

NOTES AND COMMENTS

A NEW METHOD OF ASSESSMENT OF THE INSURANCE SERVICE PRODUCTION

BY M. T. SCHILTZ*

INSEE, Paris

The French national accounts applied the insurance production assessment method recommended by the European system of accounts (ESA), for the years 1970 to 1985, in a particularly turbulent economic and financial environment. A better understanding of the sector was thereby obtained, but the problems set by the very "technical" production assessment method were thus brought to light. These problems are still not solved by the present accounting system, since, to summarize matters, it hides the importance of the sector's "financial" activity, whereas in fact the income drawn from this activity contributes to a high extent to the global balance of insurance operations. This is of course related to the reasons why in certain countries insurance companies are considered more as savings collecting and investment institutions rather than risk transformers.

This report sheds light on the significance of the present premiums, indemnities and reserves recording method and then presents the new method chosen by the french accounts to assess production; finally it analyses the remaining difficulties relating mainly to capital gains.

I. THE RECORDING OF PREMIUMS AND INDEMNITIES

The first type of problem is set by the premiums and indemnities recording method: both the ESA and the United Nations system (SNA) are in agreement in choosing *due* premiums and indemnities as the assessment basis. But when are premiums and indemnities due? The differences between the two systems then appear: the SNA considers that "indemnities are to be paid only after the parties concerned have reached agreement on the amount of the claim or the claim has been adjudicated" (SNA section 7.54); "by convention," the ESA considers that "the right to indemnity is deemed to originate at the time the accident occurs" (ESA section 315, note 3). A similar difference exists for the recording of due premiums, since the ESA links this notion with the coverage of risks during a financial year, whereas the SNA recommends that insurance premiums covering a risk spread over several accounting periods are not to be split.

In practice, the fact that insurers in general and French ones in particular have chosen to link recording with the financial year means that there are only two simple accounting methods for premiums and indemnities: either the amounts

*The author is very grateful for the suggestions of A. Vanoli, who in fact is at the origin of the new method. She also would like to thank P. Teillet for his helpful comments.

paid or received by insurers can be recorded, or the flows can be “adjusted” to the accounting period, taking account of the various provisions for reserves movements. The difference between these two possibilities resides in a different interpretation of the economic meaning of reserves: knowing nothing of provisions for reserves, the first solution allocates to insurance companies the derived additional savings or, as is often said, attributes the property of the reserves to insurance companies; the second solution explicitly considers reserves as a claim the insured and victims of losses have on companies.

However the reality of such a claim is really indisputable and can only be completely assessed in the case of the mathematical reserves in a life assurance contract, since indemnities¹ will be paid, in any case, when such a contract matures². On the contrary, it is impossible to make a microeconomic assignment of the reserves of a death risk assurance contract, since the amount of the reserves is determined by the use of mortality tables and since the beneficiaries of an insured party only receive an indemnity¹ if the latter has indeed died and do not receive anything otherwise. Finally, it is the very value of the claims of victims on companies which cause a problem in most damage insurances, since their amount is fixed after the constitution of the reserves by agreement between the parties or following a lawcourt judgement.

Despite the difficulties it implies, it is nevertheless the second solution which is used at present by the French system. Indeed it:

- makes it possible to deal homogeneously with life assurance and damage insurance, on the basis of a common analysis of reserves taken as debts of insurers.
- seems to conform more with the ESA recommendations;
- and above all it facilitates economic interpretation of the activity of insurance companies.

II. THE RECORDING OF RESERVES

The adoption of this measurement method however introduces a difficulty of another nature: the means of assessment of reserves chosen for the various types of insurances generally lacks coherence with the national accounts measurement principles:

- for damage insurance, the amount of the reserves to be constituted is determined by estimating the future cost of the claims at the date of payment, taking account of interim inflation. This initial estimation is revised at the end of each financial year, being adjusted to the recent evolution of prices and related forecasts. As compared with the present value of reserves which the national accounts seek to ascertain, this accounting at “future” values ends up with an overestimation of company debts.
- a similar problem exists for life assurance; pure providence contracts for example guarantee the payment of a capital upon death of the insured. In contrast to the previous case, the reserves constituted for this purpose are not

¹In the form of a capital or an annuity.

²It can even be said that the mathematical reserves constitute voluntary savings by the insured.

directly assessed for the amount of the indemnity to be paid; but the regulations lay down a minimal rate of remuneration of reserves. Until 1985, this remuneration was lower than the rate of inflation.³ This means that the provisions for reserves are constituted for an intermediate amount between their value at the price of the day and their future nominal value: once again the insurance accounting principles thus introduce a distortion in assessment, with respect to the present value which is sought to be assessed.

