and do have an impact on GDP.

6. Following SNA 2008 (see below) all transactions in context with reinsurance transactions should be treated in the same manner as non-life insurance transactions.

7. For non life insurance transactions held (and will hold in the future), that the value of the non life insurance services provided should be calculated as the difference between premiums earned (actual premiums received pro rata temporis) and premium supplements (retained earnings on behalf of the policy holders from the investment of insurance technical reserves) on the one side and benefits paid or making provisions on behalf of the policy holders on the other side. These calculation principles should be valid also for reinsurance and replace the simpler method of the SNA 1993 mentioned above.

8. This paper deals with the reinsurance business of specialised reinsurers as well as with the reinsurance business carried out by direct insurers as an additional activity. The new rules are presented in chapter 1 in detail. Chapter 2 deals with a test calculation for the active reinsurance business of specialised reinsurers in Germany for 2004. The relations between reinsurance service charge of specialised reinsurers in the active reinsurance business and the corresponding reinsurance premiums earned calculated in chapter 2 are used in chapter 3 to calculate the reinsurance business of direct insurers as well as the total cross boarder reinsurance business (including cross boarder retrocession). Chapter 4 presents the impact of the new rules on GDP and GNI. The final chapter 5 summarises the results and gives some hints lacking information and future work. The recording of insurance taxes is not tackled in this paper.

II. New Rules

9. The SNA 2008 emphasizes the new treatment of reinsurance as one of the major changes from the old to the new SNA. SNA 2008 Annex 3: Changes from the 1993 System of National Accounts:

- A3.38 The 2008 SNA recommends that reinsurance should be treated in the same way as direct insurance. The transactions between the direct insurer and the reinsurer are recorded as an entirely separate set of transactions and no consolidation takes place between the transactions of the direct insurer as issuer of policies to its clients on the one hand and the holder of a policy with the reinsurer on the other. The premiums are shown as being first payable to the direct insurer and then a lesser premium is payable to the reinsurer. This non-consolidation is referred to as gross recording on the part of the direct insurer.
- A3.39 The services produced by the reinsurance corporation are treated as the intermediate consumption by the direct insurer.
- A3.40 In the 1993 SNA reinsurance transactions were consolidated with those for direct insurance so that the division between direct insurance and reinsurance was not shown.

10. Specifying the calculation rules SNA 2008 states:

- 6.200 The method of calculating the output of reinsurance is exactly the same as for non-life insurance, whether it is life or non-life policies that are being reinsured.
- A general formula for the output calculation for non life insurance is given in par. 17.27/ 17.28
- Actual Premiums earned
- plus premium supplements
- minus adjusted claims incurred
- All terms are explained in detail (par.17.15 to 17.25).

11. In respect of the calculation of “adjusted claims incurred” the SNA 2008 offers two options:

- an expectation approach based on previous experience of the level of claims.
- an equalization provision approach which uses data from the accounts of the insurer.

In this investigation the equalization provision approach is chosen.

12. In addition the SNA 2008 proposes in the case of reinsurance (par.17.33)

- to reduce total actual premiums earned by commissions payable

13. This “netting proposal” is not followed in the investigation. Instead of that total actual premiums are recorded cross. In the future work commissions payable will be treated as an additional output of the direct insurer and an intermediate consumption of the reinsurer.

- to add “profit sharing” in addition to claims incurred

The treatment of “profit sharing” is still under discussion. Profit sharing is not treated in the way the SNA2008 proposes.

III. Test calculations for specialised domestic reinsurers (active business): Implementation of the 2008 SNA concept for the active reinsurance business of reinsurers

14. Based on data of the German insurance supervisory authority BAFIN (Federal Financial Supervisory Authority/ Bundesanstalt für Finanzdienstleistungsaufsicht) the calculation of the service charge for reinsurance services provided by reinsurers is presented in Overview 1.

Overview 1

Derivation of the reinsurance service charge provided by reinsurers for 2004 based on BAFIN data

<i>Item</i>	<i>Mill. Euro</i>
<i>P.11.a Reinsurance service charge</i>	
Premiums (NA)	51200
Premiums earned	47250
Premium supplements	3990
Proceeds from change in specific technical provisions	130
Change in provisions for unearned premiums	-60
Minus: Fire Brigade tax	110
Minus :Expenditures total	33280
Gross expenses for claims incurred	27440
Paid for t he financial year	11950
Paid fort he previous year	15490
Gross expenses for surrenders	1790
Paid fort he financial year	1700
Paid for the previous year	90
Gross expenses for bonuses and rebates	50
Gross provisions for outstanding claims	810
Change in provisions for claims handling costs	190
Change in mathematical provisions	1650
Expenses from the change in specific technical provisions	110
Change in equalization provision	2070
Minus: Balance of holding gains and losses	830
Total	17920

15. The value of the reinsurance services provided by reinsurers is 17.920 Mill Euro. Measured in terms of premiums earned this are 37, 9%. The corresponding value for Switzerland is 31, 2 % (Küttel, 2010) . Therewith the new results is 5630 Mill. Euro higher as the value calculated in line with the SNA93 (12.290 Mill. Euro). The difference between both figures is explained in Overview 2.

