

PERFORMANCE INDICATORS FOR MICROINSURANCE

A Handbook for Microinsurance Practitioners

2nd Edition

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Indicator	Basic formula	Page
1. Incurred expense ratio	$\text{Incurred expense ratio}_n = \text{Incurred expenses}_n / \text{Earned premium}_n$	p. 19
2. Incurred claims ratio	$\text{Incurred claims ratio}_n = \text{Incurred claims}_n / \text{Earned premium}_n$	p. 23
3. Net income ratio	$\text{Net income ratio}_n = \text{Net income}_n / \text{Earned premium}_n$	p. 27
4. Renewal ratio	$\text{Renewal rate}_n = \text{Number of renewals}_n / \text{Number of potential renewals}_n$	p. 31
5. Coverage ratio	$\text{Coverage ratio}_n = \text{Number of active insured}_n / \text{Target population}_n$	p. 35
6. Growth ratio	$\text{Growth ratio}_n = (\text{Number of insured}_n - \text{Number of insured}_{n-1}) / \text{Number of insured}_{n-1}$	p. 38
7. Promptness of claims settlements	Analytical breakdown of service times taken to report and process a set of claims	p. 42
8. Claims rejection ratio	$\text{Claims rejection ratio} = \text{Number of claims rejected} / \text{Number of claims in the sample}$	p. 46
9. Solvency ratio	$\text{Solvency ratio}_n = \text{Admitted assets}_n / \text{Liabilities}_n$	p. 49
10. Liquidity ratio	$\text{Liquidity ratio}_n = \text{Available cash or cash equivalents}_n / \text{Short-term payables}_n$	p. 54

INTRODUCTION

Microinsurance is regarded by some as a risk management mechanism that the poor can use to compensate for the lack of appropriate state-sponsored social protection programmes. Alternatively, it is viewed by others as an opportunity to provide financial services to the low-income market at a profit.

Regardless of where the emphasis is placed, all microinsurance programmes should aim to become viable since donor or government subsidies are either only temporary or not available. Without subsidies, all programmes are subject to the same economic and market forces as mainstream businesses, and this requires them to be managed professionally. Management goals, however, cannot be achieved without constant monitoring and transparent measurements of performance.

The key performance principles and indicators discussed in this handbook were established during two Performance Indicators in Microinsurance workshops in 2006 and 2007. Although there may be some differences in performance and interpretation, the principles and indicators are applicable to all microinsurance providers irrespective of legal structure, environment, organisational setup and type of microinsurance product offered.

The first version of the handbook was published in April 2008. Given the volume of feedback from participants in subsequent workshops and from experts, it became important to publish a second and improved version. This version provides more examples, uses better data for illustrating each indicator, categorizes the principles and indicators, elaborates on a number of concepts such as asset-liability matching, and has an expanded glossary of terms. The definition of the promptness of claims settlement indicator was also modified in order to reflect any difficulty the insured may have in claiming. Finally, index-based and Takaful insurance are briefly introduced in Chapter 2 with some guidance on how the principles and indicators may be adapted for these types of programmes.

Although the focus of the indicators in this handbook is on financial performance, we show the social significance or interpretation when discussing each indicator.

Data from five different microinsurance programmes managed by four different organisations in Africa and South Asia is used to provide some examples. Where data was incomplete, interpolation was occasionally used to complete and enhance the examples.

The sample programmes are:

Programme	Organisation	Participation requirements	Category
Credit life	West African insurer managed by a cooperative network, sold to primary cooperatives that voluntarily participate	Mandatory within the primary cooperative that elects to distribute the product.	Group
Life savings	Same insurer as above	Automatic within the primary cooperative that elects to buy the product (premium is paid for by the cooperative).	Group
Individual life and endowment	Cooperative-owned insurance company that caters to the cooperative sector and the general public	Voluntary	Individual
Individual health	5-year old community based health mutual in rural area, covering primary health care	Voluntary within the community	Individual
Group life	African mutual insurer	Mandatory within the primary cooperative that elects to buy the product from the company	Group

This handbook is structured as follows: Chapter 1 “Measuring Performance in Microinsurance” describes nine principles and ten key indicators. Chapter 2 “Measuring Performance: Interpretation Issues” focuses on some of the special considerations to be given in evaluating performance for certain products and for the partner-agent model. Chapter 3 on “Benchmarking” introduces the subject of benchmarking.

Throughout, the common distinction between life and non-life is dropped in an attempt to generalize the discussion with some specific illustrative examples and special cases taken up where warranted.

THE MICROINSURANCE FACTSHEET (Box 1)

The microinsurance factsheet and this handbook form the toolkit “Performance Indicators for Microinsurance”. Both tools complement each other and are designed to be used together. The factsheet facilitates the calculation of the key performance indicators, while the handbook assists the reader with the interpretation of the obtained results.

The microinsurance factsheet is an easy-to-use tool that comprises the financial statements adapted for the microinsurance practitioners. It applies the relevant key principles and calculates the ten key performance indicators that are discussed in this handbook. Set up in Excel, the microinsurance factsheet only requires the user to have Microsoft Excel installed. To benefit from the built-in features, Excel macros must be enabled. The features include changing the interface language, popup Boxes with description for each item to be filled in and customisation of the financial statements depending on the number of microinsurance products and access to reinsurance.

In order to compute the ten key performance indicators, users of the microinsurance factsheet need to fill in four sheets:

The first, Identification sheet, is merely a short description of the organisation and microinsurance products. Depending on the number of products inserted, additional lines will be added to the financial statements. This is in line with the “separation of data” principle in which it is explained that data needs to be split out in order to calculate the performance indicators on a product rather than organisational level. In addition, reinsurance-relevant items will only appear in the income statement and balance sheet if a user indicates that they have a reinsurance treaty for a specific microinsurance product.

The next two sheets, Balance Sheet and Profit & Loss Statement, form a basic financial statement for microinsurance providers. This model differs from that of regular insurance companies in order to comply with the key principles and indicators discussed in this handbook. Differences include the separation of income and expenses on a product level, reinsurance booked as an expense and the inclusion of donations. The traditional division between life and non-life insurance is not retained. The assets of the factsheets' Balance Sheet are divided in admitted and non-admitted assets to allow a proper calculation of the solvency ratio, irrespective of the legal statute of the microinsurance provider.

The last sheet to fill in requests additional information in order to compute the key performance indicators that don't extract components from the financial statements. In order to calculate coverage ratio, growth ratio, renewal ratio, promptness of claims ratio and claims rejection ratio, a user is asked to complete some key data on the insured of the microinsurance programme.

Based on the information provided, the ten key performance indicators are calculated in the ratios sheet and are visualised in comprehensive charts in the graphs sheet. The graphs strive to demonstrate the interaction between the different key indicators by combining relevant indicators into one chart.

REGISTER WITH WWW.MICROFACT.ORG

Free-registered users will not only receive the factsheet for free and advice on how to use it, but will also be kept updated on new releases of both microinsurance factsheet and the handbook “Key Performance Indicators for Microinsurance” and related workshops.

1. MEASURING PERFORMANCE IN MICROINSURANCE

This chapter contains definitions, formulas, descriptions, and interpretations of the ten key microinsurance performance indicators. Where possible, some preliminary exhibits and discussion of sector performance with regard to each of the performance areas are presented.

Throughout, the reader should keep in mind that these key indicators are meant to be monitored by Management on a regular basis and in themselves do not tell the whole story; they are just key indicators and not the entire set of possible indicators. Each of them can be expanded into one or more sub-indicators which will provide additional insight into what is happening in a particular area. For example, the incurred claims ratio indicator can be broken down into several sub-indicators including the “incidence per risk exposure” and the “average claims amount” indicators. Additional indicators can also be added if desired to measure operational areas that are not yet covered.

Unlike in microfinance, there are often multiple partners involved in implementing a microinsurance programme. In addition, product diversity and complexity are generally greater than in microfinance. This complicates the discussion somewhat since performance must be measured across multiple partners and delivery modes as well as a variety of product lines. As discussed in Chapter 3, this diversity also makes benchmarking and comparing performance for microinsurance more challenging than for microfinance.

In this handbook, we define microinsurance as “...the protection of low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved. This definition is essentially the same as one might use for regular insurance except for the clearly prescribed target market: low-income people [...] generally microinsurance is for persons ignored by mainstream commercial and social insurance schemes, persons who have not had access to appropriate products.”¹

The main emphasis of the handbook is to review performance from the point of view of the consumer of the product or service, i.e. the insured client or member. As Principle 9 describes, the microinsurance programme should be at the service of the insured member or client and, from that perspective, it makes sense to compare performance to that of others, with a view to becoming more efficient.

Viewing performance from this perspective is meaningful for all types of providers since, in the end, good performance and greater efficiency boils down to delivering the best goods and services in the most economical way to the consumer. For programmes with multiple partners, this also implies that performance will be viewed as a whole without focusing on a specific partner.

Some microinsurance programmes are member-owned schemes while others are not. In the first case, we refer to the insured in this handbook as members and in the latter case as clients. The term insured is used generically and can mean either a member or a client. In addition, although we use the terms product and programme interchangeably, we favour the term programme since it is more general and also includes the notion of service. Some microinsurance providers, like for example member-based schemes, tend to view microinsurance as a service rather than a product.

1 Churchill, Craig, 2006: What is insurance for the poor? In Churchill, C. (ed.): Protecting the poor: A microinsurance compendium. Munich Re Foundation/ILO, Geneva.

1.1 THE KEY PRINCIPLES

This chapter describes nine key principles regarded as an integral part of the management of a microinsurance programme. In a sense, these can be viewed as a priori conditions or assumed requirements without which transparent and accurate performance measurement is impossible. These performance principles are not to be confused with the fundamental principles of insurance or risk-pooling (see Appendix A).

THE NINE KEY PRINCIPLES ARE:

I. Accounting

1. Separation of data
2. Production of financial statements

II. Insurance management

3. Collection of relevant and accurate data
4. Calculating and setting up reserves
5. Efficient and continuous claims monitoring
6. Clear investment policy

III. Operational practices

7. Technical insurance capacity
8. Transparency
9. Client focus

I. ACCOUNTING

Principle 1: Separation of data

The business of microinsurance is very technical and grounded on fundamental principles and statistics. Long-term success requires good management performance in several key areas including product design, risk and investment management, quality servicing, efficient distribution, and accurate pricing. To perform consistently well in all of these areas, managers need relevant and reliable information extracted from quality data generated by the microinsurance operations. It follows that one of the key functional units that should be developed early on is a competent data department skilled at developing systems and data management.²

Many organisations provide services other than microinsurance, and although the activities of delivering multiple services may be integrated, microinsurance data must be captured in such a way that it can be easily separated from data generated by non-microinsurance activities. Separate accounting for microinsurance and other activities such as microfinance will enable isolated measurement of financial performance for each activity. For small-scale microinsurers, for example, reasonable estimates of part-time staffing costs and use of other resources for the microinsurance activity may be sufficient; however, larger-scale microinsurers with fulltime dedicated staff should account for actual salaries and all other associated costs of running the programme.

² Garand, D. and J. Wipf, 2006: Pricing microinsurance products. In Churchill, C. (ed.): Protecting the poor: A microinsurance compendium. Munich Re Foundation/ILO, Geneva, p. 240.

The principle also extends to maintaining separate data for each product as this enables monitoring, management and performance indicators evaluation for each product. Isolating performance of products facilitates analysis and enables a more specific management response. Sometimes, the results of a poorly performing product can be masked by the stellar performance of a companion product. To identify this requires analysis of product-specific data. Until a microinsurance programme can do this, it is not likely to realize its full potential.

Principle 2: Production of financial statements

For any microinsurance programme, one should be able to produce the following financial statements based on its activities:

- a) Income Statement (also called Profit and Loss Statement);
- b) Balance Sheet;
- c) Cash Flow Statement (also called Sources and Uses of Funds).

There are variations in the way financial statements are prepared in different regions of the world. For example, in many French-speaking countries the format is quite different from that used in other countries such as the United States. Regardless of the format, there are minimum standards expected to be incorporated:

- Microinsurance information is separated from that of all other activities;
- Information is segmented for each microinsurance product;
- Information is based on complete and audited databases;
- Accrual accounting method is used recognizing earnings, expenses, claims, and liabilities as these are incurred;
- Statements are produced at least quarterly;
- Statements are produced in a timely manner, within a pre-determined number of days³ after the accounting period has ended;
- Net income is shown prior to non-permanent subsidies (i.e. subsidies that are temporary and expected to end in future periods); and
- Reserve levels (see Principle 4) are recognized as liabilities on the Balance Sheet and reserve increases as expenses on the Income Statement.

The financial statements prepared accordingly are required by Management to get a punctual overview of the performance, but the statements may also need to meet some additional regulatory requirements and standards.

The Factsheet, a part of the key performance indicators toolkit, is discussed in Box 1. The format of the Balance Sheet and Profit and Loss used in the Factsheet can be used as a guide for developing a Profit and Loss Statement and Balance Sheet for a microinsurance programme.

This principle was principle 3 in the previous version, but was interchanged with the following principle due to the process of categorisation.

³ Ideally as quickly as possible, realistically within 15 days, not later than 30 days.

II. INSURANCE MANAGEMENT

Principle 3: Collection of relevant and accurate data

Principle 1 establishes solid reasons for separating microinsurance data from the rest of an organisation's data. Since the insurance business is centred on cumulative statistics extracted from its experience data, robustness and relevance of collected data is essential. Databases should be designed with inputs from various professionals including an actuary and programme managers to ensure that the technical information required for pricing, calculating reserves, and operational management is captured adequately for each product.

How operations data is used (Table 1)

Performance area	Requirements to perform well	Examples of primary operations data needed
Risk management	Understanding of insured risks	<ul style="list-style-type: none"> • Life, disability, health: date of birth, gender, occupation etc. of all insureds • Health: Diseases / causes of hospitalization • Weather: Rainfall data
Investment management	A combination of assets that optimizes security, liquidity and investment income for the programme	For life and health, primary data such as age, gender, occupation, and other information about insured persons enables the actuary to project the timing and amounts of future claims and expenses. This information is then used to select appropriate assets to invest the reserve funds (see Principle 4)
Product and service quality	<ul style="list-style-type: none"> • Understanding of customer preferences • Ability to measure performance 	<ul style="list-style-type: none"> • Date claims were reported and paid to monitor promptness of claims payment indicator • Reasons for renewal / non-renewal
Cost control and claims management	Understanding cause of claims	Detailed claims information such as date the insured event happened, the amount of damage/loss, etc.
Overall management	Financial statements	Detailed transactions data such as individual premium payments, benefit payouts, etc.
Marketing	Responsive products with good value	<ul style="list-style-type: none"> • Events that cause the claim, esp. death, hospitalization, disabilities • Reasons for renewal / non-renewal
Product pricing	Premium rates commensurate to the covered risks but still competitive and of good value	<ul style="list-style-type: none"> • At least, all of the above data • Details about insured persons such as date of birth, gender, etc. • Details about insured assets such as financial value, composition, serial number etc.

While some microinsurers do not collect sufficient or the right kind of data, there are some that collect too much data. There is a trade-off between the cost of collecting additional data and the incremental gains from the added information. Too much data collection can be costly whereas insufficient information will impair management capability and the evolution of the business. Depending on the organisation, adequate management information systems can range from a series of simple cumulative⁴ spreadsheets to elaborate custom-built administration systems or comprehensive financial accounting software spanning all departments.

A bad practice of many microinsurers is to delete data records of policies or certificates that have expired or when members drop out of the programme. Data should be kept indefinitely in archives since it will be useful to analyse the history at a later point. Another common mistake is to keep running totals of key figures such as premium payments instead of maintaining complete individual transactional histories. Without such histories, it is difficult for the actuary to price products accurately since assumptions must be used to bridge the data gaps.

The quality of data is an important component of this principle. Some organisations accumulate voluminous databases but do not invest enough in ensuring that the data is useable and accurate. Systems should be designed to control and edit data upon entry; simple drop-down menus, for example, increase the accuracy and the speed of data entry. Software applications should be added to the system to periodically analyze database consistency based on the history of business rules.

For programmes involving several partners, databases may be fragmented. For example, a health programme may capture data at each of several possible partners: Distributor, third party administrator (TPA), insurer, intermediary, service providers, and others.

To ensure that the appropriate data is captured, the various end-users must be involved in the database design. Organisations often rely too heavily on their programmers to determine the types of data to be collected. Design of the database requires an in-depth understanding of microinsurance operations and an ability to foresee future changes in the requirements.

Examples of microinsurance databases and content design (Table 2)

Programme requirements	Database design requires input from
For evaluating performance indicators, for effective management	Management and support staff
For financial management and accounting	Management, accountant, and support staff
For calculating reserves, for pricing products	Actuary, underwriter
For meeting regulatory requirements	Management, actuary, support staff
For managing distribution channels (e.g. MFI, individual agents, etc.)	Marketing managers and field staff

A quality management information system which must include:

- a) A relational database in normalized form;⁵
- b) Applications developed for claims monitoring and performance indicator evaluation;
- c) Applications for financial and risk management.

In summary, data is an invaluable resource that must be harvested and managed well to enable extraction of intrinsic and invaluable information.

⁴ I.e. cumulative histories of transactions and status changes, not cumulative (running total) fields.

⁵ In relational database theory, normalization is the process of restructuring the logical data model of a database to eliminate redundancy, organize data efficiently, reduce repeating data, and to reduce the potential for anomalies during data operations. Definition by Wikipedia: http://en.wikipedia.org/wiki/Relational_database.

Principle 4: Calculating and setting up reserves

Over time, all microinsurance programmes build up liabilities such as accrued expenses and benefits payable in the future. Liabilities must be funded as accrued so that they can be paid quickly when due. Actuarial reserves, reserve funds or technical provisions, or simply reserves are funds set up by insurers and managed for this purpose.

In general, a reserve in this handbook may be regarded either as a fund or as an accounting provision which is set aside to fund the future net liabilities of a microinsurance programme. It is rare to find a programme that does not require reserves. In the case of Partner-Agent programmes, the distribution organisation (the agent) usually does not require reserves, but the insurer covering the risk (the partner) is required to set up the appropriate reserves in order to answer its future obligations and to measure the financial state of the programme (from its perspective) for a particular accounting period. Similarly, a stand-alone risk-bearing microinsurer must calculate and set up reserves.

The most general definition of a reserve is **actuarial present value of future liabilities less actuarial present value of future premiums**. Usually, calculating exact reserves using this formula is very difficult since complex actuarial calculus and statistics must be employed. Commonly, simplified methods and tools that follow accepted standards and practices are used instead. These require the databases discussed in Principles 1 and 3 as primary input.

WHAT IS ACTUARIAL PRESENT VALUE? (Box 2)

In plain language, actuarial present value refers to the estimated current value of a monetary amount which may be payable or receivable in the future. In calculating the current value, the actuary discounts the future amount to the present day by incorporating the time value of money (i.e. considering that investments earn interest, dividends, or appreciate in value) and the probabilities and timing of all events that determine whether or not the said amount will actually materialize.

By way of a very simple example, suppose there is a 75 percent chance that 1000 will be paid exactly one year from now.

If the prevailing average interest rate is expected to be 10 percent over the year, the actuary would estimate the actuarial present value of that payment as follows:

$$1,000 \times 0.75 / 1.10 = 681.82$$

Since reserves represent liabilities as of the end of an accounting period, methodologies should accurately measure any outstanding liabilities at that point. Aside from the expenses and claims expected from the usual risk events (such as normal rates of death and illness), there should be some provision for less probable events (such as earthquakes, disease epidemics⁶) as well. Reserves for long-term products should be calculated directly by an actuary.

In microinsurance, the common reserves calculated for life and health products are shown in Table 3 below. These are explained in more detail in Appendix B.

6 Every insurer and self-insured programme should, in addition, and if possible, buy reinsurance coverage for large scale catastrophic events.

Simplified reserves set up for most life, health, and disability programmes (Table 3)

Reserves	Type of liability
Unearned premium reserve	Claims yet to happen over the remaining term for which premium was paid
Incurred but not reported reserve	Claims that have happened but are not reported yet
Claims in course of settlement	Claims that are reported but still being settled
Accrued liabilities reserve	Other accrued future expenses, claims, savings, accrued interest

Aside from those, some programmes also set up a contingency reserve to temporarily retain profits or to absorb statistical fluctuations in claims.

The level of reserves varies depending on the type of microinsurance product, on its design and features, and on how the microinsurer is implementing the programme. For example, reserves for a life microinsurance product are not the same as the reserves needed for a health microinsurance product, while identical products carried by two different microinsurers may require different reserve levels because of their differences in management style or their approaches to distribution.

Some examples of the determinants that affect reserve levels for a particular product include:

- The risk profile of covered clients or assets;
- Management style of the microinsurance programme;
- Assumed future interest rates and inflation rates;
- Benefits structure and other product features;
- Regulatory requirements; and
- Margins to compensate for error in pricing assumptions.

Principle 5: Efficient and continuous claims monitoring

In observing this principle of continuous claims monitoring, the focus should be on detecting developing trends and patterns in claims as this will lead to actionable and better informed management decisions. This is especially important for some types of programmes such as health insurance where any of the numerous volatile factors affecting claims can change suddenly. Both claims incidence (frequency) and claims amount (severity) must be separately monitored.

