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Measuring the Production of Financial Corporations and OECD Task Force on the Measurement of Non-Life Insurance Production in the Context of Catastrophes

Prepared by the Organisation for Economic Co-operation and Development

ROOM DOCUMENT FOR THE BOP COMMITTEE

Interim reports of the OECD task forces on the measurement of insurance and financial services in the national accounts.

Attached to this room document to the BOP Committee are the interim reports of two task forces: (1) on the measurement of insurance production in the context of catastrophes and (2) on the measurement of financial services.

The issues discussed by the two task forces, organized by the OECD, are both part on the list of issues that is included in the ISWGNA work program for the revision of the SNA. Both reports have an impact on BOP compilation.

These two reports have been presented and discussed at the recent OECD national accounts meeting, and received in general support.

As recommended by the ISWGNA guidelines for the SNA review, the moderators of the two task forces are in the process of drafting a paper for submission to the Advisory Expert Group, the recently created body of experts which will confirm or infirm the proposals made by task forces. The first meeting of the AEG is during February 16-20, 2004. The two submissions to the AEG will be made available to experts in the beginning of 2004. It is expected that these submissions will generally follow the recommendations that are included in the present interim reports.

However, some changes will be included, in particular to take into account the discussions in the OECD meeting. It is therefore important to note that the attached documents are not exactly the documents which will be submitted to the AEG.

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National Accounts and Economic Statistics

MEASURING THE PRODUCTION OF FINANCIAL CORPORATIONS

DRAFT FINAL REPORT
OECD TASK FORCE ON FINANCIAL SERVICES (BANKING SERVICES) IN NATIONAL ACCOUNTS

OECD National Accounts Experts Meeting

Château de la Muette, Paris
7-10 October 2003
Room 2

Beginning at 9:30 a.m. on the first day

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MEASURING THE PRODUCTION OF FINANCIAL CORPORATIONS

DRAFT FINAL REPORT

OECD TASK FORCE ON FINANCIAL SERVICES (BANKING SERVICES) IN NATIONAL ACCOUNTS

8 September 2003

Submitted to:

OECD National Accounts Expert Meeting
Paris, 7-10 October 2003

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1. Background

At the 2001 OECD Meeting of National Accounts Experts, the Swiss Delegation raised the issue of measurement of financial services in the national accounts (Stauffer and Meier (2001)) in the light of structural changes in the core activities of financial corporations. National Accounts Experts confirmed the relevance of this topic and the OECD Secretariat proposed to put in place a small Task Force to examine the issue at greater depth. Switzerland expressed its readiness to act as a lead country in the process.

In preparation of the work, several meetings involving Swiss commercial banks, representatives of Statistical Offices, and Central Banks took place during the first half of 2002. These meetings led to a background and discussion paper that was discussed at the first meeting of the OECD Task Force on Financial Services in the National Accounts in June 2002. An interim report of the Task Force was presented to the OECD National Accounts Expert Meeting in October 2002 [STD/NAD(2002)19].

Work continued in 2003 with a meeting of the Task Force in Paris (4-5 February 2003) and a workshop in August. This workshop – jointly organised by OECD, the Swiss Federal Statistical Office and the Swiss National Bank brought together a broader group of experts, including representatives of commercial financial institutions and academia. The focus of the discussions in the workshop was on a background paper. A revised version of this background paper is also made available to the OECD National Accounts Expert Meeting 2003 [STD/NAD(2003)XX]. Furthermore, a summary statement of the main outcome of the workshop in Zurich is made available separately.

The report at hand presents conclusions and recommendations by the Task Force concerning the measurement of the output of financial institutions. These conclusions and recommendations have found the approval of all task force members. It should be noted that several of the proposals made in the background paper have not found consensus among task force members and have therefore not been retained as recommendations of the Task Force. At the same time, this does not mean that they were unanimously rejected and some of the questions may require further discussion.

Delegates are invited to discuss the conclusions and recommendations put forward below.

2. Introduction

At the heart of the work by the Task Force lay the question: "Do current SNA prescriptions fully account for the services provided by financial institutions?". Recent developments on financial markets have significantly changed the way in which financial corporations operate and the answer to the question may well be negative. For example, new financing patterns have reduced the importance of interest incomes, which traditionally constituted a major feature of financial corporations' business. Innovation has produced new financial instruments, often remunerated indirectly, that did not exist when the SNA was debated. New specialised units have been created, delivering for example treasury services to non-financial corporations and current national accounts practices are not well suited to register the production of such units. The background paper describes – at greater detail – the changing nature of financial services that motivated such concerns.

The SNA uses the concept of FISIM – financial intermediation services indirectly measured - to put a value on financial services that are not explicitly priced. However, in practice, measurement is often narrowly defined around the traditional deposit/loan business, thereby leaving out other financial instruments that may be carriers of financial services with implicit prices. A central idea discussed in the

Task Force was whether the notion of indirectly measured output could be extended from the deposit/loan case so as to obtain as complete as possible a measure of the services produced by financial corporations.

3. Identifying financial corporations

3.1. Current treatment in the SNA

The SNA 93 chooses an approach based on the analysis of institutional units and emphasises the aspect of economic activity. Financial corporations are defined as "…all resident corporations or quasi-corporations principally engaged in financial intermediation or in auxiliary financial activities which are closely related to financial intermediation" (Paragraph 4.77).

Financial intermediation itself is defined as "…a productive activity in which an institutional unit incurs liabilities on its own account for the purpose of acquiring financial assets by engaging in financial transactions in the market. The role of financial intermediaries is to channel funds from lenders to borrowers by intermediating between them. They collect funds from lenders and transform, or repackage, them in ways that suit the requirement of borrowers. They obtain funds by incurring liabilities on their own account, not only by taking deposits but also by issuing bills, bonds or other securities. They use these funds to acquire financial assets, principally by making advances or loans to others but also by purchasing bills, bonds, or other securities. A financial intermediary does not simply act as an agent for other institutional units but places itself at risk by incurring liabilities on its own account." (Paragraph 4.78).

Several points are noteworthy:

First, the definition of financial corporations puts particular emphasis on financial intermediation, that is, on an *activity*. The SNA does not specify particular *services* provided by financial corporations. Two elements characterise the description of the activity put forward in the SNA, namely "risk-taking" and "repackaging".

Second, the definition in paragraph 4.78 is quite general in that it does not prescribe any particular composition of assets or liabilities in the identification of financial corporations. For example, a unit that exclusively collects funds for investment by issuing interest-bearing securities would clearly qualify as a financial corporation. Involvement in the loan-deposit business is not a necessary condition for identification as a financial corporation.

Third, there is some ambiguity about the role of 'own funds' as a source for the provision of financial services. Paragraph 4.78 allows for funds to be obtained by issuing all kinds of securities, and by implication this includes shares and therefore part of equity which can reasonably be equated with 'own funds'. However, a different paragraph (6.125) of the SNA explicitly excludes own funds as a source for intermediation activity and the associated services. Furthermore, the SNA indicates that the exclusive use of a unit's own funds as a source of lending and investment does not give rise to financial intermediation.

These and other considerations led the Task Force to revisit the definition of financial corporations. In doing so, account was taken of the changing nature of financial activities.

3.2. The changing nature of financial activities

Risk management

Risk management is at the heart of the activities of financial corporations. Changes on financial markets have, however, modified this activity with possible implications for its measurement. Traditionally financial corporations collected money mainly by accepting deposits and provided funds mainly by granting credit. Balance sheets reflected the activities of financial corporations as providers of services and their composition did not change drastically over time. Financial innovation changed this in a radical way. Today, risk management uses complex financial instruments to bundle and unbundle the different components of risk. While off-balance sheet instruments are involved in providing services, the characteristics of the various instruments are far more complex. Risks are traded so that more risk-averse agents bear less risk than those who are risk-friendly. This kind of risk trading is therefore achieved through exchanges of risk among individuals at a given point in time. Risk-sharing and risk-shifting are the main features of the new risk management, and they impact on the forms of remuneration.

Liquidity transformation

"Liquidity transformation" shares common features with risk management and in practice it is difficult to distinguish between the two. Nevertheless liquidity transformation is an important activity of financial corporations and its delivery has changed over time so that a separate description appears worthwhile.

Investors, on the one hand, have always been concerned with liquidity because they are uncertain about the time at which they may want to increase or reduce their holdings of a financial asset. Borrowers, on the other hand, are concerned with liquidity because they are uncertain about their ability to raise added funding in the future. A "new" liquidity transformation has risen in importance with financial liberalisation and capital markets integration. Arbitrage activities, counterpart activities and underwriting facilities have a common feature: they provide liquidity. By creating new assets and liabilities with different liquidity profiles financial corporations provide services on both sides of their balance sheets. Here again the remuneration of this "new" liquidity is different: while commissions remunerate some of these actions, others –like arbitrage- are remunerated through holding gains or losses. Further, this new liquidity transformation is initiated by the financial corporation itself and is not as much demand-driven as before. Using their substantial portfolio assets financial corporations take advantage of opportunities arising on sub-markets, thereby contributing to a smooth functioning of the overall structure.

3.3. A proposed definition

In light of the above points, the Task Force proposes a broader definition of non-insurance financial corporations:

Financial corporations are all resident corporations or quasi-corporations principally engaged in providing financial services to other institutional units. The production of non-insurance financial services is the result of risk management, liquidity transformation and/or auxiliary financial activities.

Risk management and liquidity transformation are productive activities in which an institutional unit incurs financial liabilities for the purpose of acquiring mainly financial assets. Corporations engaged in these activities obtain funds, not only by taking deposits but also by issuing bills, bonds or other securities. They use these as well as own funds to acquire mainly financial assets by making advances or loans to others but also by purchasing bills, bonds, or other securities.

Auxiliary financial activities facilitate risk management and liquidity transformation activities. Financial auxiliaries – the units that are primarily engaged in auxiliary financial activities – typically act on behalf of other units and do not put themselves at risk by incurring financial liabilities or by acquiring financial assets.

This definition:

- Defines financial corporation foremost via the nature of their output (financial services) instead of their activity (intermediation). Thereby, it extends the logic of the production indirectly measured to incorporate elements of the balance sheet of financial corporations other than deposits and loans.

- Defines financial corporation foremost via the nature of their output (financial services) instead of their activity (intermediation). Thereby, it extends the logic of the production indirectly measured to other elements of the balance sheet of financial corporations.

- Emphasises "Risk Management" and "Liquidity transformation" activities rather than "Intermediation" activities. This semantic change seems to better capture the nature of the business of today's financial corporations.

- Treats all sources of funds symmetrically, in recognition of the fact that financial services are produced by taking and investing funds, independently of their origin. In particular, there is no reason to exclude the financial services produced by the investment of financial corporations' own funds. The Task Force recommends thus that the present SNA rule that foresees the exclusion of own funds in the computation of FISIM should be abandoned.

- Allows for investment in non-financial assets. Parts of the non-financial assets that financial corporations own are simply one alternative form of investment. It may occupy a small share of (non-insurance) financial corporations' assets, but should not be excluded on an a-priori basis. Further discussion will be needed concerning the treatment of such assets in the measurement of financial services.