Overview 2

Difference between the reinsurance service charge of reinsurers according to SNA2008 and SNA93

<i>2004</i>	<i>Mill. Euro</i>
Reinsurance service charge SNA2008	17920
./. Reinsurance service charge SNA93	12290
= Difference	5630
Of which	
Additional premium supplements	1910
Passive reinsurance business	2810
Balance of holding gains/losses	830
Other expenses	140
Minus other insurance technical receipts	60

16. A considerable part of the difference is attributed to the additional premium supplements (i.e. property income of the investment of insurance technical reserves on behalf of the policy holders). The following overview explains the composition of the additional premium supplement:

Overview 3

Recalculation of premium supplements in line with SNA 2008 and comparison with the so far included values

<i>2004</i>	<i>Mill. Euro</i>	<i>Remarks</i>
Total property income	7210	
		The share of insurance technical reserves measured in terms of the balance sheet total amounts to 55,3 %
Of which :		
Premium supplements	3990	
./. Technical interest	2080	Already included in the former (SNA93) calculation
= Difference	1910	

17. The passive reinsurance business of the reinsurers is no more included (with a negative sign) in the "output"-calculation according to SNA93. Rather these expenses are now recorded (with different values see below) as intermediate consumption.

18. The balance of holding gains and losses is explicitly excluded from the output calculation. The remaining differences will amend the other output of the reinsurers in the future.

IV. Test calculations for other reinsurance business

19. Estimation of the active and passive cross border reinsurance service charge, the passive reinsurance service charge of reinsurers and the active and passive reinsurance service charge of direct insurers. Hitherto the reinsurance service charge of specialised reinsurers (active reinsurance business of reinsurers) was calculated using data of the

national insurance supervisory. What has to be estimated in addition are the active and passive cross border reinsurance service charge, the passive reinsurance service charge of reinsurers and the active and passive reinsurance service charge of direct insurers.

20. The financial statements of direct insurers and reinsurers include information on premiums written in the active and passive reinsurance business. A distinction of these premiums in respect of domestic and foreign transaction partners is not published. However, the BAFIN made data available in this respect for the total reinsurance business (direct insurers and reinsurers) in the active and passive reinsurance business. These relations were applied for the reinsurance business of the direct insurers as well as for the reinsurance business of the reinsurers. In order to calculate the reinsurance service charge a unique quota of 37,9 % of the reinsurance premiums written is applied (see above). The estimated (i.e. not originally available or calculable) data are presented in brackets in the subsequent overview.

Overview 4

Domestic and cross border Reinsurance (including retrocession): Premiums written and reinsurance service charge (RISC) in 2004, Mill. Euro

Direct insurers

	<i>Domestic</i>	<i>Foreign</i>	<i>Total</i>
Active			
Premiums written	(1639)	(2172)	3811
RISC	(621)	(823)	(1444)
Passive			
Premiums written	(14219)	(6585)	20804
RISC	(5389)	(2496)	(7885)

Reinsurers

	<i>Domestic</i>	<i>Foreign</i>	<i>Total</i>
Active			
Premiums written	(20318)	(26928)	47246
RISC	(7706)	(10214)	17920
Passive			
Premiums written (Retrocession)	(6940)	(3215)	10155
RISC	(2631)	(1218)	(3849)

Total reinsurance

	<i>Domestic</i>	<i>Foreign</i>	<i>Total</i>
Active			
Premiums	21957	29100	51057
written	43,0	57,0	100
In %	(8327)	(11037)	(19364)
RISC			
Passive			
Premiums			
written			
(including	21159	9800	30959
retrocession)	68,3	31,7	100
in%	(8020)	(3714)	(11734)
RISC			

21. The preceding overview shows a discrepancy between domestic premiums written in the active business (21.957 Mill. Euro) and domestic premiums written in the passive business (21.159 Mill. Euro). This discrepancy must be investigated in the future.

