Property/Casualty
Insurers, Reinsurers
Global
Sector-Specific Criteria

Non-Life Insurance Rating Methodology

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Related Research

- *Fitch's Approach to Rating Insurance Groups, March 24, 2010*
- *Insurance Rating Methodology, Dec. 29, 2009*
- *Insurance Industry: Global Notching Methodology and Recovery Analysis, Dec. 29, 2009*
- *Rating Hybrid Securities, Dec. 29, 2009*
- *Equity Credit for Hybrids & Other Capital Securities, Dec. 29, 2009*
- *Takaful Rating Methodology, Oct. 25, 2007*
- *National Ratings — Methodology Update, Dec. 18, 2006*

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Summary

This report outlines the global rating methodology used by Fitch Ratings to analyze the credit quality and financial strength of non-life (also known as property/casualty or general insurance) insurance and reinsurance companies. The methodology ultimately supports Fitch's assignment of issuer default ratings (IDRs), insurer financial strength (IFS) ratings and debt/issue ratings for these entities. This criteria report is a subsector report under Fitch's global master criteria report, "Insurance Rating Methodology," published on Dec. 29, 2009. For a fuller understanding of Fitch's methodology for rating non-life (re)insurance companies, readers should refer to this report and other related criteria.

The criteria report identifies factors that are considered by Fitch in assigning ratings to a particular entity or debt instrument within the scope of the master criteria referenced. Not all rating factors in this report may apply to each individual rating or rating action. Each specific rating action commentary or rating report will discuss those factors most relevant to the individual rating action.

Scope of Criteria

Non-life (re)insurance companies typically offer protection to property against loss, theft, or damage or provide financial protection against various liability claims. Common product lines include motor (auto) insurance, homeowners (household insurance), and workers' compensation (employers' liability). The risk associated with these products largely varies according to policy limits offered and the predictability of future claims.

Business is often segmented by the customer base (commercial or personal insurance products, the nature of protection provided (property, casualty, liability), the layer of coverage (primary/reinsurance), and the length of the loss "tail" (i.e. the timing of average claims payments). As a general rule, personal lines insurance tends to exhibit milder market cycle fluctuations than commercial lines.

Reserve risks tend to be lower for property business given that it is comparatively easy to establish when loss or damage has occurred and the scale of loss. Liability business is generally longer tail given sometimes lengthy court proceedings and the time that it takes to establish the extent of loss (e.g. healthcare costs). Some business lines may have greater exposure to catastrophic risks due to location and weather, such as property reinsurance and homeowners business in coastal areas.

The report provides the following:

- A discussion highlighting the key characteristics of the operating environment and key risks faced by the non-life (re)insurance industry.
- Key financial ratios and other performance metrics that Fitch focuses on when rating non-life operating companies.

- The process for analyzing the key risks and financial performance of a non-life (re)insurer can apply to either a stand-alone insurer or a consolidated group entity.

Ratings Limitation

Ratings of non-life (re)insurers are primarily based on a review of public information, together with Fitch's judgments and forecasts. The extent and nature of financial information for insurance entities varies by country of domicile based on unique regulatory, accounting, and disclosure practices. Where management interaction is forthcoming, the information derived may or may not influence the rating based on Fitch's judgment with respect to the usefulness of such information. In certain cases, Fitch's forward-looking views related to risk exposures or forecasts may dominate a rating conclusion, and such forward-looking views may be based on factors that are highly subjective.

Although Fitch may receive nonpublic information from rated non-life (re)insurance companies, the extent and usefulness of such nonpublic information can vary widely from issuer to issuer, as well as over time for a given issuer. Thus, while such information can be informative, Fitch generally does not rely on non-public information when rating non-life (re)insurers.

Rating Analysis

The main rating factors used by Fitch for the analysis of non-life (re)insurance companies are as follows.

Industry Profile and Operating Environment

Fitch believes that the key risks inherent in the non-life (re)insurance industry are derived from the cyclicality of year-to-year results, intense competition in most sectors, challenges in predicting, pricing and reserving for losses from products with long reporting and claims settlement tails, and exposures to large "low frequency, high severity" losses such as property catastrophes. Also, certain lines of business are highly regulated from an availability and rate perspective, making it hard to exit or adjust prices if operating results are poor. Further, regulatory capital requirements provide some barrier to entry and credit protection to policyholders.

While non-life (re)insurance is inherently cyclical relating to industrywide changes in capital levels (and thus capacity) and competitive pressure in response to pricing adequacy, as well as underwriting uncertainty, individual markets and business lines may follow unique cycles that are less correlated with the insurance market in aggregate. For instance, surety and financial lines underwriting results may be influenced by specific economic factors more so than broader industry trends. Reinsurance markets also follow unique cycles driven largely by market competition and capacity, shifts in demand for coverage, and the impact of losses from catastrophe events on pricing. As such, Fitch may recognize the benefits to scale and market share across individual businesses as a credit positive.

