Crisil Ratings

Crisil Ratings criteria for Insurance companies

(Including approach for financial ratios and hybrid instruments)

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1 Executive summary

Crisil Ratings assigns corporate credit ratings (CCR) to insurers to measure their financial strength, i.e. their ability to meet policyholder obligations. The ratings methodology1 for general or non-life insurance companies entails assessing them on a stand-alone basis and the level of parent support they receive. Apart from their financials, factors such as industry and business risks, risk management systems, goals and strategies, and projected business plans are analysed on a stand-alone basis. Parental support is especially crucial for start-up insurance ventures, given the need for recapitalisation till they break even and begin generating profits.

2 Scope

This section highlights the Crisil Ratings methodology to assessing the credit quality of general insurance companies. The methodology outlined in this section is used to arrive at the standalone rating of a general insurer. Crisil Ratings may notch up the standalone rating for support from the parent / government. The extent of notch-up is driven by the criteria for notching up standalone ratings of entities based on parent / government support, which can be found on the Crisil Ratings website, www.crisilratings.com. The section also covers Crisil Ratings' methodology to financial ratios used for analysing these entities.

3 Stand-alone assessment

3.1 Business risk

This includes factors specifically influencing a particular company:

Business mix and competitive position: The analysis focusses on the projected business plan to understand the firm's commitment to prudential underwriting standards. For non-life insurance companies, the overall business risk would be determined by the business mix comprising insurance for motor, health, crop, fire, marine, aviation, and miscellaneous segments. Each of these segments has a different risk profile.

As part of solvency computation, The Insurance Regulatory Development Authority of India (IRDAI) prescribes factors for each business segment in terms of their relative risk profile.

Business segment	Risk category
Fire	Medium
Engineering	Medium
Rural insurance	Medium
Marine - hull	Medium
Marine - cargo	Medium to high
Health	Medium to high

[1] *Previous published document on 'Rating criteria for general insurance companies' may be found at: https://www.crisilratings.com/content/dam/crisil/criteria_methodology/financials/archive/crisil-ratings-criteria-for-general-insurance-companies-june-2023.pdf*

Business segment	Risk category
Liability	Medium to high
Crop	High
Motor	High
Aviation	High

Crisil Ratings also assesses the risk profile of the various business segments and their impact on the company's overall underwriting performance. Additionally, Crisil Ratings looks at the segment-wise claims ratio to assess the efficacy of underwriting performance across segments.

In the past decade, several mono-line insurers, particularly private health insurers, have emerged. Given their exposure to a single segment, Crisil Ratings evaluates their expertise and track record keeping in mind the nuances of the sector.

The market share in each line of business and the key competitive advantages enjoyed is studied to assess the overall business strength of a non-life insurance company. Diversification mitigates risk, and hence, product and geographical diversification is evaluated. The overall insurance industry is also analysed based on its importance to the economy, present size and growth potential, entry barriers, stability of underwriting performance, and policies governing the sector. On the regulatory front, licensing requirements, investment guidelines, accounting norms, pricing freedom, and solvency margins are examined; all insurance companies need to comply with these regulations.

Underwriting policy: Sound underwriting guidelines are pivotal to an insurance company's long-term solvency. The analysis captures the management's policy with regard to underwriting, which could range from focusing on profitable underwriting backed by superior service and value-added risk management services, to offering competitive rates to grow business. Some of the parameters in this study are underwriting surplus (deficits), claims ratio and combined ratio. Claims ratio, measured as the ratio of net incurred claims to net premium earned, indicates the adequacy of pricing with regard to the underwriting risks inherent in the business. Underwriting surplus (deficits) is arrived at by deducting the sum of net claims incurred, net commission paid, and operating expense from net premium earned. And combined ratio is a factor of both claims and expenses.

Policy on reinsurance: Reinsurance helps to diversify the underwriting risk among a pool of reinsurers and increases an insurance company's underwriting capacity. It is critical for non-life companies in managing underwriting risks, as it not only enhances the underwriting capacity but also helps to cap the overall loss that could devolve on the primary insurer. Crisil Ratings assesses the level of risk retained by the insurance company by studying its reinsurance strategies, the reinsurance programmes that have entered, the extent of reinsurance, and the financial strength and credit profile of the reinsurance companies. To assess the extent of retention, Crisil Ratings assesses the reinsurance programme for each business segment (quota share, surplus, and facultative treaty), with the reinsurers. The analysis also captures the policy regarding sharing of claims in excess of the retention limit. Non-life companies enter into excess of loss (XL) covers and catastrophe excess of loss (cat XL) covers to limit the overall liability that devolves on the primary insurer arising from single events.

