somewhat different

Hannover Re Group

Alternative Performance Measures

hannover re®

Alternative Performance Measures

In the context of its financial reporting Hannover Re uses various financial and alternative performance measures (APMs). The present document defines the APMs and assures their implementation in accordance with the standards set out in the "Guidelines on Alternative Performance Measures" published by the European Securities and Markets Authority (ESMA)[1].

The purpose of the guidelines is to promote the usefulness and transparency of APMs included in prospectuses or regulated information. Adherence to the guidelines is intended to improve the comparability, reliability and/or comprehensibility of APMs. The APMs used by Hannover Re complement the figures documented and published in accordance with International Financial Reporting Standards (IFRS). An APM is defined as a financial measure of historical or future financial performance, financial position or cash flows, other than a financial measure defined or specified in the applicable financial reporting framework.

We would point out that the comparability of APMs within the industry may be limited due to variations in how they are calculated as well as different accounting standards and measurement methods. The APMs used by Hannover Re are defined below in accordance with the specifications of the ESMA guidelines.

Definitions, use and limitations on usefulness

Book Value per Share (BVPS)

Definition and use

The book value per share provides information about the book value deriving from ownership of one share of the company. It is calculated as the shareholders' equity reported in the balance sheet divided by the number of shares outstanding.

Limitations on usefulness

The book value per share alone does not provide any information about the financial strength of Hannover Re and should be considered in conjunction with the risks from business operations. Furthermore, it includes elements that are influenced by external factors such as changes in interest rates and exchange rates and hence does not directly reflect the intrinsic value of the share. No allowance is made for unrealised gains or unrealised losses, e.g. in the value of investments. In addition, the book value per share can also be influenced by a change in the number of shares outstanding. In order to draw conclusions about the valuation of the share, the book value per share should be considered in relation to the current share price (price-to-book ratio) and this should be compared with other companies.

Dividend payout ratio

Definition and use

The dividend payout ratio is the percentage of Group net income paid out to shareholders in the form of dividends in the following year. It indicates the portion of the profit that a company pays to its shareholders and hence does not retain for reinvestment in growth, debt repayment

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[1] ESMA Guidelines on Alternative Performance Measures of 05 October 2015, ESMA/2015/1415en supplemented by the Questions and Answers, ESMA Guidelines on Alternative Performance Measures (APMs) of 30 October 2017, ESMA 32-51-370.

or allocations to the liquidity reserves. We consider the dividend payout ratio to be a key measure that serves to show investors the level of their participation in the company's success.

Limitations on usefulness

The payout ratio provides no information about the absolute amount of the dividend. The payout ratio also fluctuates with the absolute amount of Group net income and should therefore always be considered in conjunction with this figure.

Earnings before interest and taxes (EBIT)

Definition and use

The EBIT (operating profit) is the sum of the investment income, the underwriting result and the other income/expenses including amortisation of goodwill but excluding interest for other capital borrowed for financing purposes (financing costs) and before taxes (taxes on income). The EBIT is a measure of a company's profitability. Interest and taxes are excluded because they are external factors that do not reflect the underlying profitability of ongoing business operations. The EBIT thus highlights the profitability of the company attributable to its ongoing business operations.

Limitations on usefulness

The operating profit is subject to fluctuations that are not attributable solely to the performance of the Hannover Re Group but are also influenced by factors such as changes in interest rates and exchange rates or changes in the consolidated group resulting from acquisitions and disposals.

EBIT margin

Definition and use

The EBIT margin is the EBIT (operating profit) divided by the net premium earned. It is one of the key operational management ratios because it enables conclusions to be drawn about the profitability of the business written.

$$\text{EBIT margin} = \frac{\text{EBIT}}{\text{Net premium earned}}$$

Limitations on usefulness

Taken in isolation, the EBIT margin does not enable any conclusions to be drawn about the nominal profitability. Furthermore, it is subject to fluctuations that are not attributable solely to the performance of Hannover Re. The EBIT margin does not provide any meaningful information about the profitability of business booked according to the deposit accounting method that does not show any net premium earned but nevertheless generates profit contributions and hence favourably influences the EBIT margin. This is the case with insurance contracts recognised in accordance with US GAAP under which the risk transfer is of subordinate importance and the compensation elements for risk assumption booked to income are netted under other income/expenses.