Also favorable to credit fundamentals, non-life (re)insurers offer a unique product that faces limited competition from outside the industry, although competitive advantages are rare and commodity pricing is the norm for most non-life lines. Further, the demand for a number of products is supported by third-party requirements that individuals and companies carry certain types of insurance. For example, in a number of jurisdictions, auto third-party coverage is mandatory, a homebuyer must obtain insurance on the property to secure a mortgage loan, and employers in many regions around the world are required by law to provide insurance to protect injured workers.

In general, Fitch believes that insurers selling long-tail products, such as liability lines, are exposed to greater pricing and reserving risk than those writing shorter-tail lines. Medical malpractice and workers' compensation are examples of longer-tailed non-life insurance products. In the U.S., risk inherent to liability coverage is mitigated somewhat through a claims made policy form in some segments, which in contrast to occurrence coverage, requires an earlier claims notice provision versus an occurrence policy form. A comparison of risk factors for major non-life (re)insurance products is included in Appendix A.

The longer period over which actuaries need to predict losses increases the risk of pricing errors that can result in underpricing over a several-year period. In such a case, once inadequacies are detected, the cumulative effect on the balance sheet can be significant.

However, short-tail property lines such as homeowners insurance and property catastrophe reinsurance are exposed to potentially large losses from natural catastrophes, such as windstorms, hurricanes, or earthquakes. In these cases, insurers must rely on simulation models or other estimation techniques to judge exposures that are subject to significant estimation errors and can be subjected to near-term earnings and capital volatility risk and liquidity risk.

Companies operating in the reinsurance market face several unique challenges tied to being further removed from the underlying risk exposure, and therefore dependent to a degree upon the underwriting and claims data and expertise of the ceding company, particularly on proportional accounts. Reinsurers also have to often collateralize at least a portion of their ceding company obligations via trust accounts or bank letters of credit, which can increase liquidity risk. Additionally, the willingness of reinsurers' institutional client base to accept new reinsurers that are deemed to have acceptable capital levels, especially for short-duration property-exposed reinsurance business, reduces entry barriers in the reinsurance market. Fitch views the credit-negative aspects of these characteristics to be partially offset by the less restrictive premium rate and policy form regulations reinsurers face.

Company Profile and Risk Management

A non-life (re)insurer's business mix and competitive position within its chosen markets are important factors in considering the underlying company risk profile. Thus, individual insurer's profit potential and capital volatility will differ significantly based on the composition of the underlying portfolio by segment and geography. Diversification across products and geographies are typically credit positives while Fitch recognizes that even apparently diversified portfolios can become correlated under extreme conditions.

A non-life (re)insurer's ability to manage underwriting risk is a key driver of future success. In conducting its review, Fitch recognizes the need for sophisticated underwriting processes can vary dramatically by line of business. Subject to data and information availability, factors that may be considered in assessing underwriting risk include:

- Underwriting expertise in each line of business.
- Policy limits and retentions offered by segment.
- Management of undue risk aggregates and concentrations.
- Exposure to large losses such as property catastrophes.
- Claims management and expertise.

Financial Profile

Fitch will vary the weightings of the different financial profile factors depending on the circumstances of the individual non-life company. Typically, the most important financial profile areas for non-life (re)insurance companies are linked and include capitalization, reserve adequacy, investment and asset risk, and financial performance and earnings evaluation. For example, Fitch's evaluation of capital adequacy and profitability are closely tied to its assessment of reserve adequacy. Under-reserving promotes an overstatement of both historical profits (often over a multiyear period) and capitalization.

Some of the main elements that are typically reviewed are as follows.

Capitalization

Analysis of a non-life (re)insurer's capitalization focuses on consideration of the adequacy of capital to absorb losses tied to key risk elements, particularly underwriting and liability exposures. In all jurisdictions globally, capital adequacy for non-life (re)insurers is first evaluated using nonrisk-adjusted leverage ratios that measure capital levels in relation to a company's notional risk exposures. These include ratios such as net premium written to capital and loss reserves to capital, which measure an insurer's exposure to the risk of pricing and reserving errors, respectively.

In addition, in most jurisdictions, Fitch evaluates regulatory capital standards such as the solvency discipline in Europe and the NAIC risk-based capital ratio in the U.S.