Investment policy and quality: A prudent management of the investment portfolio is critical to bolstering an insurance company's overall performance. Appropriate systems, prudent investment policies, and internal controls are important aspects of fund management. Crisil Ratings examines the insurance company's investment strategy with regard to credit quality, capital appreciation, long-term safety and easy liquidity. The investment portfolio's diversification across industries and corporates and single risk concentration limits are important inputs in determining the overall asset quality.

Technology and risk management: Technology, both to support product delivery and manage risks, is critical.

Crisil Ratings studies the company's risk management systems for both, monitoring risks and evolving reinsurance strategies. In terms of risk management, globally, insurance companies offer a range of services that include risk analysis,

grading and control, hazard studies, safety audit, risk management training and insurance portfolio analysis. These services help corporate clients comply with statutory requirements, institute unified risk management policies, and ensure optimal insurance costs. Insurance companies that are able to offer these services can enhance their competitive strengths and grow successfully.

Besides its use in risk management, technology — particularly, information technology — has emerged as a critical mode of product dispersion, as several consumers shop for these products online. Further, comparison of insurance products on websites has increased pricing pressures and driven companies to lower their dependence on costly manpower alone. And finally direct digital channel and use of digital means for customer onboarding and retention is also an important pre-requisite as customers are technology savvy and seek frictionless transactions.

3.2 Financial risk

Crisil Ratings evaluates parameters such as fund infusion plans in line with business requirements, whether a company's solvency ratio complies with IRDAI's stipulations, and if the solvency margin is adequate. Further, the liquidity plan to meet policyholder obligations, accounting policies adopted, and the timeframe for breakeven (for new start-ups) are critically examined.

Capitalisation: IRDAI has prescribed a minimum start-up capital of Rs 1 billion for non-life insurance companies. To ensure the company's safety and financial health, it has prescribed a required solvency margin (RSM).

In addition to regulatory compliance, the analysis factors in the adequacy of the projected solvency margins. The solvency ratio, as measured by the available solvency margin/RSM, is a measure of adequacy of capital against the underwriting risks inherent in the business and growth of an insurance company.

In 2016, IRDAI allowed the issuance of hybrid instruments to supplement the capital requirements, thereby boosting the available solvency margin of several general insurers. This also ensures additional discipline in maintaining the solvency margin above regulatory minimum as payouts to these instruments are contingent upon this.

Though general insurance companies can, through their reinsurance programmes, limit the maximum liability arising out of a single event, a series of small claims (within the insurance company's retention limits) can affect the underwriting performance, and thereby, overall profitability. Crisil Ratings discusses with the management and the promoters to find out their willingness and ability to infuse additional capital under extreme circumstances.

Earnings: The earnings position is key to augmenting the capital required to support growth. It is a representation of how efficiently an insurance firm can price the risk being transferred from the policy holders. Lower premium charged for higher risk can lead to high claims being incurred, leading to losses. Higher premium charged for lower risk can impact the market position of the insurance company, eventually leading it out of the market. Earnings also influence an insurance company's ability to attract capital. Crisil Ratings factor earnings from both heads of income for an insurance company, viz. the underwriting business and investment book.

Liquidity and financial flexibility: Liquidity represents an insurance company's resource strength and the support available to it to meet policyholder obligations. The liquidity position is also a function of the management's policy of maintaining a treasury portfolio to meet liquidity demands. The primary sources of liquidity include underwriting, operating cash flow, and the investment portfolio.

Crisil Ratings also analyses if the insurance company has cash call facilities from its reinsurers to meet large claims. Cash call facilities constitute an additional feature of the company's overall reinsurance programme.

Insurance companies are also expected to have adequate financial flexibility. A line of credit facility from banks to meet short-term liquidity requirements and capital commitment from promoters are important sources of financial flexibility.

4 Management risk

Quality of management is a key differentiator with respect to future performance of an insurance company. Managements are evaluated based on their goals and strategies, appetite for risks, ability to manage and control risks, integrity, depth, and stability. Management risk can constrain the standalone rating in case of poorly managed firms.

5 Parent support

Assessing the level of parent support is an important feature of Crisil Ratings' rating methodology. While evaluating parent support, Crisil Ratings factors in the economic rationale and moral obligation of the parent towards its insurance subsidiary.