- Implies that a unit that produces financial services *exclusively* on "own account" is not considered a financial corporation, as there is no delivery of services to third parties. For example, households managing their own portfolio cannot be financial corporations.

- Implies that a unit that, as a primary activity, produces financial services for *several* other units is considered a financial corporation.

- Leaves open a borderline case when a unit produces financial services for only one other unit. There was no unanimous view in the Task Force on whether such a unit should be considered a financial corporation. On the one hand, it can be argued that services delivered to a single client resemble activity on own account in particular when the single client is also the only shareholder as in the case of specialised units that supply treasury services to a single mother company. On the other hand, it is hard to see that the number of units to which financial services are delivered should be the decisive criterion for the existence of a financial corporation.

- Implies that money lenders that provide financial services exclusively with own funds would be considered financial entities.

➔ ***Conclusions and recommendations***

1. The Task Force supports the above definition for non-insurance financial services but also recommends an extension to insurance services so that a comprehensive definition of financial services and institutions is considered for the forthcoming revision of the SNA.

2. While implicit in the definition above, the treatment of own funds constituted a separate point of discussion by the Task Force. There was wide agreement that own funds should not be excluded as a source of funds for the provision of financial services. The Task Force recommends that this point be considered in the forthcoming revision of the SNA.

4. Identifying financial services

4.1. Terminology

The above definition by the Task Force puts forward the provision of financial services as the determining characteristic for a financial institution. The Task Force also proposed a list of such services (see background report). While this list does not claim to be exhaustive, it was widely supported by practitioners. Further, a distinction must be made between financial *services* and financial *instruments*.

Financial services constitute the typical output of financial corporations. It is the services that users value and that are provided – implicitly or explicitly – on the market. What makes them somewhat different from other services is that they are often provided implicitly.

Financial instruments are the catalysts by which financial corporations sell bundles of financial services. They constitute the observable form of the transaction in which financial corporations and their clients engage. For example, liquidity provision is a financial service, as is record keeping. Both services are produced by banks but sold as a bundle to customers who purchase the financial product 'current account'. Of course, there may be financial instruments that consist of only one type of financial service in which case 'financial service' and 'financial product' coincide. The sale of financial market information by a credit rating agency is a case in point. One notes that some financial instruments function as 'inputs' into the production process of financial services. These are not 'inputs' in the SNA sense of being intermediate consumption to the production process. But these are inputs in the sense that they are needed to generate financial services: for example, deposits may be necessary to provide the funds for loans – the instrument by which liquidity services are delivered to borrowers. Nor are instruments 'output' in the sense that they constitute the production of FIs. Thus, financial instruments cannot be easily classified into categories of inputs or outputs. However, there is no specific need to do so, as long as it is clear that financial services constitute the output of financial corporations.

Given that financial instruments are only a tangible form by which some financial services are provided and considering that financial services can only be provided by institutions classified as financial corporations, it follows that loans or deposits are not *as such* production. There may be no production at all (e.g., if a loan agreement is made between two households). A service and production in a national accounts sense only exists because there is a financial corporation that collects funds and transforms them into financial instruments that suit preferences of customers.

4.2. Securities as carriers of financial services

An important question is whether all securities (shares owned and issued, bonds owned and issued, derivatives) are potential carriers of financial services and whether returns from all these securities should be included in an estimate of the total value of financial services. Particular attention has to be paid to shares. Shares issued by non-financial corporations can be seen as one particular way of purchasing liquidity provision and risk assumption services by non-financial units who use equity as one particular way of financing (investment) projects. Further, when equity is held by FIs to achieve trading gains, there may be an implicit portfolio management service rendered, for example to holders of securities issued by the financial corporation. Such a service may also be relevant for the financial corporation's own shareholders who bought equity of the financial corporation in expectation of returns following more successful portfolio management services than they could have produced themselves by operating directly on the financial market.

The Task Force spent considerable time on discussing whether all securities are potential carriers of financial services and whether returns from all types of securities should be included in an estimate of the total value of financial services. Particular attention was paid to shares. Equity can be seen as one particular way of providing liquidity and risk assumption services to non-financial units. It is more difficult to make this case for equity held by financial institutions with a view to achieving short-term trading gains. However, even in this case, there may be a portfolio management service rendered, for example to holders of securities issued by the financial corporation. In the event, this may also be a service for the financial corporation's own shareholders who bought equity of the financial corporation in expectation of returns following successful portfolio management services.

Several Task Force members were of the opinion that all securities, including shares, should be considered potential carriers of financial services. This view has not been shared by others who were of the opinion that i) an FI's operations with equities cannot be distinguished from those of non-financial units and that this situation leads to a case where every investment in equity would give rise to production if some financial services are associated with shares; or ii) there are simply no financial services associated with shares, and consequently they should not figure among those service-generating assets and liabilities that enter the measure of financial services. An argument in the consideration against the inclusion of shares is the fact that an important part of the returns to shares consists of holding gains or losses that receive special treatment in the system of national accounts. This point is further elaborated below.

➔ ***Conclusions and recommendations by the Task Force***

3. The Task Force concludes that there are implicitly-priced financial services attached to assets and liabilities other than deposits and loans. In particular, there is agreement among members of the Task Force that interest-bearing securities are such carriers of financial services. There is no agreement whether other securities, in particular shares, should also be considered carriers of financial services. The consideration of other securities is at odds with present rules in the SNA although it is hard to disregard them on economic grounds and from a perspective of the financial services industry.

4. The Task Force stresses that the recognition of bonds in the computation of the value of implicitly-priced financial services does not mean that the difference between interests received from and interests paid for bonds is in itself a meaningful measure of the value of financial services provided by bonds. Thus, the Task Force is not trying to associate different element of production with each different type of financial instrument and matching of the same type of asset and liabilities is inappropriate. Rather, property income inflows and outflows from all relevant assets and liabilities have to be considered jointly in the computation of output.

5. The Task Force recognises the current practice (e.g., in EU countries) of computing FISIM on deposits and loans only as a workable and useful way of estimating the value of financial services, so as to be able to allocate them to institutional units. But the Task Force also finds that these calculations are not necessarily an exhaustive measure of the value of indirectly-measured financial services.

5. Measuring the production of financial services

The background paper develops an extended measure of production: interest rate differentials – the essence of the deposit/loan case – are extended to differentials of rates of return of the various items of the balance sheets of financial corporations. This should reflect the substitutability of sources of funds and of uses of funds by financial corporations. Introducing rates of return opens up the question of holding gains and losses and the indication of balance sheets raises the issue of off-balance transactions of financial corporations. Furthermore, when a user cost or reference rate method are employed, the question arises as to the choice of the reference rate (single/multiple rates). These points are further developed below.

5.1. Holding gains/losses

The SNA 93 draws a distinction between property income and holding gains and losses. The latter are changes in value of an asset due to changes in its price that constitute neither transactions nor income. Holding gains or losses are recorded by the SNA independently of whether they are realised or not through subsequent financial transactions. In the eyes of the SNA, holding gains are not the result of production and so can never be compensation for a service. It would thus appear that holding gains or losses cannot enter the valuation of financial services.

Such a categorical exclusion sits, however, uneasily with economic theory and with the perception of practitioners in the financial services industry. If one admits that all assets and liabilities on the balance sheet contribute to and are potential carriers of implicitly-priced financial services and if there is a presumption that the value of these services during a period is somehow related to the financial return on assets and liabilities during the same period, then it seems difficult to exclude all price changes from measures of financial return, and to limit the latter to interest and dividend payments, i.e. to property income as conventionally defined in the SNA. The difficulty of excluding price changes from measures of financial return lies in the simple fact that economic actors look at *all* components of remuneration of financial assets and (expected) price changes are an important component. For certain instruments, in particular shares, they are *the* most important element and their exclusion would render measures of financial return void of content. From an economic perspective it can also be argued that (expected) holding gains are part of the price at which some financial services are exchanged. For example, the value of risk assumption services could be measured by a risk premium, itself the difference between the expected return (including price changes) on a risky asset over the expected return on a risk-free asset.

The task force identified cases where holding gains already enter the value of production under current practice in national accounts. For example management of portfolios on behalf of clients may involve service fees that are linked to holding gains of securities. Then, the portfolio managers' commissions reflect part of the overall holding gains. But commissions are unambiguously income and will therefore enter the production measure in national accounts.

➔ ***Conclusions and recommendations by the Task Force***

6. The Task Force agreed that holding gains or losses should not as such and in their entirety enter measures of indirectly-priced financial services. If holding gains were at all considered, ex-ante (expected), not ex-post (actual) holding gains/losses would be the appropriate variable. In this case,

expected holding gains for all instruments including bonds should enter the computation of indirectly-priced financial services.

7. Empirical test calculations carried out by the Task Force referred to measures of production for a single company (UBS), for Germany and for Switzerland. In all cases, the consideration of ex-post holding gains/losses in the indirect measures of production led to significant volatility of the measured output. This was not the case when smoothed holding gains were introduced in the calculation. The smoothed path was seen as a proxy for expected holding gains or losses. In the case studies, the extended measure of production turned out to be larger than the more narrowly defined traditional FISIM.

8. However, there was no agreement in the Task Force about such an inclusion of expected holding gains in the measurement of indirectly-priced financial services. Consequently, no recommendation is put forward on this matter.

5.2. Financial derivatives

Financial derivatives are assets based on or derived from a different underlying instrument – usually another financial asset but also a commodity or an index. Derivatives have gained in scope and importance as financial instruments. They also appear as balance sheet items in the national accounts. If the principle applies that all financial assets and liabilities are potential carriers of financial services, this would mean that derivatives should not be *a priori* excluded. The Task Force agreed that some services are attached to derivatives. However, identification of the financial service is not straightforward and may depend on the type of derivative. For example, option prices include an explicit service element that provides a way of measuring financial services. Also, marketable derivatives have fees attached which permits direct measurement of at least parts of the financial services that come with the handling of derivatives. In other cases such as swaps, the identification of the service element turns out to be even more difficult.

Empirically, a large proportion of trading in derivatives is internal to the financial sector. This would reduce their importance for the measurement of financial services as delivered from the financial sector to the rest of the economy – at least if all units are co-residents. Lastly, mention is made of the virtual impossibility to trace back derivatives to other items on the balance sheet empirically.

➔ ***Conclusions and recommendations by the Task Force***

9. The Task Force agreed that some services are attached to derivatives. However, identification of the financial service is not straightforward and may depend on the type of derivative. For practical reasons, and because derivatives are largely instruments used within the financial sector, this avenue was not further pursued by the Task Force.

5.3. The choice of the reference rate

There are now a number of different practices in the choice of reference rates. For example, the definition of the reference rate is different in the forthcoming EU Regulation and in the revised measure of banking output in the United States.

➔ ***Conclusions and recommendations by the Task Force***

10. The Task force supports the reference rate approach as a working tool for measuring production. A clear majority of Task force members favour the use of a single reference rate, preferably

reflecting the maturity structure of risk-free assets. No specific recommendation is put forward at this point how exactly this single reference rate should be computed.