EBIT growth

Definition and use

The EBIT growth indicates the change in EBIT (operating profit) relative to the comparable period in percentage terms. It measures the change in profitability and provides information about the development of the operating profit. The EBIT growth is primarily used by Hannover Re for performance measurement in life and health reinsurance.

$$\text{EBIT growth} = \frac{\text{EBIT period under review}}{\text{EBIT previous year's period}} - 1$$

Limitations on usefulness

Taken in isolation, the EBIT growth does not enable any conclusions to be drawn about the absolute profitability. Furthermore, it is subject to fluctuations that are not attributable solely to the performance of the Hannover Re Group (see EBIT).

Return on Equity (RoE)

Definition and use

The return on equity is a measure of the Group net income relative to the average shareholders' equity excluding non-controlling interests. Return on equity (RoE) is a profitability indicator that measures a company's ability to generate earnings from the investments of its shareholders. It is therefore one of the Group's key operational management ratios.

$$\text{Return on equity} = \frac{\text{Group net income}}{\text{(Sum of shareholders' equity at the beginning and end of the reporting period / 2)}}$$

Limitations on usefulness

The calculation of Hannover Re's return on equity includes elements (external factors) that do not enable any conclusions to be drawn about management performance. The relative indicator RoE provides no information about the absolute amount of Group net income or shareholders' equity.

Excess Return on Capital Allocated (xRoCA)

Definition and use

The xRoCA (Excess Return on Capital Allocated) represents the IVC (Intrinsic Value Creation) in relation to the allocated capital and shows the relative excess return generated above and beyond the weighted cost of capital. The xRoCA enables statements to be made about the economic profitability of the business.

$$\text{xRoCA} = \frac{\text{IVC}}{\text{Allocated capital}}$$

Limitations on usefulness

see IVC

Policyholders' surplus

Definition and use

The policyholders' surplus is the sum of the shareholders' equity, non-controlling interests and hybrid capital. The policyholders' surplus provides information about the capital resources of a company.

Limitations on usefulness

Taken in isolation, the policyholders' surplus does not provide any information about the financial strength of a company and should be considered in conjunction with the risks from business operations. Furthermore, it includes elements that are influenced by changes in interest rates and exchange rates.

Intrinsic Value Creation (IVC)

Definition and use

IVC is a tool of value-based management used to measure the achievement of long-term targets. The IVC metric makes it possible to compare the value contributions made by the Group as a whole, its two business groups and the individual operational units. This enables us to reliably identify value creators and value destroyers.

The IVC is the economic operational value creation less the cost of capital.

IVC = Adjusted economic profit - (capital allocated x weighted cost of capital)

The calculation of the IVC includes the following components:

Adjusted economic profit:
The adjusted economic profit is comprised of two factors: the reported Group net income and the change in the balancing items for differences between economic valuations and amounts stated in the IFRS balance sheet. By way of the latter we make allowance in the value determination for changes in the fair values of assets not recognised in income under IFRS as well as for changes associated with economic effects affecting items of the technical Solvency II balance sheet that are not recognised in the IFRS balance sheet. In addition, interest on hybrid capital already recognised in Group net income and the non-controlling interest in profit and loss are included back in the calculation.

Allocated capital:
The allocated capital consists of three components: the shareholders' equity including non-controlling interests, the balancing items for differences between economic valuations pursuant to Solvency II and amounts stated in the IFRS balance sheet and the hybrid capital.

Weighted Average Cost of Capital (WACC):
For the purpose of calculating the cost of capital, the investor's opportunity costs and hence the threshold for positive value creation are determined on the basis of a capital asset pricing model (CAPM) approach. Our strategic return on equity target above this threshold thus already constitutes a substantial target value creation. We allocate equity sparingly and use equity substitutes to optimise our average cost of capital. The weighted cost of capital is calculated from the cost of capital for shareholders' equity and hybrid capital.

Limitations on usefulness

This metric cannot be derived directly from the figures in the IFRS financial statements. Industry-wide comparability is possible only to a limited extent. The calculation of the cost of capital in the IVC per business centre is, for example, dependent on the underlying capital allocation – which can be established using various methods. The weighted average cost of capital (WACC) is dependent on assumptions regarding the investor's opportunity costs and hence is also specific to the individual company.

Net investment income

Definition and use

The net investment income is a measure of the profitability of a company's investments. In view of the fact that the performance of the investments – along with the underwriting result – is determinative for the EBIT, it is one of the Group's key operational management indicators. It is composed of the net income from assets under own management as well as the balance of interest income and expenses on funds withheld and contract deposits.

Limitations on usefulness

The net investment income is subject to fluctuations that are not attributable solely to the performance of the Hannover Re Group, but are also influenced by factors such as changes in interest rates and exchange rates or changes in the consolidated group resulting from acquisitions and disposals.