The economic rationale captures the strategic importance of the insurance company, the economic incentive for the parent to support the venture, and current and prospective ownership structure. An assessment of the parent's moral obligation towards the company includes a study of the management's control, common branding or name sharing and its stated posture towards supporting the insurance subsidiary on an ongoing basis and under distress. The parent's financial strength also plays a pivotal role in assessing the overall support that it would extend to the insurance venture.

6 Conclusion

Crisil Ratings considers business mix and competitive position in the segments of operation, policy on underwriting and reinsurance, investment policy and quality, risk management, capitalisation, earnings, and liquidity as the key business and financial risk parameters that drive the ratings on a general insurance company. These parameters determine the company's ability to underwrite, price and manage its risks, generate sufficient returns, and maintain adequate capital for loss-absorption, liquidity, and growth.

Key ratios used by Crisil Ratings while rating general insurance companies

Claims ratio = Net incurred claims / Net premium earned

Net incurred claims are the total claims incurred in a given time period, both paid and outstanding claims including IBNR/IBNER 2reserves, net of the claims recovered from the reinsurers.

Net premium earned is the actual premium income of an insurer net of premium deficiencies and total premium payable to the reinsurers.

General insurance typically has short-term liabilities, and its success is majorly driven by how these companies can assess risk while underwriting policies. Claims ratio, measured as a ratio of net incurred claims to net premium earned, indicates the adequacy of pricing with regards to the underwriting risks inherent in the business. A higher proportion of risky policies written can lead to higher claims being incurred (higher claims ratio) and vice versa.

Expense ratio = (Operating expense + Commission expense) / Net premium written

The operational efficiency of insurance companies is measured by expense ratio. Expense ratio captures the operational cost of underwriting policies as well as the commission paid to the insurance agents and is used as one of the measures of profitability. Higher the expense ratio, lower is the operational efficiency and therefore underwriting profitability.

Combined ratio = Claims ratio + Expense ratio

Combined ratio represents the overall business efficiency of an insurance firm. This includes value of claims incurred, and the operational as well as commissioning expenses borne while underwriting policies. The ratio represents overall business expenses of the insurance company as a proportion of the premium. Higher the ratio, lower will be the underwriting/operational profitability and vice versa.

Solvency ratio = Available solvency margin / Required solvency margin

Solvency ratio is a measure of the adequacy of capital against the underwriting risks inherent in the business and growth of an insurance company. IRDAI stipulates a minimum solvency margin ratio that needs to be maintained by all insurance companies to ensure their steady state financial health.

The numerator in solvency ratio – available solvency margin is an indicative measure of capital cushion and profitability of an insurance company. It is the excess of assets over liabilities of policyholders' funds and shareholders' funds of an insurer.

The denominator in solvency ratio is calculated using a methodology prescribed by the regulator. The regulator requires all insurance companies to always maintain a minimum excess of assets over the liabilities – required solvency margin (RSM). RSM is a factor of the risk inherent to the underwriting business as well as the investment portfolio of an insurance company. Higher the risk an insurer takes, higher RSM will be applicable to it and vice versa. E.g., Exposure to crop insurance segment would require maintenance of higher RSM when compared to exposure to fire insurance segment.

Return on investment (RoI) = Investment income / Average total assets under management (AUM)

Insurance companies' profitability is typically categorised under two heads. The first head includes profit made purely from the insurance underwriting business. The other is investment income, which the insurance company makes by investing the assets it owns under both policyholder and shareholder accounts into various securities. These

[2] *IBNR: claims incurred but not reported, IBNER: claims incurred but not enough reported*

investments are regulated as per IRDAI (Investment) Regulations. RoI indicates the returns generated on deployment of assets as investments. A consistently higher ratio indicates better performance of the investment portfolio.

Return on equity = Profit after tax (PAT) / Networth

Return on equity is a measure of the profits generated by an insurance company vis-à-vis the value of shareholders fund. Consistently higher return on equity indicates better utilisation of the shareholder's funds.

Section II.
Crisil Ratings criteria methodology for Life insurance companies

1 Executive summary

Crisil Ratings assigns corporate credit ratings to insurers[3] to measure their financial strength, i.e., their ability to meet policyholder obligations. Companies are evaluated on a standalone basis, and also based on the parent support they receive. On a standalone basis, factors such as industry and business risks, risk management systems, investment quality, goals and strategies, and business plan are analysed, in addition to the financials and liquidity. Parental support is crucial, especially for start-up insurance ventures, given the need for recapitalisation until they break even and start generating profit.