6. Overall conclusions by the Task Force

11. The Task Force concentrated – in line with its mandate – on non-insurance financial services, leaving the discussion on insurance services to a parallel Task Force. In the course of the discussions, a number of common issues arose, such as the treatment of expected variables and the treatment of holding gains and losses. Also, the definition of financial institutions as proposed by the Task Force presently excludes insurance firms and there might be a case for generalising this definition to encompass all financial institutions including insurances.

12. Another area that was not covered explicitly in the present work is the price-volume split of measures of FIs' production. Again, this was outside the mandate given to the group but would seem the natural next step. Also, the choice of the method to compute current-price production has implications for its deflation. An attractive feature of the user cost approach shown in this report is that it provides an immediate handle for the work on deflation.

13. The Task Force benefited considerably from interaction with groups other than national accountants, in particular bank experts, academia and representatives of commercial banks and financial institutions. Such links are useful and should be considered more actively in future task forces that deal with national accounts issues.

14. The Task Force sees the present report and the background paper as a source and reference for future discussions on the output of financial institutions, and as an input in the forthcoming revision process of the SNA93 where this question has already been identified as a priority area. Further precisions may be necessary on some of the recommendations before further transmission to the ISWGNA.

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OECD TASK FORCE ON THE MEASUREMENT OF NON-LIFE INSURANCE PRODUCTION IN THE CONTEXT OF CATASTROPHES

Draft final report, September 3, 2003

Paper prepared by François Lequiller, moderator, Statistics Directorate - OECD

OECD National Accounts Experts Meeting

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Beginning at 9:30 a.m. on the first day

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OECD TASK FORCE ON THE MEASUREMENT OF NON-LIFE INSURANCE PRODUCTION IN THE CONTEXT OF CATASTROPHES

Draft final report, September 3, 2003

François Lequiller, moderator[1]

1. Introduction

In the USA, the September 11, 2001 terrorists' attacks led to a record level of life and non-life insurance claims to be paid. Applying the current SNA recommendations, the US NIPA accounts recorded the following flows regarding the effect of these exceptional claims. First, as the SNA recommends (in accordance with accrual principles) using "claims due" rather than claims paid, the massive claims to be paid were all assigned to the third quarter of 2001. Second, also in application of the SNA recommendation, resources (production and imports) in insurance services were estimated as equal to premiums earned less claims due. Thus the current price value of the amount of insurance services delivered to the US economy significantly decreased. Indeed, premiums were "normal" in that quarter, while claims due hiked. Foreign insurers were assumed to insure directly or indirectly (through reinsurance) a large part of the risks. As a result, the BEA introduced a negative adjustment to the data on importation of services of insurance of 11 billion dollars. Part of this decrease was assigned to household consumption, with was downward adjusted by 5 billion. Because the effect on imports was larger than the effect on household consumption, the overall effect on GDP was an increase of 5.5 billion dollars.

The important aspect to retain of this illustration is the negative impact of the catastrophe on the supply of insurance services. This negative impact is very disturbing because it does not correspond to any economist's impression of the activity of the insurance companies, whether US or foreign, during such a period. On the contrary, one would have rather the impression that insurance services are increasing in this situation, if only measured by the probable large increase in the work load of insurance companies in the period and after the catastrophe occurs. On this basis, the BEA safely excluded any impact of these recordings on volume measures, thus affecting all these adjustments to price measures: the index of price of imported insurance services massively declined, the price of total household consumption was adjusted 0.3% downwards, the price of GDP 0.2% upwards.

While the preservation of volume measures was welcome, the impact on prices of the conventions recommended by the SNA remains highly disturbing. Why should the occurrence of a catastrophe lead to a decrease of the "price" of insurance services delivered to policy holders? This is something which is difficult to explain to any sound user of the national accounts. Since that time, and in parallel with the

[1] In replacement of Fenella Maitland-Smith who has left the OECD.

discussions of the present task force, the BEA has decided to introduce changes that will be already in effect in December 2003 and are globally in line with the recommendations of this report[2].

Many other countries experienced similar difficulties with the implementation of the current recommendations of the SNA regarding the estimation of the production of insurance. If the full recommendations of the SNA had been implemented, an exceptional storm in France in December 1999 would have decreased total household private consumption by 1.3%, increased the saving rate by 1.1% and decreased GDP by 0.8%, all in current prices and for the fourth quarter. Fortunately, the French national accountants decided to neutralize this impact by treating the bulk of the exceptional claims as a capital transfer, with no impact on GDP[3]. Denmark also recently experienced a similar storm, and decided to adopt a similar treatment to avoid these unwelcome impacts on major national accounts aggregates.

For many years now, the Australian national accountants have implemented a method which reduces the volatility of the national accounts measures of insurance production and consumption. This method was presented to the international community of national accountants as soon as 1999, in the OECD National Accounts Expert meeting[4]. While the present report does not propose exactly, as its preferred method, the method proposed by Australia at that time, it is fair to acknowledge here that the principles of the Australian proposals anticipated the principles that form the core recommendations of the present report.

Following all these concrete difficulties, the OECD started a task force in 2001 to review changes needed in the SNA to avoid such unwelcome effects of the current interpretation of the SNA. The present report is the final report of this task force. All other papers discussed in the task force are available on its EDG[5]. The recommendations of this report are put forward to the 2003 OECD National Accounts Expert meeting, with the objective of forwarding them to the ISWGNA for consideration of change in the SNA.

The mandate of the task force did not cover the split between volume and price measures for the non-life insurance branch. An exchange of best practice on this issue, perhaps as important as the measure of the current price value of insurance output, would be a logical follow-up for the recommendations of the task force. The experts attending the OECD meeting might consider the necessity to open a task force on this issue.

2. General principles

The SNA defines the activity of insurance as “providing individual institutional units exposed to certain risks with financial protection against the consequences of the occurrence of specified events (6.135)”. However, it recognizes that no explicit charge is made to consumers of these services thus obliging national accountants to estimate indirectly this service (6.136). The SNA recommends that this estimate is obtained using the following formula, based on accounting results that are derived from insurance companies’ accounts:

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2 Preview of the 2003 Comprehensive Revision of the National Income and Product Accounts, B. Moulton and E. Seskin, Survey of Current Business, June 2003, http://www.bea.doc.gov/bea/ARTICLES/2003/06June/0603NIPArevs.pdf

3 Internal INSEE memo, by Jacques Magniez, n°01/G450, 26/01/2000

4 The measurement of non-life insurance output in the Australian National Accounts, STD/NA(99)20, http://www.oecd.org/pdf/M00020000/M00020775.pdf

5 http://webdomino1.oecd.org/std/inservice.nsf. A password is necessary to access the EDG. It can be obtained from marie.viriat@oecd.org

Formula (1): [Actual premiums earned [i.e. premiums receivable less changes in the reserves due to pre-payment of premiums] plus Premium supplements (=income from investments)] minus Claims due [i.e. claims payable during the period plus changes in reserves against outstanding claims][6].

The SNA explains that this difference represents *[an indirect estimate of]* the amount available to an insurance enterprise to cover its costs and provide for an operating surplus (6.139).

The task force did not challenge the concept proposed by the SNA 93, based on a measurement of the production by this margin, which covers the costs plus the profit resulting from the organization by insurance companies of the risk coverage. It rejected old alternative ideas that would base the measure of the production of insurance services on premiums. However, the task force insisted that the formula proposed by the SNA should be understood as a proposal for an indirect estimate of the concept that we are looking for. This is why the author of the present report has added "*[an indirect estimate of]"* in the preceding paragraph extracted from the SNA.

The task force discussed at length the concepts of "normal" risks and "abnormal" (esp. catastrophic losses) risks. Both might occur during any accounting period. Conceptually these two classes of risks could be distinguished but in practise it is fairly impossible to classify all individual risks unambiguously into one of both classes of risks[7]. A simple (quantitative) borderline between "normal" and "abnormal" risks does not exist. A large grey area is existent. Additionally, it will depend on country-specific features. Both the normal and the abnormal risks have their random variations over time (years and quarters), either in size and/or in number of claims. The total amount of claims incurred will fluctuate because of variations in the number and/or size of the normal claims and/or the occurrence of (a) large incidental claim(s) and its/their size. The existing SNA/ESA-algorithm carries these fluctuations forward to the insurer's output. With both the variations of the normal claims and with the catastrophic losses this effect is counterintuitive and non-interpretable from an economic perspective.

In the view of the task force, the concept measured by the indirect estimate of output should not be affected by volatility or accidents that are not consistent with the concept of the production and consumption of insurance services. The economic rationale that drives the pricing of insurance companies is not limited to an accounting period of one year. "Normal" risks may be quite regular and the claims observed for a period of one year may be quite smooth. But they can also be irregular and other risks may occur only on a five yearly or decennial basis. When they occur on a specific year or quarter, the claims will be large, but, in principle, they had been taken into account by the companies to set their regular annual premiums. The unusual difference between the premium and the unusual claim in this specific year (or quarter) is not therefore to be attributed to a movement of the service charge in this period. The difference is in fact to be split over several periods.

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6 The formula for the calculation of insurance services in paragraph 6.140 of the SNA is wrong. The correct formula is given in Annex IV, paragraph 18.

7 Insurers take account of the sources of these variations in the amount of claims incurred. Their individual claim's history is separated into top-claims and non top-claims. The concepts of "non-top-claims" and "top-claims" show a large conceptual similarity with the above-mentioned breakdown into "normal" and "abnormal" claims. The most significant difference is the use of the (non-)top-claims concept on a company level whereas the (ab) normal claims concept is used on a macro level. With the non-top-claims past experience will suffice in calculating estimates of their total amount of claims on a company-level. With top-claims modelling of expectations is much more complex with individual direct insurers. Reinsurance often is a way out. (As the larger claims occur much more often with the reinsurers, the borderline between these two classes of claims is much higher with the reinsurers.)

In conclusion, the national accounts variables of production and consumption of insurance services should reflect the very regular volume and price components of the service of providing risk coverage. The non-life insurance service as part of the SNA goods and services accounts should not be affected directly by the occurrence of the risks. As such, the volatility of claims should not affect the measure of the production and consumption of insurance services.

Recommendation 1: The concept of insurance service in the SNA should be preserved. However, it should be made clearer that the formula proposed in the SNA is only the basis for an indirect estimate of the value of the insurance service. The measure of the production of insurance services should not be affected by the volatility of claims. Conceptually, neither the volume nor the price of insurance services is affected by the volatility of claims.

The task force therefore proposed to move away from the letter of the SNA regarding the use of formula (1) to indirectly measure insurance services[8].

This departure will have consequences on the rest of the accounts. At this stage, it is therefore useful to describe in very simple terms the current accounting framework of non-life insurance in the SNA. It will be helpful later when discussing the consequences of the proposals of the task force. This is done in the box below titled "a simplified model of non life insurance". The important conclusion of this box is that the current proposed SNA estimate of production is linked to a series of recordings in the allocation of income accounts which ensures that balancing items are relevant. A different estimate of production, such as the one proposed by the task force, will modify this equality, and therefore entails the introduction of additional adjustment items. This is discussed in paragraph 6.