Return on Investment (RoI)

Definition and use

The return on investment is calculated as the ratio of the net income from assets under own management to the average assets under own management (total investments and cash under own management). It is used to measure the efficiency of a company's investments. In view of the fact that the investment performance – along with the underwriting result – is determinative for the operating profit, it is one of the Group's key operational management ratios.

$$\text{Return on Investment} = \frac{\text{Net income from assets under own management}}{\begin{array}{c}(\text{Sum of assets under own management} \\ \text{at the beginning and end of the reporting period} / 2)\end{array}}$$

Limitations on usefulness

The return on investment is subject to fluctuations that are not attributable solely to the performance of the Hannover Re Group, but are also influenced by factors such as changes in interest rates and exchange rates or changes in the consolidated group resulting from acquisitions and disposals. The relative indicator RoI does not provide any information about the absolute amount of the investment income or of the assets under own management.

Combined ratio (C/R)

Definition and use

The combined ratio is the sum of the loss ratio and the expense ratio including the net investment income from funds withheld and contract deposits.

The loss ratio represents the ratio of total claims and claims expenses incurred for own account to net premium earned. It enables conclusions to be drawn regarding how successfully underwriting risks are written.

The expense ratio is the ratio of acquisition and administrative expenses to net premium earned. It enables conclusions to be drawn regarding the efficiency of service performance.

In property and casualty reinsurance the combined ratio is a key operational management ratio. It is used to draw conclusions about the profitability of the segment. A ratio below 100% means a positive underwriting result.

Limitations on usefulness

The combined ratio is used to establish underwriting profitability, but it does not capture the profitability of the investment performance or the other income/expenses. Even in the event of a combined ratio over 100%, the operating profit and/or the net income for the period / year can still be positive due to favourable investment income and/or positive other income/expenses.

Group net income

Definition and use

Group net income is the consolidated result for the year / period (after financing costs and taxes) excluding non-controlling interests. It represents the amount remaining after deduction of all operating expenses, interest and taxes from the company's total revenue. It is an important measure that shows how successfully the company operated in a certain period. Group net income is therefore one of the Group's key operational management indicators.

Limitations on usefulness

The Group net income is subject to fluctuations that are not attributable solely to the performance of the Hannover Re Group, but are also influenced by factors such as changes in interest rates and exchange rates or changes in the consolidated group resulting from acquisitions and disposals.

Value of new business (VNB)

Definition and use

The value of new business corresponds to the present value of future profits (excluding minority interests) generated from new business written during the current financial year. The calculation is made on the basis of the same operational assumptions that are used to determine the Solvency II own funds at the end of the financial year.

It is used as an operational management indicator in the life and health reinsurance segment in order to adequately capture the success of the new business policy.

Limitations on usefulness

There are no comparable IFRS key indicators for the value of new business. Furthermore, the value of new business is a measure based on best estimates that make reference to, among other things, interest rate assumptions and customer behaviour. These assumptions may prove to be overly optimistic or too pessimistic over the course of business.

Solvency ratio

Definition and use

Solvency II is a directive in European Union law stipulating solvency capital requirements for primary insurers and reinsurers in order to reduce the risk of their insolvency. Solvency II is essentially a risk-based capital regime. The Solvency II ratio (capital adequacy ratio) represents the ratio of available economic capital to the required regulatory risk capital.

Limitations on usefulness

Taken in isolation, the Solvency II ratio does not enable any conclusions to be drawn regarding the absolute amounts of required and available economic capital. The capitalisation required for regulatory purposes diverges from the internal target capitalisation because the confidence level used internally for management purposes is significantly higher than the confidence level required by Solvency II.

Underwriting result

Definition and use

The underwriting result is a measure of a company's underwriting profitability. It is the balance of income and expenses allocated to the underwriting business and is recognised in the technical statement of income.

Limitations on usefulness

The underwriting result is used as a measure of underwriting profitability. Even in the event of a negative underwriting result, the operating profit and/or the net income for the period / year can still be positive due to favourable investment income and/or positive other income/expenses.

Growth in gross written premium adjusted for currency translation effects

Definition and use

The growth in gross written premium (GWP) is nominal growth, adjusted for currency translation effects. This adjustment serves to make the data comparable and reveal the underlying operational development. The gross premium growth adjusted for currency translation effects is one of the Group's key operational management indicators for recording the change in business volume.

$$\text{Growth in GWP adjusted for currency translation effects} = \frac{\text{GWP for the reporting period at the previous year's exchange rate}}{\text{GWP for the previous year's period}}$$

Limitations on usefulness

Taken in isolation, the growth in gross written premium (adjusted for currency translation effects) does not enable any conclusions to be drawn about the development of profitability. Nor does the indicator allow any inferences to be made about the absolute premium income when it is considered in isolation.