Continuous monitoring will also enhance understanding of the degree and nature of insured risk events, aid in identifying moral hazards, improve pricing, and help minimize adverse selection. This type of monitoring and analysis is important even for community-rated programmes⁷ because it will help to identify emerging problems early on. Studying denied claims is also useful because it gives insight towards better design of products and education materials.

For life, health, and disability products, actual claims should be compared to expected claims by age, gender and other important parameters that were used for setting the premium rates; this will shed light on the accuracy of the pricing assumptions. Pricing may also improve as new and important parameters are identified.

⁷ Community-rated programmes are generally more inclusive and may therefore be less inclined to monitor claims closely.

To self-test whether this principle is being observed, the following questions should be considered:

- Does the organisation have a cumulative claims database designed with inputs from Management and experts including an actuary?
- Is the claims database current and complete?
- Can changes in the trend and pattern of claims be quickly identified?
- Are there software tools capable of comparing actual claims to expected claims for a particular period?
- Can adverse selection and moral hazard be easily detected?

There are many important attributes (data elements or fields) that every claims record must have. While requirements vary by product, all claims records should at least contain the attributes in Table 4.

Basic data elements required for monitoring claims (Table 4)

Data element	Explanation
Incurred date	When did the event that led to the claim occur?
Reported date	When was the claim reported to the microinsurer?
Payment date(s)	<ul style="list-style-type: none"> • When was the claim paid? • When did the money reach the beneficiary?
Insured person / policyholder	This is the primary key to insureds' database, where presumably the important attributes of insureds is captured.
Risk event and cause that resulted in a loss / claim	<ul style="list-style-type: none"> • What was the risk event that resulted in the claim? (e.g. cause of death / disability / sickness / cause of property damage) • Health insurance: condition or type of sickness should also be tracked, at least by major disease category such as malaria, etc. to enable preventative measures
Incurred and covered losses	<p>It is very important to capture BOTH incurred losses and covered losses. Capturing incurred losses enables</p> <ul style="list-style-type: none"> • Evaluating of the adequacy of the insurance cover • Calculating cost of extending the coverage • For health, determining appropriate co-pay and benefit maximum structures
Breakdown / details of losses	For health insurance, a breakdown of both incurred and covered costs enables more effective claims management and calculation of the financial impact of exclusions.

Principle 6: Clear investment policy

For some microinsurance products, especially those with longer duration or with a significant savings component, viability rests heavily on the investment management decisions of assets backing up reserves, capital, and surplus. Therefore, a microinsurance organisation should have a formal, clear, and prudent investment policy with the following minimum requirements:

- There are clear rules on asset diversification;
- There are limits on the proportions that can be invested in each major asset class;
- There are limits on proportions and amounts that can be invested in a single asset or organisation;
- A minimum investment grade is specified for each asset class; and
- For products with duration over one year, asset-liability matching is required for investment of reserves.

Regulated programmes often have to adhere to the prescribed investment requirements of regulators, which the investment policy should then augment. This is especially true for long term or permanent insurance products which are especially sensitive to the way investments are made.

More generally, an investment policy should at least address the following issues:

- a) **Asset quality** (grade of investments) is especially important if the microinsurer has substantial accumulation of assets for backing long-term products (accrued liability reserves) or has had a grant to set up capital.
- b) **Asset diversification** aims to prevent a concentration of invested assets, however, the potential to diversify will depend on the country-specific situation. Having all investments concentrated in a single source or asset class represents a potential problem. As a general guideline and standard, real estate should not exceed ten percent of invested assets.
- c) **Asset-liability matching** should be practiced for longer term products since a significant mismatch can bankrupt the organisation.
- d) **Liquidity management** is also necessary in the short-term.

WHAT IS ASSET-LIABILITY MATCHING? (Box 3)

A reserve, as explained in Principle 4, is set up to fund accrued liabilities. Even if the reserves for a product are adequately funded at present, the types of assets that the funds are invested in may not be appropriate and could result in either illiquidity or insufficient earnings in the future. This can happen even if the assets are of good quality. The problem arises due to the future mismatch of assets and liability cash flows.

The purpose of asset-liability matching is to optimally align assets and liabilities to accomplish two main objectives:

- Ensure sufficient long-term liquidity by aligning projected asset cash flows with projected liabilities cash flows; and
- Maximize earnings within investment policy restrictions.

The process is as follows:

- 1) Project all liabilities (claims, expenses, cancellation payouts (i.e. surrenders), etc) into the future, incorporating both the expected timing and the amount. The result is called a projected liability stream or future liability cash outflow, and can be produced by software applications “feeding off” the microinsurance databases (yet another reason to manage data well).
- 2) Reshuffle the assets that reserve funds are invested in, so that projected investment interest, dividends, and other income, together with maturities of time deposits and bonds (i.e. the cash inflow or income stream) will approximately match the projected liability stream.

The larger the block of insurance business, the more frequently the insurer can reshuffle assets. High turnover or rapid growth of the business may require more frequent reshuffling. Reshuffling can be accomplished more effectively if the market for trading assets is quite liquid and the investment choices are extensive.

In less developed countries where many microinsurance programmes are presently concentrated, capital markets are usually quite limited and less developed. Asset-liability matching can still be practiced in a more basic way, making do with whatever quality assets are available.

Islamic banking does not permit investments in interest bearing instruments but does allow charging of fees and profit sharing. Considering this, the discussions about this principle can be readily modified and adapted to an Islamic context (see Chapter 2.7).

III. OPERATIONAL PRACTICES

Principle 7: Technical insurance capacity

Many practitioners are new to the insurance business and enter without proper preparation and training on insurance principles, risk management, investment management, and other important technical areas. Insurance requires an in-depth understanding and appreciation of the technical insurance principles upon which it is grounded as well as of good and bad management practices. This is especially true for self-insured schemes; for partner-agent setups the insurer can (and should) provide training and technical support.

As stressed in Principle 3 about the collection of relevant and accurate data, it is important to design such systems with the help of Management and an actuary to ensure that the data captured will be useful for a periodic pricing review of products. Actuarial programmers can also develop applications such as reserve calculations and reinsurance.

This principle requires development of sufficient technical capacities to manage the programme effectively. The following self-test helps to identify capacity gaps and whether a programme could benefit from expert intervention:

- Are internal and external audits conducted?⁸
- How does the management information system compare to the suggested minimum standard?
- What type of information is being captured and how is it being used?
- Aside from accumulation of data, what types of management information do systems provide?
- What is the source and content of management and staff training on microinsurance?
- How many of the first six principles are not being met due to lack of technical capacity?

Capacity building can be funded by donors, government grants, or by insurers. All weak areas should be addressed: Marketing, insurance fundamentals, risk management, assistance with audits, underwriting, staff development, and so on.

Principle 8: Transparency

Every calculation, procedure, data collection, and report should follow the principle of transparency in order to provide valuable and accurate information, to improve processes and increase credibility. This not only means making more data available to a wider spectrum of stakeholders and the insured public, but also making the data more accessible and presented in a more meaningful and understandable language and format. Drowning the public in large volumes of data does not in itself increase transparency.

This principle complements the other principles well since, for example, they promote better accounting standards, timely reporting, use of performance indicators, improved software applications and databases, enhanced management capacity, and so on.

Furthermore, evaluating and publishing the key indicators periodically will increase transparency. It is also important for microinsurance providers that have received a grant to have clear information available to donors and grantees on their available resources. Subsidies should not be hidden; it is in the best interest of all stakeholders that there is clear economic accounting of microinsurance activity.

⁸ Internal audits will reinforce the overall control of the structure and should be conducted frequently; for example, quarterly. External audits are equally necessary but may be conducted less frequently; perhaps once a year.

Principle 9: Client focus

The primary purpose of microinsurance is to offer microinsurance products to the less privileged, although there are some players in the market that exploit it for their benefit. These organisations would score “poorly” if there were a pro-poor scoring system linked to the indicators. As such, a ninth principle was added- i.e. the microinsurer should have a clear, strong, and consistent focus on providing good value and efficient service to the insured client.

This implies that the managers should be keenly attuned to the true needs of the clients. In fact, the mission and objectives of the microinsurance programme should state that the focus is on providing relevant products and services at an optimum and sustainable price. This means that every management decision should always consider foremost the impact of the decision on the client. This principle also reinforces why performance should be evaluated from the consumer’s perspective and concerns over social performance should be linked to financial performance.

A member-owned microinsurance programme is likely to be more focused on its clients since it is organised by its members and they regularly participate in democratic governance. Conversely, insurance companies and service providers owned by stockholders who demand a competitive return on their invested capital have to be more focused on profit and therefore might be less concerned with optimizing the service to and value for the poor. There are plausible exceptions though, such as in the case where an insurer may regard microinsurance as a pioneering endeavour aimed at gaining trust and confidence of a community and with a follow-up plan of introducing additional services in the future.

BUSINESS PLANNING (Box 4)

Inherent in this set of nine principles is an assumption that microinsurance managers are guided by a strategic five to seven year business plan which is regularly updated at least every two to three years. Preparing a business plan and managing it accordingly is in itself an important principle that all business endeavours should practice automatically.

Strategic business plans are best if prepared interactively with input from all major stakeholders including the entire implementation team since this gives everyone a sense of ownership and a determination to execute the plan and achieve its objectives. If an organisation has other businesses or member services aside from microinsurance, the business plan should be a comprehensive one but with a sub-plan for microinsurance. Based on the strategic plan, annual operational plans and budgets can be prepared as a guide for various departments.

All business plans naturally contain performance targets and some of these should be key indicators calculated from the projected financials and other sources. For example, the projected net income and incurred expense ratios are standard target performance areas in business plans. As Management monitors actual performance over time, special attention should be given to the variance in actual and projected indicator values.

1.2. THE KEY PERFORMANCE INDICATORS

The main goal for using performance indicators is to produce a realistic picture of a microinsurance programme's overall performance in key areas. This means that even when multiple partners are involved, indicators should be calculated from the combined data of all partners. Since the perspective is from the programme as a whole, the indicators are applicable for all organisational types and models but are not always relevant for all products. This will become more apparent in the discussions of some of the performance indicators and in Chapter 2, which briefly discusses some interpretation issues that affect different products.

While the main focus of the ten key indicators is on financial viability, their social performance dimension becomes apparent when viability is not perceived as the main end, but as one of the requirements towards providing efficient microinsurance products to the poor.

The key performance indicators are grouped into four performance areas in table 5 but are not presented in any hierarchical order. With the exception of the two financial prudence indicators all should be calculated on a product level. Larger programmes that allocate specific assets to insurance products can also track solvency and liquidity ratios by product.⁹

The four categories of key performance indicators (Table 5)

Indicator	Key questions	Category
Incurred expense ratio	How efficient is the delivery of microinsurance?	PRODUCT VALUE
Incurred claims ratio	How valuable is microinsurance to the insured?	
Net income ratio	Is the microinsurance product or programme viable?	
Renewal ratio	How satisfied is the insured?	PRODUCT AWARENESS AND SATISFACTION
Coverage ratio	How well does the product meet the true need?	
Growth ratio	How well developed is insurance awareness? How competitive is the product vis-à-vis other products or household risk management alternatives?	
Promptness of claims settlement	How responsive is the service? How well does product fit the insured's needs?	SERVICE QUALITY
Claims rejection ratio	How well does the insured understand the product?	
Solvency ratio	What is the insurer's ability to meet future obligations?	FINANCIAL PRUDENCE
Liquidity ratio	How readily can the insurer meet its short term expense and claim obligations?	

It must be understood that many of the indicators are interrelated and dependent on one or more of the others. For example, a programme with a high incurred expense ratio will mathematically (and directly) reduce the net income. Other effects are more long term and indirect; a high expense ratio generally translates to inefficiency and poor value which will ultimately reduce market satisfaction if it is not corrected. Lower market satisfaction will be manifested in lower values of all three indicators in the awareness and satisfaction category.

⁹ Separate investments management for each product is preferred for larger programmes, especially for products with long(er) duration. This requires assets to be assigned to each product and separate asset-liability matching.

A. PRODUCT VALUE

The value performance indicators focus on how much the insured, on average, receive for their money. As described later, a higher incurred claims ratio means that on average, more financial benefits are being paid back to the insured in relation to premium cost (increased value). On the other hand, high net income and high expenses have the opposite effect of reducing value since less money is available for benefits. Changes in product value drive the awareness and satisfaction indicators such as in the case of member-based schemes where members increase or decrease their participation in reaction to the changes in value.


Clearly, the three indicators also address viability. Without a positive net income the programme will not achieve viability and will become reliant on subsidies to survive. A positive net income, on the other hand, cannot be realized without a proper combination of expenses and benefits.

Nr.	Indicator	General interpretation
1	Incurred Expense Ratio	How efficient is the delivery of microinsurance?
2	Incurred Claims Ratio	How valuable is microinsurance to the insured?
3	Net Income Ratio	Is the microinsurance product or programme viable?

Indicator 1: Incurred expense ratio

Definition

The incurred expense ratio indicator is defined as the incurred expenses in a period divided by the earned premium for the same period. The period can be a fiscal year or any other accounting period.

 A 25 percent incurred expense ratio means that for every 100 of premium earned in a given accounting period, 25 is incurred as expenses.

How to calculate it

$$\text{Incurred expense ratio}_n = \text{Incurred expenses}_n / \text{Earned premium}_n$$

Notes

- Incurred expenses n is the sum of expenses as recognized using accrual accounting methods for period “ n ”. This amount should reflect all actual expenses incurred in the period, including commissions and items that are commonly overlooked such as amortisation of equipment, depreciation, and cost of software development. Expenses should not be reduced to reflect subsidies or grants.¹⁰ Note that incurred expenses may or may not be equal to the actual expenses paid out in the same period.
- Earned premium n is the sum of premium earned as recognized using accrual accounting methods for period “ n ”. On the Profit & Loss Statement it equals premium income in the period (which is not quite the same as cash premium)¹¹ minus change in unearned premium reserve.¹² It also does not include any types of policy or membership fees if these are being collected.
- It is important to note that many insurers add claims settlement expenses to their claims cost and do not treat it as an operating expense. For calculating this indicator, such expenses should still be included in the numerator.
- Investment expenses should also be quantified and included; in the Factsheet this is not done in order to simplify the tool.
- Similarly, reinsurance expenses should also be included. To do this correctly, the Profit & Loss Statement should be prepared in a manner similar to the example from the factsheet example shown below. Here, reserves are calculated as if there were no reinsurance; adjustments for reinsurance then have to be made in the expenses section of the statement.

10 For example, if a training venue has been provided for “free”, the programme should still reflect the cost as if it had paid for use of the venue, and then offset the cost as grant income after “Net Income” line of the Income Statement.

11 Cash premium is literally cash premium received in a period. Premium income can mean any type of premium credit by the programme’s accounting department.

12 For more details on earned and unearned premium, see Appendix B.

Incurred expense ratio

Profit and Loss statement of the period	
Item	
P01	Operating income
P02	Earned premium
P03	Gross written premium
P04	Change in unearned premium reserve
P05	Other operating income
P06	Membership fees
P07	Commission fees received (non-reinsurance)
P08	Gross investment income
P09	Other operating income (non-extraordinary)
P10	Expenses
P11	Incurred claims
P12	Gross claims paid
P13	Change in incurred but not reported claims reserve
P14	Change in claims in course of settlement reserve
P15	Change in accrued liabilities reserve
P16	Operating expenses
P17	Personnel expenses
P18	Administrative expenses
P19	Distribution and communication expenses
P20	Other operating expenses
P21	Reinsurance expenses
P28	Net income
P29	Non-operating income
P30	Non-operating expenses
P31	Net Income (non-extraordinary)
P32	Extraordinary income
P33	Extraordinary expenses
P34	Net Income (before donations and income taxes)
P35	Donations
P36	Taxation on income and profits
P37	Net Income (after donations and taxes)

Where do the numbers come from?
Profit & Loss Statement (BRS02 Fact Sheet)

$$\text{Earned premium} = P03 - P04 = P02$$

$$\text{Incurred expense ratio} = P16 / P02$$

$$\begin{aligned} \text{Incurred expenses} &= P17 + P18 + P19 + P20 + P21 \\ &= P16 \end{aligned}$$

Some programmes regard membership or client fees as premiums which are either earned immediately or over a fixed period. In this handbook, such fees are regarded as other income.

If there are several partners involved, each participant's expenses should be included. One such example is an NGO providing health insurance with an insurer taking the risk and a third party administrator managing the claims and accrediting service providers; in this case the NGO will incur expenses for distribution and administration (which it has to separate from expenses related to other operations), the insurer will have expenses related to assuming and managing the risk, and the third party administrator will incur expenses for the role that it plays. Each partner's expenses should be included to derive this ratio.

Often, microinsurers do not calculate all incurred expenses and ignore such costs as operating staff working part-time on microinsurance. As emphasized in Principle 1, measuring all of these expenses on a product level is important in order to evaluate the true performance.

Many programmes invest heavily in training, in developing systems and tools, and in consultants early on in the program. These types of early and exceptional development expenses should be amortized over several accounting periods since it is an investment that will benefit the programme for some time and can be viewed similarly to a prepaid expense. Regular training and refresher or upgrade training should, however, be immediately booked as an incurred expense.

Significance and interpretation

The incurred expense ratio is the primary indicator of efficiency. Good product value can “only be achieved with a low expense ratio, which is the proportion of the premium earned in a given period consumed by incurred expenses in the same period.”¹³ The expense ratio is the portion of premium required to cover all marketing, sales (including commissions), administration, claims settlement, and distribution costs of the microinsurance programme.

While a low incurred expense ratio reduces the cost burden to the insured due to lower premium, it may also point to insufficient investment in customer education or maintaining quality of service. On the other hand, if too much is spent in these areas, the increased premium may diminish the overall value of the programme. Achieving an optimum balance is one of the main challenges but a required ingredient for long-term success. The ideal is an incurred expense ratio of 20 percent or lower while maintaining a high level of awareness and satisfaction.

PROFIT AND LOSS: HOW REINSURANCE IS HANDLED (Box 5)

The current industry accounting practice of netting reinsurance premium and claims in Profit and Loss Statements masks the real underlying experience of a programme in two ways:

- Reducing the earned premium by reinsurance premium paid out, reduces the denominator in our three value indicator calculations, thus distorting the real underlying values.
- When incurred claims are reduced by reinsurance claims received, it again distorts the real indicator values.

In theory, the reinsurance premium and claims should almost equal each other over time, with the exception of the reinsurer's expenses and profit margin. The difference between reinsurance premium and claims is an expense to the microinsurance programme. By correctly presenting reinsurance in the Profit and Loss (see the Factsheet) the cost of reinsurance is properly reflected in the value indicators.

A second dilemma for self-insured programmes is reinsurance. Reinsurance comes at a cost but if appropriately designed it is an important expense since it reduces capital requirements and the chances of financial ruin. So, how much and what kind of reinsurance should be purchased? This cannot be answered here since each programme has different requirements. It is however safe to generalize that some programmes don't buy the right kind of coverage, some buy too much, and others don't reinsure at all. For many, coverage for rare, large-scale, natural events (such as earthquakes, epidemics, etc.) that would result in co-variant claims is sufficient. Aside from raising the incurred expense ratio unnecessarily, reinsurance misfit does not have the required effect of improving solvency.

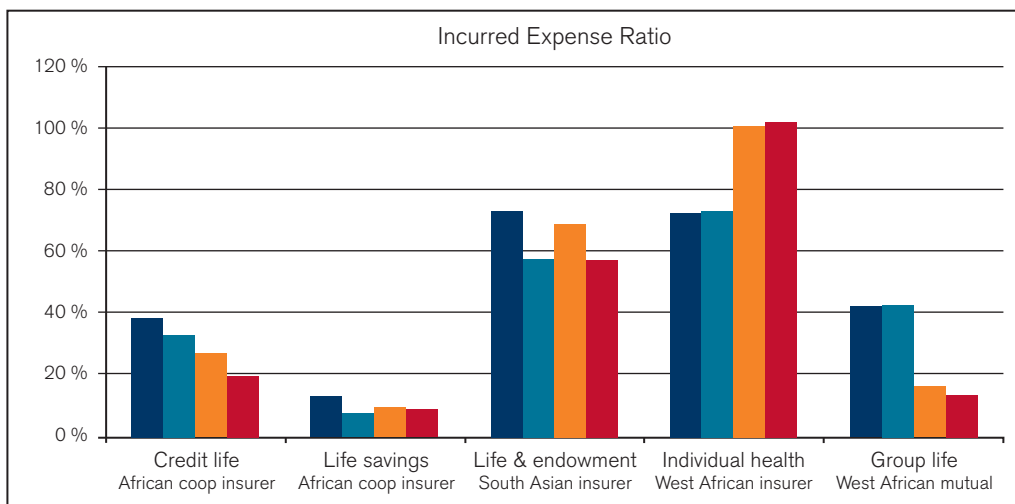
13 Garand and Wipf, 2006: page 329.

If the microinsurer is to provide long-term value and relevance to the insured population, it has to be able to find ways to deliver services efficiently. It is important to first understand the overall level of premium required for effective delivery. If this amount is “high,” then perhaps the distribution method is not working optimally, or the claims management function may be too burdensome, or it may be due to some other reasons. In any case, Management should constantly look for operational changes that can be implemented to reduce overall expense levels.

Social interpretation

A high expense ratio of some programmes may be indicative of Management enjoying excessive salaries and benefits at the expense of the poor. More commonly, it points to a requirement to streamline processes or to develop better delivery technology. In any case, lack of efficiency has important social ramifications since there is a direct drain on resources that could otherwise be used to improve benefits and servicing.