2 Scope

This section highlights the Crisil Ratings methodology to assessing the credit quality of life insurance companies. The methodology outlined in this section is used to arrive at the standalone rating of a life insurer. Crisil Ratings may notch up the standalone rating for support from the parent / government. The extent of notch-up is driven by the criteria for notching up standalone ratings of entities based on parent / government support, which can be found on the Crisil Ratings website, www.crisilratings.com. This section also covers Crisil Ratings' methodology to financial ratios used for analysing these entities.

3 Standalone assessment

3.1 Business risk

This is an analysis of specific factors influencing a company, including:

Business mix and competitive position: The business plan is studied to understand a company's commitment to prudential underwriting standards.

A life insurance company can offer both life and annuity products. Life insurance supports families of those who pass away early, whereas annuities are a stable source of income. Nevertheless, life products can combine features of an annuity, and annuity products can also be designed to provide life cover.

Death of a life insurance policyholder at a young age, entails meeting obligations from an earlier date, whereas prolonged life of an annuitant implies payment exceeding the estimated obligation. From a risk perspective, both these situations can result in a loss for the insurance company, and hence, the business mix must be an optimal combination of life policies and annuities.

Like business diversity, product diversity is also important. Life insurance companies offer both unit-linked investment plans (ULIPs) and traditional policies. Through ULIPs, the companies provide a life cover along with an investment option to the policyholder. A small part of the premiums received from policyholders in ULIPs, is set aside as premiums pertaining to non-participating life cover, and the balance amount is invested in a fund of the policyholders' choice. The net asset value (NAV) of a fund is impacted by ups and downs in the capital market. The NAV may show a rise or a fall, depending on volatility in equity markets or interest rates. Investment risks in ULIPs, arising from movement in NAVs, is entirely borne by policyholders, and hence, the profit margin of insurance companies offering ULIPs tends to be low.

[3] *Previous published document on 'Rating criteria for life insurance companies' may be found at:* https://www.crisilratings.com/content/dam/crisil/criteria_methodology/financials/archive/crisil-ratings-criteria-for-life-insurance-companies-june-2023.pdf

Traditional policies can be bifurcated into non-participating and participating policies. In a non-participating policy, an insurance company promises a guaranteed benefit to the policyholder, as a life cover in term policies, annuity cover in pension and annuity products, and a life cover along with guaranteed returns in endowment policies. Investment risk in these policies is entirely borne by insurance companies, and hence, the profit margin is higher. The profit margin of insurance companies in participating policies is moderate, as companies share the risks and rewards with policyholders, in the form of bonuses and dividends.

Large scale of operations is beneficial as a better market position ensures that the insurer is able to withstand potential losses, which may arise due to sudden rise in claims in one or more segments. Diversity in geographic reach is equally important, as sizeable exposure to a single state or district exposes a life insurance company to catastrophic and pandemic risks, in addition to other related risks.

The overall insurance industry is also analysed based on its importance to the economy, its size and growth potential (present penetration levels and growth prospects), entry barriers, stability of underwriting performance, and regulations governing the sector. On the regulatory front, licensing requirements, investment guidelines, accounting norms, pricing freedom and solvency margins are examined; all insurance companies need to comply with these regulations.

An insurance company with a balanced product mix, diversified geographic presence, established brand and superior competitive positioning, is likely to have a more stable business risk profile.

Pricing: As life products are a combination of savings and life cover, the prevailing interest rate plays a critical role in their pricing. Besides, pricing is dependent on the mortality rate, age at entry, product features (with profit and without profit policies) and other features such as occupational risk, family and health history, and personal habits.

For annuity products, pricing is based on the annuitant's longevity or survival rate.

Underwriting policy: Sound underwriting guidelines and their ability to manage associated risks are pivotal to the long-term solvency of an insurance company. For life insurance companies, payments to policyholders include claims due to death, surrender of policy or its maturity. The mortality risk and associated estimated claims is projected based on historical mortality rates. However, the survival rate or longevity of a policyholder is increasing gradually, due to sustained improvement in healthcare services. This in turn, involves higher uncertainties in estimation of liabilities pertaining to annuity or pension policies. On the other hand, risks like a pandemic are a category of catastrophe risk which brings in significant uncertainties to claims in pure risk term life products. Hence, assumptions on mortality risk and claims reserving and its implications on solvency buffers are also analysed.

