



Subject: FIS Prophet

**Chapter: Cash flow Projection
& Introduction to
Prophet**

Category:

Life Insurance Companies

Life insurance is a contract between a life insurance company and a policy owner. A life insurance policy guarantees the insurer pays a sum of money to one or more named beneficiaries when the insured person dies in exchange for premiums paid by the policyholder during their lifetime.

Life insurance is a legally binding contract that pays a death benefit to the policy owner when the insured person dies.

For a life insurance policy to remain in force, the policyholder must pay a single premium upfront or pay regular premiums over time.

Cash Flow Projection

A cashflow model is a mathematical projection of the payments arising from a financial transaction, eg. A term plan or an annuity. Payments received are referred to as income and are shown as positive cashflows. Payments made are referred to as outgo and are shown as negative cashflows. The difference at a single point in time (income less outgo) is called the net cashflow at that point in time.

Typical cash flows of a life insurance company

From the perspective of the insurer, there is a stream of regular positive cashflows which cease at a specified point (or earlier, if the policyholder dies) followed by a large negative cashflow. The negative cashflow is certain to be paid, but the timing of that payment depends on whether/when the policyholder dies. The intermediate smaller negative cash flows account for expenses and commissions.

By expenses we mean the costs incurred in administering a life insurance contract and, more broadly, in managing the insurance company's business.

These costs involve such things as:

- staff salaries
- commission payments to sales intermediaries
- costs of infra-structure (eg office buildings, computer systems)
- medical underwriting costs
- costs of managing investments
- other running costs (eg policy administration, heating, lighting, internet use).

Do you think of any other cash flows?

Profit test the models.

This is the process of projecting the income and outgo emerging from a policy and discounting the results. The results can then be used for various different purposes.

The expected cashflows, both positive and negative, are used to construct a projected revenue account (per contract in force at the start of the period) for each time period. The balancing item in the projected revenue account is the profit emerging at the end of the time period.

The revenue account for a life company is:

(+) premiums

(-) expenses

(+) investment income

(-) benefit payouts (claims, maturity, surrender values)

(-) increase in reserves.

= profit gross of tax

(-) tax

= profit net of tax

Excel is used to work on the profit testing.

Let's now investigate cash flows of some other products:

1. Term Assurance

Term assurance plans typically provide a death benefit to the beneficiary in the event of the policyholder's death during the term of the policy.

Here are the potential positive and negative cash flows associated with term assurance plans:

(+) Premium

(-) expenses

(+) investment income

(-) benefit payouts (claims, surrender values)

(-) increase in reserves.

= profit

2. ULIP

Project unit fund at end of each year as:

(+) Premium x allocation rate x (1 - bid-offer spread) *

(+) unit fund from end of previous year

(+) expected unit fund growth

(-) management charge

= fund at end of year after charges

* 'Cost of allocation'

Per policy in force at start of each year, project expected amounts of:

(+) premium less cost of allocation

(-) expenses

(+) interest on non-unit fund

(-) non-unit benefit costs

(+) non-unit surrender profit

(+) management charge transferred from unit fund

(+) other charges from unit fund, if applicable

= non-unit cashflow vector (= profit vector in absence of any non-unit reserves)

3. Annuity Products

An annuity is a financial product that provides a series of payments to the annuitant over a specific period of time or for the rest of their life.

The cash flow for an annuity product, typically have the following trend:

(+) Premium (single or regular up to a certain time)

(-) Operating expenses

(+) Investment income

(-) Guaranteed income payout.