Sample performance



The graph above contains the incurred expense ratio of five different programmes:

- The first is a credit life programme offered by a West African cooperative network to its primary institutional members. This programme grew rapidly over the four years and the increased business volume combined with minimal increases in fixed cost brought down the incurred expense ratio over the years.
- The second programme is a life savings product managed by the same cooperative network. The expense ratio was even lower than for credit life since coverage is purchased on a bulk basis by participating cooperatives.
- The third programme consists of an individual life and endowment product which had been scaled down and offered to the microinsurance market by a South Asian insurer. The product is very complicated and difficult to understand for that market. Uptake was slow, and due to the low penetration and high first year commissions to sell the product, expense ratios remained very high (near 60 percent).
- The fourth programme is an individual health product which may have experienced adverse selection and insufficient growth. As a result, the programme appears to be in a dire condition as the expense ratio exceeded 100 percent in the final year.


- The fifth programme is a West African mutual offering group life. The programme received technical assistance from a foreign source and invested in capacity building. Due to this, the products and services improved which in turn generated modest growth and a dramatically reduced expense ratio.

The two programmes with voluntary participation (Nr. 3 and Nr. 4 from the left) have higher expense ratios than the others where enrolment is automatic or mandatory. This is consistent with a general observation in microinsurance. Secondly, as case Nr. 4 seems to indicate, health microinsurance generally has higher expense ratios than life programmes due to the added administration but this is not always true.

Indicator 2: Incurred claims ratio

Definition

The incurred claims ratio indicator is defined as the incurred claims in a period divided by the earned premium for the same period. The period can be a fiscal year or any other accounting period.

 A 70 percent incurred claims ratio means that for every 100 of premium earned in a given accounting period, 70 is paid back in the form of benefits (claims).

How to calculate it

$$\text{Incurred claims ratio}_n = \text{Incurred claims}_n / \text{Earned premium}_n$$

Notes

- Incurred claims_n equals benefits paid during the period plus the change in reserves.
- As described for the incurred expense ratio, earned premium_n is the sum of premium earned as recognized using accrual accounting methods for period “n”. On the Profit & Loss Statement it equals premium income in the period minus change in unearned premium reserve.

There are three categories of reserves¹⁴ to consider:

- Claims in course of settlement (CICS)- Actual change in reported but unpaid claims;
- Incurred but not reported claims (IBNR)- Estimated change in claims that had not been reported as of the accounting date; and
- Accrued Liabilities Reserve (ALR)- Estimated change in net accrued benefits, expenses, interest, etc. (i.e. all future liabilities) of any kind which were not yet payable or due as of the end of the accounting period.

As mentioned earlier, these reserves need to be calculated as if there is no reinsurance and then adjusted for that in the expenses section on the Profit & Loss Statement.

A change in each of these three reserves means the reserve level at the end of the current period less the reserve level at the end of the previous period.¹⁵ To sum it up as an accounting formula, incurred claims equals cash claims in the period plus change in claims in course of settlement (CICS) plus change in incurred but not reported (IBNR) plus change in accrued liability reserve (ALR).¹⁶

¹⁴ For more details on all three of these reserves, see Appendix B.

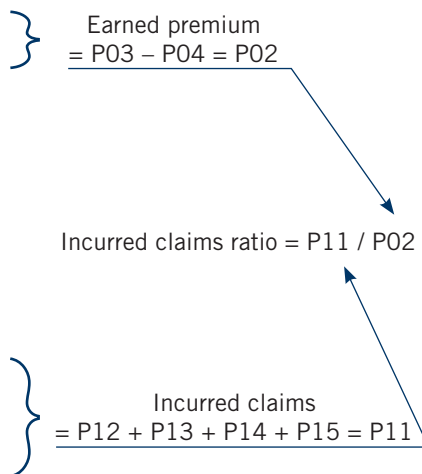
¹⁵ Note that a reserve change can be positive or negative. Examples: 1) If the current CICS is 1000 and the previous CICS is 900 then change in CICS is 1000 - 900 = +100. 2) If the current CICS is 900 and the previous CICS is 1000 then change in CICS is 900 - 1000 = -100.

¹⁶ More succinctly: $\text{Incurred Claims}_n = \text{Cash claims}_{n+}$ change in CICS_{n+} change in IBNR_{n+} change in ALR_n.

Incurred claims ratio

Profit and Loss statement of the period	
Item ref.	
P01	Operating income
P02	Earned premium
P03	Gross written premium
P04	Change in unearned premium reserve
P05	Other operating income
P06	Membership fees
P07	Commission fees received (non-reinsurance)
P08	Gross investment income
P09	Other operating income (non-extraordinary)
P10	Expenses
P11	Incurred claims
P12	Gross claims paid
P13	Change in incurred but not reported claims reserve
P14	Change in claims in course of settlement reserve
P15	Change in accrued liabilities reserve
P16	Operating expenses
P17	Personnel expenses
P18	Administrative expenses
P19	Distribution and communication expenses
P20	Other operating expenses
P21	Reinsurance expenses
P28	Net income
P29	Non-operating income
P30	Non-operating expenses
P31	Net Income (non-extraordinary)
P32	Extraordinary income
P33	Extraordinary expenses
P34	Net Income (before donations and income taxes)
P35	Donations
P36	Taxation on income and profits
P37	Net Income (after donations and taxes)

Where do the numbers come from?
Profit & Loss Statement (BRS02 Fact Sheet)



Some programmes regard membership or client fees as premiums which are either earned immediately or over a fixed period. In this handbook, such fees are regarded as other income.

Significance and interpretation

In essence, this ratio indicates how valuable the programme is to the insured since it measures the average proportion of premium that is returned to the insured in the form of benefits.

Insurance is the business of managing risk and in order to do it well the microinsurer needs a thorough understanding of its incurred claims ratio. If its value is higher than expected, further investigation is required to determine if it is due to:

- Adverse selection;
- Moral hazard and fraud;
- A normal or abnormal statistical fluctuation;
- Inadequate understanding of the risks and the insured population which has resulted in an erroneously priced product;
- Higher co-variance than expected; or
- Due to some other cause.

On the other hand, a consistently low claims ratio is also problematic since it could indicate irrelevant products or difficulty in claiming. If the low claims ratio persists, the insured population could lose interest in the programme over time due to its inferior value and this could be an invitation to a competitor to service the same market better.

It is very important to analyse the trends of the indicator over time. For example, if the product is credit life, then an increasing influx of new, younger borrowers should decrease the claims ratio and vice versa. In an effort to understand the situation better, Management should invest in capacity to analyze claims data by important parameters such as age, gender, region, cause, and any other important ones that may be impacting claims.

In general, paid claims in a given period for life, health, and asset protection products are made up of two components: 1) Claims incidence or frequency, which is the number of claims divided by the number of risk exposures; and 2) average amount paid for all claims. Multiplying the two together produces paid claims: Paid claims = frequency X average claim amount. When monitoring the incurred claims ratio, both of these components ought to be studied carefully in order to understand what is happening. Even if the incurred ratio looks normal, both of these components could be either higher or lower than expected. Conversely, if the incurred claims ratio is higher or lower than expected, its components must be analyzed to understand the source of the deviation, as this will provide additional insight.

For health insurance, the claims ratio usually increases due to inflation of medical services or increased awareness and utilization. It is very important to identify the source of these increases. Claims databases should be designed to track all incurred costs, whether covered or not, and with sufficient detail to evaluate the cost of each procedure. To curtail an escalating claims ratio may require actions such as modifying the benefit structure, introducing co-payments,¹⁷ introducing waiting periods, or imposing sub-limits on certain procedures; the appropriate measures can only be determined by quantifying frequency, claim amounts, and the nature of the procedures.

For long-term savings accumulation products such as endowment, the incurred claims ratio can become distorted over time since claims and maturities are funded by interest earnings as well.¹⁸

Social interpretation

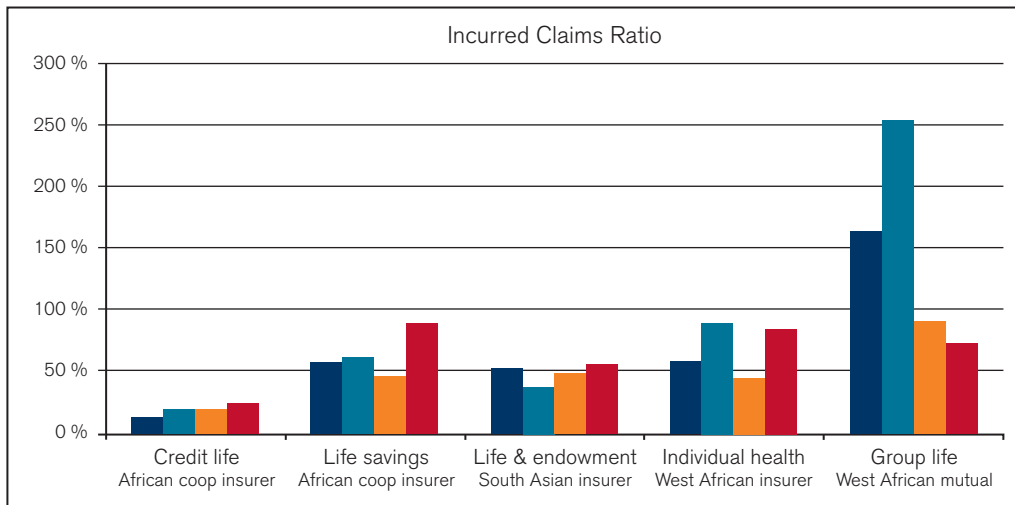
Providing benefits to compensate for losses is the purpose of insurance. A higher claims ratio of a viable programme demonstrates to clients that they are getting good value for their premiums. On the other hand, a ratio that is too high may indicate the collapse of the programme, ultimately resulting in diminished social and financial protection. A very low claims ratio could be viewed by clients as being exploitative of their situation; however, this depends on the type of programme and circumstances.

17 Co-payment here refers to both deductibles and coinsurance. Coinsurance can take many forms, but usually it means that the insured will have to pay a portion of the covered procedures. For example, ten percent coinsurance means that the health insurance will only pay ninety percent of the covered procedures, after deductibles are satisfied, and the remaining ten percent will be left to the insured.

18 This will be discussed in more detail in Chapter 2.

Sample performance


- The credit life programme managed by the West African cooperative insurance network experienced very low incurred claims ratios. As is typical with credit life, participants often do not question the value of the coverage since it is a requirement for accessing credit.
- The second programme is a life savings product from the same provider. Something appeared to have been developing in the fourth year as this product is somewhat prone to adverse selection. Also, since there is no exit age, it tends to accumulate some unfunded future liabilities from older depositors.
- The individual life and endowment product showed low value with incurred claims ratios around 50 percent. Note that this ratio may become distorted for this type of product (see Chapter 2).
- The incurred claims ratio for the individual health product is very erratic and may have been experiencing an assessment spiral. Combined with the high expense ratio, the programme experienced heavy losses.
- As a result of the investment in improving capacity, the group life programme was able to recover through better risk management in the third and fourth year



Indicator 3: Net income ratio

Definition

The net income ratio indicator is defined as the net income for a period divided by earned premium in the same period. The period can be a fiscal year or any other accounting period.

 A five percent net income ratio means that for every 100 of premium earned in an accounting period, the net income (profit) is five. Similarly, a negative five percent ratio, means that there is a loss of five for every 100 of premium earned.

How to calculate it

$$\text{Net income ratio}_n = \text{Net income}_n / \text{Earned premium}_n$$

Notes

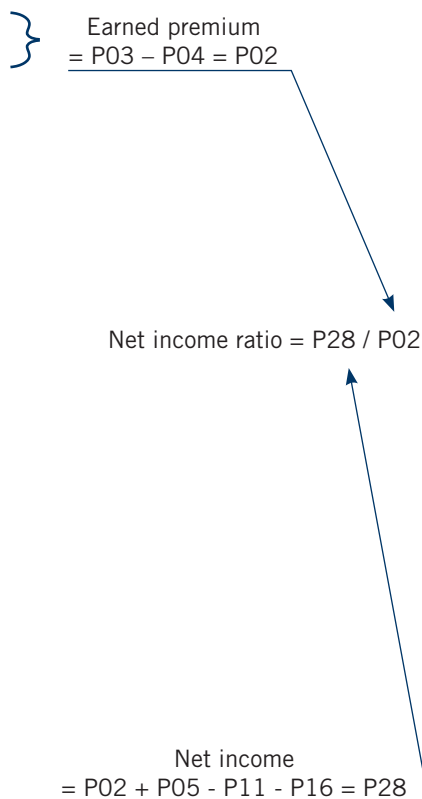
- Net income_n during period “n” (prior to non-permanent subsidies and non-operational income and expenses) equals operating income_n in the period minus claims expenses_n in the period minus operating expenses_n in the period.
- As explained in the notes on the incurred claims ratio, earned premium_n is the sum of premium earned as recognized using accrual accounting methods for period “n”. On the Profit & Loss Statement it amounts to premium income_n in the period minus change in unearned premium reserve_n.
- Non-permanent subsidies are temporary in that they are scheduled or expected to end within the next few accounting periods. The goal is to measure the viability of the scheme prior to subsidies.
- Other income is all other income including membership fees. Microinsurers may prefer to have other income itemized in some detail on their statements.

For organisations engaged in multiple activities, Principle 1 on the separation of data emphasizes the importance of isolating the income and expenses generated from insurance-related activities for the purposes of evaluating this indicator and for accurate and transparent reporting.

Net income ratio

Profit and Loss statement of the period	
Item ref.	
P01	Operating income
P02	Earned premium
P03	Gross written premium
P04	Change in unearned premium reserve
P05	Other operating income
P06	Membership fees
P07	Commission fees received (non-reinsurance)
P08	Gross investment income
P09	Other operating income (non-extraordinary)
P10	Expenses
P11	Incurred claims
P12	Gross claims paid
P13	Change in incurred but not reported claims reserve
P14	Change in claims in course of settlement reserve
P15	Change in accrued liabilities reserve
P16	Operating expenses
P17	Personnel expenses
P18	Administrative expenses
P19	Distribution and communication expenses
P20	Other operating expenses
P21	Reinsurance expenses
P28	Net income
P29	Non-operating income
P30	Non-operating expenses
P31	Net Income (non-extraordinary)
P32	Extraordinary income
P33	Extraordinary expenses
P34	Net Income (before donations and income taxes)
P35	Donations
P36	Taxation on income and profits
P37	Net Income (after donations and taxes)

Where do the numbers come from?
Profit & Loss Statement (BRS02 Fact Sheet)



Some programmes regard membership or client fees as premiums which are either earned immediately or over a fixed period. In this handbook, such fees are regarded as other income.

The net income ratio also can and should be derived for programmes partnering with insurance companies (i.e. a partner-agent setup). If the insurance company is prompted to provide its expenses and claims for the business conducted with the programme within the accounting period, the agent can then add his own expenses to derive the overall net income. For cases where the microinsurer partially covers some of the risk,¹⁹ claims and reserves should be calculated for the microinsurer's portion of retained risk and then combined with the insurer's to get an overall net income ratio for the programme.

DATA EXCHANGE IN THE PARTNER-AGENT MODEL (Box 6)

In a partner-agent setup the distributing organisation should, in the best interest of its clientele, engage in a transparent relationship with the insurer. It is beneficial for both parties to share information on premiums, claims, expenses, and other aspects. At the start of the programme, therefore, a Memorandum of Understanding should be signed outlining the expectations of both parties and the provisions of information exchange. For more on the types of data exchanges see Chapter 2.6.

The goal is to produce a complete and realistic overall net income ratio. The reason that it should be prepared in a combined fashion, even for a multiple partner programme, is to assess performance from the client perspective. For the same reason, the net income ratio should be calculated before reinsurance is considered.

Investment income should be calculated on an accrual basis with earned interest and other gains recognized for the applicable accounting periods. For example, if a certificate of deposit is purchased for a two-year period, then only the portion of the investment returns earned in the accounting period should be regarded as income, irrespective of the cash from interest received during the period.

Significance and interpretation

The net income ratio is the KEY of the key performance indicators since it measures how viable or profitable the programme is. "One of the most important indicators is the microinsurer's net financial result or net income since this reflects a summary of all activities in the period reviewed."²⁰

As with the other key indicators, the microinsurer should analyze the results further or develop sub-indicators to better understand the source of the net income. As a rule of thumb, there should be a positive net income ratio in the range of zero to ten percent. Values consistently above this range indicate poor value for clients and may result in loss of business or the entry of other competitors. Persistent negative values may indicate that the programme requires some changes to achieve viability. The source of the loss must be identified and addressed; it could be, for example, due to higher-than-anticipated expenses or higher-than-anticipated claims. Each reason will require a different management response.

It is important to compare the trend in the indicator which should be towards positive results. Many microinsurance programmes will experience losses in the initial years until a critical mass of insured and a level of efficiency has been reached. Typically, credit life programmes are profitable within a year and remain that way whereas the net income for health is more variable and may remain negative for several years. If the trend is negative then there are likely some problems that need to be addressed. A key objective of Management is to understand the reason for a particular trend; not being able to do so suggests a need for improved capacity (see Principle 7 on technical insurance capacity).

¹⁹ For example, as many frontline organisations do, pay supplementary benefits or the insurer's excluded claims.

²⁰ Garand and Wipf, 2006: 327.

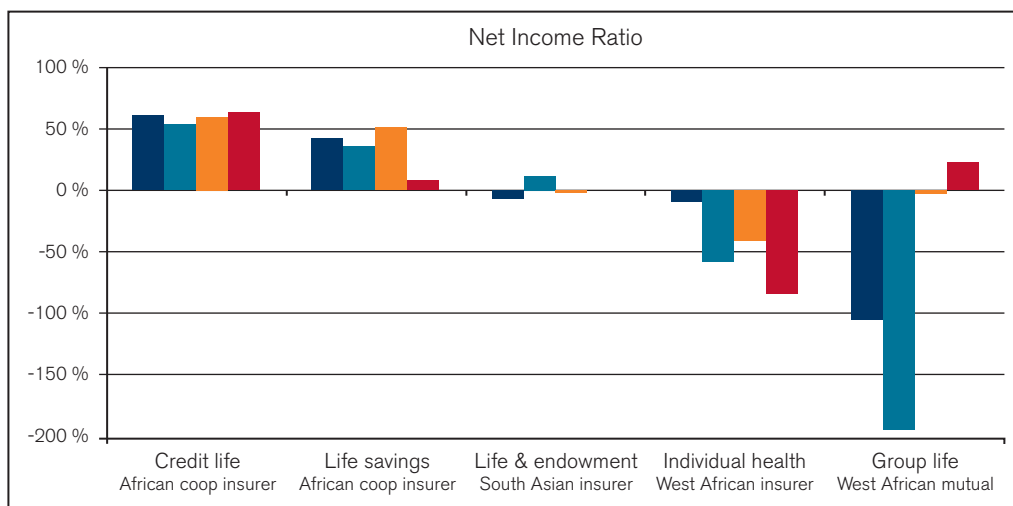
Even if the net income goals are achieved, good management practice suggests deeper investigation to identify the deviations and patterns in investment earnings, expense levels, claims, and so on. Each of these segments can and should be studied in isolation to identify the issues that require management action.

The net income ratio works well for most term products. For long-term products with large savings components this indicator will be generally higher since the required premiums are lower. In comparing schemes, it is important to keep this in mind. For benchmarking purposes, it is necessary to group such products into similar categories (see Chapter 2 and 3).

Social interpretation

In the case of non-member owned schemes, a high net income ratio could be regarded as exploitative; however, it depends on how long this continues and on the particular situation. A low income could mean that the programme is not viable or is deliberately operating at a loss because it is being subsidized by commercial business (or from another source); thus having a positive social interpretation. In member-owned schemes, a high net income ratio could indicate that the pricing needs to be adjusted since there are too few benefits for the premium- in this case the profits remain and are owned by the members. It could also be a deliberate attempt to build up surplus in order to fund future expansion, to register as a formal insurer, or to prepare for potential claims shocks.

Sample performance



- The credit life programme, with its low claims and low expense ratios, was excessively profitable, with net income ratios in excess of 50%. The network used the profits to subsidize some of its other non-insurance activities. Such cross-subsidies are frowned upon by insurance regulators and the network will not be allowed to continue this if it formalizes its insurance operations as planned.
- The life savings programme was also too profitable in the first three years but was affected by the sudden increase in claims in the fourth year.
- The Asian insurer’s endowment product held its own in spite of low uptake. The product was developed without market research and struggled to succeed in that market. As will be shown below, growth did nevertheless improve as a result of some changes. This had an effect on net income, which dropped in the same year, perhaps due to the higher first year commissions and the extra reserves that needed to be set up for newly sold policies.
- The individual health product is in deep trouble, as discussed earlier, and the trend is worsening.
- The group life programme, helped by capacity building, lowered its expenses, brought claims under control, and recovered significantly in the third and fourth year.

B. PRODUCT AWARENESS AND CLIENT SATISFACTION

The awareness and satisfaction performance indicators focus on how readily the target market enrolls in the programme and retains coverage. Where enrolment is voluntary, performance in this category will be good only if the market is aware of the programme, understands the product well (or at least thinks it does), is satisfied with the price-benefits combination, and can afford the premium (contribution) payment schedule. Where coverage is mandatory (in the sense that it is conditional to access credit or is towards some other objective) these factors are still very important determinants but their effect may in some cases be diminished.