In some cases, Fitch will additionally evaluate capital using its own proprietary risk-based models or tools. Since 2007, for most U.S. non-life insurers and select European insurers, Fitch has used its internal stochastic risk-based capital model called Prism. The model is designed to capture key risks faced by a non-life insurer, including underwriting risk, reserve risk, catastrophe exposures, asset risk, and credit risk, analyzing and integrating these components on a fully aggregated basis while also allowing for recognition of reasonable, economic risk diversification.

For European and Asian non-life insurers, Fitch uses its factor-based internal calculation to assess companies' capital adequacy and resilience to material shocks regarding market risk.

Finally, in select cases when such information is made available, Fitch will assess capital adequacy in conjunction with results offered by insurers' internal capital models.

Fitch considers both risk and nonrisk-based capital analytical tools and ratios in its capital evaluation, and judgmentally determines which measures are most appropriate for an individual insurer.

Fitch also takes into account a qualitative assessment of the ability of a non-life (re)insurer to replenish capital following a large loss, particularly in light of potentially restricted capital market access during a challenging financial market and economic environment. This is especially true for reinsurers exposed to shock losses, such as property/catastrophe reinsurers, whose business models assume an ability to reload capital after a major catastrophe loss event. In such cases, Fitch considers specific elements, including the reinsurers' track record in raising capital, their perception amongst capital market investors, and the likelihood they may be able to raise capital on reasonable terms if their capital base were to be hit by an outsized catastrophe event.

Reserve Adequacy

Loss reserve adequacy is a critical part of analyzing a non-life (re)insurer, but is also one of the most challenging areas of analysis and one most susceptible to variability in

results. A demonstrated ability to maintain an adequate reserve position is a crucial characteristic for a highly rated insurer.

The greatest challenge in assessing loss reserve adequacy is that the data available to conduct the review — whether information available from statutory filings (such as Schedule P for U.S. insurers or FSA returns in the U.K.), or tables available from management as used for internal analysis — may be both limited in availability and difficult to interpret. Even when significant amounts of data are available, trends observed from this data can be influenced by a multitude of factors, including changes in business mix, acquisitions or dispositions, underwriting and claims practices, reinsurance arrangements, and economic inflation, making the ability to draw solid conclusions very challenging.

Typically, publicly available supplemental data to support reserve analysis is most robust in the U.S. within regulatory filings. Non-U.S. publicly traded companies also typically provide a reasonable level of supplemental information to support a reserve analysis. In cases when supplemental data is limited, Fitch relies more on basic ratio analysis, such as trends in reserves to premiums or growth in reserves relative to growth in premium to assess reserve adequacy. In some cases, Fitch may also receive nonpublic reserve reports and data from companies it rates.

To the extent that sufficient detail is available, Fitch's reserve methodology utilizes loss development factors on a paid loss and case incurred basis (preferably on a line-by-line basis) to estimate ultimate accident-year losses. Fitch will then stress test the relevant financial ratios, particularly for capital adequacy, based on the estimated reserve deficiency/redundancy.

The analysis of reserve adequacy involves a blend of both quantitative and qualitative elements. Accordingly, subject to data and information availability, Fitch's review also focuses on the following:

- Historical track record in establishing adequate reserves.
- Reserve ratio analysis including paid losses, incurred losses, incurred but not reported (IBNR), and total reserves.
- Actuarial studies prepared by the insurer's independent actuaries.
- Management's reserving targets relative to the point estimate on the actuarial range (high, low, middle) or on a certain confidence interval.
- General market and competitive pricing environment, and propensity of management to carry weaker reserves during down cycles.
- Comparison of company loss development trends relative to industry and peers.
- Use of discounting, financial or finite reinsurance, or accounting techniques that reduce carried reserves.

Investment and Asset Risk

Non-life (re)insurers tend to be less aggressive in taking investment-related risks than life insurance companies given the more prominent risks tied to underwriting operations. Non-life (re)insurers also utilize less asset leverage in comparison with life insurer peers. However, despite this general observation, Fitch notes some non-life companies take on significant investment and asset risk.

Still there is natural risk exposure in any investment activity and asset risk can vary considerably across individual insurers. In Fitch's assessment of asset risk for a non-life (re)insurer, four key areas are emphasized.

- Credit risk.
- Interest rate risk.
- Market risk.
- Liquidity risk.

Non-life (re)insurers bear a varying degree of credit exposure as organizations make unique choices regarding the trade-off between yield and default risk in investment decisions, and have differing investment opportunities in their market of origin. Fitch considers the mix, composition (government/tax exempt/corporate/asset-backed), and credit quality of a non-life (re)insurers' fixed-income portfolio. Asset stress testing that estimates economic losses by asset class in more severe economic conditions are completed to assess insurers' credit exposures.