A simplified model of non life insurance[9]

An insurance company receives premiums each period. Part thereof relates to risks in future periods. At the same time the insurer incurs claims. Part thereof only is paid in future periods. With both premiums and claims these future components constitutes assets of the insured and liabilities of the insurer. The insurer buys financial and/or non-financial assets with these funds and receives property income from these investments. The (technical) account of insurers for a given period therefore is the following[10].

Charges			*Receipts*
Claims	*80*	*Premiums*	*100*
Balancing item	*30*	*Property income*	*10*

The recording of these simple flows is different in the national accounts. First, national accountants want to show a "production" item. Using the formula in the main text, and in the context of this simplified example, the production (or "output") is equal to Premiums + Property income from investment minus Claims: 100 +10 – 80 = 30.

8 It is interesting to note that this departure also implicitly affect the conceptual view on the redistributive role of insurance between policy holders. While this is not mentioned in the present SNA, some may interpret the application of formula (1) on an individual basis as if the consumption of insurance by an individual who has suffered an accident is very low or negative while for another individual who has not suffered an accident it is positive. In the new definition, the consumption of both individuals are not affected by the occurrence of a claim, but only by their expected claims.

9 This model accounting framework is extracted from the already quoted memo by Jacques Magniez.

10 The profit & loss account of European insurers is separated into a technical account, which deals with the insurance technical income and expenditure, and a non-technical account, which deals with the remaining entries of the profit & loss account, according to the European accounting directive.

Then, as the property income of the insurance company is made using premiums that belong to policy holders (for simplification, we will suppose in this report that they are households), this property income is considered to belong to policy holders and thus the revenue from investment is deemed to be first distributed by insurance companies to households, who then repay it to the insurance company, in the form of "premiums supplements".

As a result, the national accounts will record the following entries for the same company:

Account 1

Uses		*Resources*	
		P1 Output (equal to actual premiums + premium supplements – claims)	*30*
D44 property income distributed to the policy holders	*10*	*D4* 11 *Property income earned by the insurance company*	*10*
D72 Non life insurance claims	*80*	*D71 Net non life insurance premiums*	*80*
B8 Saving	*30*		

This simple theoretical model shows that except for the production element, which represents the service charge for the organization of the insurance business, the rest of the flows are completely balanced: (1) Property income from investment (D4[12]) received by the company is redistributed to policy holders (D44), (2) the claims disbursed (D72) are equal to the resource constituted by the "Net premiums" (D71), which constitute the part of actual premiums that the company redistributes to policy holders.

The balancing item of the national accounts (we have chosen "B8 Saving") is equal to the one of the company in terms of ordinary charges and receipts. The SNA proposed measure of production is tailored to obtain this equality. It is important to note that if, as proposed by the task force, another definition of production is adopted this will modify this identity. There will therefore be the need to introduce somewhere adjustment items.

3. Concepts of expected claims and expected investment income

One of the first conclusions of the task force was to recognize that the notion of **expectation** plays an essential part in the business of insurance. When accepting risk and setting premiums, insurers consider both their **expectation** of loss (claims) and of income (premium supplements). This is not new for the SNA. Indeed, in paragraph 6.139, it is explained that "insurance enterprises take all the items (b) to (d) [13] into consideration when fixing the levels of the premiums they charge in order to ensure that the excess of total resources over total charges provides sufficient remuneration for their own services".

What is new is the proposal of the task force to apply this line of reasoning, *on an ex-ante expectation basis*, which reflects the actual way insurers decide on the level of actual premiums, rather than, as is currently interpreted today, on an ex-post-observed basis. This applies also to property income. Using

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11 In fact some of this property income will be in the form of rentals of buildings which would be classified as B2, operating surplus, and not as D4. The exact recording would therefore be *D4 or B2*. However, we will omit this precision in the rest of this report.

12 In fact some of this property income will be in the form of rentals of buildings which would be classified as B2, operating surplus, and not as D4. The exact recording would therefore be *D4 or B2*. However, we will omit this precision in the rest of this report.

13 In the context of these SNA paragraphs these items are: (b) income from investment, (c) claims, (d) changes in actuarial reserves.

expectations will give a much more reasonable estimate of the "normal" insurance service charge that the companies expect to get from "normal" business, which is consistent with the concept of consumption of insurance services.

Recommendation 2: expected claims and expected premium supplements should replace actual claims and actual investment income in the calculation of the output and consumption of non-life insurance services. This applies for all claims –regular, catastrophic and unexpected – and for all years. This applies for all investment income. Formula (1) should be adapted to this recommendation and become:

Formula (2): [Actual premiums earned [i.e. premiums receivable less changes in the reserves due to pre-payment of premiums] + Expected premiums supplements - Expected claims due.

National accounts are fully integrated. Therefore, this new measure of production could lead to new measures of value added, operating surplus, savings, and net lending borrowing of the insurance sector. One important aspect of the discussions of the task force was therefore at what stage of the accounts the new and the old measure should be reconciled, or, in other terms, where the actual claims and actual investment income are reintroduced in the accounts. This is discussed in paragraph 6. It is however useful for readers to note that the new definition will impact, in any case, value-added and operating surplus. Thus, after implementation of the task force recommendations, the national accounts "operating surplus" for insurance companies will represent an estimate of a "normal" operating surplus[14].

The difference of presentation between the industries' results and the national accounts results is already quite large, with the split of premiums between production and net premiums. The new recommendation on expected claims will increase this gap. It is therefore proposed that a memorandum bridge account on insurance be compiled and published by countries, alongside the central tables of the national accounts. This bridge account will explain the different steps of estimation of expected claims.

4. Estimation of expected claims

The process of estimating expected claims was seen by the task force as replicating exactly what insurance companies do when establishing their level of premiums: estimate expected claims by line of business, based on past information and probability models, taking into account new or amended legislations, add their margin for the service charge (including their expected profit, taking into account competition constraints), estimate future investment income and thus establish the level of premiums.

The task force was informed that companies, while effectively doing that, would not agree, in general, to hand out this type of confidential data to statisticians, as it represents the core of their professional skills as insurers. While recommended in theory[15], there is therefore very little hope that help can come from the insurance companies themselves. Even if obtained, the amount of company specific data would probably be difficult for statistical offices to digest.

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[14] This is based on a simplified model which leaves out the intermediate consumption and labour costs of insurance companies. The Task Force proposes that these should continue to be recorded as actual amounts. The precise definition of value added would therefore be output, as modified, less actual intermediate consumption, and that of operating surplus would be value added less actual labour surplus and production taxes/subsidies. In a bad year, both value added and operating surplus would be reduced by exceptionally high actual operating costs, particularly claims handling costs.

[15] However, insurers estimate future claims but may amend these estimates explicitly or implicitly for commercial factors. In this context, their estimates would be biased for use in the context of the measurement of output.

The task force proposal is therefore to implement a simple macro-estimate of expected claims. As in the calculation made by companies, it would be based on past data. But by necessity, the proposed model would be simple.

7.1. The statistical method

The task force mainly explored a method for estimating macro-expected claims using a statistical method whereby past data on claims due are smoothed and used to forecast the claims expected in the current period.

The task force discussed the quality of several smoothing methods. The experience in the US is that the process is improved using smoothed loss ratios (losses / premiums written) rather than smoothing claims themselves. The resulting loss ratio resulting from past information is then applied to actual premiums of the period, resulting in an estimate of expected claims. The difference between premiums (plus expected premium supplements) and the measure of expected claim, is the measure of non-life insurance output.

Calculation of expected claim: the US method[16]

*For each type of insurance, "normal losses" (this is the name given in the US national accounts for "expected claims") is calculated as a geometric-weighted moving average of past loss ratios (that is the ratio of actual losses to premiums earned) multiplied by the premiums earned during the current period. That is, the normal loss in period t, NLt, is NLt = NLRt * Pt, where NLRt = άLRt + ά(1 - ά)LRt-1 + ά(1 - ά)^{2}LRt-2 + …., Pt is the premium earned, LRt is the loss ratio --that is Lt/Pt—in period t, and ά is a parameter. Premiums earned and loss ratios are based on trade source data. The formula is based on the adaptive-expectation model developed by Cagan[17]. The "free" parameter ά is the weight applied to the prior period's value in the weighted average; this parameter will be assigned a value of 0.3 based on evidence that it provides the best prediction of future values.*

However there are drawbacks of this method of smoothing loss ratios[18] and, in some cases, direct smoothing of claims can be recommended. In particular, premiums can be affected by movements that are independent from the measure of expected claims such as a change in a regulation, or competition processes between companies[19]. The loss ratio can therefore be affected by an unwelcome movement in the denominator. On contrary, any system of smoothing should take into account inflation trends and the smoothing of loss ratios is better in handling inflation than the direct smoothing of claims. Direct smoothing of claims needs the use of a "reflator" to apply to past claims data. In any case, there is no miracle: a macro statistical method will only be a crude approximation of the expected claims, which, however, will be better than the current interpretation of formula (1) which is to use simply observed claims of the year.

It is essential to note that no "normal" smoothing method will be able to deal with exceptional events such as those that were at the origin of the task force. Faced with such a situation, any "normal" smoothing method will induce a significant increase in claims due when the exceptional event enters in the

16 Extracts from *Preview of the Comprehensive NIPA Revision, by B. Moulton and E. Seskin, June 2003, Survey of Current Business*

17 Phillip D. Cagan, « The Monetary Dynamics of Hyper Inflation" in Studies in the Quantity Theory of Money, ed. Milton J. Friedman (Chicago: University of Chicago Press, 1956).

18 See in particular reference 8 in the bibliography.

19 Not to mention changes in taxes: in some countries specific taxes exist on premiums, in addition to VAT. It is obvious that the measurement of expected claims should use premiums excluding taxes.

formula of smoothing and a significant decrease when quitting the smoothing formula, thus affecting the measurement of insurance production in the national accounts.

Therefore, a pragmatic decision must be made to exclude these exceptional events from the first step of the calculations. The proposed method is the following: (1) each statistical office should determine what might be a set of catastrophic claims, for example on the basis of its size (a practical rule could be an event leading to claims reaching more than 0.1% of GDP), (2) determine on a pragmatic basis the amount of claims linked to the catastrophe and exclude these claims from the normal smoothing formula, (3) split these catastrophic claims over a very long period (twenty years), (4) reintroduce these additional claims in the compilation of expected claims for the long period (twenty years) **ahead** (not centered on) of the current year, taking into account expected inflation. In other words, a catastrophe that happened in the current year would have an impact on expected claims for the next 20 years but no impact on earlier years.

Whether using smoothed loss ratios or direct smoothing of claims, the overall (two steps) method uses results in a reasonable estimate of the concept of insurance services. Apparently, the method of applying loss ratios on premiums has been used in practice by balance of payments compilers to compile international flows of insurance services. An indirect advantage of the method of loss ratios will therefore be that national accounts and balance of payments data could become more consistent. Another advantage for users will be that forecasts of insurance production, and of its contribution to GDP, will be rendered much easier, as, basically, it will essentially depend on a forecast of premiums. Today, a significant amount of the errors in forecasts or of revisions to preliminary data is due to the impact of the volatility of claims on the measure of insurance production.