The three indicators are crucial for viability. Without sufficiently high participation, and without a low turnover, the programme will usually suffer from adverse selection leading to a higher claims ratio, increased expense ratio, reduced net income, and it may even experience bankruptcy if the problems are not addressed.

Nr.	Indicator	General interpretation
4	Renewal Ratio	How satisfied is the insured?
5	Coverage Ratio	How well does the product meet the true need?
6	Growth Ratio	How well developed is insurance awareness? How competitive is the product vis-à-vis other products or household risk management alternatives?

Indicator 4: Renewal ratio

Definition

For a given period or sample, the renewal rate is the ratio of those clients or members that renew their coverage to those that are eligible to renew. The renewal rate measures the proportion of insured that stay enrolled in the programme after their coverage term expires.

 A 90 percent renewal rate means that for every 100 insured, 90 renew while 10 do not.

How to calculate it

$$\text{Renewal rate}_n = \text{Number of renewals}_n / \text{Number of potential renewals}_n$$

Notes

- Those that do not renew, drop out. Alternatively, one could measure the dropout rate.
- The number of renewals_n is the number of clients that actually renewed their coverage in period or sample “n”.
- Similarly, the number of potential renewals_n is the number of clients that could have renewed their coverage. This number excludes those that become ineligible due to old age, death, or due to other reasons which results in ineligibility during the period in question.

The ratio has to be calculated for a pre-identified time frame or for a random sample. Usually it is measured over a one-year period since this is the coverage duration of most term microinsurance products. The correct approach is to track a specific cohort or a randomized sample selected from the insured population at the beginning of the study period. Of course, the ratio can be computed for the entire insured population as well.

One has to understand the fine points of the definition and not oversimplify the calculation. In the next example, there are 15,000 active insured at the beginning of the year. During the upcoming year, 5,000 new clients join the programme. The table shows the number of deaths, dropouts, new participants, and the number attaining ineligible age during the year. As illustrated, these numbers must be tracked for both existing clients and for new clients that bought coverage during the year.

Example calculation of a renewal rate (Table 6)

Description	Cohort 1 (existing clients)	Cohort 2 (new clients)	TOTAL
Total insured beginning of year	15,000	0	15,000
New insureds that bought coverage during the year	None, all had coverage at beginning of year	5,000	5,000
Number from each cohort that died during the year	50 total deaths = 40 before renewal due date 10 after renewal	7	50 + 7 = 57
Number that reached maximum age during the year	500 total = 490 before renewal due date + 10 after renewal	50	500 + 50 = 550
Number that dropped out	2,450	n/a	2,450
Number that did not renew = those that could not renew + those that could renew but did not	490 too old before renewal date + 40 died before renewal + 2,450 dropped out = 2,980 total	N/A	530 could not renew 2,450 dropped out
Total insured end of year	12,000	4,943	16,943

Potential renewals in this example are considered to be all clients that did not die or become ineligible due to old age during the year. Given the above information, how should the renewal rate be calculated? This is illustrated in the Table below; the correct renewal rate is 83.07 percent.

Description	Cohort 1 (existing clients)	Cohort 2 (new clients)	TOTAL
Number that renewed coverage during the year	12,020 total = 12,000 (still covered end of year) + 10 (died after renewal) + 10 (reached max age after renewal)	n/a	12,020
Number of potential renewals	15,000 (initial) – 490 (became too old) – 40 (died before renewal)	n/a	14,470
Renewal rate	$12,020 / (15,000 - 490 - 40) = 0.8307$	n/a	0.8307

In practice, the reasons for non-renewal are quite varied and tracking these can become complex; however, if practical, it is very important to understand and record this information. Some microinsurers conduct a simple exit interview to determine the reason for non-renewal but this can only be done if there is contact with the insured at the time of exit. In any case, the reasons for non-renewal should be monitored as well as possible. If an insured exits for an unknown reason, then it could be coded as “unknown” in the database.

Calculating the renewal ratio for a selected cohort can be easily automated by developing a software tool, however this is only possible if the required information is in the database.

To illustrate further, suppose the microinsurer in the example above coded all the reasons for non-renewal in a database, and further suppose that the database showed that 300 did not renew due to migration. Management could then calculate a modified renewal ratio as $12,020 / (15,000 - 40 - 490 - 300) = 0.8483$ (84.83%).

MULTIPLE RENEWAL RATIOS MAY BE TRACKED FOR PRODUCTS WITH HOUSEHOLD COVERAGE (Box 7)

It is becoming increasingly common that life and health microinsurance products covering all or a portion of a household are being provided in the market. Typically, one of the household breadwinners is the primary insured (the insurance applicant) while the remaining household members are considered as dependents or secondary clients, often with lower coverage. An important aspect is that the renewal decision is made at the household level although there may be some discretion allowed on which dependents to cover. For example, a product may automatically cover an MFI borrower, the spouse, and any two specified children. A better approach would be to specify a rule such as “oldest two children under 21 and living at home are covered”. In other cases, dependents are optionally covered and only if an extra premium is paid for each of them.

More than one renewal ratio may be monitored for a product with household coverage:

- a) The number of households renewed should always be monitored.
- b) In cases where dependents are optionally covered, it is useful to also track the number of children and/or spouses renewed as it will reveal the market's appraisal of the dependent coverage.

Other reasons for termination could be included to further modify the definition of number of potential renewals n , and as more reasons are accepted, the modified renewal ratio will increase since the denominator in the ratio will decrease. Care must be taken to deduct only those reasons that are beyond the control of the insured. Quite often the reason for non-renewal is the fault of the microinsurance agent (individual or institutional channel) who did not properly contact the client when coverage expired. The main goal is to produce a meaningful renewal ratio for purposes of understanding the programme's marketing performance.

If possible, a set of modified renewal rates with modified definitions of “potential” renewals should be calculated to further enhance understanding. Clearly, the most conservative (lowest) renewal rate is one that considers only deaths and ineligibility since this will result in the largest denominator.

Persistency is also more applicable to longer term products where clients can drop out at any time by not continuing the periodic required premium payments.

An analogous and more general measure is the persistency ratio which refers to the number of clients from a cohort continuing their coverage at a later date divided by the number of clients from the same cohort with coverage in a previous year. It is more general than the renewal rate since it applies to both term and continuous coverage. The persistency ratio can be calculated similarly to the renewal rate by tracking insured with active status instead of renewed coverage.

Significance and interpretation

This renewal rate helps determine how satisfied the insured are: “The renewal rate applies specifically to term products (products with a fixed term of coverage such as one year)... It reflects (among other things) the satisfaction of the client once the term product has been purchased.”²¹

The interpretation of the renewal rate is different but arguably still useful where participation is compulsory such as for a credit life insurance programme tied to microfinance services (more on this later when discussing the coverage ratio and in Chapter 2).

21 Garand and Wipf, 2006: 324.

The renewal rate may be sending several possible messages to Management. If the rate is very high (such as 90 percent or more) it may signify that:

- There is a good understanding of the needs of the target market;
- The price is acceptable to the target market;
- The service levels are reasonable; and / or
- The benefit is highly valued by the community.

The opposite is also true: “For schemes with voluntary participation, low renewal rate is often indicative of client dissatisfaction, possibly due to poor communication, unacceptable product value, unsatisfactory claims payment or other reasons.”²² It could also simply mean that the insured does not know how and where to renew. Renewal should be automatic wherever possible, with pre-authorized deduction of premium from the insured’s savings.

Whatever the renewal rate is, Management has to interpret it carefully and determine what response is required. The renewal rate should be monitored over several time periods since the trend will provide additional insights.

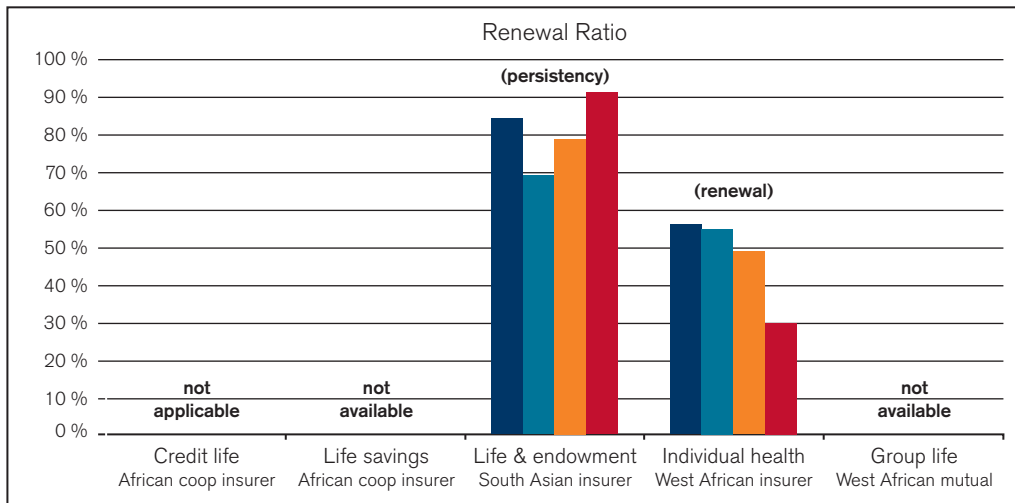
A high renewal rate will generally have a positive effect on the product value indicators. For example, since it is usually less expensive to renew an insured than to enrol a new one, a high renewal rate should lower the expense ratio and improve net income. A renewal ratio of at least 85 percent should be set as a minimum standard.

Social interpretation

A low renewal rate could be a sign that the providers of coverage have not met their social obligation of helping clients / members to understand the role that insurance has in managing their risks.

There may be other reasons for a low renewal ratio such as not meeting real need of the insured, poor service at provider hospitals for health insurance due to stigmatization of clients, etc.

Sample performance



22 Garand and Wipf, 2006: 323.


The data from the five programmes is presented here:

- For credit life programmes, renewal is usually not applicable since coverage is loan-linked and is designed to protect both parties from premature death of the borrower. While it is conceivable that some borrowers who have had a bad experience with the insurance programme would not return to borrow from the same source, it is unlikely in many cases that those with positive experiences would borrow anew just to be covered. There are some exceptions to this, however; some MFIs have enhanced their credit life products so that these include various types of coverage for the entire family.
- There was no data available to calculate persistency for the life savings product. Since the product is purchased by credit cooperatives for the depositors to encourage savings, renewal decisions are made at an institutional level. At the individual depositor level, non-renewal is akin to a withdrawal of savings from the institution.
- The persistency rate of the Asian insurer's endowment product is high, possibly indicating that the servicing is very good and that those that bought the product understood it well. The market the insurer is targeting is quite variable with respect to awareness and education levels; perhaps, since the product is quite complex, it is bought by the more educated market segment and once they buy it, they hold onto it because they like it. Alternatively, and just as plausibly, they may be heavily penalized for dropping out.
- The declining renewal rate of the individual health product indicates that an assessment spiral is in play.
- There was no data available for the group product. Group renewal rates may be similarly analyzed but there are some major interpretation differences. For example, for employer groups, renewals are based purely on the decision of the employer and are mostly a function of price and service.

Indicator 5: Coverage ratio

Definition

The coverage ratio is the proportion of the target population participating in the microinsurance programme.

 Every microinsurance programme targets a group of persons, households, or assets to cover. This is called the target market. The coverage ratio at a particular point in time is the proportion of the target market that is actively covered by the programme.

How to calculate it

$$\text{Coverage ratio}_n = \text{Number of active insured}_n / \text{Target population}_n$$

Notes

- In the formula, the number of active insured_n is used rather than “active policies” since this is an all-inclusive and can be used when programmes are member-owned schemes, for group plans, and other types of variations.²³
- The number of active insured_n is easy to evaluate as long as the programme's database is updated. Some microinsurers automatically track the number of insured closely as this is in itself a crucial management indicator.
- The target population_n is not as straightforward to define, but should be included in the organisations' business plan. Below a table with a number of common cases.

²³ Active policies” is equivalent to “number of active insured” only in the case of an individual product where each person is issued a policy.

Examples of target populations (Table 7)

Example	Participation	Target market definition
MFI clientele	Voluntary	The entire existing MFI clientele.
	Compulsory	The target market of the MFI as defined in its business plan. This is usually a defined sector of the general public within a defined geographic area.
Community-based health insurance programme	Voluntary	Potentially, all eligible members in the community. However, only certain segments of the community may be eligible; these should be considered as the target market, not the entire community.
	Compulsory	
Individual endowment sold by an insurer	Voluntary	Potentially, all eligible members of the public. However, the insurer may only be targeting certain segments of the population or perhaps only a particular region; in these cases the target market can be more clearly defined and at least crudely quantified.

The coverage ratio is also commonly referred to as the participation rate and the penetration rate. Some practitioners and writers reserve the term coverage ratio to describe the ratio of the entire population that is covered and the latter two terms to describe the ratio of covered individuals within specific target segments of the population. In this handbook, all three terms are considered equivalent.

Significance and interpretation

Marketing and distribution effectiveness is one of the most important requirements for the long-term sustainability of a microinsurance programme and without these there is only a small likelihood of reaching and retaining the critical mass needed for viability. Marketing effectiveness in turn depends largely on the client's satisfaction with the services and perceived value of the products. The coverage ratio may be regarded as a key indicator of marketing effectiveness.²⁴

In cases where the microinsurance programme is a captive²⁵ of a parent organisation such as an MFI, the target population can be viewed in a number of ways. One approach is to consider the microinsurance target market as the parent organisation's entire eligible clientele / membership and because there is usually mandatory participation in these types of setups the coverage ratio is close to one (i.e. 100 percent). If that definition were to be used the indicator is of less value in terms of assessing marketing performance. Perhaps a better way is to consider the target market as it is defined in the parent organisation's business plan or in the overall joint business plan; if this definition is used then the coverage ratio can be interpreted more usefully as a reflection of joint marketing performance.

In cases where participation is voluntary it is clear that the coverage ratio is a crucial indicator of the programme's success. In the absence of a screening mechanism, a very low participation rate usually results in higher-than-expected morbidity and mortality rates due to adverse selection. Ideally, a "large" proportion of a target population voluntarily participates since this indicates popular acceptance of the risk-pooling concept. It is also likely that such a target population understands the product(s) well and knows how to access the benefits.²⁶

²⁴ Garand and Wipf, 2006: 322.

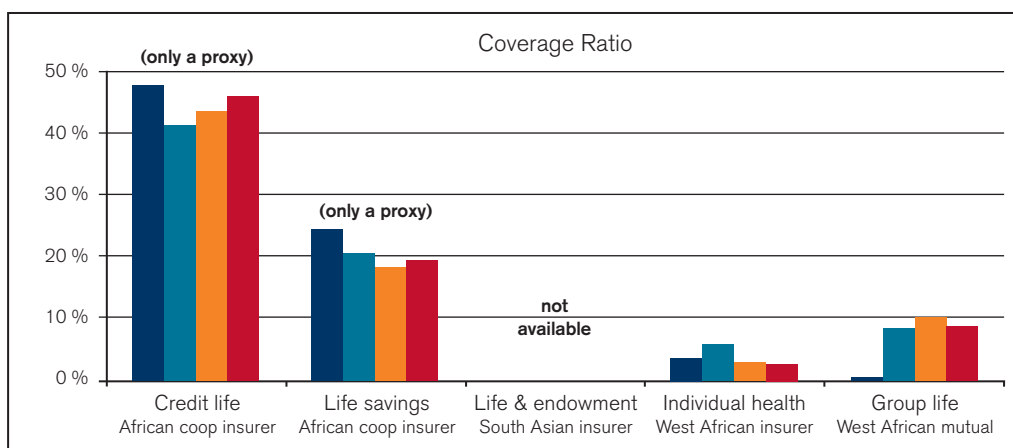
²⁵ By this we mean that participation is automatic because of affiliation with the parent organisation.

²⁶ Garand and Wipf, 2006: 323.

Social interpretation

A high coverage ratio is indicative of a widely acceptable programme in which the participants are readily pooling their scarce resources to seek a measure of protection from the risks that they face.

Sample performance



From the five sample programmes, four coverage ratio performances are depicted in the graph above.


- The coverage ratio here reflects the proportion of the cooperatives in the network that participate, not the proportion of individual borrowers covered within the network. The target market is the cooperatives in the network, in this case. As such, the ratios are only a proxy for the true individual coverage ratios which could not be calculated. For the credit life programme, each cooperative's Board and Management or Annual General Assembly of Members decides whether or not the cooperative will source credit life microinsurance from the network-owned coop insurer (although the individual borrowers pay for the premium). The trend in the last three years is upwards in spite of the excessive profitability of the programme. Nevertheless, less than 50 percent of the network participates, indicating significant growth potential of the programme if it were more competitively priced (it is overpriced as evidenced by the high net income ratio and low claims ratio).
- Similar comments apply to the life savings programme (i.e. again this is only a proxy). Here, the cooperatives shoulder the cost of the premium as an incentive to their members to save more (an individual with a certain level of savings receives free life insurance coverage amounting to a proportion of those savings). The coverage ratio, also measuring the proportion of cooperatives participating, is in decline because: a) the network is growing in terms of size but hardly any new cooperatives signed up for this programme during the same period; b) generally, the product is more popular with smaller cooperatives; once they grow and become more competitive with local banks they tend to drop it. The latter fact indicates that the product is not competitive with other market options to attract savings; this confirms the earlier observations that the net income ratio is much too high and the claims ratio too low. The product design should be reviewed and repriced.
- The coverage ratio of the Asian insurer's endowment product could not be calculated because the target market was not quantified.
- The declining coverage rate of the individual health product confirms the assessment spiral.
- The group life product does reflect the true proportion of individuals covered in the target market, not the ratio of participating groups. This is the correct way to calculate the coverage ratio. The details of how the organisation defines its target market were not provided.

The first two examples illustrate that when less than ideal data is available, proxies can still be useful and indicative at times to help point to the important issues.

Indicator 6: Growth ratio

Definition

The growth ratio is defined here as the rate of increase in the number of clients. The growth rate measures how fast the number of clients is increasing or decreasing.

 A programme with a 10 percent annual growth rate increases to 110 clients for every 100 clients in the previous year.

How to calculate it

$$\text{Growth ratio}_n = (\text{Number of insured}_n - \text{Number of insured}_{n-1}) / \text{Number of insured}_{n-1}$$

The subscript “n” denotes a particular period and is only a marker. To calculate the growth ratio for a particular period, determine the number of active participants with valid coverage at the end of the period in question (number of insured n) as well as at the end of the previous period (that is number of insured n-1). Use these two numbers to evaluate the formula.

To measure growth over more than one period, a similar formula can be used. For example, the formula for growth over the past three periods including the current period is defined as follows:

$$\text{Growth ratio}_n = (\text{Number of insured}_n - \text{Number of insured}_{n-3}) / \text{Number of insured}_{n-3}$$

The growth ratio as defined in the first formula is also the annual growth rate if the period in question is one year. In cases when the period length is not a year or in cases where the growth is measured over several years, some additional calculations are needed in order to annualize the growth rate. This is best illustrated by way of examples.

Description	2005	2006	2007	2008	2009
Target population (insureds, end-of-year)	350,000	450,000	550,000	700,000	750,000
Total insured (new and renewed), end-of-year	70,000	90,000	100,000	125,000	140,000
Total renewing		24,400	35,000	50,000	70,000

The growth ratio in 2007 is calculated as:

$$\begin{aligned} \text{Growth rate}_{2007} &= (\text{Number of insured}_{2007} - \text{Number of insured}_{2006}) / \text{Number of insured}_{2006} \\ &= (100,000 - 90,000) / 90,000 \\ &= \mathbf{0.111} \text{ (11.1\%)} \end{aligned}$$

Description	2005	2006	2007	2008	2009
Target population (insureds, end-of-year)	350,000	450,000	550,000	700,000	750,000
Total insured (new and renewed), end-of-year	70,000	90,000	100,000	125,000	140,000
Total renewing	n/a	24,400	35,000	50,000	70,000

The growth ratio over the three years from 2007 - 2009 is:

$$\begin{aligned} \text{Growth rate}_{07-09} &= (\text{Number of insured}_{2009} - \text{Number of insured}_{2006}) / \text{Number of insured}_{2006} \\ &= (140,000 - 90,000) / 90,000 \\ &= \mathbf{0.556} \text{ (55.6\%)} \end{aligned}$$

The average growth rate over the years 2007 to 2009 is 55.6% / 3 = 18.5%. This is higher than the compounded average annual growth rate which is more useful but a bit more difficult to calculate, since it requires a bit more algebra and use of exponents. Since it also requires a different formula, we place the example in a Box for readers who may be interested in learning how to calculate it.

COMPOUNDED AVERAGE ANNUAL GROWTH RATE (Box 8)

Formula: $\text{Number of insured}_n / \text{Number of insured}_{n-x} = (1+g)^x$

where n is the subscript for the final period, x is the number of periods over which growth is to be calculated, and g is the average compounded annual growth rate.

Using the same numbers as above, the annual growth rate is calculated as follows:

Step 1: Set up the equation:

$$\text{Number of insured}_{2009} / \text{Number of insured}_{2006} = (1+g)^3 \rightarrow 140,000 / 90,000 = (1+g)^3$$

Step 2: Solve for compounded annual growth rate g:

$$(140,000 / 90,000)^{1/3} = (1+g)^{3/3} \rightarrow (140,000 / 90,000)^{1/3} - 1 = g$$

Step 3: Evaluate: g = 0.159 (15.9% per annum)

The growth ratio of a microinsurance programme could be defined in several ways. For example, it could also be expressed in terms of increase in active policies. Both of these ratios distort the “true” picture of programme growth somewhat since they capture the increase in insurance coverage per participant. Over time, coverage per participant will augment due to inflation and increased insurance awareness.