Non-life (re)insurers are less likely to maintain tight duration matches between assets and liabilities relative to life counterparts that manage "spread" or nonlinked businesses. An asset duration that is longer relative to liabilities creates an exposure to a decline in economic value as interest rates increase. Generally, an asset liability mismatch is not a major concern for an insurer with adequate cash flow, high-quality investments, and a buy and hold investment approach. However, in periods of economic stress brought on by high inflation, insurers with longer duration mismatches will face greater asset and capital volatility.

A portfolio allocation to equity securities is not uncommon for a non-life insurer. Equity investments may provide higher long run expected returns, but also are significantly more volatile in interim periods. Fitch stress tests equity investment values to consider the potential impact on capital from severe market downturns. Equity investment positions may also include positions in derivatives, hedge funds, or private equity vehicles. Concentrations in these types of investments are viewed more cautiously as they have greater uncertainty in terms of valuation and liquidity.

At the operating company level, a non-life insurer typically generates sufficient premium and investment income cash flow to pay current claims, so the risk of having to liquidate investments at a disadvantageous point in time is generally low. Liquidity takes on greater importance in short-tail insurance sectors and in the event of large catastrophe losses, as well as at the holding company level.

Fitch evaluates liquidity at the operating company based on the marketability of investments, as well as the amount of liquid assets relative to liabilities. The manner in which the company values its assets on the balance sheet is also closely examined. Fitch also considers the amount of receivable and other balances, as well as the impact of very nonliquid assets such affiliated holdings or office buildings. For lines exposed to catastrophic loss, such as property reinsurance, Fitch reviews how an insurer would potentially generate sufficient liquidity to fund claim costs at various probable maximum loss levels.

For reinsurance companies, Fitch will also consider how collateralization requirements for assumed reserves may affect liquidity and financial flexibility, particularly to the extent collateralization levels are affected by financial covenants or rating triggers.

Financial Performance and Earnings Evaluation

The evaluation of underwriting profitability, particularly for non-life (re)insurers in higher risk lines of business, is the first part of the financial performance and earnings evaluation review for non-life (re)insurers. Fitch's goal is to judge the overall health of the book of business and management's understanding of its risks and ability to control them.

As a first step in evaluating underwriting risk, Fitch looks at premium growth trends. Fitch typically views premium growth at rates greater than the market or peers, especially during periods of pricing pressure, cautiously from a ratings perspective. Trends in premium growth can be a leading indicator of future reserving and pricing problems. In some cases, fast premium growth in a soft market without being accompanied by an obvious competitive advantage (to explain why the growth may be healthy) can have a material adverse impact on a rating.

Other key areas considered include:

- Performance versus pricing margins that management may target to produce a reasonable margin/return, including impact of investment income on pricing decisions.
- Performance relative to market peers.
- Volatility of underwriting results over time.
- Expense efficiencies and impact of ceding commissions on expense ratios.

Fitch measures underwriting performance using two common ratios — the loss ratio and the expense ratio. The combination of the loss and expense ratios is referred to as the combined ratio. A combined ratio below 100% translates into an underwriting profit and above 100%, it represents an underwriting loss.

To properly interpret these ratios, Fitch considers the company's business mix, pricing strategy, accounting practices, distribution approach, and reserving approach. Fitch examines these ratios for the company as a whole, and by product and market segment when such information is available. Fitch also looks at underwriting results both before and after the impact of ceded reinsurance, as well as on a calendar and accident year basis when such information is available.

The focus of Fitch's profitability analysis is to understand the sources of profits and return on capital, the level of profits on both an absolute and relative basis, and the potential variability in profitability. Profits for non-life (re)insurers are sourced from two primary functional areas — underwriting and investment income.

Profits derived from investments can take the form of interest, dividends, and capital gains, and can vary as to their taxable nature. The level of investment earnings is dictated by the investment allocation strategy and the quality of management. Like underwriting income, investment returns and their volatility are also correlated with the level of risk assumed.

Fitch measures overall operating profitability (underwriting and investing) for a non-life (re)insurer by calculating the company's operating ratio, which is the combined ratio less the investment income ratio (investment income divided by premiums earned). Operating margin can be evaluated on a consolidated basis and by major product and market.

Non-life (re)insurers strive to strike a balance between underwriting and investment returns. (Re)insurers with secure insurer financial strength (IFS) ratings and short-duration reserves typically maintain high levels of liquid high-quality investments that are subject to little performance volatility. While this limits investment yields, such insurers typically target a loss ratio that enables them to be profitable.

Catastrophe Exposures

Fitch's analysis of catastrophe risk for non-life (re)insurers involves both traditional risk analysis and in some regions, "sophisticated" risk modeling, with the ultimate goal of

evaluating various large loss scenarios relative to capital.