In this context, the task force recommended that, whatever the smoothing method used, the estimate of expected claims (including the splitting over a very long period of catastrophic claims) should not be affected by revisions of data posterior to the theoretical date of calculation of these expected claims. In particular, the task force did not recommend smoothing methods relying on a center moving average. This method will result in revision of the measure of expected claims when actual claims are observed. Such a method is used in Australia, but was considered by the task force as having two drawbacks. First it does not replicate the theoretical notion of expectation, as it uses ex-post data: expected claims should be measured in the beginning of the period, based only on past information, and not using the information on the occurrence of risks. Second, users could be puzzled by a compilation system where the measure of one period cannot, *by principle*, be known for sure only after several years. Today, national accounts figures can be revised for statistical reasons several years after the period under review, but, this is for statistical reasons, not because the principle itself of measurement leads to such delays. The Australian argument for using the centered moving average approach is that insurers use far more sophisticated methods than simple moving average techniques of past data to make their expectations of the future. Accordingly, one would expect their forecasts to be closer to what actually eventuates. Hence, the rationale for using simple, symmetric smoothing techniques. On balance, the task force considered it was best to use only ex ante data in the estimation of expectations. However, the Australian argument could be integrated by recommending that the smoothing method includes the year under study.

Recommendation 3: In the absence of actual expected data from insurers, the first method for measuring expected claims is a statistical method based on the smoothing of past claims either through the calculation of an expected loss ratio derived from smoothed past loss ratios, and applicable to actual premiums, or the direct smoothing of past claims. The smoothing method must include a prior step which excludes major exceptional claims. These exceptional claims should be reintroduced ahead of the current year by splitting them evenly over a very long period of time, taking account of inflation. The task force recommended that the method should not lead to built-in revisions of the data. It should use past data available at the moment of the theoretical decision by insurers of the level of their premiums. This includes the year under study.

However, not all experts in the task force agreed that such a statistical method should be imposed on compilers of national accounts. Some delegates in the task force think that, in the absence of information from companies on how they evaluate the expected claims, some consequences of the statistical approach may be too significant, namely, the introduction of external factors and/or dynamics in output estimates. Therefore they advocated a further development of use of ex-post accounting data instead or alongside the statistical method. This approach would include an analysis of the mechanisms that insurance companies have developed to face unexpected large claims and was called the *accounting approach*.

7.2. The accounting approach

The accounting approach heavily uses the classifications and terminology of the insurance business. It is therefore useful to start this presentation with a first discussion on terminology. Then a proposal is made to extend the coverage of the provisions that are included in the scope of the SNA. Finally, the inclusion of these provisions in the calculation of output is discussed.

4.2.1 Provisions or reserves: a terminological issue:

In general accounting, a distinction is made between provisions and reserves. This issue is of special importance with insurers, as the life and non-life insurers have to set aside large amounts of funds to organise their business (as liabilities). General accounting practice seems to differ from insurance practice with respect to the terminology used in labelling these funds in some countries whereas in other countries the approach is identical.

General accounting defines “provisions” as those liabilities of an enterprise which relate to uncertain future events, in timing and/or in size. A simple example is the provision for the maintenance of the enterprise’s property. The maintenance of the building (interior and/or exterior), the office furniture etc. takes place say every three to five years. The costs of this program are evenly spread over these years. So, each year an amount is added to a dedicated provision whereas the expenditures are covered by this provision.

“Reserves” on the other hand are not specially earmarked according to the general accounting principles. The company can use these funds in the way they want. They can pay them back to the owners of the company, or do with them whatever the company would like. In other words: the reserves are at the free disposal of the company. Of course they perform a role in the company’s solvability, which could restrict the possibilities of using these funds outside the company. This implies that the reserves have a role in accommodating any loss the company might run across.

Insurance principles are ambiguous in their terminology in this respect in some countries. They use the term provisions with respect to the types of liabilities they have in common with the non-insurance companies. The insurance technical liabilities, which are clearly earmarked as well, however, are labelled as “reserves” in many countries. Other countries use the term “insurance technical provisions”. Also the European accounting directive and the forthcoming international accounting rules (IAS) on insurance use the term provisions concerning these technical liabilities.

Recommendation 4: It is proposed to align with the general accounting principles and to label the technical liabilities of insurers as “insurance technical provisions”.

4.2.2 Classes of technical provisions

The insurance industry uses various classes of technical provisions. The two main classes of technical provisions with non-life insurers are:

- The provisions for unearned premiums;
- The provision for claims outstanding.

The provisions for unearned premiums relates to the part of gross premiums written (this is without subtracting premium reinsurance) which is to be allocated to the following financial year or years. This provision therefore deals with the fact that the policy's period to which the insured events relate does not coincide with the insurer's financial year (prepayment of premiums).

The provision for claims outstanding concerns the total of the estimated ultimate costs to the insurer of settling all claims arising from events which have occurred up to the end of the financial year, whether reported or not, less the amounts already paid in respect of such claims. Therefore, this provisions deals also with claims unknown to the insurer or the insured. Irrelevant is whether the claims becomes reported within days or weeks after the end of the financial year or only after several years.

Additionally, national or international accounting rules could leave open possibilities to set up further technical provisions. According to the European accounting directive these other technical provisions concern:

- Provision for bonuses and rebates;
- Equalisation provision;
- Provision for unexpired risks[20];
- Other technical provisions.

The accounting rules of individual non-European countries might allow more and/or different technical provisions. The box below describes some possible technical provisions.

The different provisions

Provision for unearned premium

The provision for unearned premium is a liability representing the unearned portion of written premiums on all outstanding policies at the time of valuation. It is only after the full completion of the period during which coverage against risks is insured that the premium is fully earned.

The 1993 SNA discusses the prepayment of premiums in terms of the fact that the policy period does not usually coincide with the accounting period – 'therefore, at the end of the accounting period, parts of the premiums paid, and thus appearing in the balance sheet, are in fact intended to cover exposure in the subsequent period …….. premiums earned [are] those parts of the premiums that are paid in the current period or the preceding period and that are intended to cover risks outstanding during the current period'.

For most classes of non-life business it is true that risks do remain outstanding only as far as the following period. With single premiums the period of coverage could extend over several years (e.g. CAR-insurance).

Provision for unexpired risks

This provision deals with the amounts set aside in addition to the unearned premiums in respect of risks to be borne by the insurer after the end of the financial year in order to provide for all claims and expenses (i.e. handling costs) in connection with insurance contracts in force in excess of the related unearned premiums receivable on those contracts. This provision could be part of the "other technical provision" or combined with the provision for unearned premiums. The ageing provision with health insurance normally will be part of this provision.

Provisions for claims outstanding

[20] The European accounting directive classifies this provision as part of the "other technical provision" with the option to the individual countries to combine it with the provision for unearned premiums, renaming this provision into "provision for unearned premium and unexpired risks". This combined provision should also include the "ageing provision".

The provision for claims outstanding can also be called claim provision or loss provision. The claims could be paid through a single payment or a set of separate payments during a restricted period (pending materialisation and/or agreement on the total amount of the claim) or as an annuity (a livelong series of periodical payments by month or year). The latter especially occurs where the victim of the insured incident is compensated for the loss of his/her capability to earn an income (part of health insurance).

Claims are identified and recorded in the 1993 SNA at the time of the insured event, even though the settlement of the claim may not occur until much later. For long-tail business, such as insurance against medical malpractice or insurance of workers' compensation where quite often the claims materialise only after a long period. Reporting of these claims to the insurer is only possibly after they have shown themselves. This implies that with these classes of risks and with claims where lengthy litigation is involved, the lag to payout on claims can be long and so the technical provisions are relatively large.

The provisions for claims outstanding cover the total estimated ultimate cost to an insurer of settling all claims arising from events which have occurred, whether reported or not (i.e., including estimates for losses incurred but not (enough) reported – IBN(E)R), less amounts already paid in respect of such claims. According to the European accounting rules and the forthcoming international accounting rules this provision includes the provision for future handling costs. The provision for IBN(E)R is sometimes identified separately, but the SNA does not explicitly include IBN(E)R. The incidents, which caused the claims, have occurred but the damages/claims are not yet known to the insured or not yet (fully) reported to the insurer (for example: a car accident where only after several months a whiplash appears to be a consequence of this accident). The total amount of claims relating to a financial year, therefore, includes a significant element of estimation.

According to the SNA the 'reserves against outstanding claims are reserves that insurance enterprises hold in order to cover the amounts they expect to pay out in respect of claims that are not yet settled or claims that may be disputed', and 'the present value of the amounts expected to be paid out in settlement of claims, including disputed claims'.

For some classes such as general liability or casualty business written on a losses occurring basis, the insurer could receive claims relating to incidents, which occurred in the (far) past. This occurs where the damage materialises only after several years (for example asbestosis).

Equalisation provisions

Equalisation provisions are amounts set aside in compliance with legal or administrative requirements to equalise fluctuations in loss ratios in future years, often with respect to special risks. These would be particularly relevant in connection with catastrophe business.

These provisions, therefore, relate to future events causing claims. The provisions in this respect are comparable to the provisions for unearned premiums and the provisions for unexpired claims.

In many countries and in ESA 1995, but not the 1993 SNA, they are included in technical reserves.

According to the 1993 SNA, they should not be recognized as transfers or liabilities to policyholders because there is no liability to pay the policyholders until an uncertain future event occurs, i.e. they are contingent liabilities. Contingent assets and liabilities are excluded from the 1993 SNA framework and internal accounting entries do not qualify as transactions. However, the equalisation provision concerns the situation where the insurer takes account of the fact that a future high claim (set of claims) might show itself. To avoid the effect thereof on the insurer's profit, the insurer sets part of the financial year's premiums aside in a dedicated provision. This is comparable to treatment of the non-earned part of the written premiums.

Although this is an argument for not recording equalisation reserves as liabilities on insurers' balance sheets, it could be argued that the income on these reserves should be included in premium supplements. Similarly, there may be arguments for including them in the calculation of insurance services.

The 1993 SNA approach of not treating equalization provisions as technical reserves means that when reserves are built up, insurers will be shown as saving, when they are used for claims, they will appear as a run-down of insurance saving and transfer to policyholders.

Under ESA 1995's paragraphs that describe financial accounts, technical reserves are explicitly extended to include equalization provision. However, this extension is not explicitly mentioned in the formula that describes the

compilation of output, but a recent Eurostat task force on insurance measurement confirmed that the ESA should be interpreted as including these provisions in its recommended measure of output

Provision for bonuses and rebates

These provisions should comprise all amounts intended for policyholders or contract beneficiaries by way of bonuses and rebates to the amount that these amounts have not been credited to them. It especially concerns return payments of premiums with respect to a relatively small total amount of claims (bonuses) or with respect to the individual insured (rebates).

From their description, it might be clear that the various provisions are of a character that coincides with the characteristic of either the provision for unearned premiums or the provision for claims outstanding. For including the various provisions in the SNA it is suggested to classify them all as either part of the provision for unearned premiums or the provision for claims outstanding, in the formula, defining the premiums earned, the claims incurred, the output and the risk premium of non-life insurers the various provisions are included under either the provision for unearned premiums or the provisions for claims outstanding. The content of these provisions therefore is wider than their content in the accounts of non-life insurers. The table below summarises the classification of the various separate provisions.