22. Based on these data an estimation of export and import of the reinsurance service charge in line with SNA 2008 can be carried out.

23. As shown in chapter 2, the reinsurance service charge of reinsurers in the active business calculated in line with SNA 2008 was 17.920 Mill. Euro (5.630 Mill. Euro higher than calculated in line with SNA93). Applying the general "export quota" of 57, 0 % to this new service charge, an export of reinsurance services by reinsurers with a value of 10.214 Mill. Euro results. The residual of 7.706 Mill. Euro is the value of reinsurance services provided by (domestic) reinsurers to other domestic reinsurers (domestic retrocession). For the active reinsurance business of direct insurers premiums written an amount of 3.811 Mill. Euro is shown. Applying the "export quota" mentioned above 2.172 Mill. Euro of the total has to be allocated to foreign reinsurance policy holders. Assuming here again a relation of 37, 9% between reinsurance service charge and gross premiums written results in an additional export of reinsurance services of 823 Mill. Euro. The total value of exported reinsurance services amounts to 11.037 Mill. Euro.

24. In context with the calculation of a service charge in the passive reinsurance business (domestic as well as cross border) a problem arises. Whereas the available data allow a calculation of the service charge in the active reinsurance business, a calculation of the corresponding service charge in the passive reinsurance business is not possible in the same manner. The reason therefore is obvious. The accounting system of the reinsurance policy holders does not provide the necessary data in order to calculate these aggregates. These are data in respect of change in equalisation provision, the share of total property income etc. i.e. all the data which were used in overview 1. All these data are unknown to the reinsurance policy holder.

25. In the case of the domestic passive reinsurance business, the problem can be solved by using the mirror data for the domestic active reinsurance business (8.327 Mill. Euro). The "production" of a domestic unit in this respect must be identical with the "intermediate consumption" of another domestic unit. In the case of cross border transactions (passive reinsurance) such a possibility does not exist. A reasonable estimate can be made if, as in the case of the active reinsurance business of the direct insurers, the unique "service quota" of 37, 9 % is also applied to the passive cross border reinsurance business of direct insurers and reinsurers. Thus, given gross premiums written in the cross border passive reinsurance

business of 6.585 Mill. Euro for direct insurers and 3.215 Mill. Euro for reinsurers, the corresponding service charges is 2.496 Mill. Euro for direct insurers and 1.218 Mill. Euro for reinsurers. The value of imported reinsurance services in total is 3.714 Mill. Euro.

26. The results of the preceding calculations can be summarized in a “Goods and services account” for all reinsurance transactions:

Overview 5

Goods and service account for Reinsurance transactions in Germany 2004, Mill. Euro

<i>Resources</i>		<i>Uses</i>
Output	Intermediate consumption	
- Reinsurers	- Reinsurers	3849
17920	- Direct insurers	7885
-Direct insurers	Export	11037
1444	Total	22771
Import		
3714		
Total		
23078		

27. The total of resources and uses do not match. This is a consequence of the difference of domestic reinsurance gross premiums written received and paid mentioned above. If a harmonisation in this respect will be achieved, the difference in the totals will disappear, too.

V. Impact on GDP and GNI

28. A higher output does not directly mean a higher GDP. It is in the nature of the matter that only insurers can be consumers of reinsurance services. From this follows that only (domestic) intermediate consumption or export (respectively import) come into question as use-categories (resource- category). As intermediate consumption and output compensate each other (especially in the case of a closed economy), merely cross border reinsurance services have an impact on GDP.

Overview 6

Export and import of reinsurance service (RISC) according to SNA93 and SNA2008 for 2004, Mill. Euro

	<i>SNA93</i>	<i>SNA 2008</i>
Export RISC	2642	11037
Import RISC	3487	3714
Balance	- 846	7323

29. GDP in 2004 (before revision 2011) amounts to 2.210,9 Billion Euro. The new treatment of reinsurance transaction accounts for an additional amount of 8, 2 billion Euro or 0, 4 % of the GDP SNA93. It should be emphasized that these revisions are based on conceptual changes. With the transition to the new Balance of Payments Manual (6edt.) which is identical with SNA 2008 (and ESA 2010) it will come to an alignment of the treatment of cross border reinsurance transactions in BoP – Statistics and National Accounts.