In all regions, the starting point for Fitch's catastrophe risk analysis is to evaluate business mix, geographic concentration, premium growth rate, and past results in order to understand the company's overall catastrophe risk management profile. This review considers the nature of catastrophe risk on both a marketwide basis within a jurisdiction, as well as a company's specific share of market losses.

In many but not all cases, Fitch also reviews the results generated by non-life (re)insurers' internal catastrophe models and software. Fitch reviews model results at various confidence levels, including but not limited to 100-year, 250-year, 500-year, and 1,000-year probabilities, and beyond, when possible. Fitch believes a full evaluation of the extreme ends of "tail" is useful, in part recognizing that actual catastrophe events seem to occur at frequencies greater than implied by many models.

Finally, Fitch has licensed AIR Worldwide Corporation's (AIR) CATRADER natural catastrophe modeling tool for the U.S. and Europe that models catastrophe risk and, where appropriate and feasible, produces a loss distribution curve for each insurer that fits its overall risk exposure.

Modeled catastrophe results are most informative on an annual aggregate basis (both gross and net of reinsurance) as opposed to a single-event occurrence basis, thus allowing Fitch to capture the compounding effects of multiple events in a single year, as well as the impact of diversifying exposures. Furthermore, Fitch's catastrophe risk analysis uses a tail value-at-risk (T-VaR) measure rather than a probable maximum loss (PML) approach where available. T-VaR is the average of all potential losses from a specific threshold through the most extreme tail event and not just a single-point PML "return period" event.

When available, this more sophisticated, model-based catastrophe risk methodology can allow for more robust and better differentiated capital requirements among insurers. Fitch recognizes, however, the potential shortfalls in any model-driven analysis and also takes care not to become overly reliant on the results of any one model without also applying judgment in interpretation of the model outputs.

Reinsurance, Risk Mitigation, and Capital Markets Products

In assessing a non-life insurer's use of reinsurance, (or a reinsurer's use of retrocessionary protection), Fitch's goal is to determine if capital is adequately protected from large loss exposures and to judge if the ceding company's overall operating risks have been reduced or heightened.

Further, Fitch also looks for cases in which financial or finite reinsurance is being used to hide or delay the reporting of emerging problems that may ultimately negatively affect performance or solvency. Finally, Fitch tries to assess whether a company is becoming excessively reliant on reinsurance to manage down its gross risk exposures, and to the performance of reinsurance counterparties (including concentrations of exposure to any given reinsurers). Availability of reinsurance coverage, particularly retrocession coverage for reinsurers, is at times less robust, which provides further motives against over reliance on reinsurance.

In the traditional sense, reinsurance is used as a defensive tool to lay off risks that the non-life insurance ceding company does not want to expose to its earnings or capital. When reinsurance is used defensively, Fitch's goal is to gain comfort that:

- Sufficient amounts and types of reinsurance are being purchased to limit net loss exposures given the unique characteristics of the book.

- Reinsurance is available when needed.
- The cost of purchasing reinsurance does not excessively drive down the non-life insurance ceding company's profitability to inadequate levels and weaken its competitive pricing posture.
- The financial strength of reinsurers is strong, limiting the risk of uncollectible balances due to insolvency of the reinsurer.
- Exposure to possible collection disputes with troubled or healthy reinsurers is not excessive.

Data available to Fitch to assess each of the above areas can vary greatly from company to company. In some cases, Fitch receives detailed information on reinsurance programs, and in other cases information available to Fitch may be limited to amounts ceded or recovered from reinsurers and the level of receivables and ceded reserves.

Non-life insurance companies may also sponsor catastrophe bonds (cat bonds) in place of, or to supplement, their traditional property catastrophe reinsurance program. In its analysis, Fitch considers cat bonds to be defensive reinsurance. This treatment affects Fitch's analysis in that the protection provided to the ceding company may not be complete due to basis risk. The use of catastrophe bonds can also create a need for a non-life insurer to maintain ongoing market access to support ongoing business generation, and thus catastrophe bonds are considered a part of debt leverage in Fitch's total financing and commitment (TFC) ratio discussed in the agency's global master criteria.

Non-life insurers can also use reinsurance offensively and potentially add to risk. In such cases, Fitch examines why the reinsurance approach is being used, and stresses what would happen if the program was unwound or developed adversely. Examples of offensive uses of reinsurance include excessive cessions under quota-share treaties simply to earn ceding commissions and the use of finite or other financial reinsurance. Typically, purchasers of finite risk reinsurance are driven less by risk transfer and more by risk financing objectives (although finite risk transactions contain elements of both). Finite reinsurance can be used to improve current period earnings, smooth earnings, and effectively discount reserves thereby enhancing capital. Fitch typically views the quality of such capital to be less than that obtained through the use of other forms of reinsurance.