Reconciliations

Please be aware that this is an sample calculation only, which is not subject to any update obligation.

Book value per share (BVPS)

$$\text{Book value per share} = \frac{\text{Shareholders' equity}}{\text{Number of issued shares}}$$

	2018
Equity attributable to shareholders of Hannover Rück SE (in EUR thousand)	8,776,791
Number of shares issued	120,597,134
Book value per share	72.78

Dividend payout ratio

$$\text{Dividend payout ratio} = \frac{\text{Dividend paid in the following year for the period under review}}{\text{Group net income}}$$

In EUR thousand	2018
Group net income	1,059,493
Paid dividend	633,135
Dividend payout ratio	59.8 %

EBIT (Earnings before interest and taxes)

EBIT =
Net premium earned
+ Net investment income
+ Other technical income
– Total technical expenses
+ Other income / expenses

In EUR thousand	2018
Net premium earned	17,289,133
Net investment income	1,530,029
Other technical income	599
Total technical expenses	17,340,842
Other income / expenses	117,730
EBIT	1,596,649

EBIT margin

$$\text{EBIT margin} = \frac{\text{EBIT}}{\text{Net premium earned}}$$

In EUR thousand	2018
Net premium earned	17,289,133
EBIT	1,596,649
EBIT-Marge	9.2%

EBIT growth

$$\text{EBIT growth} = \frac{\text{EBIT period under review}}{\text{EBIT previous year's period}} - 1$$

Life & Health reinsurance, in EUR thousand	2018
EBIT period under review	275,890
EBIT previous year’s period	245,210
EBIT growth	12.5%

Return on Equity (RoE)

$$\text{Return on Equity} = \frac{\text{Group net income}}{\text{(Sum of shareholders' equity at the beginning and end of the reporting period / 2)}}$$

In EUR thousand	2018
Group net income	1,059,493
Equity attributable to shareholders of Hannover Rück SE at the beginning of the period	8,528,478
Equity attributable to shareholders of Hannover Rück SE at the end of the period	8,776,791
Return on Equity	12.2%

Excess Return on capital Allocated (xRoCA)

A reconciliation from the IFRS financial statement is not possible.

Policyholders' surplus

Policyholders' Surplus =
Equity attributable to shareholders of Hannover Rück SE
+ Non-controlling interests
+ Hybrid capital

in EUR million	2018
Equity attributable to shareholders of Hannover Rück SE	8,776.8
Non-controlling interests	765.2
Hybrid capital	1,493.1
Policyholders' surplus	11,035.1

Intrinsic Value Creation (IVC)

A reconciliation from the IFRS financial statement is not possible.

Return on Investment (RoI)

$$\text{Return on investment} = \frac{\text{Net income from investments under own management}}{(\text{Sum of assets under own management at the beginning and end of the reporting period} / 2)}$$

in EUR thousand	2018
Net income from investments under own management	1,322,042
Total investments and cash under own management at the beginning of the period	40,057,478
Total investments and cash under own management at the end of the period	42,197,338
Return on investment	3.2%

Combined Ratio (C/R)

Combined ratio =
(Claims and claims expenses
\+ Commission and brokerage, change in deferred acquisition costs and other technical income / expenses
\+ Administrative expenses
– Income / expense on funds withheld and contract deposits)
/ Net premium earned

P&C reinsurance, in EUR thousand	2018
Net premium earned	10,804,172
Income / expense on funds withheld and contract deposits	35,810
Claims and claims expenses	7,227,544
Commission and brokerage, change in deferred acquisition costs and other technical income / expenses	3,033,430
Administrative expenses	206,171
Combined ratio	96.5%

Value of new business

A reconciliation from the IFRS financial statement is not possible.

Solvency Ratio

A reconciliation from the IFRS financial statement is not possible. The Solvency II Ratio is calculated based on Hannover Re's internal model approved by the Federal Financial Supervisory Authority (BaFin).

Underwriting result

Underwriting result = Net premium earned – Total technical expenses

in EUR thousand	2018
Net premium earned	17,289,133
Total technical expenses	17,340,842
Underwriting result	-51,709

Growth in gross written premium adjusted for currency translation effects

A reconciliation from the IFRS financial statement is not possible.

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