30. The new treatment has also an impact on the cross border balance of primary incomes. This is because now cross border premium supplements, i.e. property income attributed to the policy holders, have to be recorded. Because original data are not available again, estimates have to be made. In this case the estimation can be built on the relation between gross premiums written in the active reinsurance business (47.250 Mill. Euro) and the “supplementing property incomes from the investment of insurance technical reserves on behalf of the policy holders (3.990 Mill. Euro). This supplementing premium accounts for 8, 45% of the gross premiums written. Based on this relation it is assumed that given gross premiums written of 29.100 Mill. Euro in the total cross border active reinsurance business 2450 Mill. Euro (8, 45 % of 29.100 Mill. Euro) has to be recorded as additional cross border property income paid to the foreign policy holders. Inversely an additional amount of 820 Mill. Euro (8, 45 % of 9.800 Mill. Euro has to be taken into account as additional cross border primary incomes received. All in all the balance of primary incomes is reduced by 1.630 Mill. Euro. For this reason GNI changes. The relationships are presented in overview 7.

Overview 7

Impact of the new concept for reinsurance transactions on GDP and GNI in Germany in 2004, Bn Euro

<i>Item</i>	<i>SNA 93</i>	<i>SNA 2008</i>	<i>Difference</i>
GDP	2210,90	2219,07	+ 8,17
Balance of primary incomes	+ 21,18	+19,55	- 1,63
GNI	2232,08	2238,62	+6,54

31. After the conceptual revision GNI amounts to 2.238,6 bill. Euro which is 6, 5 bill. Euro or 0, 3% higher as before (2.232, 1 bill. Euro).

VI. Summary and further work

32. The basic idea of the SNA 93 follows the treatment of reinsurance transactions in the accounting system of insurers and reinsurers. There, too, all flows between reinsurer and reinsurance policy holders are recorded. However, the general concept for the treatment of insurance transactions in national accounting is different. And this general concept was transferred to reinsurance transactions in the SNA2008 revision. The national accounting concept identifies an additional flow, which transfers the proceeds from the investment of the insurer to the insurance policy holder.

33. This flow is a consequence of the idea in national accounting that all insurance technical reserves have to be allocated to the insurance policy holders. From this follows that all property income in this respect should be allocated to the policy holders, too. This is not or not to this extends respectively the case in insurance business accounting.

34. Although in insurance business accounting the so called “technical interest” is allocated to the insurance policy holders. But “technical interest” is far less than the amount recorded in national accounting (see overview 3).

35. This imputed flow represent in national accounting a premium supplement. Thus the “margin” (i.e. output) between the “premiums” on the one side and the “benefits” on the other side is enlarged. Because these premium supplements merely have an impact on “premiums” and not on “benefits, there is a single side enlargement of the “margin”. The transfer of this premium supplement itself to the insurance policy holder is only shown as an income distribution flow, not as an element of output calculation. Sometimes it is argued that there is a double accounting. But this is not true. If the premium supplements would have been actually paid to the insurance policy holders, the amount could have been spent for the purchase of any goods and services. In the normal case, this would result in a higher GDP. In the praxis of the insurance business these proceeds are taken into account as well. This is known as “cash flow underwriting” and means that premiums are calculated lower because the property income of the investment of insurance technical reserves is taken into account from the very beginning.

36. The cash flow underwriting practise is now also pictured for reinsurance in national accounting as for direct insurance before. Two other correction items are the expenses for (passive) reinsurance services which are now recorded as part of intermediate consumption and the correct treatment of capital gains and losses.

37. The study shows that based on data of the insurance supervisory an implementation of the new rules for the treatment of reinsurance transactions is possible in principle. This includes the allocation of the service charge to consumers. Where data are missing reasonable estimates can be carried out (imports, cross border premium supplements). Our own future work will concentrate on the following items:

- Detailed calculations for classes of direct insurers
- Compilation of the sequence of accounts for reinsurers
- Harmonisation of the data in the domestic reinsurance business
- Quarterly calculations
- Calculations in real terms
- Geographical breakdown in line with ESA2010
- Compilation of time series starting 1991

38. The use of quantitative relationships in order to calculate the aggregates as done here may be also applied in those countries which merely have a small reinsurance business and mainly import these services. In such cases gross premiums written in the passive reinsurance business with foreign reinsurers are known from the BoP Statistics. These data can be the starting point for the calculations. Applying the relevant relationships, as known from the calculations of to these data in large reinsurance nations like Switzerland, UK, US, Germany etc. may be assistance for those importing countries in order to meet the challenges of the new SNA in this respect.

VII. References

Küttel, Elena Marton: Comments on the paper “Auswirkungen der Revision des ESVG 1995 auf wichtige Aggregate der Volkswirtschaftlichen Gesamtrechnungen“, Federal Statistical Office Switzerland, 2010.