Appendix A

Risk Characteristics of Non-Life Products

Product Profile

	Risk Features				
	Short-Tail Exposure	Catastrophe Exposure	Long-Tail Exposure	Higher Policy Limits	Heavy Regulation
Personal Lines					
Motor/Auto	X				X
Homeowners	X	X			X
Commercial Lines					
Commercial Auto	X				
Property	X	X			
Workers' Comp			X	X	X
General Liability/Umbrella			X	X	
Professional Liability			X	X	
Surety/Financial Lines	X			X	
Reinsurance					
Property	X	X		X	
Casualty			X	X	

Appendix B

Financial Ratios and Definitions

Discussed below are some of the key financial ratios used by Fitch in its financial review of non-life (re)insurance companies.

Financial ratios are evaluated relative to industry norms, specific rating benchmarks, and expectations developed by Fitch specific to the rated entity. In many cases, there is information value in the change in ratio values over time as well as the absolute level. As such, Fitch typically looks at a time series made up of at least five years of historical data.

Fitch's ratings are intended to look through the peak and trough of the "normal" non-life (re)insurance cycle. Thus, many financial ratios, particularly those tied to underwriting performance and profitability will vary based on the stage of the market cycle. Adverse deviations from normal cyclical variations are typically viewed as outside of ratings expectations, and could result in downgrades.

Underwriting Quality and Profitability

Loss Ratio measures the magnitude of incurred losses (including loss adjustment expenses) for the current calendar year relative to net premiums earned. Loss and loss adjustment expenses represent the largest expense item for most non-life (re)insurers.

Variances among insurers can be due to differences in the lines of business written, the level of rate adequacy, the tail of the book, pricing strategy with respect to expense/loss ratio mix, adverse loss items (i.e. catastrophes), and development of prior years' business, and changes in relative loss reserve strength.

Expense Ratio measures the level of underwriting and acquisition expenses, such as commissions, salaries, and overhead, relative to net premiums. The denominator will use earned or written premiums depending on the local accounting convention, and the nature as to how expenses are incurred to better match costs to volume. In certain accounting regimes expenses are incurred as paid, and in others they are incurred as premiums are earned.

Variances in expense ratio among insurers can be due to differences in distribution system costs (agency, direct, underwriting manager), the nature of the book and varying needs to underwrite each risk, pricing strategy with respect to expense/loss ratio mix, level of fixed versus variable costs, cost efficiencies and productivity, profit sharing and contingent commission arrangements, and ceding commission levels.

Combined Ratio measures overall underwriting profitability and is the sum of the loss ratio and expense ratio (including any policyholder dividends). A combined ratio less than 100% indicates an underwriting profit. Typically, lower combined ratios are required for companies writing short-tail lines generating modest investment income levels, or in which the book is exposed to periodic catastrophic or other large losses that need to be priced into income over longer periods of time.

Operating Ratio measures operating profitability, which is the sum of underwriting and pretax investment income, excluding realized and unrealized capital gains or losses. The ratio is the combined ratio less the ratio of investment income to net earned premiums. Due to the combining of underwriting and investment earnings, the ratio is fairly comparable across both long- and short-tail lines of business. Several factors can make comparisons among companies difficult, including:

- Differences in operating leverage and the amount of investment earnings derived

from invested assets supporting policyholders' surplus.

- Differences in investment strategies, particularly with respect to the taxable/tax-exempt mix and allocations to lower income/higher capital gain producing investments such as common stocks.
- Strong growth in long-tail lines for which reserves and invested asset balances have not yet accumulated to levels reflective of a mature book.

Return on Surplus/Equity measures a company's after-tax net income relative to mean surplus or equity levels, and indicates both overall profitability and the ability of a company's operations to grow surplus organically. Variances among companies are explained by both differences in operating profitability and differences in net operating and/or financial leverage. For a profitable company, a less favorable (i.e. higher) leverage position will result in a more favorable result on this test.

Premium Growth Rate is a useful measure when compared with peer companies and judged relative to cyclical industry trends. Companies exhibiting above-average growth rates may be the result of underpricing their products. Premium growth is also a useful measure of franchise value, as negative growth can be a sign of an eroding franchise. The ratio is influenced by both changes in rate adequacy and changes in volume, so care is taken in interpreting this ratio.