For any given period, the data to calculate the various growth ratios should be readily available from the programme’s database which should contain updated information on new enrollees, renewals, non-renewals, lapses, and surrenders.

Significance and interpretation

There are a few generalizations that can be made about the growth ratio. For example, growth will usually be higher for newer and smaller schemes because of the lower base. Second, the growth ratio will reduce over time as the coverage ratio nears 100 percent.

The trend in the growth ratio is usually an important indicator of the programme’s success over the period in question. This is especially true if participation is voluntary, in which case a positive growth ratio often indicates marketing success, product value, and appeal. To remain viable, a microinsurance programme must maintain at minimum a zero growth rate in order to replace the participants that have become ineligible, dropped out, or expired; however, depending on the circumstances and demographics a zero growth rate is usually not sufficient for long-term viability.

The source of participants for many microinsurance programmes is a partnering institution such as an MFI requiring mandatory participation of all its eligible clients or members in the programme. Since the programme is essentially a captive of the MFI it would seem that its growth rate is entirely determined by the one of the partnering organisation and the indicator reflects little about the programme.

This is not always true- there are cases where member-owned programmes attract clients for the parent MFI, that is, participants join the MFI in order to access the microinsurance services.

Slow growth could be due to any of a number of reasons such as:

- Inferior products in terms of value and fit;
- General lack of insurance awareness;
- Target market can’t afford the premium; and / or
- Too little investment in promotion / marketing.

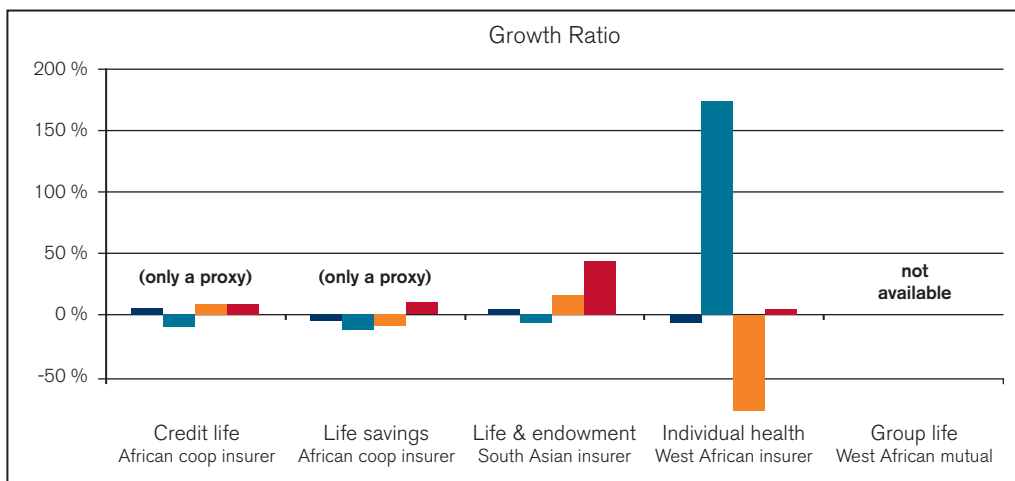
Trends in the growth rate are especially important. In theory, expected growth rate for a voluntary programme should follow the classical S-shaped pattern – a bit slower at first, increased growth as awareness improves and marketing becomes more effective, and then a slowdown as the market nears saturation.

Unlike some of the other indicators, it is difficult to talk of an acceptable level of growth since it is highly dependent on the context. Generally, the results of slow growth are a higher incurred expense ratio, higher incurred claims ratio resulting from adverse selection, and reduced viability. Continued high growth can also create problems if the programme does not build its capacities rapidly enough to handle the larger volume of business and lets its service standards deteriorate.

Social interpretation

A fast growing programme often indicates positive social relevance to its target population. The contrary is also true- declining numbers imply loss of value and presence of competitive alternatives.

Sample performance



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- As with the coverage ratio, the true growth rate as defined in this chapter could not be calculated for the credit life programme. Instead, for illustration, a proxy was used- it is the average annual increase in number of cooperatives participating in the credit life programme which experienced a compounded average annual growth rate of 4.7 percent. This does not, obviously, truly capture the total increase in number of covered persons but it does provide an estimate. The growth in number of cooperatives is particularly useful since the decision to participate in the credit life programme is directly made by members at their Annual General Assembly or, in some cooperatives, indirectly through Management.
 - Again, the ratio presented is only a proxy. On average, the life savings programme lost 2.7 percent of its cooperatives each year. The product is not competitive and is overpriced, as discussed above.
 - Over four years the endowment product grew at a compounded average annual growth rate of 14.5 percent. Most of that growth occurred in the fourth year due to an improved distribution strategy.
 - The erratic growth of the individual health product is due to its small size and its problems with adverse selection.

C. SERVICE QUALITY


The service quality indicators directly quantify two of the most important servicing aspects of microinsurance programmes. Both have a direct effect on the satisfaction level of the participants which in turn impacts the three indicators discussed in the awareness and satisfaction category. The claims rejection ratio also reflects the degree of understanding and usefulness of the product.

Nr.	Indicator	General interpretation
7	Promptness of Claims Settlement	How responsive is the service?
8	Claims Rejection Ratio	How well does product fit the insured's needs? How well does the insured understand the product?

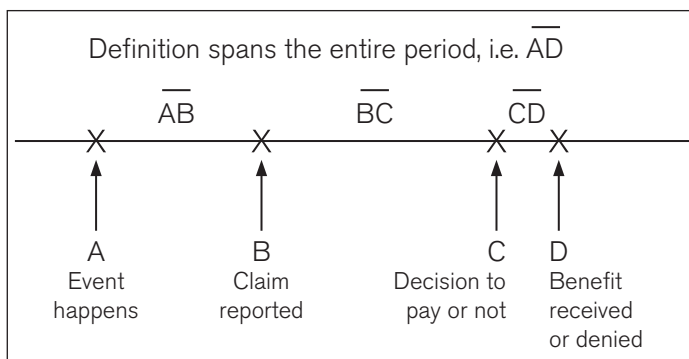
Indicator 7: Promptness of claims settlements

Definition

The promptness indicator is an analytical breakdown of service times taken to report and process a set of claims.

 The indicator is calculated for a set of claims that have been fully processed, which means paid and rejected. Time is measured from the date that the covered event happens to the date that benefit(s) were received by or denied to the clients. Note that when a claim benefit is denied, it is still necessary to communicate and inform the claimant;

Referring to the timeline in the diagram below, the service time measured is the entire segment from point A to point D. In the first version of the handbook the indicator was defined from the date the claim was reported (point B in the diagram) to the time that the benefit was received (point D). In other words, the segment from A to B has now been added in order to monitor the time that it takes the claimant to make a claim (i.e. segment A to B).



How to calculate it

Rather than using a simple arithmetic average (which is also useful), the indicator is defined in terms of a schedule such as the one presented in the table below. The schedule more accurately describes the claims payment pattern as this type of information is lost in a simple arithmetic average.

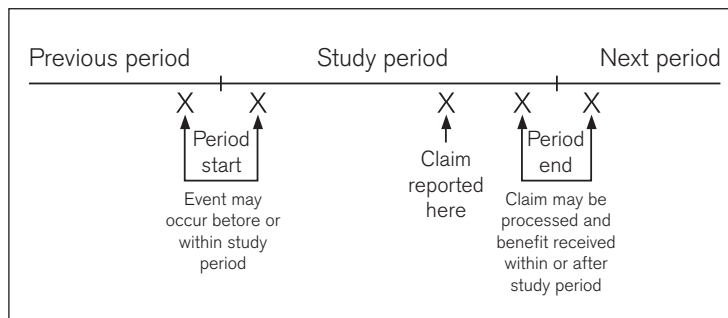
To complete the table for a given period, one has to follow just two easy steps. First, determine the entire set of claims processed for a particular period, or select a sufficiently large random sample (50 or more) from that period. Second, apportion the claims in terms of the number of days that it took to process each claim and according to the schedule defined in the first column of the table.

Number of days	Number of claims	% of Total claims
Less than 8 days	___	___%
8 to 30 days	___	___%
31 to 90 days	___	___%
More than 90 days	___	___%
Total	___	100%

Notes

- a) The table can be completed quite easily in a spreadsheet programme such as Excel provided that the incurred date, reported date, paid date and benefit received date of each claim has been recorded.
- b) It is not always possible to know how long it takes for the payment to reach the beneficiary (i.e. the benefit received date). In this case, it should be estimated from the paid date for preparing the claims promptness schedule.

Of the selected study sample, some claims may have originated from the previous period, while for others the processing will not be completed until the next period. It is very important to wait for all claims to be processed once the sample has been selected – if unprocessed claims are deleted from the sample, the result will likely be biased.



The claims sample should be segregated by branch and by other important parameters if possible as this will highlight processing inefficiencies in some areas. Like the other indicators, it should also be segregated by product to the extent possible.

Significance and interpretation

The acceptable delay depends on the context and the product, however, the shorter the delay, the better for the insured. Paying claims promptly is an important aspect of service and good value. Some claimants need the benefit proceeds right away in order to deal with an emergency situation resulting from the event that triggered the claim, and if claims payment is too slow, they may be forced to sell off their productive assets or borrow from moneylenders at (often) exorbitant rates. Clearly, untimely claims payment diminishes the value of the microinsurance service and in some cases may even aggravate the insured's condition and situation since (s)he may have been able to cope in an alternative manner had (s)he known beforehand the length of time that it would take to receive the benefits. Some insurers, however, delay payments deliberately, they say, for such reasons as to prevent the use of benefits for grander funeral ceremonies.

Health microinsurance models using a cashless system provide immediate relief to the insured, and such systems would rate highest on this indicator²⁷ since all claims would qualify to be included in the first category.

There are numerous possible reasons for lengthy claims settlement and close investigation is needed to identify the causes:

- Often, the beneficiary does not even know how to claim
 - √ Because (s)he is illiterate;
 - √ Lack of facilitators, claims forms, awareness, etc.
- Claiming is a cumbersome overall process with excessive documentation requirements which take too much effort, expense, and time to complete.
- Claimants lack essential papers such as birth certificates at the time of claim

To find the problem area, analyze all aspects of the claims process as in the example below. Here, the times to report the claim, examine and settle the claim, and then get the benefit to the beneficiary are analyzed in order to detect possible problems. The microinsurer should have a standard time for each step, and this type of analysis will help to detect the problems.

Nr.	Event	Reported	Settled	Received	Status	Time to report	Time to process	Time to deliver benefit To claimant	TOTAL time (days)
1	26-Dec	1-Jan	17-Jan	19-Jan	Paid	5	14	1	20
2	5-Feb	15-Feb	20-May	-	Denied	10	90	n/a	100
3	28-Feb	4-Mar	20-Apr	20-Apr	Paid	5	45	0	50
4	30-Mar	11-Apr	25-Apr	30-Apr	Paid	5	15	5	25
5	23-Apr	17-May	30-May	7-Jun	Paid	25	15	10	50
Average times						10.0	35.8	3.2	49.0

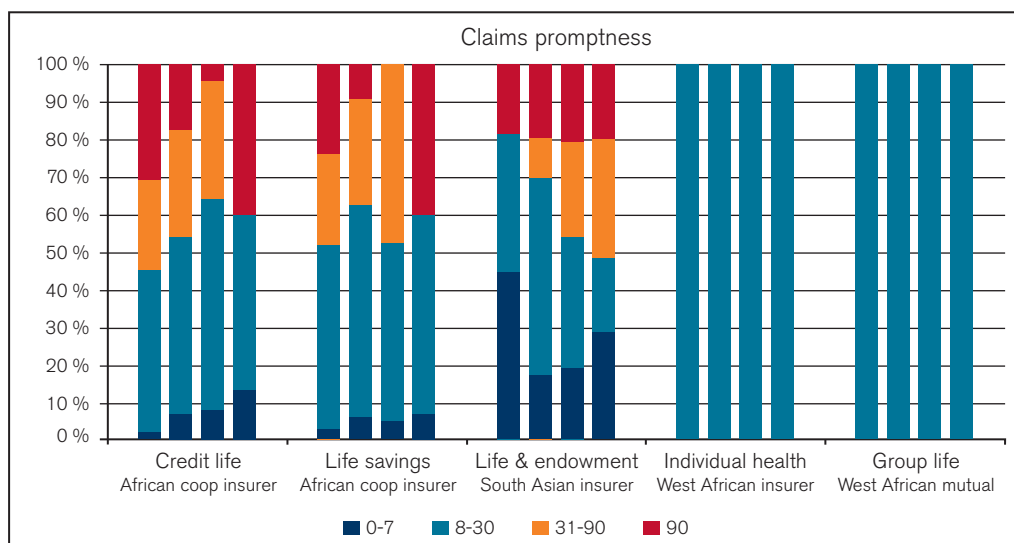
Nevertheless, the indicator does not tell the entire claims servicing story. For example, it does not capture the number of claims that are not submitted due to lack of awareness, illiteracy, or because the claimant gave up or felt intimidated by the excessive documentation requirements. In other cases, the insured families live in remote areas and the cost of travelling to the nearest servicing centre and/or the opportunity costs to follow up claims exceed the benefits of claiming. In health insurance, there are cases where there is no provider near the area where the insured lives, hence the incentive to use the health services and submit a claim are greatly reduced.

Social interpretation

Usually, microinsurance clients require funds almost immediately after the occurrence of an insured event. If there are significant delays they may have to resort to money lenders, sell productive assets at a discount, or be forced to take other measures that defeat the purpose of providing the insurance product; if this happens, then the programme has failed to provide meaningful social protection.

²⁷ Garand and Wipf, 2006: 330.

Sample performance



From the five sample programmes, the claims promptness performance is presented above. The specific reasons behind each of these performances are not known but some generalizations can be made. The African cooperative insurer, for example, improved service times over the 4 years since the proportion of 0-7 and 31-90 day claims increased every year while the proportion of 90+ day claims consistently decreased.

Generalizations with respect to poor performance in the industry can be made:

- Some microinsurers claim that their clients do not have the required financial vehicles such as bank accounts to receive benefit payments and this is the main impediment to providing rapid service. These organisations have not yet adapted to the realities of their microinsurance market. It is impractical to expect poor people living in remote rural areas (or even in urban areas) to have a bank account or to have formal arrangements with financial institutions.
- Some licensed insurers blame the regulator and the insurance laws for requiring them to collect extensive documentation such as birth certificates from the claimants. Often the required documents do not even exist. In such cases, advocacy aimed at simplifying such requirements for the poor is needed.
- A challenge for many microinsurers is that the beneficiary can't be identified or found. Some innovative microinsurers mitigate this by collecting the beneficiary and insured's documentation in advance in the days following acceptance of the insurance application. This information is stored electronically or photocopied and filed in branch offices. In case of claim, documentation can be rapidly retrieved from the database.


In general, self-insured schemes appear to pay claims faster than schemes partnering with commercial insurers because the adjudication and payment processes are more localized and simplified.

Some organisations with an insurance partner limit themselves to closely monitoring, facilitating, and negotiating with the insurer on behalf of each claimant while others achieve rapid settlement by advancing all or part of the benefit and then recovering the funds from the insurer. The obvious risk for the latter is that the insurer may reject some claims leaving the distributing organisation to recover or absorb the cost. Some of them collect extra premium and set up a special fund for this purpose.

Indicator 8: Claims rejection ratio

Definition

For a given period or for an unbiased sample, the claims rejection ratio is the proportion of claims that has been disqualified for benefit payment (rejected), for whatever reason.

 A 10 percent claims rejection ratio means that for every 100 claims reported, only 90 result in a benefit payment while the other 10 claims are denied.

How to calculate it

The formula is as follows:

$$\text{Claims rejection ratio} = \text{Number of claims rejected} / \text{Number of claims in the sample}$$

The procedure to calculate it is straightforward. First, select all claims reported for the period in question; this will be the denominator in the ratio. Next, determine the number of claims from the set that were eventually rejected; this is the numerator.

The required information is simpler than for claims promptness; all that is needed is whether or not the claim was paid or rejected.

Care must be taken to ensure that a decision to pay or not to pay has been made with respect to each claim. Calculating the indicator for a claims sample that has not been fully processed would probably introduce a bias; this is because many claims that are rejected take longer to process as additional supporting documentation is requested or because further investigation is required.

Partial rejections are not considered as a denied claim in this definition. These are claims where only a portion of the benefit requested was paid while the remainder was rejected. With health insurance, for example, partial rejections are usually due to coverage limitations and exclusions of certain items such as dietary supplements, due to annual benefit maximums, and for other reasons. It is a good idea to monitor partial rejections as well as this helps to identify the need for additional coverage and product understanding.

In the following example the claims rejection ratio for a small programme is calculated on all claims reported in 2008.

Note

- Incurred date and settled date need not be within the study period, i.e. 2008;
- The claims rejection ratio is quite variable between quarters due to the small size of programme; and
- The claims rejection ratio can be expressed as 11.3 percent, 0.113, or 113 per 1,000.

Quarter 2008	Reported 2008	Incurred 2008	Settled 2008	Settled 2009	Rejected	Ratio
1	50	30	50	0	5	10.0%
2	55	45	54	1	4	7.3%
3	65	63	55	10	7	10.8%
4	60	60	35	25	10	16.7%
TOTAL	230	198	194	36	26	11.3%

Significance and interpretation

The claims rejection ratio reflects several programme characteristics, and perhaps the most significant of these is how well the insured understands the product. If the product is not well understood, then the claims rejection ratio could be high for one or more of the following reasons:

- Claims are submitted for events that are not covered;
- Claims are made before the waiting period has been satisfied;
- The insured is no longer covered due to expiration of the coverage period or upon attaining maximum eligible age; and
- Claims are rejected because of a pre-existing condition which was not understood.

For products with additional benefits due to accidental death, claims are sometimes rejected when a natural death is reported as an accidental death. For health insurance, some of the common reasons why claims are completely rejected or only partially paid include the following:

- The overall benefit maximum, or a sub-limit on a certain expense category has been breached;
- A service provider has not been accredited;
- The claim includes charges for services that were not rendered; and
- Certain expenses incurred during hospitalization were not covered.

Claims are often rightfully rejected due to fraud. For health insurance, connivance with service providers is a common problem; to catch potential problems such as this requires programme managers to adhere to Principle 5 which calls for continuous monitoring of claims.

Understanding a product well is a function of consumer education as well as effective product design. Commercial products are sometimes retrofitted to microinsurance programmes and this can increase the complexity and number of exclusions which confuse the poor. In some cases, unscrupulous insurers deny too many claims on technical grounds or because the insured cannot accomplish unrealistic requirements.

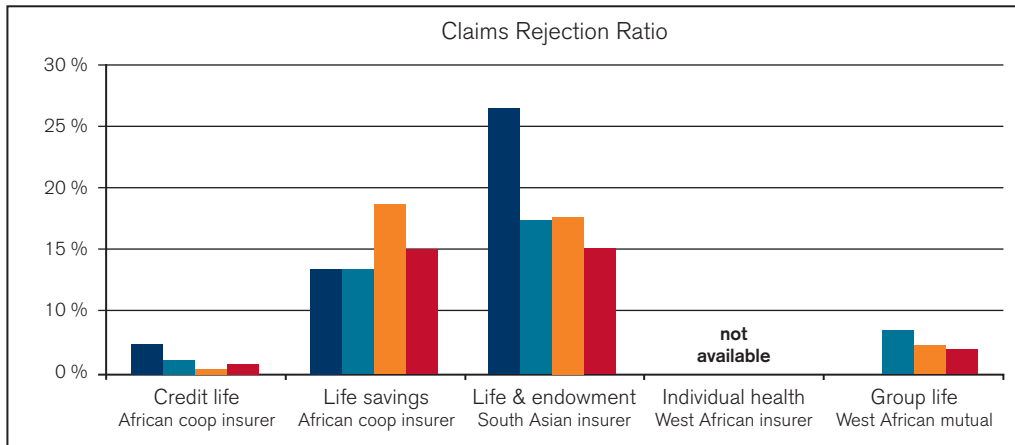
Sometimes, to lower costs, too little screening of insurance applications will result in a high proportion of ineligible clients. Ineligibility is then only discovered at the time of claim. This increases the rejection ratio.

Whatever the causes are, a high rejection ratio has a negative impact on the renewal, growth, and coverage ratios. If a claim is rejected, there is typically a negative perception of the microinsurance programme and this reaches beyond the claimant's family, especially if the claimant lives in a closely knit community or if she is a member of a Self-Help Group (SHG). Whenever possible, a representative should visit the affected household and the immediate community to explain the reasons for rejecting the claim. On the other hand, if the programme is member-driven and the claim is rejected due to fraud, the rejection could improve confidence in the risk management and claims adjudication process.

Social interpretation

Often, a high rejection ratio is due to lack of understanding by the insured. For example, the microinsurer may not have properly explained how its health insurance programme works, resulting in clients using services that were not covered (and which otherwise would not have been used) thus increasing the burden on the poor. The ratio is sometimes also indicative of an exploitative programme with too many exclusions resulting in excessive profits. On the other hand, while a low rejection ratio is desired, it could sometimes indicate inadequate claims management.

Sample performance



From the five sample programmes, the claims rejection ratios of only four were available.