Distribution channel: As life insurance targets individuals, a wide and strong retail distribution network is required to generate business volume. Besides, individuals need to be provided with appropriate counselling to protect themselves through life covers. This is an educative process and converting prospective customers into effective insured clients has its own gestation period. The analysis captures the effectiveness of a distribution channel set up by an insurance company. A wide distribution channel is critical for growth and for optimising distribution expenses. The profile of agents, in terms of their experience, productivity and policy lapses and surrenders, is also analysed. Productivity parameters for agents include first-year premium income generated and sum insured per agent. Finally, direct digital channel and use of digital means for customer onboarding and retention is also an important pre-requisite as customers are technology savvy and seek frictionless transactions.

Reinsurance policy: Reinsurance facilitates diversification of an insurance company's underwriting risks amongst a pool of reinsurers, besides increasing the underwriting capacity. The level of risk retained by an insurance company is examined by studying its reinsurance strategies, the reinsurance schemes it has entered, extent of reinsurance, and its financial strength and credit profiles.

Investment quality: Prudent management of the investment portfolio is critical for bolstering overall performance of an insurance company. Appropriate systems, judicious investment policies and internal controls are essential components of fund management.

Life insurance is a long-term product. Premiums received from policyholders are invested in short-, medium- and long-term assets. Investment inflows (interest and principal on maturity) are utilised to meet policyholder obligations. The investment strategy should focus on asset quality, containing asset-liability mismatches and maximising yield on investments. In fact, some of the factors that have led to poor performance of insurance companies globally include asset-liability mismatch, poor quality of asset portfolios and low return on investments.

This analysis captures the company's investment strategy, in terms of credit quality, capital appreciation, long-term safety and easy liquidity. The investment portfolio's diversity across industries and companies, along with single risk concentration limits, is important to determine the overall asset quality.

Technology and risk management: Technology to support timely delivery of products and efficient risk management are critical. Appropriate systems facilitate better risk selection, pricing of products, monitoring of claim legitimacy and quick settlements.

Persistency and conservation ratios are also evaluated to assess the efficacy of the life insurance company. Persistency ratio is calculated as the total number of policies renewed in the current year, expressed as a percentage of the total number of policies outstanding in prior years. Conservation ratio represents the total renewal premium collected in the current year, expressed as a percentage of total premium collected in the previous year.

3.2 Financial risk

Fund infusion plans, in line with business requirements, are scrutinised, to confirm whether the company's solvency ratio complies with the Insurance Regulatory and Development Authority of India's (IRDAI) stipulations, and to verify the adequacy of the solvency margin. This is critically examined for companies that are at a nascent stage of operations, and yet to achieve break even. This is also examined for companies growing at a pace higher than that supported by their internal accruals.

3.2.1 Capitalisation

IRDAI has prescribed a minimum start-up capital of Rs 1 billion for life insurance companies. To ensure the company's safety and financial health, IRDAI has specified the solvency margin to be maintained by all life insurers. In addition to regulatory compliance, the analysis considers adequacy of the solvency margin projected by an insurance company.

In 2016, IRDAI allowed issuance of hybrid instruments to supplement the capital requirement, thereby boosting available solvency margin of several insurers. This would ensure the solvency margin remains above the regulatory minimum, as pay-outs to these instruments are contingent on this.

Along with the solvency ratio, the available solvency margin against economic capital requirement and market consistent embedded value, is also taken into consideration while assessing the capital position.

3.2.2 Earnings profile

A life insurance business takes a while to break even and report profits. While all the expenses and reserve requirements must be met in the first year of underwriting itself, profitability improves over a period, in line with growth in scale and operating efficiency. Therefore, in addition to return on equity, other metrics such as value of new business margin and return on embedded value are also factored in, if available, while assessing the earnings profile of a life insurance company.

3.2.3 Liquidity and financial flexibility

This parameter looks at an insurance company's resource strength and liquidity support available to meet policyholder obligations. Primary sources of liquidity include underwriting cash flow, operating cash flow and investment portfolio liquidity. A line of credit facility from banks to meet short-term liquidity requirement, is an additional plus point. Timely and need-based funding commitment from promoters is also critical because insurance companies are expected to have adequate financial flexibility. Surrender, lapse, and cancellation of policies can weaken liquidity of life insurers. Hence, the mechanism set up by the company to cope with such eventualities, remains vital.

4 Management risk

Quality of management is a key differentiator with respect to future performance of an insurance company. Managements are evaluated based on their goals and strategies, appetite for risks, ability to manage and control risks, integrity, depth, and stability. Management risk can be used for constraining the standalone rating in case of a poor management profile.

5 Parent support

In this case, the economic rationale, and moral obligation of the parent towards the insurance subsidiary are inspected.