= profit



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About FIS

- Originally developed by Bacon & Woodrow. B&W's insurance practice merged with Deloitte & Touche to form B&W Deloitte. Sungard bought Prophet from B&W Deloitte in 2005. Prophet is now marketed by FIS, a global provider of software and processing solutions for financial services. FIS acquired Sungard in 2015.
- FIS, also known as Fidelity National Information Services, is a multinational software company that provides a range of financial technology solutions to various industries, including banking, insurance, and wealth management.
- Founded in 1968, FIS has grown to become one of the largest companies in the financial technology industry, with over 55,000 employees and operations in more than 130 countries. The company offers a wide range of software products and services, including core banking systems, payment processing, risk management, and wealth management solutions.
- FIS serves a diverse client base, ranging from small businesses to large multinational corporations. Its clients include some of the world's largest financial institutions, such as JPMorgan Chase, Bank of America, and Wells Fargo.
- FIS is known for its focus on innovation, and it invests heavily in research and development to develop new and improved products and services. The company has received numerous awards and recognitions for its innovation and excellence in the financial technology industry.

About Prophet

- Prophet is a financial analysis software developed by FIS, a multinational software company that provides financial technology solutions and services to various industries. The software is designed to help businesses and organizations manage their finances and gain insights into their financial performance.
- Prophet provides a range of features for financial analysis, including budgeting and forecasting, financial reporting, cash flow management, and consolidation of financial data from multiple sources. The software is designed to be user-friendly and customizable, allowing businesses to tailor it to their specific needs and workflows.
- One of the key benefits of Prophet is its advanced forecasting capabilities. The software uses a range of forecasting techniques, including statistical models and trend analysis, to provide accurate predictions of future financial performance. This allows businesses to make informed decisions and plan with greater confidence.
- Prophet also provides a range of reporting and analytics tools, allowing businesses to track their financial performance in real-time and identify trends and patterns in their data. The software can generate a range of customizable reports, including balance sheets, income
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statements, and cash flow statements, as well as more advanced reports such as scenario analysis and sensitivity analysis.

- Overall, Prophet is a powerful financial analysis tool that can help businesses of all sizes and industries manage their finances more effectively. Its advanced forecasting capabilities, reporting and analytics tools, and user-friendly interface make it a popular choice among finance professionals and executives.
- Prophet is a desktop software application that is installed on a computer and used for financial analysis.
- The software is primarily used by financial institutions, particularly insurance companies, for actuarial calculations.
- Prophet offers several advantages over using Microsoft Excel for financial modelling, including faster run times and better memory management options due to the use of C++ code.
- However, it is not intended to replace Excel altogether and is designed to help actuaries focus on actuarial modelling without worrying about the technical details of managing hardware resources.

Applications:

- Prophet is used for a variety of financial analysis tasks, including profit testing, product pricing, and design.
- It is also used for business planning and statutory valuations, such as reserving and solvency margin calculations.
- The software can analyze movements in financial data and providing stochastic projections for risk-based capital and Solvency II compliance.
- Other features of Prophet include embedded value calculations, financial reporting in accordance with various accounting standards (such as IFRS and USGAAP), and asset/liability modelling.
- Finally, the software is also used for risk management purposes, allowing companies to identify and manage risks related to their financial performance.

Advantages:

- Advanced forecasting capabilities: Prophet uses advanced techniques, such as statistical models and trend analysis, to provide accurate predictions of future financial performance.
- Customizable interface: The software is designed to be user-friendly and customizable, allowing businesses to tailor it to their specific needs and workflows.
- Powerful reporting and analytics tools: Prophet can generate a range of customizable reports, including balance sheets, income statements, and cash flow statements, allowing businesses to track their financial performance in real-time and identify trends and patterns in their data.
- Better memory management: The software is programmed in C++ and thus provides better memory management options, leading to faster run times than modelling with MS Excel.
- Integration with other systems: Prophet can be integrated with other software and systems, allowing for seamless data transfer and collaboration between different departments within an organization.

Disadvantages:

- Cost: The software is expensive and may not be feasible for small businesses or startups.
- Steep learning curve: The advanced features and customization options can make it difficult for some users to learn and navigate the software.
- Limited industry focus: The software is primarily geared towards the insurance industry and may not be as useful for businesses in other industries.
- Requires hardware resources: The software requires high-end hardware resources to run optimally, which can be an additional cost for businesses.
- May not be a substitute for MS Excel: While the software provides several advantages over using MS Excel, it may not be a complete substitute for Excel as it lacks some of the basic features and flexibility of Excel.