- The credit life programme performed well in this area, unlike the life savings programme for the same insurer. The high rejection rates, combined with the excessive profitability are both serious problems which have made the latter product uncompetitive and unappealing. Further, the numerous claims rejections likely caused some serious public relations problems for the primary cooperatives with their members. The reason for most rejections was retrospective disqualification of coverage due to the waiting (elimination) period for new savings deposits. Improved screening and communication were needed.
- In addition to some of the other improvements that the South Asian insurer made, which were discussed above, the endowment products' claims rejection ratio is trending downwards but it is still much too high at 10 percent.
- The group product also steadily improved in this area but the programme should aim to bring the ratio down even further.

Most experienced microinsurers are dedicated to keeping this indicator low because they are acutely aware that rejecting claims has negative implications.

D. FINANCIAL PRUDENCE

The financial prudence indicators are concerned with the financial strength and liquidity of the microinsurance programme. Often, these are not tracked at product level but rather at the level of the organisation that bears the insurance risk. Larger companies may, however, allocate specific assets to cover reserves and expenses for each product and to maintain a good asset-liability match; doing this enables them to track solvency and liquidity by product. Those companies may, however, have some additional assets to fall back on if solvency or liquidity of the product were threatened.


Liquidity and solvency do affect the other performance areas of a microinsurance programme. For example, excessive liquidity reduces investment income which in turn lowers overall net income. Too little liquidity on the other hand may cause a delay in claims payment.

Nr.	Indicator	General interpretation
9	Solvency Ratio	What is the insurer's ability to meet future obligations?
10	Liquidity Ratio	How readily can the insurer meet its short-term expense and claim obligations?

Indicator 9: Solvency ratio

Definition

The solvency ratio is defined as the ratio of admitted assets to liabilities.

 A programme (or a risk-bearing organisation) with 130 percent solvency ratio owns 130 in admitted assets for every 100 of its liabilities.

How to calculate it

$$\text{Solvency ratio}_n = \text{Admitted assets}_n / \text{Liabilities}_n$$

Notes

This ratio can be calculated at any point in time however it is usual to calculate it at the end of an accounting period. This ratio must be at least one for the programme (or company) to be technically solvent.

As described in Principle 4 on calculating and setting up reserves, microinsurance programmes build up liabilities over time which become payable in the future. These liabilities must be funded as accrued and insurers set up reserves for this purpose. Insurance regulators specify the types of assets that may be used for building up reserves. Such assets are called admitted assets.

The Insurance Information Institute explains the term as applicable in the United States: “[Admitted assets are] recognized and accepted by state insurance laws in determining the solvency of insurers and reinsurers. To make an assessment of an insurance company’s financial position easier, state statutory accounting rules do not permit certain assets to be included on the balance sheet. Only assets that can be easily sold in the event of liquidation or borrowed against, and receivables for which payment can be reasonably anticipated, are included in admitted assets”.²⁸

28 Source: Insurance Information Institute www.iii.org

Non-admitted assets can be categorized into two types:

- 1) Those for which no portion is admitted such as furniture, unamortized costs for software development, loans to employees, equipment, etc.; and
- 2) Assets for which only a portion is admitted such as real estate and similar types of investments. In the latter case, regulators generally prescribe the allowable amounts for each type of asset.

In the absence of a regulator's definitions and guidelines, it is necessary to rely on one's sound judgment. As the definition above prescribes, only "higher quality" assets that can be easily liquidated should be considered in determining the solvency ratio such as government securities, high grade bonds and mortgages, cash and cash equivalents, accrued interest of higher grade investments, quality real estate using either a conservative valuation of current value or the book value, whichever is lower, and so on.

Liabilities include all actuarial reserves and other accrued liabilities such as expenses payable but exclude capital and surplus (i.e. member equity). If the microinsurer cannot determine the reserves correctly then it cannot quantify the true liabilities and calculate a solvency ratio.

Solvency ratio

Balance Sheet at period's end	
Item	
Assets	
B01	Admitted assets
B02	Cash and cash equivalents
B03	Investments (easily convertible into cash)
B04	Other admitted assets
B05	Non-admitted assets
B06	Premiums receivable
B07	Prepaid claims
B09	Accounts receivable
B10	Investments (not easily convertible into cash)
B11	Net fixed assets
B12	Other non-admitted assets
Liabilities and equity	
Reserves	
B14	Unearned premium reserve
B17	Incurred but not reported claims reserve
B20	In course of settlement claims reserve
B21	Reinsurance expenses
B23	Accrued liabilities reserve
Other liabilities	
B25	Other liabilities < 3 months
B26	Insurance liabilities < 3 months
B28	Other liabilities < 3 months
B29	Other liabilities > 3 months
B30	Insurance liabilities > 3 months
B32	Other liabilities > 3 months
Equity	
B33	Paid-up share capital from shareholders
B34	Donated equity
B35	Current year profit/loss
B36	Retained earnings (accumulated losses)
B37	Other capital accounts

Where do the numbers come from?
Profit & Loss Statement (BRS01 Fact Sheet)

$$\left. \begin{array}{l} B02 \\ B03 \\ B04 \end{array} \right\} = \frac{\text{Admitted assets}}{\text{Admitted assets}} = B02 + B03 + B04 = B01$$

$$\text{Solvency ratio} = \frac{\text{Admitted assets}}{\text{Liabilities}}$$

$$\text{Liabilities} = \text{Reserves} + \text{Other Liabilities}$$

SOME APPROACHES TO SOLVENCY MEASURES IN COMMERCIAL INSURANCE (Box 9)

Solvency norms are a key item in international insurance regulation. It defines the capital an insurance company needs to hold given its risk exposure. The solvency definition promoted in this handbook would be called 'cover ratio' by international insurers to avoid confusion with the Solvency I and Solvency II rules.

Solvency I is a set of directives that came into effect in 2005 and was applicable to European insurers. It contains:

- More stringent capital rules on various lines of insurance business
- Required increase in minimum capital to Euro 3 million;
- Other important restrictions and rules designed to strengthen insurer solvency.

Solvency II, broader in scope than Solvency I, is defined by a new set of regulations scheduled to come into effect in November 2012 for insurers that operate in the European Union. With a high enough Solvency II ratio, an insurer will be able to conduct business in all countries within the European Union under a single license. The valuation methodology is quite complex with risk quantification based on a consistent set of economic principles and capital requirements set to cover the quantified risk. It is accomplished using computer models that take into account a set of prescribed economic scenarios.

Risk-Based Capital²⁹ (RBC) methods refer to general approaches used in several countries for determining the amount of capital needed for solvency. RBC is an amount of capital based on an assessment of risks that a company should hold to protect customers against adverse developments. It is used in both the banking and insurance industries. Regulators, rating agencies, and company management may each use different methods, procedures and formulas for estimating RBC. As an indicator of the financial strength of a company, RBC information is also of interest to customers, creditors and investors. RBC is typically calculated by applying factors to accounting aggregates that represent various risks to which a company is exposed. However, some or all of RBC could be determined by other methods.

RBC is usually expressed as a risk based capital ratio. This is the total capital of the company (as determined by the RBC formula) divided by the company's risk-based capital (as determined by the formula). For example a company with a 200% RBC ratio has capital equal to twice its risk-based capital.

Significance and interpretation

In simplest terms, the overall solvency ratio indicates the financial strength of the insurance programme (or company) and its ability to pay its obligations now and in the future. If a programme were to fail, it would affect all others in the industry as clients/members lost trust and confidence.

In the commercial market, regulators address solvency issues in various ways including prescription of minimum capital and surplus requirements, investment limitations, capital adequacy tests, accounting standards, risk-based capital methods, and disclosure.

All microinsurance models need to understand this ratio well. It is clear that for a self-insured programme, the microinsurer can calculate this ratio directly, but only so if it has the capacity to calculate its true liabilities. In partner-agent models, the insurer takes the risk; however, the agent should be very concerned with the solvency of the insurer especially where the products are more long-term and have a significant savings component. The agent should request audited financial statements or receive them through the regulator- in fact, an insurer that will not or cannot produce timely statements should not be chosen as

²⁹ Source: <http://www.soa.org/files/pdf/03-RMTF-RiskBasedCap.pdf>.

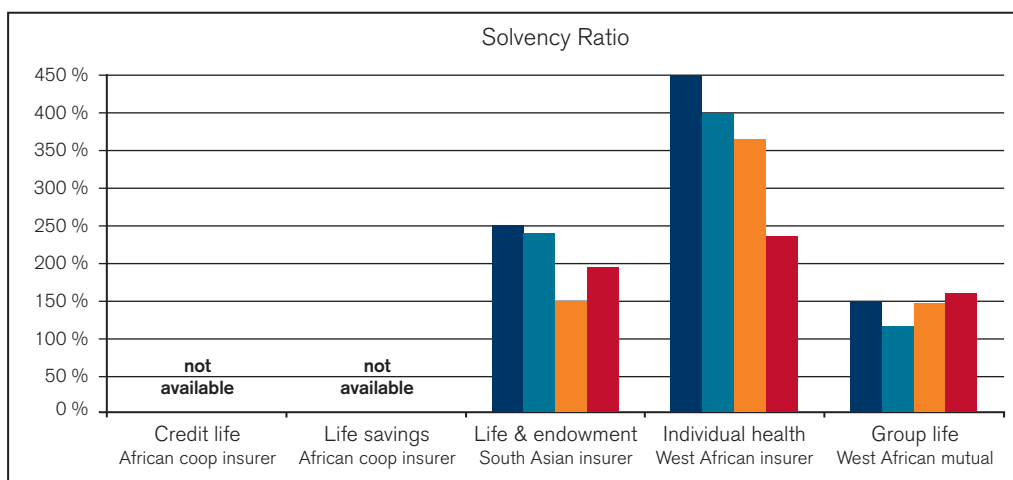
a partner. Using the published financial statements, the microinsurer must ensure that the insurer's overall solvency ratio is adequate- as a general rule, the level of the solvency ratio should be 120 percent or higher. Insurers with higher risk products and smaller insurers should aim for a much higher solvency ratio. If the number is lower than the recommended minimum, it may or may not be of concern depending on the insurer's overall business plan and on the trend the ratio has had in the current and previous years. On the other hand, having an exorbitantly high ratio in the long run is also not good as it signifies an inefficient use of capital.

In partner-agent setups, where the microinsurer provides additional benefits by covering the insurer's excluded events or where it enhances the insurer's package, the solvency ratio should be monitored separately for both "agent-cum-insurer" and for the insurance company partner.

Social interpretation

In any insurance programme, long-term solvency ensures protection for the clients. A failure of a microinsurance programme would have a negative impact on clients' trust and interest in insurance protection services even though they have a need for them.

Sample performance




The solvency ratios of only three of the five sample programmes were available.

- The Asian insurer's solvency ratio is for the entire company, not just for the product. The solvency ratio is a bit erratic; there could be some data problems or there may have been a reclassification of assets.
- The individual health product has a very high ratio even in the fourth year, but it will eventually run out of money if its problems aren't fixed.
- The group life programme's ratio is trending upwards as its efficiency, risk management, and profitability improve.

Indicator 10: Liquidity ratio

Definition

The liquidity ratio is defined as the ratio of cash or cash equivalents to “short-term” liabilities of the programme.

 A programme with 120 percent liquidity ratio holds 120 in cash for every 100 of its current and projected “short-term” liabilities.

How to calculate it

$$\text{Liquidity ratio}_n = \text{Available cash or cash equivalents}_n / \text{Short-term payables}_n$$

The indicator measures the amount of available cash to meet “short-term” obligations. Here, short-term liabilities mean projected payables within the next three months. To evaluate it, tally the available cash and short-term investments that can be immediately converted to cash (e.g. government securities, commercial paper, money market funds). Second, project expenses, claims, surrender payouts and other payables for the next three months; this is the denominator of the ratio.

There are at least three basic approaches that can be used to estimate short-term liabilities:

- A software application can be developed to project expected claims and expenses based on the existing business in force. To this, projected cash flow based on new business can then be added to get a total estimate of future cash flow for each period. From this, expected cash outflow for next three months can be derived.
- In absence of this application, one can use 25 percent of previous 12 months’ claims as a rough guide however additional margins must be added if the programme has been growing fast in recent times.
- A third method is to use the Balance Sheet as discussed and illustrated below.

The information from the Balance Sheet can be used to estimate short-term liabilities. This should be done with caution; although the Balance Sheet should contain all liabilities, there may not be a suitable split between short and long-term liabilities. While the reserves discussed in Principle 4 should in total represent the actuarial present value of a programme’s long and short-term liabilities, there is no general formula to separate out payables shorter than three months because each programme is different. Management, with the help of the actuary, can devise factors to estimate short-term payables from the reserves for each accounting period.

The next table is purely artificial and for illustration only; it should not be used directly - it is to illustrate the basic idea of how the Balance Sheet can be used to determine short-term liabilities for liquidity management. The factors in column 5 are contrived in this example, but in real life these should be estimated with the help of an actuary and based on the real situation.

Type of liability	Description	Expenses Included?	Total reserve	Estimated proportion payable within 3 months	Approximate short-term payable amount
Unearned premium reserve	Claims and expenses not incurred yet	Yes	1,000,000	25%	250,000
Claims in course of settlement	Claims reported but not yet paid	No	300,000	100%	300,000
Incurred but not reported reserve	Claims incurred but not reported	No	500,000	50%	250,000
Accrued liabilities reserve	Accrued claims and expenses not yet payable	Yes	2,000,000	5%	100,000
Other liabilities	Other liabilities	Yes	1,000,000	75%	750,000
Total			4,800,000		1,650,000

Note that this estimate does not cover all future expenses. An additional amount should be added to short term liabilities for this purpose.

The indicator has been defined here for a three month period. Microinsurers should also evaluate and monitor shorter and longer periods. A more thorough approach that covers all periods is asset-liability matching, discussed briefly in Principle 6 (Clear investment policy).

Significance and interpretation

The indicator is a simple but very important measure of liquidity and must be constantly monitored by the persons responsible for investment management. Even if a microinsurance programme has a robust solvency ratio, it could still have problems paying claims and expenses if it does not have sufficient liquidity.³⁰

Illiquidity will affect the ability to pay claims quickly and, as discussed earlier in this chapter, claim processing delays will make it more difficult to promote the microinsurance programme.

The main function of investment managers is to ensure that funds from premium income, interest income, investment maturities, etc. is (re)invested in the appropriate instruments that will provide interest income and will mature in a pattern that is synchronized as closely as possible with the microinsurer's future obligations while maximizing investment returns. If investments are overly concentrated in longer term assets such as real estate and long-term bonds, the microinsurer could suffer liquidity problems in the short-term. On the other hand, too much cash or too much money tied up in short-term investments will result in excessive liquidity and forgone investment opportunities. With diminished investment returns, higher premium rates or lower benefits may be required (see Box 3 on asset-liability matching).

Social interpretation

Too much liquidity increases costs or lowers benefits to clients because of lower investment returns. Insufficient liquidity will delay claims payment and could lead to bankruptcy in a number of ways, adversely impacting clients at the time of need.

Sample performance

There was no data available to calculate the liquidity ratios. Generally, self-insured programmes do not systematically manage their liquidity very well nor do they base it on projected claims and expenses. Many have excessive liquidity, in part because they have problems finding suitable investments and / or due to a lack of appreciation of the implications.

³⁰ Garand and Wipf, 2006: 328.

2. MEASURING PERFORMANCE: SPECIFIC INTERPRETATION ISSUES

Microinsurance programmes around the world are highly variable and differ with respect to products, modes of distribution, management capacity, institutional maturity and in numerous other ways. Also, the context and environment in which the programmes evolved influence a programme's development and performance. This diversity makes performance comparisons between programmes difficult and sometimes artificial; therefore a measure of caution should accompany every conclusion about relative performance. Some of these issues were already raised in the previous chapter but require further elaboration in this chapter.

2.1 Life insurance products

There are a lot of different life microinsurance products. Some of the major classifications of products that have been developed are term life, whole life, endowment, and credit life. All provide a payment in the event of the insured's death. Many include some additional features such as disability, accidental death coverage, funeral expense coverage or a savings element.

Life products differ in terms of duration, coverage amount and pattern, premium payment options, underwriting requirements, and in several other ways. There are two broad categories- individual and group life products. Credit life is one of the most popular life products (it is usually but not always sold as a group product); its coverage term ranges from as short as one day to several years since it is usually co-terminus with the associated loan. Credit life coverage amount is either level or limited to the remaining balance of the loan at the time of the borrower's death.

Many of the performance indicators are applicable to all types of life products. There are some exceptions, however, that deserve to be singled out. First, the renewal ratio is not really applicable to credit life programmes where coverage is compulsory for accessing credit from a lending institution. In such a case, renewal of insurance coverage is almost entirely dependent on whether or not the loan is renewed, and this in turn is determined by other factors such as service satisfaction with the lender, credit history, interest rates, and so on. It is conceivable, though, that non-renewal of a loan was due to the negative experiences of other borrowers who claimed. Second, as already discussed in Chapter 1, the coverage ratio has limited interpretative value for credit life programmes (as well as for other compulsory participation products) although in some cases there may still be some useful information to be gleaned.

Third, for endowment and similar life products with a significant build-up of cash value, the indicators with earned premium in the denominator (net income ratio, incurred expense ratio, and incurred claims ratio) can become distorted over time but the manner and degree of distortion depends on the age of the programme and how it grew since its beginning. Over time, the incurred claims ratio will begin to increase since a large proportion of the endowment will be funded by the interest income accumulated over the years. Depending on the pattern of growth in the number of new endowment policies sold over the years, the incurred claims ratio could even reach 100 percent or more. Similarly, for this same product, the incurred expense ratio will usually be much lower compared to a pure life product with similar life coverage.

Another generalization that can be made about life microinsurance products is that they are often more difficult to sell than, for example, health insurance, since benefits are "more intangible" than for health. There are many reasons for this, ranging from cultural beliefs to premature death not being on one's mind. This obviously has a dampening effect on the awareness and satisfaction indicators which may, all things being equal, tend to be lower than some other better perceived products. While this may sound like a safe generalization, it does imply that life microinsurance programmes should be segregated from other programmes when benchmarking these two indicators.

Furthermore, life programmes with compulsory participation should be separated from those with voluntary participation when comparing the growth ratio, coverage ratio, and renewal rate indicators.

Typically life insurance is included in bundled products and therefore should be separated and analyzed in isolation. For such bundled products, overall expenses will have to be appropriately allocated for each of the products in the bundle.

For longer duration products and for those with savings elements, the clear investment policy principle is of particular importance. Endowment products, for one, are priced with an assumed rate of investment earnings over their coverage duration. If this rate is not achieved, then the product will lose money. Second, there will be deaths, surrenders, and maturities; all these types of claims must be projected and then investment reserves structured accordingly to ensure that there will be minimal risk of illiquidity. Conversely, too much liquidity may result in lower investment earnings and perhaps insufficient funds to meet the promised endowment when it becomes payable. Hence, asset-liability matching is an important practice and a crucial skill required for these types of products, as is the implementation of a clear investment policy. The liquidity indicator must also be monitored.

2.2 Health insurance products

Although health microinsurance may (sometimes) be easier to market than life insurance, it is probably the most difficult to manage. Many for-profit insurers do not offer health insurance unless it is accident related. To date, there is a tremendous diversity of health microinsurance programmes around the world; many schemes are relatively young or still in the experimental phase. Currently, only a few programmes are sustainable but many show great promise and innovation.

One of the main difficulties with health insurance is that services are usually provided by a third party and this makes it challenging to ensure good quality, control service costs and to prevent fraud, overcharging, or excessive utilization. To overcome this, it is important to continuously accumulate clean and accurate claims and exposure data for analysis and monitor in order to rapidly detect any emerging anomalies or unfavourable trends. To get a true picture, trends in both frequency (incidence) and in the claim amounts should be monitored separately for each benefit category. To detect provider abuse and inappropriate treatment, consumer and provider fraud, etc., analysis of claims at the level of each service provider is necessary. All this suggests that the principles pertaining to data gathering and constant claims monitoring together with the incurred claims ratio indicator are particularly important for health microinsurance.

The other key principles and indicators are also applicable to health products. To achieve viability and wide participation requires high levels of satisfaction which can only come through quality servicing at a reasonable price and persistent consumer awareness education. The results of this will be evident for the indicators of product awareness and client satisfaction.

2.3 Micro-pensions and related products

In mature insurance markets, pension products figure dominantly as retirement savings instruments, and these products usually consist of two phases: An accumulation phase during which savings and investment earnings jointly contribute to the growth of a personal pension fund, and a payout phase where the final accumulated pension savings are used for lump sum payout or, more commonly, to purchase a fixed-term or life annuity on the retirement date.

Of late, there has been an increase in micro-pension products. These products usually have a simplified payout phase limited to a lump sum payment or to a very short fixed term annuity. This is because long-term and life annuities are extraordinarily risky and can only be carried by insurers that have access to a well-developed and liquid domestic bond and secondary mortgages market, something that is usually lacking in developing countries.

The indicators with earned premium as a denominator do not apply to pure pension products since there is no earned premium. If there is a life component, these types of indicators will be distorted in a similar manner to endowment products (see Chapter 2.1). For pure pension products the net income ratio and the incurred expense ratio can still be calculated as a ratio of the pension contribution amounts in a manner described in Chapter 1.