The economic rationale captures the strategic importance of the subsidiary, the economic incentive for the parent to offer support, along with the current and prospective ownership structures. An assessment of the parent's moral obligation to provide support involves evaluation of factors such as management control, common branding or name sharing and its stated posture towards the insurance subsidiary. The parent's stated posture to support its subsidiary on an ongoing basis and under distress is hence evaluated.

6 Conclusion

Crisil Ratings considers business mix, market position, investment policy and quality, risk management, capitalisation, earnings, and liquidity as the business and financial risk parameters that drive the rating of a life insurance company. These parameters determine the company's ability to underwrite, price and manage its risks, generate sufficient returns, and maintain adequate capital for loss absorption, liquidity, and growth¶

Key ratios used by Crisil Ratings while rating life insurance companies

Expense ratio = (Operating expense + Commission expense) / Net premium written

The operational efficiency of insurance companies is measured by expense ratio. Expense ratio captures the operational cost of underwriting policies as well as the commission paid to the insurance agents and is used as one of the measures of profitability. Higher the expense ratio, lower is the operational efficiency and therefore underwriting profitability.

Solvency ratio = Available solvency margin / Required solvency margin

Solvency ratio is a measure of adequacy of capital against the underwriting risks inherent in the business and growth of an insurance company. IRDAI stipulates a minimum solvency margin ratio that needs to be maintained by all insurance companies to ensure their steady state financial health.

The numerator in solvency ratio – available solvency margin is an indicative measure of capital cushion and profitability of an insurance company. It is the excess of assets over liabilities of policyholders' funds and shareholders' funds of an insurer.

The denominator in solvency ratio is calculated using a methodology prescribed by the regulator. The regulator requires all the insurance companies to always maintain a minimum excess of assets over the liabilities - required solvency margin (RSM). RSM is a factor of the risk inherent to the underwriting business as well as the investment portfolio of an insurance company. Higher the risk an insurer takes, higher RSM will be applicable to it and vice versa.

Return on investment (RoI) = Investment income / Average total asset under management (AUM*)*

Insurance companies' profitability is typically categorised under two heads. The first head includes profit made purely from the insurance underwriting business. The other, is investment income which the insurance company makes by investing the assets it owns under both policyholder and shareholder account into various securities. These investments are regulated as per IRDAI (Investment) Regulations. RoI indicates the returns generated on deployment of assets as investments. Consistently higher ratio indicates better performance of the investment portfolio.

Return on equity = Profit after tax (PAT) / Net worth

Return on equity is a measure of the profits generated by an insurance company vis-à-vis the value of shareholders' fund. Consistently higher return on equity indicates better utilisation of the shareholder's funds.

Persistency ratio = Number of policyholders paying the premium / Total active policyholders in the same period.

Persistency ratio is the ratio of policies against which timely premiums are received and the total number of active policies in the same time period. The ratio indicates how many policyholders pay the due premiums regularly on the policies with the insurer. A higher persistency ratio is an indicator of policyholders' trust with the life insurer.

Return on embedded value = Profit after tax / (Present value of future profits + Net asset value of capital & surplus)

Embedded value (EV) is a metric used for life insurance companies as a measure of shareholder value. EV indicates the present value of the expected future profits from the existing policies written by the life insurer as well as the total accumulated funds (capital and surplus) which belong to the shareholders after netting off any liabilities. Embedded value is a measure of shareholders' interest in the company.

VNB margin = Value of new business / Annualised premium equivalent

VNB margin is used as an indicator of the profit margin of the new policies written by a life insurance company. The numerator, value of new business (VNB), is the present value of the expected future earnings from the policies written by the life insurer in a year. The denominator, annualised premium equivalent, is the sum of the regular annualized premium from the new policies written as well as 10% of the lumpsum premium received in the year.

"A 30% VNB margin for a life insurer would mean that on an average, for every new policy worth Rs.100 underwritten in a year, the total expected profit over the life of the policy will be Rs. 30."

Section III.
Crisil Ratings methodology for hybrid instruments issued by insurance companies

1 Executive summary

Insurance companies in India are allowed to raise additional capital through subordinated debt or preference shares *(referred to as hybrid instruments*). These instruments qualify as capital and help insurers improve their solvency margins.

Crisil Ratings' methodology for hybrid instruments start with an assessment of the overall credit quality of insurers through corporate credit rating (CCR) — *for details on how CCR is determined for insurers, refer section I and II (above) on Crisil Ratings' methodology for general insurance companies and life insurance companies*. These instruments are then tested for additional risk factors to determine whether their ratings should be lower than, or the same as, CCR.