Cash Flow Ratio measures the level of operating cash inflows relative to operating cash outflows in a given period. A ratio more than 100% indicates positive operating cash flow and a ratio less than 100% indicates operating cash flow is negative. The ratio will frequently be evaluated both in absolute terms and from the perspective of a trend. Values greater than 100% are viewed positively. Companies with positive cash flow are less likely to need to liquidate assets to pay claims. The cash flow ratio is also analyzed relative to premium growth, as a fast-growing company or one that practices cash flow underwriting will have strong cash flow, but it is unlikely to be sustainable over time.

Investment and Liquidity

Non-Investment-Grade Bonds as a percentage of surplus/equity measures the surplus/equity exposure to bonds below investment-grade (rated lower than 'BBB–'), which carry above-average credit risks. In some jurisdictions, where the country ceiling is below the investment-grade level, Fitch measures the actual exposure to "stressed" investments as a substitute measure.

Unaffiliated Common Stocks as a percentage of surplus/equity measures the surplus/equity exposure to common stock investments. Since common stocks are both subject to price volatility and are carried at market values, a high level of common stocks potentially adds an element of volatility to reported surplus/equity levels.

Investments in Affiliates as a percentage of surplus/equity measures the surplus/equity exposure to affiliated investments. High levels of affiliated investments can reduce liquidity, expose surplus to fluctuations (if common stock), and potentially signal a "stacking" of capital within the organization.

Liquid Assets to Liabilities measures the portion of a company's net liabilities covered by cash and unaffiliated investment-grade bonds, stocks, and short-term invested asset balances. Higher values indicate better levels of liquidity.

Investment Yield is calculated as a percentage of mean beginning and ending cash and investments and accrued investment income. It is a measurement of investment performance. Acceptable values vary over time depending on market conditions. Deviations among companies can be explained by differences in the taxable/tax-

exempt mix, the credit quality and resultant yield characteristics of the bond portfolio, concentrations in higher return/lower yielding common stocks, the level of investment expenses, and the quality of portfolio management.

Loss Reserve Adequacy

Reserve Development to Prior-Year Loss Reserves measures a company's one-year loss reserve development as a percentage of prior years' loss reserves, and indicates the historical accuracy with which loss reserve levels were set. Negative numbers indicate redundancies and a more conservative reserving profile, while positive numbers indicate deficiencies and a less conservative reserving profile.

Reserve Development to Surplus/Equity measures a company's one-year loss reserve development as a percentage of prior years' surplus/equity, and indicates the extent surplus/equity was either under or overstated due to reserving errors.

Reserve Development to Earned Premium measures a company's one-year loss reserve development as a percentage of net premiums, and indicates the extent the current calendar-year loss ratio was influenced by development on prior years' business.

Ceded Reinsurance Exposures

Retention Ratio measures the percentage of gross premiums written retained after premiums are ceded to purchase reinsurance protections. The amount of reinsurance necessary to protect surplus from large losses varies significantly by line of business and the nature of loss exposures, as well as the absolute size of an insurer's capital base relative to its single risk and aggregate policy limits. Unusually high or low retention levels could signal that inadequate reinsurance protections are in place, or that reinsurance is used for financial or other reasons beside risk spreading.

Reinsurance Recoverables to Surplus/Equity measures a company's exposure to credit losses on ceded reinsurance recoverables. The ratio includes recoverables from all reinsurers. Generally, recoverables from affiliates, pools, and associations are considered to carry lower levels of risk. The ratio should also be interpreted in light of the credit quality of reinsurers, the stability of the relationship between insurer and reinsurer, historical collection patterns, and any security held in the form of letters of credit, trust accounts or funds withheld. Acceptable levels for this ratio will generally be higher for long-tail writers and lower for short-tail writers, reflecting natural differences in the build up of ceded loss reserves.

Capital Adequacy

Net Premiums Written to Surplus/Equity indicates a company's net operating leverage on current business written, and measures the exposure of surplus/equity to pricing errors. Acceptable levels of net operating leverage vary by line of business, with longer-tail lines and catastrophe-prone lines often requiring lower levels of net underwriting leverage due to their greater exposure to pricing errors. Since net premiums written are influenced by both volume and rate adequacy, interpretations must be made carefully since an adverse decline in rate adequacy could lead to apparent improvements in this ratio.

Net Leverage indicates a company's net operating leverage on current business written, as well as liabilities from business written in current and previous years that have not yet run off. The ratio is calculated by dividing the sum of net premiums written and total liabilities, less any ceded reserves, by surplus/equity, and it measures the exposure of surplus/equity to both pricing and reserving errors. Acceptable levels for this ratio will generally be higher for long-tail writers and lower for short-tail writers, reflecting natural differences in the build up of loss reserves.