But the major consequence of the obligation on insurers to indemnify damages at the cost on the payment day is the relative indexation of their debt: in addition to their activity concerning the mutualization of risks throughout space, insurers also have an important role of preserving the value of their assets over time, otherwise they could not respect their commitments.

III. TAKING ACCOUNT OF FINANCIAL PRODUCTS

The rest of this note will deal with this sole consequence.

1. *Presentation of the Context*

Intervention in the capital market and the derived income are thus not an ancillary activity, but well and truly a necessity arising from the very technique of insurance. The resources drawn from this intervention are indispensable to balance insurance company accounts. However, both the ESA and the SNA reduce this contribution to a mere income distribution operation; they indeed consider that indemnities are entirely covered by gross premiums. Production, the value attributed to the services rendered by insurance companies, is equal to the surplus of gross premiums over indemnities. This value is insufficient to cover all the company production and operating costs; consequently, since the beginning of the 1970s, French accounts drawn up in conformance with the ESA have presented an operating *deficit* in the insurance sector which is compensated for by the considerable resources they derive from the income and expenditure account.

The high growth of interest rates at the beginning of the 1980s still further increased the importance of "financial" products, to such an extent that in life insurance, application of the above method has led to the following series:

In Millions of Francs at Current Prices	1979	1980	1981	1982	1983	1984
Life insurance service production (including taxes on premiums)	3,023	2,931	2,571	2,004	995	312

In the light of these results, contradictory to the well-known development of the life insurance industry, the decision was taken to modify the means of assessing the sector's production.

³The current fall in inflation could lead to a modification of this; but it is then probable that the minimal rate of remuneration of reserves will also be decreased.

2. Presentation of the New Method

The new method chosen is based on the principle of assigning the net investment products to the payment of insurance indemnities. Thus the present equality between net premiums and indemnities due is replaced by:

$$\begin{aligned} \text{Net premiums} &= \text{Indemnities due} \\ &\quad - \text{Net investment products.} \end{aligned}$$

The net investment products are either interest and dividends deriving from financial investments or rents free from the corresponding service charges when insurance companies buy housing blocks or industrial and commercial property as representation for their debts. Nevertheless, the present production measurement convention is maintained, i.e. the surplus of acquired gross premiums over net premiums, but with the new definition of net premiums.

Putting this method into practice does not present any difficulties for damage insurance: in this case indeed, the net premiums and the indemnities are recorded in the income and expenditure account. In life assurance, in contrast, this account does not present any operation relating to premiums or indemnities: they are dealt with as financial operations. It was thus necessary to imagine a process reflecting in the non-financial accounts allocation of the investment activity products to the payment of technical charges. Various solutions were envisaged, such as the creation of a second distribution operation, specific to life assurance. The method finally chosen presents the advantage of being simple: it consists of a complementary flow of "non-imputed interests"⁴ linked with insurance operations, to appear alongside the existing flow of imputed interests.⁵

The aim of this method is indeed to decrease the share of gross premiums devoted to indemnities and provisions for reserves: generally speaking, the higher inflation is, the faster reserves grow; but the net nominal revenue drawn from investments also increases faster in this case.

The surplus of gross premiums over the part of the latter devoted to covering indemnities and provisions for reserves is therefore far more representative of the value of the services rendered to the insured than previously. Thus its interpretation as production is clearly improved.

The deriving production series is as follows:

In Millions of Current Francs	1979	1980	1981	1982	1983	1984
Corrected production of life insurance services	4,842	5,546	6,480	6,994	6,486	6,045

⁴Strict terminology would have in fact required that the global flow of interests assigned to the insured should be called "Imputed interests linked with life assurance operations", and that it itself should be subdivided into

—interests credited to the mathematical reserves,

and

—interests not credited to the mathematical reserves.

But this would have led to confusions between the legal language and that of the national accountants.

⁵Which have a legal definition and which correspond to the minimal remuneration of the reserves imposed on insurers.

Let us examine certain consequences of this definition. The evolution of the indemnities paid (or the variations of the reserves) is never of course perfectly correlated with the evolution of the investment revenues made by insurance companies. Forecasting these differences in evolution and correcting their effects, if applicable, is an insurance management task.