Hybrid instruments issued by insurers have risk features similar to upper Tier II bonds issued by banks under Basel II regulations. They carry additional risks on account of restrictions on debt servicing if the solvency ratio of insurers falls below the regulatory stipulation. Further, in case of insufficient profit or loss, approval from the Insurance Regulatory and Development Authority of India (IRDAI) is required to service these instruments.

Crisil Ratings' methodology incorporate these risks by evaluating the expected cushion in the solvency ratio that the insurer intends to maintain — over and above the regulatory stipulation — on an ongoing basis. The majority of insurers are promoted by large established companies. Hence, the stance of the promoters on infusing equity to enable insurers to maintain a solvency ratio cushion is also a critical factor in arriving at the rating of hybrid instruments.

Crisil Ratings' methodology for preference shares issued by insurance companies, in addition to these factors, also consider the adequacy of free reserves to make dividend payments in the event of inadequate profit.

2 Scope

This section[4] covers the rating methodology for subordinated debt and preference shares (termed as other forms of capital by IRDAI) issued by insurance companies in India.

3 Background and overview

The insurance sector in India has multiple private and public players in both the life and general insurance sectors. Prior to the IRDAI guidelines permitting the issue of hybrid instruments to raise additional capital, insurance companies could do so only through equity infusion. What hybrid instruments do is strengthen the financial flexibility of insurance companies and improve capital availability to them.

[4] *To access the previous criteria document, please follow below link:*
https://www.crisilratings.com/content/dam/crisil/criteria_methodology/financials/archive/crisil-ratings-criteria-for-hybrid-instruments-issued-by-insurance-companies-oct2022.pdf

4 Features of hybrid instruments

	Features of subordinated debt instruments and preference shares	
Maturity	Perpetual or minimum tenure of 10 years. Only exception is for health insurance companies, which can issue instruments of 7-year tenure	
Interest/dividend	Fixed or floating as per benchmark	
Discretion to defer payments	1.	No voluntary discretion to defer payments
	2.	Cancellation of interest payment shall not impose any restriction on the insurance company, except on payment of dividend to equity share holders
Options	1.	No put option allowed
	2.	Call option allowed to be exercised after 5 years
Regulatory requirements for making interest/dividend and principal payments[5]	1.	Maintaining solvency ratio as per regulatory stipulations
	2.	In the event of loss, prior approval from IRDAI is required to make such payments
	3.	No loss absorption features that could result in compulsory conversion to equity
Cumulative	1.	Interest payments on subordinated debt instruments are cumulative and will be allowed in subsequent financial years with the approval of IRDAI and if the solvency ratio is in line with regulatory stipulation
	2.	Preference shares are non-cumulative in nature
Seniority of claims	1.	Claims of subordinated debt holders are superior to those of preference and equity shareholders, and subordinated to claims of policy holders and all other creditors
	2.	Claims of preference shareholders are superior to those of equity share holders

Hybrid instruments qualify as capital for the purpose of calculating the solvency ratio. However, when calculating the ratio, they shall be subjected to progressive haircut on a straight-line basis in the final five years to maturity. As per IRDAI, the maximum amount that can be raised through hybrid instruments is 25% of the equity capital and securities premium, and the amount shall not exceed 50% of the networth of the insurance company.

4.1 Comparison with upper Tier II instruments issued by banks under Basel II guidelines

The broad characteristics of hybrid instruments are similar to upper Tier II bonds issued by banks under Basel II regulations, which are subordinated to depositors and general creditors. The risk of non-payment of principal and interest

[5] *The IRDAI guidelines on insurance hybrid instruments do not specify the restrictions on principal payment. However, Crisil Ratings believes the restrictions applicable to coupon/dividend payments will apply to principal payment, too.*

on upper Tier II bonds is linked to the capital adequacy ratio of banks falling below the regulatory minimum threshold (9%). Payment on these bonds also requires regulatory approval in the event of a loss.

5 Rating methodology for insurance hybrids

5.1 CCR of insurance companies

Crisil Ratings' methodology for hybrid instruments start with an overall assessment of the credit quality of the insurance company, measured by its ability to meet obligations to policy holders. Crisil Ratings' methodology for CCR of insurers capture this aspect by analysing them on a standalone basis and assessing the level of parental support they receive.

Crisil Ratings' methodology for CCR of insurance companies is based on a comprehensive study of the risks involved in the insurance business and covers business risk, financial risk, and management risk. Business risk is analysed using the parameters of market position, investment policy and quality, and risk management. Financial risk is analysed using the parameters of capital adequacy, earnings, and liquidity.