Since pensions are usually longer duration products, a persistency ratio should be substituted for the renewal ratio. The awareness and satisfaction indicators still apply and will among other things reflect the presence of a savings culture, alternative pension product offerings in the market, and the degree of trust

in the institution in charge of investing the money. Of particular importance are the investment policies and other related principles as well as the solvency ratio; for the insurer, these should be monitored as a whole and for the pension product, in a segregated manner.

One of the most dangerous practices for self-insured programmes and insurers is to offer long-term interest rate guarantees during the pension accumulation phase without actually owning the assets to back up the guarantees. All accumulation interest rates should be linked to the actual investment returns in the investment portfolio of reserves; any other practice by the investing institution is outright gambling since nobody can predict the direction of future interest rates. Indeed, if there were a set of indicators and an associated rating mechanism to rate the quality of Management, an indicator flagging this practice should be one of the first to be considered.

2.4 Index products

Life, health, disability, and asset protection products discussed so far in this chapter are examples of so-called traditional insurance which indemnifies only those clients that suffer actual losses, and compensation is commonly based on the extent of each individual loss. Index-based insurance, introduced only recently in the market, differs in that it uses a proxy-for-loss index formula to estimate the average loss for a set of clients that (may) have been affected when a covered event happens. Individual compensation is based on the formula rather than on whether or not the insured experiences an actual loss and the extent of the loss.

Index products have been developed for weather and other risks that affect assets and agriculture production. Many of these risk events are highly covariant in that a single occurrence can affect many clients all at once. As such, these products should be carried by very well capitalized insurers and heavily reinsured, i.e. they require a “very strong” solvency ratio. For a single index-based programme, the incurred claims ratio and net income ratio will likely be volatile from year to year due to covariance of claims. For an insurer covering several programmes over a large geographic area the aggregate claims payout will be more stable.

The advantage of the index-based approach is that moral hazard and adverse selection are minimized. As well, since individual loss adjusters do not have to visit each claimant, the promptness of claims settlement indicator should be much more attractive than for traditional versions of the same products. Similarly, claims rejection should be low since eligibility for claim is pre-determined and based on the index formula; because of this, there should be few erroneous claims if consumer awareness is reasonably high. Finally, since individual loss adjustment is very expensive, the incurred expense ratio for index products should be much lower than for traditional products. Due to these advantages, index-based microinsurance appears to be feasible in some situations where traditional microinsurance is not.

The downside of index insurance is that benefits do not correspond to real losses. This is best demonstrated by rainfall insurance which compensates farmers if there is a drought. For this product, some farmers may experience crop losses and not get compensated sufficiently to cover their real losses. Others, on the other hand, may receive a benefit payment even though they did not experience a real loss. This is known as basis risk and there are three main types:

- Spatial basis risk: it is possible to have sufficient rainfall at the pre-agreed measurement point, but insufficient rain on a farm a few kilometres away. With traditional insurance, the farmer may have received compensation if his or her crops were damaged.
- Temporal basis risk: it is possible to have sufficient rainfall within a growing season so that the index formula does not indicate that a drought has occurred, even though the rain comes at the wrong time and thus results in damaged crops. Again with traditional insurance the farmer may have received compensation.
- Loss specific basis risk: it is possible that the index used is inappropriate or not well correlated to actual losses. For example, there are some crops that need more rain than others, so if an identical index formula is used for all farmers it follows that for some crops the formula will be more suitable than for others.

The net effect of basis risk could be either a dampening or improvement of the product awareness and client satisfaction indicators. For example, clients that were compensated when they shouldn't have been will be more eager to renew while those that did not get sufficient benefit may opt to drop the product.

2.5 Other insurance products

Generally, products such as asset protection are called non-life products (health is commonly regarded as both a life and non-life product). Most life, health, and pension products can be safely self-insured with the required professional and technical skills, sufficient size of the risk pool, and economies of scale. Some risks, such as crop and asset protection should be managed by an insurer or reinsurer because of significant covariant risk and other causes of claims variability.

Products such as crop insurance, weather insurance, and asset protection require much larger risk pools with adequate reinsurance for long-term viability. These products normally cover events that can affect very large areas resulting in a rash of claims within a short period. Such events often lead to lengthier claims settlement since an adjuster may be required to visit the site of every loss; but with a good disaster claims settlement plan, rapid settlement is possible. An unprepared organisation will evaluate poorly on the promptness of claims settlement indicator.

For asset protection insurance, problems arise from a lack of understanding of what is covered, which events qualify for claiming benefits, and inadequate documentation of the covered asset before the loss. In case of a catastrophic event affecting a wide area such as an earthquake or flood, these awareness problems will increase the claims rejection ratio and the resulting dissatisfaction will consequently impact the awareness and satisfaction indicators in the following renewal period.

2.6 Organisational aspects

As explained earlier in this handbook, the performance of a microinsurance programme should be viewed first and foremost from the perspective of the insured member or client. Because of this, the key principles and performance indicators were discussed in a generic sense, and although there is a lot of diversity in the methods of delivery, the interpretation of the indicators is similar for different models. This does not imply, however, that all models will perform equally. In fact, each model has its advantages and disadvantages and this will likely be expressed by the performance indicators. Comparing performance between programmes is discussed in Chapter 3.

There are many ways to categorise microinsurance programmes such as considering who bears the risk, how the organisation is set up, the distribution method, legal structure, and so on. One of the main lines of demarcation is with respect to bearing the insurance risk- that is, the primary organisation is either self-insured or it cedes the risk to another risk-bearing entity such as a licensed insurance company (i.e. the so-called partner-agent setup). Many are a combination of the two in that they retain part of the risk for a particular product and cede the remaining part. For example, the agent organisation may assume some of the insurer's excluded events or may add extra benefits to enhance the insurer's product. In this case, the agent could just as well be called the primary microinsurer and the insurer could be regarded as a reinsurer. In other cases, the sponsoring organisation may retain the entire risk for one product and then cede the entire risk for the second product.

Organisations that cede the risk to an insurer illustrate how performance indicators should be calculated for a multiple-partner delivery model or the partner-agent model. Typically, distribution is handled by the agent (the programme sponsor), and the risk management is left to the risk-bearing partner assumed here to be a licensed insurance company. In the case of health insurance, claims processing may be handled by a third party administrator (TPA). In other situations, claims are processed by the insurer, or by the agent, or by all of the partners involved. In many programmes, the agent is an organisation with an existing client or membership base whose families require access to risk management services. This could be an employer, an association, a cooperative, an MFI, or some other type of group. Participation in the microinsurance pro-

programme could be voluntary or compulsory. Usually the agency earns a commission to cover its distribution costs. The agent may also benefit if its assets are protected from the consequences of the client's death, disability, sickness, or other risky events.

It was established earlier that in the interest of evaluating the performance from the client's perspective, all of the partners should cooperate and prepare an overall performance picture of the microinsurance programme before any reinsurance considerations. This will involve consolidation of their various databases and financial statements for the programme so that calculation of the indicators is possible. In all likelihood, the agent should lead this cooperative endeavour, assuming that quality servicing of its customer base is of great importance.

The ten key performance indicators are relevant to any risk bearing, i.e. partner-agent, programme. The Table below briefly summarizes the typical requirements for calculating them:

Indicator	Common data and calculation requirements
Net income ratio	1) The insurer must provide a balance sheet and income statement for the programme, i.e. not just for the entire insurance company. 2) Earned premium should be provided by the insurer. 3) If a TPA is involved, its costs must be included in the expenses section. 4) The TPA may be in charge of the claims database; this is used by the insurer to prepare claims costs and claim reserves. 5) The agent / sponsor must separate its microinsurance data from the data of its other activities as described in Principles 1 (Separation of data) and 3 (collection of relevant and accurate data), and prepare the microinsurance financial statements as per Principle 2 (Production of financial statements).
Incurred expense ratio	The expenses of all partners must be combined.
Incurred claims ratio	The paid claims and claims reserves should be based on an audited claims database. If the agent is providing extra benefits, these should be included.
Renewal ratio	The renewal ratio should be frequently calculated by a software application attached to the client and coverage history database. This database is maintained by the agent in most cases.
Promptness of claims settlement	The claims database and other sources should be used to calculate this indicator.
Claims rejection ratio	The claims database and other sources should be used to calculate this indicator.
Growth ratio	The growth ratio should be frequently calculated by a software application attached to the client and coverage history database. This database is likely to be maintained by the agent.
Coverage ratio	The agent should define its target market to calculate this indicator (see Chapter 2).
Solvency ratio	The solvency ratio should be determined for the insurer and for the programme as well. If the agent is providing some supplementary coverage, it will require some reserves which must also be considered in the programmes solvency ratio.
Liquidity ratio	All parties need to monitor their own liquidity. For the risk-bearing organisation it is most critical to ensure timely payment of claims, and it should project its short term liabilities for this purpose.

In summary, performance is impacted by many different parameters such as cultural context, type of product, organisational aspects, geographical location and dispersion, age of the programme, and so on. These will not be discussed here- but the reader and practitioner should be mindful that these are important and should keep them in mind when interpreting and comparing performance of various programmes.

2.7 Takaful insurance

Conventional insurance is not acceptable for many Muslims due to three inherent elements contrary to Islamic principles:³¹

- Gharar (uncertainty) - arises as the amount and timing of future benefits is not known, nor is there any certainty that a benefit will be paid at all.
- Maisir (gambling) – the idea of paying a small premium for the possibility of receiving a much larger benefit, and the possibility that the insurer may have to pay out more in benefits than the aggregate premium that it collects is considered to be gambling.
- Riba (interest) - many conventional insurance products are built around investments that earn interest.

To acknowledge these elements and still enable insurance protection, Muslim scholars have accepted a form of Islamic insurance founded on the concept of Al-Takaful. This has been practiced in principle since the early second century when Muslim Arab traders travelling to Asia agreed to mutually contribute to a common fund that would compensate for losses resulting from mishaps or robberies during the numerous sea voyages. It is based on principles of mutuality and cooperation, and encompasses the elements of shared responsibility, joint indemnity, common interest and solidarity. Investments are made according to the principles of Islamic finance.

The principles of Takaful insurance are:

- a) Participants cooperate among themselves for the collective good;
- b) Every participant contributes to help those that need assistance;
- c) Losses and liabilities are divided in a community risk-pooling system;
- d) Uncertainty is eliminated; and
- e) No one insured can take advantage of the others.

The basic fundamentals underlying the Takaful concept are very similar to cooperative and mutual insurance principles, to the extent that these invest in Islamic-compliant assets accepted under Islamic Shari'ah Law.

WHAT IS ISLAMIC FINANCE (SHARI'AH COMPLIANT FINANCING)? (Box 10)

Islamic finance is a banking/lending standard in accordance with Shari'ah law and the greater traditions of a strongly ethical, almost philanthropic, Islamic financial system. Included in the values of Islamic Finance are the prohibitions of gambling, ambiguity, and interest income. In general themes, it is a stricter version of ethical investing and corporate social responsibility. In spirit, it seeks to remove the element of greed and elitism inherent in credit-lending and to foster a system whereby entrepreneurship and credit are rewarded on the basis of profit and risk sharing. It seeks to identify a credit need and respond with a solution that fulfils that need in a Shari'ah-compliant fashion.

More specifically, the essential concepts of Islamic Finance are:

- Transparency and clarity of rights and obligations;
- Income from securities must be related to the purpose for which the funding is used, and not simply comprise interest; and
- Real underlying assets rather than simply paper derivatives should back securities.³²

31 Much of this text was taken from Patel, Sabbir, 2005: Takaful and Poverty Alleviation, ICMIF publications.

32 Ubiq Consultancy: Introduction to Islamic Finance: www.ubiqconsultancy.com/docs/islamic_finance.pdf.

The main purpose of Takaful (and cooperative) insurance systems is not to generate profit but to spread risk amongst participants. This suggests that they control their own funds and distribute the surpluses (and losses) that may be generated. However, in practice, commercial companies (Takaful operators) manage the funds on behalf of clients but they vary in the way they implement Takaful insurance. The approaches can be classified into several basic models:

Model	Description
Ta'awuni model (cooperative insurance)	The Ta'awuni model practices the concept of pure Mudharabah in the daily transactions where it encourages Islamic values such as brotherhood, unity, solidarity, and mutual cooperation. The Takaful company and insureds will only share the direct investment income; the surplus is returned without deductions to the participants.
Non-profit model	Programmes operated on a non-profit basis and relying on 100 percent voluntary contributions (Tabarru, or "donation") from participants who willingly give to the less-fortunate members of their community.
Al Mudharaba model	The surplus is shared between the insured and Takaful operator according to a mutually agreed ratio. Generally, these risk-sharing arrangements allow the Takaful operator to share in the underwriting results from operations as well as the favourable performance returns on invested premiums.
Al Wakala model	Cooperative risk-sharing occurs among participants where a Takaful operator earns a fee for services (as a Wakeel, or "agent") and does not participate or a share in any underwriting results. As these belong to participants as surplus or deficit, under the Al Wakala model, the operator may also charge a fund management fee and a performance incentive fee.

Even with the different approach of Takaful insurance, all of the principles still apply, and the ten key indicators are still relevant. Some of the issues that should be considered include:

- Principle 6 describing a clear investment policy has to be adapted to Islamic compliant financing (see Box 10).
- In calculating the net income and incurred expense ratios, the Takaful operator's charges should be regarded as an expense.
- Even if the net income ratio is "high", for some models the profit /surplus is returned to the clients proportionally, i.e. according to their patronage. For these programmes, a high net income ratio may not be regarded as exploitative in the same sense as it may be when investors / sponsors / Takaful operators keep some or all excessive profits.

3. COMPARING APPLES AND ORANGES: THE ISSUE OF BENCHMARKING

3.1 What is benchmarking?

In the previous chapters the discussion centred on describing and rationalizing key performance indicators for a microinsurance programme. Where possible, available data from five sample programmes was used to calculate the key indicators and presented. For some indicators such as the solvency ratio, a minimum target value was suggested. In Chapter 2, special considerations with respect to these indicators were discussed for various product lines and delivery methods.

Naturally, some readers should ask, “What indicator values signify poor, average, good and excellent performance?” The answer depends on many factors including the type of product, operational setup, location, size, age of the programme, etc. However, even for a given programme, the performance evaluation should be described relative to the performance of peers within the sector. This is why benchmarks are needed. Since the sector is still quite new, regularly updated information is important with regard to good practices and industry performance as this will guide microinsurance managers. If the indicators can be compared to established benchmarks of similar organisations and similar situations, it helps managers to think of the possibilities of doing things differently, and to question why others may be performing better. This may trigger some changes, which will ultimately lead to better performance and improved benefits to the insured client.

In the commercial insurance industry “many [...] companies use industry performance benchmarks to compare themselves to their competitors, and this helps them understand areas that require improvement. A relevant set of indicators paired with industry-accepted benchmark values (standards of performance) can be a signpost for Management, Boards and other stakeholders, helping them to ensure that the company remains solvent and that performance continues to improve.”³³

Mainstream business in general recognizes the impact that benchmarking has on the development of industries. It is described as a tool, a process, and a highly respected practice on the website of a benchmarking service, The Benchmarking Exchange: “Benchmarking is the process of measuring an organisation’s internal processes then identifying, understanding, and adapting outstanding practices from other organisations considered to be best-in-class.”³⁴

The objectives of the Insurance Industry Association For Benchmarking™ in The United States shed light on how that organisation makes benchmarking work:

- “To create a cooperative environment where full understanding of the performance and enablers of “best in class” business processes can be obtained and shared at reasonable cost.
- “To use the efficiency of the consortium [of participating insurers] to obtain process performance data and related best practices information from companies within and outside the insurance industry.
- “To support the use of benchmarking to facilitate process improvement and the achievement of total quality.”³⁵

3.2 Can benchmarking work for microinsurance?

In a manner analogous to that of commercial business, microinsurance practitioners could set up collaborative networks for benchmarking within each country and / or at an international level. For example, microinsurance resource centres have already been set up in several countries which provide technical assistance- the use of resource centres is an evident platform for sector collaboration and can be regarded as an added service of these resource centres. This could work especially well for those resource centres that have been established by a group of microinsurers since these groups are already accustomed to collaborating with each other.

33 Garand and Wipf, 2006: 321.

34 See www.benchnet.com/wib.htm.

35 See www.iiab.org.

In any case, a data repository can be set up where users will periodically send “snapshots” or “instances” of their databases, and as long as each database contains the required information, data migration utilities can be easily programmed to migrate and map data to the standardized format required for the consolidated data repository. The shared data should be limited or partially masked to protect the proprietary nature of some elements- for example; names of clients / members and their contact details should be deleted. Once the data has been mapped to the required format, performance indicators can be evaluated and possibly published or posted online.

3.3 What are the challenges?

Some microinsurance players resist the idea of benchmarking because of concerns that donors will channel their assistance towards those programmes that “perform better” as measured by the indicators. In order to “compete” for donor funding, some fear that they will be “forced” to abandon their adaptive innovations and develop in a manner that will be less than optimum for servicing the unique requirements of their clientele or membership. They speculate that programmes will be pushed “into a Box in order to compete”, as seemed to have happened in the microfinance sector.

Furthermore, there is an apprehension that regulators would adapt the indicator values of some of the better performing programmes and set these as minimum performance benchmarks, i.e. at a level that is too difficult to attain for the majority of programmes. These are indeed plausible risks but could be overcome through effective and persistent lobbying, communication, and documentation of the sector’s diversities, needs, and accomplishments.

A second challenge is the associated cost to benchmarking. Ultimately, in the absence of donor grants, these costs will be passed on the insured but should be minimal if spread over a wide microinsurance clientele or membership. Initially, the facilities such as the computer hardware, data management software, data migration utilities, and analytical software have to be acquired and developed, thereafter the costs of periodically calculating and disseminating the results could be minimal if participation were wide enough. To achieve significant buy-in will require some sort of cost-benefit analysis with persistent marketing, as well as visionary and strong leadership coming from within the sector.

GLOBAL MICROINSURANCE BENCHMARK DATABASE (Box 11)

The past five years have seen significant growth in awareness, interest and action among all interested parties in microinsurance. As a result of the increased participation, microinsurance in various forms has expanded to provide risk protection to low income clients across the world.

However, the breadth, depth, and quality of this expansion are unclear. So, there is a need for a reliable and accessible on-line information platform that tracks the changes, gaps, and growth in product value, market size, financial and operational performance across different types of microinsurance providers.

An effort to fulfill the need led to the creation of a Global Microinsurance Benchmark Database. The objective of the database is to collect, analyze and report data with bias towards no model, methodology, risk carrier, delivery channel, nor products.

With the above objective in mind, the Insurance for the Poor unit at the World Bank reached out to 161 microinsurance providers across six countries in 2009-2010 and plans with the support of a multi-stakeholder steering committee to include more types of providers and countries in the future.

More information soon

36 See www.mixmbb.org/en/our_methodology.aspx.

APPENDIX

A. SEVEN FUNDAMENTAL PRINCIPLES OF INSURANCE

Commercial insurance products are designed according to certain basic principles that apply to the concept of **economic loss**. In order for a risk event resulting in economic loss to be considered insurable, it must have the following basic characteristics:

1. The event must be random (i.e. occur purely by chance). In the case of a microinsurance programme, this implies that the covered event must not be influenced in any way by the insured. This usually requires controls to prevent this from happening.

2. The loss must be definite in terms of timing and amount. This implies that the benefits and the conditions under which a claim for benefits can be made must be very clearly defined and understood at the onset, for the benefit of both the insured and the insurer.

3. The loss must be significant. It would be uneconomical, for example, to insure petty losses that do not cause hardships for the household since this would be too costly to administer.

4. The rate of loss must be predictable. It should be possible to estimate the loss rate for each covered risk before launching the product, so that an equitable premium rate can be set with reasonable confidence. As will be discussed, this is why a programme should gather operations data as soon as possible. In the beginning, the rates of loss have to be estimated from national statistics or from experience of other programmes (which may have different characteristics).

5. The loss must not be catastrophic to the insurer. This has two dimensions a) a single loss of an insured should not devastate the programme; this implies that the benefits should be limited and that the size of the programme needs to include a “large” number of participating households; and b) Catastrophic events (i.e. a single co-variant event) must be either excluded or “reinsured”.

6. A “large” number of persons (or assets) with similar risk characteristics must participate. Essentially this means that the insurance programme needs to enrol a sufficiently “large” number of participants for each particular risk event, and there is a reasonably similar probability of the risk event affecting each insured. This requirement is grounded in statistics and is necessary for stable financial results of an insurance programme. The small premiums of the many insured households finance the losses (claims) of the few that are affected.

7. Premium rates must be affordable otherwise it is not an accessible financial service. For this to be possible, the probability of the risk event occurring must be very small, the amount of insurance coverage must be limited, and insurance delivery has to be efficient.

In the view of the authors, an important supplementary principle is the addition of loss reduction measures to microinsurance products. These are meant to lessen the chance and degree of loss before it happens. Examples include preventative measures such as public health education on nutrition, disaster preparedness, and risk management policies.

B. RESERVES

In Principle 4 the general meaning of a reserve is discussed. There, it is established that in practice, exact reserves for a product are very difficult to calculate and thus simplified methods are generally used. The most common simplified reserves listed in Table 3 are covered in a bit more detail in this Appendix.