Table. Classification of technical provisions

	SNA Provision for unearned premiums	SNA Provision for claims outstanding
Provision for unearned premiums	X	
Provision for unexpired claims	X	
Equalisation provision	X	
Provision for claims outstanding		X
Provision for bonuses and rebates	X	
Provision for incurred but not (enough) reported incident		X

The "other technical provisions" are not mentioned here as the nature of this provision will differ from country to country. The classification thereof should be made given the characteristics of the individual provisions.

Recommendation 5: It is proposed to include in the SNA's definition of provision for unearned premiums and provisions for claims outstanding the other special provisions recorded by the insurance companies[21].

The following paragraphs do not however pre-empt of the approval of this recommendation and are drafted as if the additional special provisions are not covered by the SNA definition.

4.2.3 The estimation of output using the accounting approach

A large part of the discussions in the task force focused on the possibility to extend the provisions items included in formula (1) to all relevant technical provisions used by non-life insurance companies, and even, in some cases, to own funds. Where equalisation-type provisions exist, some participants in the task force think that it could be therefore possible to estimate a reasonable measure of the output of insurance services, by including movements in these reserves to the current formula of the SNA, which would then become:

[21] The impact of the inclusion of these provisions on the calculation of premium supplements is discussed in paragraph 5.

(3) [Premiums earned + premium supplements] – [claims due + addition to, less withdrawal from, equalization reserves].

In principle, if insurance companies use these technical provisions and/or equalization provision in an ideal accounting perspective, the movements of these accounts should compensate for some of the volatility of claims to be paid. On the other hand, a number of members of the Task Force found practical problems with the idea of including equalisation provisions in the scope of technical provisions. First, in many countries, companies use equalisation provisions as a tax avoidance measure, not simply as a method for smoothing flows. Secondly, because of this tax-avoidance, many countries do not permit companies to hold equalisation provisions. The OECD review of country accounting practices (admittedly produced in 1988), suggested that five OECD countries required reporting of equalisation reserves, but that eight countries also reported separate reserves for disasters/large risks. The practices are reasonably harmonised in European countries though.

The task force was not given practical examples of the implementation of the accounting approach and was unable to judge its effectiveness in calculating an estimate of production (and consumption) which would satisfy the criteria set in the first recommendation. However it did not reject such an approach if the resulting measure of production is close to the one obtained by the statistical method.

As in the case of the statistical method of estimating expected claims, the new formula proposed by the accounting approach does not treat the extreme cases of major catastrophes. In these cases, the reserves that the company has made are not sufficient to face the claims, and companies are often obliged to use their own funds (the UK and Germany were given as examples). Some participants to the task force proposed that an exceptional catastrophe year is precisely defined as one in which withdrawals are made from own funds. Thus, when an exceptional loss is considered to have occurred, an additional item would be introduced in the calculation, for the loss year, and for subsequent recovery years. The formula would then become:

(4) [Premiums earned + premium supplements] – [claims due + addition to, less withdrawal from, equalization reserves + addition to, less withdrawal from own funds, when necessary].

However, no method was proposed to decide when movements from own funds would have to be added to the formula. The task force did not reach any conclusion on how own funds should be defined in this context. In some cases, movements of own funds could originate from totally foreign reasons than exceptional claims. This is an area where further investigation is needed.

Recommendation 5: SNA's formula (1), which defines the indirect measure of production from an accounting perspective, should extend the scope of the reserves to include equalization provisions and other special provisions destined to cover unusual claims. Where it can be proved that movements in these special provisions compensate the volatility of claims, an alternative method to estimate the production of insurance would be to use this extended formula: [Premiums earned + premium supplements] – [claims due + addition to, less withdrawal from, equalization provisions + addition to, less withdrawal from own funds, when necessary].

7.3. The "sum of costs" approach

The task force discussed also of an alternative approach based on the sum of costs. The idea is the following. In the current SNA, the measure of output is equal to $o = p + i - c$; where o is output, p premiums, i property income, and c claims. The new recommendation changes this formula into $o = p + ie – ce$; where ie is the expected investment income and ce the expected claims. However premiums can also be written as $p = ce + a + w – ie$; where a is the costs of handling the insurance service and w is the profit margin. Output can therefore be obtained as $o = a + w$, this is costs plus profit.

It should be therefore possible to estimate the output using costs and adding a measure of profits. Costs are a well mastered statistical variable. In fact, some participants in the task force think that it could, in itself, be a realistic indicator for the change in the output of insurance. However, the national accounts measure of production, at least for the calculation of levels, needs the integration of a measure of operating profit.

The problem is precisely this measure of profit. It is impossible to take the industry measure of profit, because we would fall into the trap which is the task force objective to avoid: a very irregular measure of production, affected by the volatility of claims. The only solution is therefore to build a measure of "normal profit", that one may note "we", so that o = a + we. The issue is now how to measure this "we". The task force was not informed of practical proposals to measure "we". One could however imagine directly smoothing past profits in order to estimate this expected normal profit. This approach would then become very similar to the statistical estimate of expected claims: rather than smoothing claims, we would smooth profits. In fact, the equations above lead to: we = p + ie – ce – a, which shows the direct relation between this measure of expected profit and the measure of expected claims and expected investment income. Implicitly, this approach is therefore equivalent to the statistical estimate of expected claims and investment income. As such, the task force does not reject this approach. However, the task force focused more on the measure of expected claims as the theoretical approach of this estimate seemed easier to grasp. Also, a direct measure of expected claims is easier to introduce in the accounting framework than a measure of expected profits.

5. Estimation of expected premium supplements

The discussion on premium supplements covered four different issues: (1) Should expected premium supplements replace observed premium supplements in the formula used for the compilation of insurance production? (2) Should premium supplements include income from special reserves and own funds? (3) Should premium supplements include holding gains/losses?

7.1. Expected premium supplements

As stated in recommendation (2), the proposal of the task force is to introduce expectation to measure the contribution of premium supplements in the formula used to compile production. The rationale is the same as for claims: insurance companies will forecast their expected investment income (i.e. premium supplements) in order to fix the premium level that will insure the coverage of their costs and normal profit. While the principle of the use of expected premium supplements is consistent with the general recommendation of the task force, its practical implementation was not very much discussed. However, the task force was informed that the US BEA was implementing an estimation of expected premium supplements based on a similar smoothing method that the one used for smoothing claims. The data used by the BEA is insurance trade data by line of business, and represent the industry rate of return on investment multiplied by the reserves that are directly attributable to policy holders because of pre-payment of premiums or accruals of benefits. It does not include investment from own funds, but includes holding gains/losses. In principle, the SNA excludes the inclusion of holding gains/losses in the calculation of premium supplements (see below).

Calculation of expected premium supplements, the US method[22]

*For each type of insurance, premium supplements are calculated as a geometric-weighted moving average of past investment gain/loss ratios (that is, "net investment gain/loss on funds attributable to insurance transactions" divided by premiums earned), multiplied by the premiums earned during the current period.. That is, the premium supplement in period t, PSt, is PSt = NIRt * Pt, where NIRt = βIRt + β(1 - β)IRt-1 + β(1 - β)^{2}IRt-2 + …., Pt is the premium earned, IRt is the investment gain/loss ratio --that is It/Pt—in period t, and β is a parameter, which is assigned a value of 0.3. Net investment gains/losses on funds attributable to insurance transactions are available from trade source data and represent the industry rate of return on investment multiplied by the reserves that are directly attributable to policy holders because of prepayment of premiums or accrual of benefits.*

The smoothing of past claims to obtain an estimate of expected claims was presented above as a simple model to replicate the more detailed and complex models used by the insurance companies to evaluate their risks and adjust their level of premiums. In this context, the use of past data seems particularly justified: the probabilistic models used by the insurance companies are based on past occurrences of risks.

The same does not apply to the revenues insurance get from their investments and this would discourage the use of a similar method in which variations of the premium levels will affect the estimate of premium supplements while the premium level has only a very indirect relation with the investment income. A method applied in the Netherlands consists in taking an average yield of long-term interest rates and short term interest rate and apply it to the level of the technical provisions.

Recommendation 6: Expected premium supplements should replace actual premium supplements in the formula used to estimate insurance production. The method used to estimate expected premium supplements should be the best statistical predictor of premium supplements.

An exchange between countries of best practice regarding the practical estimation of expected premium supplements would be useful.

7.2. Special reserves and own funds

Besides technical reserves, all insurers have free reserves or own funds, which include all the excess of the insurer's assets over liabilities, and which are all potentially available to meet future claims. These are clearly not liabilities to policyholders and so should not be part of technical reserves on the 1993 SNA balance sheet. But they are not fully at the disposal of the insurer either since they are available to meet claims – they are an integral part of being an insurer. Thus the associated investments are not necessarily treated separately from those for technical reserves by the insurers when fixing their premiums. In this context, and in accordance with the conclusions of the task force on financial services, it is proposed to extend the calculation of expected premium supplements to investment coming from these special reserves and from own funds.

In fact, it will probably simplify the calculations as there is also a practical problem, in the current SNA, associated with restricting premium supplements to the income on reserves for unearned premiums and claims outstanding. While different types of reserves may be reported as separate categories on the liabilities side of the insurer's balance sheet, the corresponding assets and income are not necessarily associated with any particular category of reserves.

[22] Extracts from *Preview of the Comprehensive NIPA Revision, by B. Moulton and E. Seskin, June 2003, Survey of Current Business*

However, the issue of including own-funds in the calculation of production is also discussed by the financial services task force. Recommendations on this point needs therefore to be coordinated.

Recommendation 7: Investment income from special reserves and own funds should be included in the formula that determines expected investment income. However, this would not lead own funds to be classified as owned by policy holders and consistence is needed on that point with the recommendations of the task force on financial services.

7.3. Holding gains/losses

This issue was a secondary one for the task force on insurance, while it is a major one for the parallel task force on financial services. However, the elements of the discussion are similar. Should holding gains/losses intervene in the investment income element of the formula used to compile the production of insurance services? On one hand, the SNA excludes it, probably on the basis that increases/decreases of the value of assets cannot be considered as a productive activity, especially when there is no activity but just the observation that the holdings of the company have increased/decreased because of the general movement of the market (stock market, buildings). On the other hand, companies could include holding gains in the process of setting the price of their premiums and would not differentiate this type of "revenue" from the other investment revenues. Why then should we exclude these holding gains/losses from the investment income element in the formula of the calculation of the insurance service? However, there were strong reservations to the inclusion of holding gains during the discussions of the task force. In any case, it is not the actual observed holding gains which should enter in the formula measuring the insurance service but the expected holding gains. In this context, the best prudent prediction for expected holding gains should be based on a very prudent very long-term trend, and not be affected by short and medium term movements.

In any case, the conclusion of the task force was to wait on this issue for the conclusions of the task force on financial services. If it proposes (and if this proposal is accepted in the new SNA) to include holding gains/losses in its measurement of the financial services, then the task force on insurance could build on this proposal and could recommend its inclusion for insurance production. If not, it should not enter in the calculation of insurance production.