Support of the parent is also factored in to arrive at the final CCR. Parental support is assessed by evaluating the economic rationale of the subsidiary to the parent, and the moral obligation of the parent to support the subsidiary, which can manifest as timely infusion of funds, sharing of expertise, sharing of a common brand, etc. *(Refer to methodology for notching up standalone ratings of companies based on parent support, at www.crisilratings.com)*.

5.1.1 Risks associated with insurance hybrids

In addition to the parameters under CCR for insurance companies, Crisil Ratings' methodology for hybrid instruments also take into account the following key risk factors:

- **Risk associated with the solvency ratio falling below the regulatory minimum:** Insurers have to maintain the solvency ratio as per regulations (currently the minimum is 1.5). This implies that if the solvency ratio falls below the minimum, even though the insurance companies have adequate resources to service hybrid instruments, they shall not be allowed to do so. As per Crisil Ratings' methodology, an event resulting in non-servicing of hybrid instruments on a timely basis would constitute a default.

Hence, Crisil Ratings believes this feature is an additional risk to hybrid instruments apart from credit quality evaluated through Crisil Ratings' methodology for CCR of insurers.

- **Risk of servicing instruments in the event of loss:** Insurance companies will need to take approval from IRDAI in cases where servicing debt instruments results in a net loss to them or increases their net loss. In the financial sector, we have observed that banks were permitted by the Reserve Bank of India to service regulatory capital instruments even when they reported losses. Such approvals were granted where capital adequacy was above the regulatory minimum of 9%. Crisil Ratings believes that in the event of loss or inadequate profit, IRDAI may permit insurers to service instruments, subject to them maintaining the solvency ratio as required.

Hence, the primary risk associated with hybrid instruments is non-payment in the event the solvency ratio falls below the regulatory stipulation.

5.1.2 Reasons for changes in solvency ratios

- **Impact of regulatory changes:** It has been observed that in the past, on account of regulatory changes, the solvency ratio of general insurers has been significantly impacted. Crisil Ratings believes that the factors

impacting computation of the solvency ratio will remain susceptible to changes in regulation. In such circumstances, Crisil Ratings believes IRDAI will consider giving sufficient transition time to insurers.

- **Increase in claims:** A substantial increase in claims on account of aggressive business underwriting practices, geographical concentration, and higher exposure to riskier segments such as motor third party (TP) can impact the solvency ratio. While the reserve requirement increases, assets available for computation decline as claims rise, resulting in a deterioration of the solvency ratio.

- **Business growth:** Business growth leading to a significant increase in premiums can also impact the solvency ratio of insurers. The required solvency margins as well as reserve requirements increase on account of high premium growth, leading to a decline in the solvency ratio.

5.1.3 Framework for rating insurance hybrids

Crisil Ratings' methodology for hybrid instruments begin with the assessment of CCR of the insurer. The extent of notch-down, if any, from CCR will depend on Crisil Ratings' assessment of the expected solvency ratio cushion the insurer is likely to maintain over the regulatory minimum.

The cushion shall be validated against historical volatility in the insurer's solvency ratio.

If the solvency ratio expected to be maintained is significantly more than the regulatory requirement, the rating on hybrid instruments is likely to be close to, or the same as, CCR. On the other hand, if the expected solvency ratio of the insurer is only marginally above the regulatory requirement, the rating could be away from CCR by as much as three to four notches.

The level of parental support is an important feature of Crisil Ratings' methodology for CCR of insurance companies. Crisil Ratings shall analyse the parent's stance along with track record in supporting the insurer to maintain sufficient cushion in the solvency ratio over the regulatory minimum requirement, so as to enable timely servicing of hybrid instruments.

In some cases, IRDAI has allowed insurers to service their subordinated debt, even when their solvency ratios have fallen below the regulatory minimum. Crisil Ratings factors in such regulatory nuances while deciding the notch-down from CCR, to arrive at the rating of the insurance hybrid.

For the rating of preference shares, in addition to all the factors mentioned above, Crisil Ratings' methodology shall evaluate the adequacy of free reserves to make dividend payments in the event of inadequate profit.

6 Conclusion

Crisil Ratings' methodology for insurance hybrid instruments recognise the unique credit risks associated with these instruments. The extent of notch-down, if any, of the hybrid instrument from CCR depends on the expected cushion in the solvency ratio to be maintained above the regulatory minimum requirement, and the availability of parental support, if any, to maintain this level of expected cushion.

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