The four reserves discussed here are:

- 1) Unearned premium reserve (UPR)
- 2) Incurred but not reported reserve (IBNR)
- 3) Claims in course of settlement reserve (CICS)
- 4) Accrued liability reserve (ALR)

1) Unearned premium reserve (UPR)

An unearned premium reserve is required for all products with periodic premium payments. Independent of how the premium is paid and received, premium is earned over the term for which it was paid in a manner that reflects the nature of how expenses and claims are incurred.

At the end of each accounting period, the unearned premium is simply premium income less earned premium for each active insured. Intuitively, it is a proxy estimate of “claims + expenses yet to happen (incur) over the remaining term for which premium was paid”. Incorporating it into financial statements is necessary in order to comply with basic accrual accounting principles.

To get a better sense of how this works, it is helpful to analyze the annual premium of a single term life insurance policy as presented in Table 8. Here, it is assumed that premium is paid up front by the insured to an agent who in turn remits it to an insurer.

Observe that:

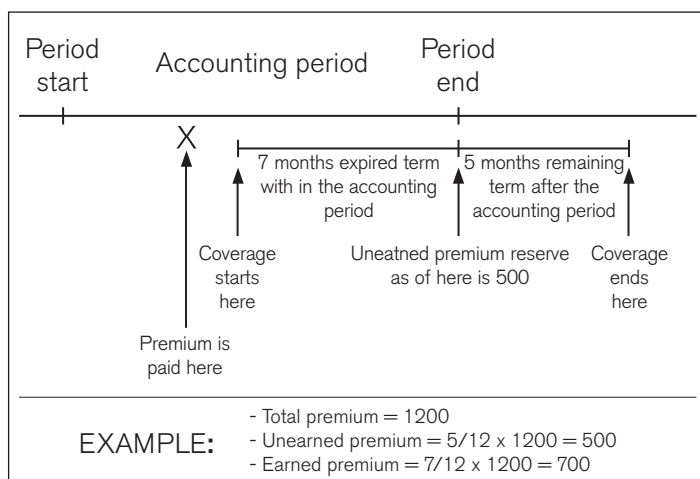
- The annual premium has been broken down into four main components (in reality, there are more components) - net premium to fund expected claims, insurer’s expenses, agent’s expenses (commissions), and insurer’s profit.
- Each of these four components is earned independently of the others.
- A specific component such as commissions may be earned differently from the perspective of each partner and from an overall perspective from which the key indicators should be calculated.

Annual premium earning pattern from three perspectives (Table 8)

Premium component	Perspective 1: The insurer	Perspective 2: The agent	Perspective 3: Overall perspective, for calculating performance indicators
Component to fund the life insurance benefits (i.e. claims) – is also called the net premium	Earned either pro-rata for simplicity or in a pattern that reflects insurer’s expected mortality risk	N/A	Same as insurer
Administration expenses of the insurer	Earned either pro-rata for simplicity or in a pattern that reflects insurer’s expected incurred expenses	N/A	Same as insurer

Commissions paid to the agent to cover its distribution expenses	Earned up front by the insurer if agent receives commission in full upon remittance to insurer	Earned on a pro-rata basis for simplicity or in a pattern that reflects the agent's expenses	Same as agent
Profits of the insurer	Earned either pro-rata for simplicity, or at expiration of the policy, or in some other manner	N/A	Same as insurer

To keep it very simple, most insurers apply the simplest approach and earn the entire premium on a pro-rata basis- while this may not always be the most conservative for all products it is generally acceptable and even so specified by many regulators.



Since individual clients may all buy coverage at different points in time, the unearned premium varies for each of them at any point in time. Hence, software applications are typically applied to a database of microinsurance transactions at the end of an accounting period and the unearned premium is calculated for each active insured. The aggregate sum is then used as the unearned premium reserve on the financial statements.

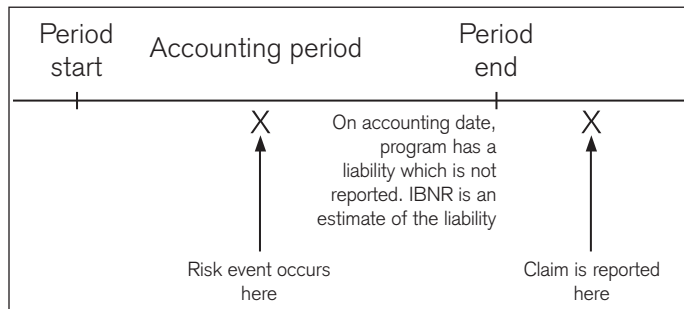
Insurers without good systems estimate the unearned premium in bulk by grouping the premiums by the month due. For simple products, this is adequate.

2) Incurred but not reported reserve (IBNR)

At any point in time, there may be events that have happened which resulted in a loss covered by insurance but which the insurer is not aware of. This is because it usually takes a few hours, days, weeks, or even months before claims are reported to the insurer for various reasons. This is also true at the end of an accounting period. True, the accountant could wait for a few weeks until all claims are reported before preparing the financial statements, however, according to Principle 2 on the production of financial statements this is not acceptable since latter needs to be timely for effective Management.

To enable timely financial statements, insurers set up an incurred but not reported (IBNR) reserve, a fund which will answer for all payable but still unreported claims at the end of the accounting period. The level of this fund has to be estimated, and there are many different methods employed for doing this. Most of these methods are based on past claims reporting experience; this is why the claims database must capture both

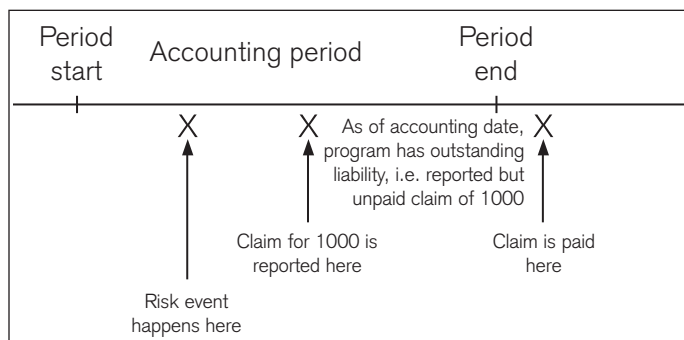
the incurred date and the reporting date of each claim. Observing the historical patterns of these lags and applying these to the current block of business is one common approach of estimating IBNR.³⁷



3) Claims in course of settlement reserve (CICS)

Even when a claim has been reported, it may take some time to pay it for a number of reasons (see discussion on claims promptness indicator). Hence, at any point in time, the insurer may have unsettled claims which are being processed. Some of these claims may end up being rejected, but as of the accounting date it may not be clear what will happen to some of the claims.

To comply with Principle 2, the production of financial statements cannot wait for all reported claims to be settled. However, the insurer must still recognize the unpaid liability of these claims. The most conservative approach is to assume that all claims will be paid and none will be rejected. The accounting provision and corresponding fund is simply known as the claims in course of settlement (CICS) reserve which is simply the sum (or a portion thereof) of all unpaid claims as of the end of the period.



4) Accrued liability reserve (ALR)

Accrued liability reserves (ALR) are as many and varied as there are microinsurance products. For some products the accrued liability reserves are as basic as accrued savings and interest but for the majority of products it is more complex than that. For example, for whole life insurance, level premiums are set for life at the time of purchase and further increases are not possible. Thus, for a whole life product, the excess premiums paid in the younger years must be invested to fund the higher mortality cost in the older years; this equates to the accrued liability reserves for that product and its level must be recalculated at least annually by an actuary.

In fact, since most accrued liabilities are for products with duration over a year, this reserve should, by necessity, be calculated by an actuary. Even if software tools are in place to make the calculations, the results should still be checked and certified by an actuary.

³⁸ More specifically, patterns of times taken to report claims are applied to the recent history of earned premiums. This is called the Lag Factor Method.

Reserve requirements for some microinsurance products (Table 9)

Type of product	Requires ALR?	Requires UPR?	Requires IBNR?	Requires CICS?
Pure credit life (without savings)	No	Depends on premium payment pattern	Yes, unless all claims are “instantly” reported	Yes, unless all reported claims are “instantly” settled
Credit life with savings	Yes- accumulated savings with interest			
Whole life	Yes if premium is level since there is an equity build-up to fund future increases in mortality rates			
Endowment plan (either term or combination of term and whole life)	Yes, at least two types: <ul style="list-style-type: none"> • Same as whole life • Accrued build-up for endowment which is payable if the insured survives to end of the term. 			
Pension plan	Yes- Accrued savings with interest, or defined benefits for some types of plans			
Health (term)	Generally none required since premium rates can be adjusted at least annually if experience worsens			

C. GLOSSARY

A	
Accrual accounting	The accounting methodology that recognizes income in the period that it is earned even if such income is received in another period. Similarly, it recognizes expenses in the period incurred even if such expenses are paid in another period.
Accrued liabilities reserve (ALR)	A reserve that provides for the net actuarial present value of accrued future expenses, claims, savings, and interest which are over and above those liabilities provided for in other reserves such as unearned premium, incurred but not reported claims, and claims in course of settlement.
Actuarial present value (APV)	In plain language, actuarial present value refers to the estimated current value of a monetary amount <i>which may</i> be payable or receivable in the future. In calculating the current value, the actuary discounts the future amount to the present day by incorporating the time value of money (i.e. considering that investments earn interest, dividends, or appreciate in value) and the probabilities and timing of all events that determine whether or not the said amount will actually materialize.
Actuary	A technical expert in insurance and applied mathematics, who applies theories of probability, economics, and finance to the business of insurance and is responsible for the calculation of premiums, reserves, and other valuations.
Admitted assets	Assets that are admitted by a regulator for purposes of valuing the financial strength of an insurer / microinsurer. Such assets are usually of good quality and can be easily sold in the event of liquidation and / or can be borrowed against.
Adverse selection	Adverse selection refers to the tendency of higher risk individuals to seek out more insurance coverage on average in anticipation of a greater probability of experiencing the insured event(s).
Assessment spiral	An assessment spiral, also called a death spiral, occurs when participation in a programme (risk pool) keeps decreasing as premium costs keep increasing. Those exposed to lowest risk drop out first as the premium they pay is not commensurate with the protection that they get, while the higher risk individuals remain. The assessment spiral is thus a series of assessments followed by premium increases which in turn are followed by even more dropouts of the remaining lowest risk participants. Eventually, the programme collapses.
Asset class	A category of assets such as real estate, stocks, bonds, etc.
Asset-liability matching	A process of projecting future liability streams such as expected claims, expenses, and surrenders and structuring the corresponding investments that back up these liabilities to ensure that the cash flow of future earnings and maturities are timed to coincide with future cash flow obligations.
B	
Basis risk	For index-based insurance, it is the risk that some affected insureds will be compensated too little or not at all while others with a only small loss or no loss will be overly compensated. This happens because compensation is not based on the each insured's actual loss but on an index formula which is a proxy for estimating the average losses of all insureds.

C

Capital adequacy testing	Actuarial method of projecting the future business results of an insurer under various adverse scenarios for the purpose of determining the adequacy of capital which will enable it to meet its obligations under any plausible scenario.
Cash premium	Premium received during an accounting period, whether or not it is earned during the period.
Claims adjustment costs	The administrative expenses related to adjudicating and organizing payment of benefits to the insured.
Claims in course of settlement (CICS)	Claims that have been submitted to the insurer and are still under process of adjudication.
Claims incidence	For a sample of insureds for a particular period, it is the number of claims or claimants divided by the number of insureds. This is a statistic often used by actuaries as an estimate for the true underlying probability that an insured from the sample will make a claim.
Client	Insured participants in a microinsurance scheme which is not owned by the insureds. In this booklet, clients are referred to as insureds, which is a more general term.
Coinsurance	In the most general sense, coinsurance refers to the insured retaining a portion of the insured risk. It can take many forms, but usually it means that the insured will have to pay a portion of the incurred expense. For example, a ten percent coinsurance for a health insurance programme means that the programme will pay only ninety percent of the covered procedures, and the remaining ten percent will be left to the insured.
Co-payment	The percentage of an incurred cost that is paid by the insured (see also coinsurance and deductible). A co-payment could be either a deductible and / or coinsurance.
Commercial insurer	An insurance company engaged in the business of insurance for the purpose of making profits.
Contingency reserve	A reserve to temporarily retain profits or to absorb statistical fluctuations in claims. This is practiced by only some insurers.
Co-variant claims	Claims that arise from a co-variant risk event. A large number of claims may be made to an insurer from a single occurrence of such an event.
Co-variant risk event	A risk event that affects a large number of persons or assets at the same time. For example, an earthquake affects all within the region where it occurs although the degree of the effect is variable. In contrast, random risk events such as traffic accidents affect only one or a few persons when they occur.
Coverage term	The length of time coverage is in effect before it must be renewed. This applies mainly to term products. Some types of insurances need not be renewed; these are generically called permanent insurance.

D

Data repository	A data warehouse or database designed for accumulating and managing large quantities of data for an extended period or permanently.
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Dropout rate	For a given period or sample, the dropout rate is the ratio of those clients or members that did not renew their coverage (or remain in the programme) to those that are eligible to renew (eligible to remain). The dropout rate is the opposite of the renewal rate and persistency rate.
E	
Earned premium	The premium income in a period minus change in unearned premium reserve for the same period (see Appendix B)
Endowment	Endowment life insurance is a term life product which pays a benefit either if (a) death occurs during the coverage term or (b) if, at the end of the term the insured is still alive. The death benefit or survival benefit need not be equal.
Exposure	See risk exposure.
F	
Fixed term annuity	A contract that provides a periodic benefit payable for a specified period of time regardless of whether the annuitant (recipient) is alive or deceased.
G	
Gross earned premium	Earned premium without any deductions such as commissions and other expenses. Gross earned premium represents the portion of the premium that should have financed all past incurred claims, expenses, and other accrued liabilities from date of coverage for which the premium was paid to the accounting date for which the earned premium is calculated. Mathematically, it is the difference between the premium payment and the unearned premium as of the accounting date for which it is calculated.
H	
Incurred but not reported reserve (IBNR)	IBNR is a reserve providing for the claims that have been incurred but have not yet been reported to the insurer at the end of the accounting period.
Incurred claims	Incurred claims are those where the insured event has happened, and for which the insurer may be liable if a claim is made. An insurer is usually not aware of all incurred claims at a particular point in time or for a current accounting period. To estimate incurred claims for a current accounting period, the following estimate is made: benefits paid during the period plus the change in reserves set aside for benefits to be paid after the period. Reserves typically include incurred but not reported claims, claims in course of settlement, and accrued liabilities reserve.
Incurred expenses	Incurred expenses for a given period are those that should be charged to the period according to accrual accounting principles and methods. For microinsurance programmes, these should include all actual expenses incurred in a period, including amortisation of equipment, depreciation, and commissions, and should not be reduced for subsidies and grants. Incurred expenses may or may not be equal to cash expenses for the same period.
Investment maturity	An investment that has become due for payment to the investor.
Insureds	Insured participants in a microinsurance scheme.

M

Member	Insured participants in a microinsurance scheme which is owned by the insureds. In this booklet, members are referred to as insureds, which is a more general term.
Membership fees	Some member-owned programmes charge an initial and/or a periodic fee. Some programmes regard membership or client fees as premiums which are either earned immediately or over a fixed period. In this handbook, such fees are regarded as other income.
Moral hazard	In insurance, moral hazard refers to the change in behaviour of an insured in a way that raises costs for the insurer. This happens since the insured no longer bears the full costs as he would were he not insured. For example, a person with auto insurance may drive with less caution since she no longer will bear full cost of damages if she were involved in an accident.
Mutual schemes	An insurance scheme where the insured persons are also the owners of the scheme.

N

Net income	The amount of surplus or profit over a period of operation. In a Profit & Loss prepared with for a period using accrual accounting methods, it is the earned premium in the period plus investment income in the period plus other income in the period minus incurred claims in the period minus incurred expenses in the period.
Net earned premium	Earned premium from which the various components such as commissions have been deducted. Net earned premium represents the portion of the premium that should have financed all past incurred claims from date of coverage for which the premium was paid to the accounting date for which the earned premium is calculated. As such, it can be used as a proxy for estimating past incurred claims for that period, but will be inaccurate to the extent that the product was mispriced, due to statistical fluctuations, and others.
Non-permanent subsidies	Subsidies that are scheduled or highly likely to stop at some future period.

P

Participation rate	An alternative term used for coverage rate or penetration rate.
Partner-agent model	A method used by organisations to deliver insurance. The insurer maintains the risk and contracts with a partner or agent to deliver the product and or administrative services to the target market.
Penetration rate	An alternative term used for coverage rate or participation rate.
Persistency ratio	The persistency ratio is analogous to the renewal rate indicator and is defined as the number of insureds from a cohort continuing their coverage at a later date divided by the number of insureds from the same cohort with coverage in period X. For example, if a cohort is defined as all those insureds that bought coverage in January 2010, then persistency ratio can be calculated at any point after that. If the persistency ratio on February 15, 2011 is 75 percent, it means that for every 100 that bought coverage in January 2010 there are still 75 with coverage on February 15, 2010. The persistency ratio could similarly be calculated for the cohort of remaining insured from February 15, 2011 onward.

Premium	The amount paid to an insurer for coverage of a risk event. This can vary from a one-time payment for “lifetime of coverage” to regular periodic payments (in microinsurance, as frequently as weekly) in order to maintain the insurance coverage.
Premium income	Premium income is any type of premium received from sale of insurance products. This term should not be used interchangeably with cash premium since the latter term literally refers to premium received as cash during an accounting period.

R

Reserve	A fund or an accounting provision which is set aside to fund the future net liabilities of a microinsurance programme.
Risk exposure	The possibility of an insured being affected by the insured event over a specified period is called a <i>unit of risk</i> or a <i>risk exposure</i> .
Risk pool	From an insurer’s perspective, a risk pool is a collection of sold insurance contracts with similar risk characteristics and grouped together as one financial account. It can also be used to describe a fund that has been set up between two or more insurers to co-share risk. At a community level, a risk pool is a fund to which several contribute regularly and seek compensation for certain types of losses- in other words, it is a self-insured program.
Risk-based capital	An amount of capital calculated based on the insurance business an insurer has assumed. The amount of capital should theoretically be sufficient to protect the insureds from various classes of risks that could threaten the company. To protect from catastrophic events and other types of covariant risks, the insurer must also buy appropriate reinsurance.

S

Service provider	An organisation that provides a service which could be administrative, data processing, claims management or any other function required to deliver insurance. They may be the insurer or another organisation bearing no risk.
Stand-alone risk-bearing microinsurer	A microinsurer that retains all the insured risk.
Capital and/or surplus requirements	The amount of assets required by a regulator or prudent person to transact insurance. This amount should ideally be calculated by an actuary, be based on the actual business currently in force, and consider the quality of assets.
Surrender payouts	The amount of money which the policyholder will receive as a refund if the insured cancels the coverage.

T

Technical provision	Some prefer to use the term technical provision for reserve (see reserve in this glossary for a definition).
Term life	Life insurance for a specified period, usually a year.
Third party administrator (TPA)	A party outside the original contracting parties of the insured and the insurance companies that handles an administrative function. For example, in the case of health insurance, claims processing is commonly handled by a third party administrator (TPA).

U

Underwriter	A person working for an insurer who assesses risks to be covered; in doing so, some risks may not be accepted and for those that are, the appropriate premium rates and policy terms are set with the help of an actuary.
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W

Whole life	Life insurance under which coverage remains in force during the insured's entire lifetime, provided premiums are paid as specified in the policy.
Written premium	When an insurer assumes a term contract, premiums expected to be received over the life of the contract are called <i>gross written premium</i> . After reinsurance premium is deducted from this it is called <i>net written premium</i> .

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Bibliography

Churchill, Craig, 2006: What is insurance for the poor? In Churchill, C. (ed.): Protecting the poor: A microinsurance compendium. Munich Re Foundation and ILO, Geneva.

Garand, Denis and John Wipf, 2006: Pricing microinsurance products. In Churchill, C. (ed.): Protecting the poor: A microinsurance compendium. Munich Re Foundation and ILO, Geneva, p. 240ff.

Patel, Sabbir, 2005: Takaful and Poverty Alleviation, ICMIF publications.

Rutkowski, Michal, 2007: Presentation at Iran Social Protection Seminar June 4-7, 2007, World Bank.

UK Department of International Development, January 2006: Social Protection in Poor Countries, Social Protection Briefing Note Series, Number 1.

Referenced internet sources

Asian Development Bank www.adb.org

Benchnet www.benchnet.com/wib.htm

IADB www.iiab.org

Insurance Information Institute www.iii.org

Mix Market www.mixmbb.org/en/our_methodology.aspx

Soa www.soa.org/files/pdf/03-RMTF-RiskBasedCap.pdf

Social Protection Facility <http://spf.anu.edu.au>

Ubiq Consultancy www.ubiqconsultancy.com/docs/islamic_finance.pdf

Wikipedia http://en.wikipedia.org/wiki/Relational_database

Appui au Développement Autonome (ADA), Luxembourg, is an NGO specialised in microfinance and collaborates with microfinance institutions all over the world through financial and non-financial support and exchange.
Website: www.microfinance.lu

Belgian Raiffeisen Foundation (BRS), Belgium, supports local savings, loans and insurance initiatives according to co-operative principles. BRS' support includes in depth technical assistance, training and financial support.
Website: www.brs-vzw.be

The Microinsurance Network seeks to promote the development and proliferation of insurance services for low-income persons through stakeholder coordination and information sharing.
Website: www.microinsurancenetwork.org

Any feedback or comments can be sent to info@microfact.org

For more information on this initiative, visit www.microfact.org

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