Recommendation 8: The issue whether holding gains/losses should be included in premium supplements will be decided upon when the conclusions of the task force on financial services will be known.

6. Incorporating expected claims and expected premium supplements in the accounting framework.

As explained in the simple model of the box in paragraph 1, the current formula of the SNA links the estimation of the production to the other flows recorded in the accounts. If we change the formula for estimating production, we have to introduce adjustment items in the sequence of accounts of the institutional sectors in order to reintroduce somewhere the actual claims due and actual revenues from investment.

It is useful to recall the simple example of box 1, which we will assume represents the situation using actual premiums and actual claims:

Account 1

Uses		*Resources*	
		P1 Output (equal to actual premiums + premium supplements – claims)	*30*
D44 property income distributed to the policy holders	*10*	*D4* [23] *Property income earned by the insurance company*	*10*
D72 Non life insurance claims	*80*	*D71 Net non life insurance premiums*	*80*
B8 Saving	*30*		

Let us now suppose that expected premium supplements are equal to 7, to be compared with actual investment income of 10; at the same time, expected claims are equal to 65, to be compared with 80 of actual claims due.

Thus, using the formula proposed by the task force, production will be equal to actual premiums (100) plus expected premium supplements (7) minus expected claims (65): 100 + 7 – 65 = 42. It is clear that if we introduce this new estimate of production without changing any other item in the accounts, the balancing item will change and become irrelevant.

There are various ways to adjust for this and these ways are very clearly illustrated in Anne Harrison's July 2003 paper "Recording Non-life Insurance Premiums and Claims in the SNA accounts" (available on the EDG)[24]. Five solutions are proposed: (1) the one titled "ABS solution" which is the simplest one and is described in detail in the below paragraphs, (2) an "INSEE approach" which treats all exceptional differences as a capital transfer, (3) a solution where exceptional differences are treated as capital transfers with the recording of corresponding "capital premiums", (4) a variation of the preceding solution, simpler, with no capital premiums, (5) a "radical" solution, treating all flows related to premiums and claims in the financial accounts.

This report focuses on a solution that the moderator thinks could be a workable consensual solution. It is based on a mix of two of the proposals made above by Anne Harrison: solution (1) and solution (4). Solution (2) is discarded because it does not take into account any impact on production of exceptional claims both in the current year and in future years. Solution (3) is a more complex version of solution (4). Solution (5) is not proposed here because leading to major changes to the SNA that have some disadvantages as explained in Anne Harrison's paper.

7.1. The simplest solution: decouple one accounting identity in the current accounts[25]

The following adjustment can be proposed to preserve the relevance of the sequence of accounts. As in the current SNA, the imputed net non life insurance premiums will be equal to premiums plus premium supplements *less output*: D71 = AP + D4 – P1. However, because of the new calculation of output and unlike the current SNA, this amount will be different from actual claims, thus generating an implicit transfer (which can be positive or negative) between the insurance companies and the policy holders.

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[23] In fact some of this property income will be in the form of rentals of buildings which would be classified as B2, operating surplus, and not as D4. The exact recording would therefore be *D4 or B2*. However, we will omit this precision in the rest of this report.

[24] And recent comments by André Vanoli.

[25] This solution is named the "ABS solution" in Anne Harrison's paper.

The new accounts will be the following:

Account 2: new accounting framework

Uses		*Resources*	
		P1 Output (equal to actual premiums + expected premium supplements – expected claims)	*42*
D44 Distributed income to policy holders	*10*	*D4 Property income earned by the insurance company*	*10*
D72 Actual non life insurance claims	*80*	*D71Expected net non life insurance premiu*	*68*
B8 Saving	*30*		

Under this simple solution, the change introduced in the accounting framework is limited to the single decoupling of the identity between D72 and D71. Actual non life insurance claims received by policy holders (D72) is unchanged. But, contrary to the present situation, it is no longer the equivalent flow which is received by the insurance companies but an amount depending on expectations: D71 is equal to expected claims plus the difference between actual premium supplements and expected premium supplements:

$$D71 = EC + D4 - EPS.$$

It is easy to prove that this new recording guarantees the consistency of the balancing item. This can be done by generalization of account 1 and account 2:

Account 3: Generalization of account 1, current SNA

Uses	*Resources*
	P1 Output (equal to actual premiums (AP)+ premium supplements (D4) – claims (D71))
D44 property income distributed to policy holders	*D4 Property income earned by the insurance compan*
D72 Non life insurance claims	*D71 Net non life insurance premiums*
B8 Saving	

$B8 = P1 + D4 + D71 – D44 – D72 = AP + D4 – D71 + D4 + D71 – D44 – D72$

The assumption of account 1 is that D44 = D4 and D71 = D72, we obtain therefore:

$$\underline{B8 = AP + D4 – D72}$$

Account 4: Generalization of account 2, new proposal, using expectation

Uses	*Resources*
	P1 Output (equal to actual premiums (AP)+ expected premium supplements (EPS) – expected claims (EC))
D44 Property income distributed to policy holder	*D4 Property income earned by the insurance company*
D72 Non life insurance claims	*D71 Expected net non life insurance premiums*
B8 Saving	

$8 = P1 + D4 + D71 – D44 – D72$

As D4 = D44 and D71 = AP + D4 – P1, we obtain $B8 = P1 + D4 + AP + D4 – P1 – D4 – D72$

$$\underline{B8 = AP + D4 – D72}$$

As can be seen, B8 saving (and further down B9 Net lending/borrowing) is not affected by the measures of expected claims or expected premium supplements and is thus identical in both accounting systems.

Let us now illustrate the implications on the accounts of policy holders. For simplification, we will suppose that all policy holders are households. As in the presentation above, we will first present the current SNA accounts and then the new proposal:

Account 5

Households: current SNA account

Uses			*Resources*
		D44 Distributed income to policy holders	*10*
D71 Net non life insurance premiums	*80*	*D72 Non life insurance claims*	*80*
B6 Disposable income	*10*		
P3 Final consumption expenditure	*30*		
B8 Saving	*-20*		

The proposed new accounting framework would lead to:

Account 6

Households: new accounting framework

Uses			*Resources*
		D44 Distributed income to policy holders	*10*
D71 Expected net non life insurance premiums	*68*	*D72 Non life insurance claims*	*80*
B6 Disposable income	*22*	*Of which D721 Expected claims*	*65*
P3 Final consumption expenditure	*42*	*D722 Non expected claims*	*15*
B8 Saving	*-20*		

Compared to the current accounting framework, the main change is that disposable income is modified, because households receive more in D72 (or less, in other cases than the one illustrated in this precise example) than they "pay" in D71. But final consumption expenditure is modified in parallel, thus *B8 savings* remains unchanged. In this account, we have introduced, for information, a possible breakdown of D72 between Expected claims and D722 non expected claims. It is important to note that D722 can be positive (as in this example) or negative (if actual claims are below expected claims).

This solution is a workable solution in terms of the accounting framework. However, some participants in the task force think that its drawback is that the difference between D72 and D71 affects disposable income, while the difference between these two flows would be better located, in some cases, in the capital accounts. Indeed, this difference originates from irregular and even exceptional events, thus the difference between D71 and D72 is financed by insurance companies not from their current revenues but from movements from equalization accounts and/or even from their own-funds. In effect, the counterpart entry of the implicit transfer from insurance companies to policy holders is in the financial accounts. The same is true for the policy holder: the payment for the write –off of a car, the settlement of a liability claim for medical malpractice or the rebuilding costs for a building destroyed in a fire or a hurricane, may well be of a capital nature.

7.2. Alternative treatment as capital transfer[26]

This proposal would lead to the following alternative accounts:

Account 7

Households: new accounting framework, treatment as capital transfer

Uses			*Resources*
		D44 Distributed income to policy holders	*10*
D71 Expected net non life insurance premiums	*68*	*D721 Expected non life insurance claims*	*65*
B6 Disposable income	*7*		
P3 Final consumption expenditure	*42*		
B8 Savin	*-35*		
		D93 (= D722) Exceptional claims	*15*
B9 Net lending/borrowing	*-20*		

In this solution where D72 is now equal to expected claims, disposable income is no longer affected by the difference between expected claims and actual claims. Saving is affected by the difference on final consumption. The exceptional claims appear as an entry in the capital account, which compensates the effect of the new treatment on net lending/borrowing, which is unchanged. It is important to note that in all treatments B9 net lending/borrowing remains unchanged, resulting from the fact that financial accounts are unchanged.

Another recent proposal from a participant to the task force would be to classify claims as current transfer or as capital transfer on the basis of the type of claim: claims on accidents, health, assistance, legal expenses would be classified as current transfers, while claims generated by other classes of insurance products (motor, fire, etc.) would be classified as capital transfers. The below table was proposed:

Insurance products	Current transfer		Capital transfer	
	fully	largely	largely	fully
Accident		x		
Lump sum		x		
Income replacement	x			
Health	x			
Motor, third party				x
Motor, other classes				x
Marine, aviation, transport				x
Fire etc.			x	
General liability			x	
Credit and surety				x
Assistance		x		
Legal expenses		x		
Miscellaneous financial losses			x	

However, this proposal would complicate seriously the presentation of the accounts as it would demand that expected claims be calculated for all these different classes of insurance. The moderator did not include it in its final recommendation.

[26] This corresponds to Anne Harrison's fourth solution

7.3. Towards a consensual recommendation[27]

The discussion above showed that (1) the simple solution of decoupling of D71/D72 is a workable solution, (2) that in cases of very significant exceptional claims, linked to catastrophes, it could be preferable to not affect the disposable income of households with an exceptional transfer that is not a current ordinary revenue, and that it is possible by introducing a capital transfer, (3) that no modification is needed in financial accounts.

We have seen in the paragraphs on the measurement of expected claims that, inevitably, the methods for estimating expected claims includes two steps: (1) the need to exclude from calculations the very exceptional claims linked to catastrophes and the manual treatment of it, (2) the "normal" smoothing method leading to the series of "normal" expected claims.

In parallel with this two step treatment, it is proposed that, in the accounting framework, differences between "normal claims due" and expected claims is treated in the current account, as a difference between D72 and D71, while a difference between "very exceptional claims" due and expected claims is treated as a capital transfer.

Recommendation 9: the introduction of expected claims and expected premium supplements in the calculation of production will result in a decoupling of non-life insurance claims (D72) and the corresponding imputed net non-life insurance premiums (D71). D71 will be equal to expected claims plus the difference between actual premium supplements and expected premium supplements. In the case of catastrophes, where the difference between D71 and D72 may be deemed too important to affect current disposable income of policy holders, the difference attributed to the catastrophe can be treated as a capital transfer, to avoid affecting disposable income.

It is important to note that the decoupling of D71 and D72 on an annual basis (short-term in respect to the insurance business) does not imply a total decoupling of these flows: in the long term, D71 and D72 should be equal. This long term identity could be an interesting check of the validity of the implementation of the new method.