If indemnities evolve faster than investment revenues, this leads to increases in the part of premiums devoted to covering indemnities. The residual part of the premiums considered as production becomes lower *a priori*: all things being equal, this modification will appear as a fall in the price of the insurance service unless a company has duly forecasted this evolution and has in advance increased the gross premiums by the required amount. If, on the contrary, investment revenues increase faster than the indemnities, the part of premiums devoted to covering indemnities decreases *a priori*, which leads to an increase in the price of the insurance service,⁶ unless, once more, a company has in advance corrected the gross premiums.

3. *Other Solutions Exist . . .*

Another way of solving the problem has of course been envisaged: the analogy often made between banks and insurance companies leads quite naturally to imagining the creation of an “imputed insurance financial service charge” on the model of the imputed bank service charge. But this real analogy has its limits: financial intermediation is the main activity of a bank, whereas in the insurance sector recourse to the financial market is only a means of making profitable the liquid assets arising from the conditions of exercising the profession. Even if the income thus obtained is high, and if an insurance company is legally obliged to financial profitability, it is not its main objective.

Furthermore, by adopting this solution, the same problems as those we face with banks would arise: in particular, it would be necessary to distribute this production among intermediate consumption and final consumption.

This could lead to the following question: what premiums would the insured pay, and what indemnities would victims receive, in the absence of such an imputed service charge? To provide an answer it is necessary to imagine a fictitious situation in which the premiums paid on 1 January would cover the risk during the financial period and in which the indemnities would be paid on the day after a loss. The theoretical premiums and indemnities corresponding to this situation would then be estimated; the difference between these theoretical flows and the effective flows would serve as the basis for the allocation of financial service consumptions.

In practice such a procedure is scarcely possible. The idea of creating an imputed insurance financial service charge has thus been abandoned in favour of the previously presented method. This method indeed implicitly allows the problem to be solved since it enables financial revenues to be transformed into technical resources by a new sharing of the gross premium. Therefore, since the

⁶As said below, we do not, in this note, try to solve the problems related to the estimation of the price of insurance services. But this is the beginning of an investing analysis which we are at present working on.

principle of imputing the insurance financial service charge to gross premiums is not thrown into question, all the conventions of proportional allocation of said service charge to the premiums paid remain valid.

IV. CAPITAL GAINS

This new description of the activity of insurance companies is based on discontinuance of the principle of covering charges by premiums alone, a discontinuance justified by the importance of the “financial” function in the sector.

But the answer to the first problem gives rise to another subject for reflection: should the capital gains made by the companies also be taken into account to cover their charges? Taking this type of products into account may appear hard to achieve due to the relatively unforecastable character of the evolution of stock exchange rates. But the mass of assets held by a company and the fact that it rarely needs to realize them rapidly greatly facilitates these choices: thus, since 1970, the results of the disposal of assets made by French companies have always led to net capital gains.

Furthermore it has been considered that the totality of the investment products are used to cover charges. Sharing these products between the insured and the victims on the one hand and the insurers on the other hand could have been envisaged. But this question appears minor due to the disproportion between the latter's equity capital and their debts owed to the former.⁷

These gains are of such a permanent nature that the regulations require them to participate in balancing insurance operations:

- in damage insurance, the process is implicit; it is by means of a capitalization reserve to which part of the profits is assigned that companies maintain the return on their assets if a fall in interest rates occurs.
- in life assurance, the redistribution of profits to the insured is explicitly laid down by the Insurance Code in the form of imputed interests.

When the national accounts record in the income and expenditure account the payment of imputed interest, they partially show the use of these capital gains. In contrast, they do not record in the flow accounts the corresponding resources: analyzed as an adjustment of assets at present market value, this type of profit is indeed entered in the reconciliation accounts. A structural cause of imbalance in the flow accounts accordingly appears and the need for financing of a fictitious nature.

Despite the importance of the problem no specific solution for insurance has been sought. It is the question of the treatment of capital gains which must be the subject of global reflection. The present introduction of a complete system of accounts, integrating annual flow accounts and net worth accounts, will greatly facilitate the research: such a system will indeed enable making a finer analysis

⁷Moreover, in case of bankruptcy, the French law gives to victims and insured people a priority over proprietors in the attribution of reserves, including equity capital, for the payment of their indemnities.

of the various reconciliation elements, leading, for example, to the development of the necessary treatments.

At the present stage, we have thus not attempted to take account of capital gains in the coverage of insurance charges—which would have led to different results in estimating production—while being aware of perhaps having neglected a pertinent factor.