7. The treatment of reinsurance

Reinsurance is a major way for direct insurers to deal with exceptional claims. In fact, a large part of the financing of the claims due by direct insurers in the case of catastrophes comes from re-insurers. Another characteristic of the market of insurance is that re-insurance is mostly an international business in which a few very large companies based in very few countries (Germany, Switzerland and the UK) are active. This explains what was recalled in the introduction of the present paper regarding the effect on imports of services of the September 11 attack: re-insurance affects essentially external trade flows in most countries.

Because of the role of re-insurers in catastrophe claims, it was therefore inevitable that the discussion of the task force covered the treatment of re-insurance in the SNA. This discussion is complex because it developed on two levels: the first level is a demand for change of the general recommendations of the SNA regarding the treatment of re-insurance, the second level is the capacity of any new treatment of re-insurance to resolve the central problem discussed in this paper regarding the volatility of the current measure of production.

[27] This solution is a mix of Anne Harrison's solution (1) and solution (4).

In this paper, the discussion is organized in the following way: (7.1) shows that the current SNA should be modified regarding re-insurance; (7.2) proposes two workable solutions regarding the treatment of re-insurance: a net and a gross approach; (7.3) explains that none of these solutions resolve, by themselves, the central issue of the volatility of claims; (7.4) concludes that the only solution is to apply expected claims to both direct insurers and re-insurers; (7.5) explains that in this context, the gross method seems to be the most practical method.

This paragraph is essentially based on the paper by Elena Marton (OFS, Switzerland) and Gabe H. de Vries (Independent consultant, Netherlands): "Treatment of reinsurance in the national accounts". This paper is available on the EDG. Also, several reactions to this paper, by Anne Harrison, John Walton, Michael Davies, and reactions to these reactions by Elena Marton and Gabe de Vries have been used.

7.1. The current SNA has to be clarified and changed regarding re-insurance.

The SNA deals with re-insurance in its paragraphs 27 to 30 of its Annex IV. The papers prepared by the experts of the task force showed that these paragraphs are, first, unclear. The SNA recommends "consolidating" the transactions between *resident* direct insurers and re-insurers (which can also be, at the same time, direct insurers). However, this consolidation is not explained in detail and different interpretations are possible. In addition, the SNA considers "inappropriate" to completely consolidate flows between non-resident re-insurers and resident direct insurers, but still proposes to measure the international service of reinsurance as the "*balance of all flows occurring between the re-insurers and the direct insurers*". Also, ESA seems to differ from SNA by preferring to not consolidate, a difference which makes the issue even more complex. On the whole, it is fair to say that paragraphs 27 to 30 should be more detailed and made clearer.

It is therefore recommended that a new treatment of reinsurance be included in the SNA which would base its approach on a totally symmetric method of estimating direct and indirect insurance: direct insurance and reinsurance should be treated using the same principles. The economic rationale of this recommendation is that, in both cases, the underwriting and pricing practices are similar.

7.2. There are two workable solutions to improve the SNA: the net approach and the gross approach

There appears to be two workable solutions to implement the principle of symmetry called for in the preceding paragraph. Both do it by using exactly the same formula of compilation both for direct insurers and re-insurers. In particular, both include a premium supplement for re-insurers in the formula. At this stage of this presentation, the formula is the standard SNA formula (simplified by omitting the changes in provision for unearned premiums and unpaid claims):

Production = Total actual premiums + Premium supplements – Claims due.

- *The net approach*

The first method is called the "net method". It is based on the idea that reinsurance is nothing else than the transfer of a risk (or a part of it) initially accepted by a direct insurer to another insurer. The service charge of the transferred risk is therefore itself transferred from the direct insurer to the re-insurer. In this method, the formula uses flows that are systematically netted, for direct insurers, of reinsurance flows. Therefore the formula for <u>direct insurers</u> is now:

Production of direct insurer = Total actual premiums <u>minus</u> premiums paid by the direct insurer to the re-insurer + Premium supplements (on net technical provisions of the direct insurer) – Claims due <u>minus</u> claims payable by the re-insurer.

The production of the re-insurer uses the standard formula:

Production of re-insurer = Total actual premiums + Premium supplements – Claims due.

In this approach, the production of direct insurers which is consumed by their policy holders concerns only the part of the risk that is not transferred to re-insurance. In parallel, the re-insurers' production reflects the service charge of the risk that has been transferred to him *and is directly consumed by the policy holders*. There is no intermediary consumption of re-insurance by insurance companies.

- *The gross approach*

The second method is called the gross approach because rather than netting off reinsurance flows, as in the net method, it records all flows *gross* of re-insurance. The production of the direct insurer is therefore:

Production of direct insurer = Total actual premiums + Premium supplements (estimated on gross technical provisions of the direct insurer) – Total claims due.

The production of the re-insurer uses the same formula as in the net approach and is consumed by direct insurers, as intermediate consumption.

- The following diagrams (inspired from a paper by Gabe de Vries) are useful to understand the global picture.

Reality:

Total Flows *Reinsurance Flows*

Policy holder <-> Direct insurer <-> Re-insurers

Net method:

Net of reinsurance Flows

<-> Direct insurer

Policy holder *Reinsurance Flows*

<-> Re-insurer

Gross method:

Gross Flows *Reinsurance Flows*

Policy holder <-> Direct insurer <-> Re-insurers

In the *real economic world*, there are full transactions (premiums/claims/investment income) between direct insurers and their policy holders. In parallel, there are full reinsurance flows (premiums/claims/investment income) between the direct insurers and their re-insurers.

In the net approach, the flows between direct insurers and their policy holders are netted of reinsurance flows, and the latter are considered *as if* they were done directly with the policy holder.

In the gross approach, the recordings reflect the real economic transactions.

Both net and gross approaches were considered by the task force workable solutions. One of them should however be chosen as the central SNA recommendation.

7.3. None of these two workable solutions treat the problem of the volatility of claims

Despite the hope that, under the assumption that re-insurance takes a major part in the handling of the volatility of claims of direct insurers, an improved treatment of re-insurance could resolve the central problem of the present paper, the papers prepared by the experts show that the two proposed solutions do not achieve this result. A catastrophe, or more generally an unusual claim, has a negative impact on insurance production in both the net and gross approaches.

The negative impact is larger in the case of the gross method than in the case of the net method because the gross method assigns the impact to the production of the direct insurer and, at the same time, to the production of the re-insurer. However, it is useful to recall that one of these impacts is limited to the intermediate consumption of insurance services by the insurance branch itself. The net approach splits the impact, once, between the direct insurer and the re-insurer, each one for the part of the risk it covers.

But, in both methods, the negative impact is the same on non insurance policy holders (i.e. households, non insurance businesses and general government). For countries where re-insurance is essentially imported, the advantage of the net method would be that the domestic production of insurance services would be less affected by a catastrophe, but the problem would be passed to the imports figures, which would show the negative impact. On the whole, the impact on GDP is the same in both methods.

The obvious conclusion is therefore that, even if it is recommended to change the treatment of re-insurance in the SNA, the change to one of the two methods proposed will not by itself resolve the central issue discussed in the present paper.

7.4. The only solution is to apply the expected claim approach both for direct insurers and re-insurers

Whatever new treatment of re-insurance, the basic formula used remains an adaptation of the formula (1), which has the original default of mixing non volatile premiums with volatile claims. In this context, the only solution to resolve the problem of the volatility of claims is to apply the expected claims method to both direct insurers and re-insurers.

7.5. In this context, the gross approach seems the most workable one

Several reasons have been given in favor of the gross approach, compared to the net approach. First, reinsurance is a separate business from direct insurance. Modern reinsurance increasingly uses “excess of loss reinsurance” which is a different contract from direct insurance. In this respect, it is more realistic to differentiate the two types of businesses in the national accounts. This difference is recognized in business statistics in Europe (NACE) and in North America (NAICS) which classifications now include a specific activity (and its output) of reinsurance. Third, recording in the national accounts full transactions between direct insurers and re-insurers corresponds to the transactions that exist in reality. In particular, when re-insurance is, totally or for a large part imported (which is the case for most countries), it is more natural to show this as a flow between insurers rather than between policy holders and non resident re-insurers, which would appear the case with the net approach.

The context of the inclusion of a compilation of expected claims seem to go also in this direction. The data used in the compilation of expected claims uses heavily trade sources, in time series. It should be easier in this context to smooth the data as obtained directly from insurance companies than to do it after the re-treatment implied by the net method.

Recommendation 10: The treatment of re-insurance in the SNA has to be revised. The consolidated approach for re-insurance transactions of the current SNA should be replaced by an approach which treats direct insurers and re-insurers exactly in the same way. In particular, the formula to compile

production in both cases should be identical in their principles. Both should use expected claims and expected premium supplements. The gross presentation, where the production of re-insurance is consumed by direct insurers, is preferred to the net approach, where this production is netted out.

8. Bonuses and rebates

The existing SNA and ESA do not explicitly deal with bonuses and rebates paid or granted by the direct insurer to its policy holders or by the re-insurer to the direct insurer.

Bonuses comprise all amounts concerning the financial year which are paid or payable to the policyholders or provided for their benefit, including the amounts added to the technical provisions, or applied to reduce future premiums to the extent that these amounts represent an allocation of surplus or profit arising on the business as a whole or a section of the business after the deduction of amounts provided in previous years which are no longer required. With reinsurance contracts, the comparable phenomenon is labelled as "profit sharing".

Rebates comprise all amounts to the extent that they represent a partial refund of premiums resulting from the experience of the individual contract.

Bonuses and profit sharing should be classified as a class of (insurance specific) other income transfers from the insurer to the policyholder respectively from the reinsurer to the direct insurer.

Rebates should be classified as a negative component of the premiums of the direct insurer.

With proportional reinsurance the reinsurer will pay "commissions" to direct insurer. These commissions are intended to compensate the direct insurer for the administrative costs of the total business. These commissions should be classified as a negative component of the premiums reinsurance earned[28].

Recommendation 11: The commissions paid by the reinsurer to the direct insurer and the rebates paid by the direct insurer to the policyholders should be classified as a negative component of the premiums earned. The profit sharing paid by the reinsurer to the direct insurer and the bonuses paid by the direct insurer to the policyholders should be classified as a form of other income transfers.

9. Change in terminology in the SNA

Some participants in the task force proposed that the opportunity given by the redrafting of the SNA in relation to this new approach based on expectations should be used to make the terminology used in the SNA closer to the terminology used in the insurance branch.

[28] For more details on these reinsurance transactions see G.H. de Vries, Some comments on reinsurance, the transactions between direct and indirect insurers in the European system of national accounts, Reeuwijk, 24 January 2003.

Description	Current SNA/ESA term	Accounting term* and proposed new SNA term
The amount of premium, which became payable by the policyholders		Written premiums
The amount of premium, which relates to risks in the accounting period	Actual premiums earned	Earned premiums
The part of the earned premiums needed to compensate the claimants	Net premiums receivable (ESA) or payable (SNA)	Risk premium (earned)
The amount of claims paid during the accounting period	Claims paid	Claims paid
The amount of claims concerning risks which have manifested themselves during the accounting period	Claims due	Claims incurred

**according to the European accounting directive*

Recommendation 12: the terminology used in the SNA should be made closer to the one used in the insurance industry. In particular, "Net premiums" should be changed to "Risk premiums" and ¨Claims due" to ¨Claims incurred".

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