Gross Leverage indicates a company's overall gross operating leverage, combining both net and unaffiliated ceded premium and liability exposures. The ratio is calculated by dividing the sum of gross premiums written (direct plus assumed) and gross liabilities (total liabilities including ceded loss and unearned premium reserves) by surplus/equity. The ratio measures the exposure of surplus to pricing errors, reserving errors, and credit losses on uncollectible reinsurance recoverables. Acceptable levels for this ratio will generally be higher for long-tail writers and lower for short-tail writers, reflecting natural differences in the build up of loss reserves.

Regulatory Capital Ratios are also reviewed in regions where they are available. These include the National Association of Insurance Commissioners' (NAIC) risk-based capital ratio in the U.S., the minimum continuing capital and surplus requirements (MCCSR) in Canada, the Solvency I ratio in Europe, and various solvency margins in other regions. Although, in some regions, local regulatory capital rules can be limited in scope and result in greater emphasis on simple leverage measures discussed above.

Financial Leverage and Coverage

Total Financing and Commitment Ratio (TFC) is a comprehensive measure of debt-related leverage, making use of a broad definition of debt to include essentially all financing activities, including "traditional" financial debt as well as both recourse and nonrecourse securitizations, letters of credit facilities with banks provided to third-party beneficiaries (largely used by alien or offshore reinsurers and so-called "match-funded" debt), and debt guarantees and other financing-related commitments. The ratio is designed to measure the debt, financing, and capital markets footprint of an organization, and its overall reliance on ongoing access to funding sources. The measure in intended to flag those companies that have an above average reliance on the capital markets for funding, which would trigger further analysis by Fitch to understand the relative risk of the company's various funding activities. Perceived high levels of risk would have a negative impact on ratings.

Adjusted Debt to Total Capital measures the use of financial leverage within the total capital structure. Financial debt excludes operational debt, such as obligations issued by non-insurance finance subsidiaries and it includes solely insurance-related financial debt provisions. Special care is taken in assessing the quality of reported equity, taking into consideration the portion supported by intangible assets such as goodwill. This ratio is adjusted to account for equity credit for any hybrid securities, which possess both debt and equity characteristics, and liquid assets maintained at the holding company.

Fixed-Charge Coverage Ratios are calculated on both an operating earnings and cash flow basis to judge economic resources available to pay interest expense, including the interest portion of rent expense, and preferred dividends. Where applicable, coverage ratios are also calculated to reflect dividend restrictions from regulated entities.

Interest Coverage Ratios are calculated on both an earnings and cash flow basis to judge economic resources available to pay interest expense associated with outstanding debt. Where applicable, coverage ratios are also calculated to reflect dividend restrictions from regulated entities.

Appendix C — Examples of Attributes of Rated Issuers

Attributes of One Highly Rated, Investment-Grade Non-Life Insurer

AA Non-life Insurer is a wholly owned subsidiary and lead operating company of AA Holdco, a large, publicly traded, multiline insurance company with established positions in its chosen markets, a long history of successful operations, and a knowledgeable and experienced management team.

The company has broad business diversification offering both commercial lines and personal lines products. Commercial insurance includes both property and liability lines of business, including commercial property and general liability insurance, as well as more specialty niche insurance products including professional liability and fidelity and surety insurance. Commercial lines include some longer-tail liabilities, which create reserving risks for the company if estimates are not accurate. Personal lines are primarily automobile insurance, but also include a sizable homeowners insurance book of business that is exposed to potentially large losses from natural catastrophes, such as windstorms, hurricanes, or earthquakes.

Profitability is very strong with double-digit returns on equity (ROEs) and underwriting profitability with combined ratios that consistently outperform industry averages. The company has a long-term track record of disciplined underwriting and profitable growth with a focus on adequate pricing throughout the underwriting cycle, particularly during soft pricing environments, at which time the company allows growth to slow or decline.

The investment portfolio is very high quality and low risk, with the overwhelming majority of invested assets in bonds and cash, which places the company in a strong position to meet liquidity demands. The bond portfolio is diversified into government securities, corporate bonds, and mortgage/asset-backed securities, with a small allocation to below investment-grade bonds. The remaining invested assets include a broad portfolio of equity securities and other investments that add diversification to the overall portfolio, and represent a prudent percentage of capital.

Loss reserves are set within a reasonable range based on a reserving philosophy and process that is conservative and well-managed. Reserves are reviewed in detail quarterly and are judged to be adequate to modestly redundant. Development on prior period reserves is consistently favorable overall, although on some older accident years, asbestos/environmental reserves, and discontinued lines of business, reserves continue to have modest adverse development.

Reinsurance is utilized as a defensive tool to protect the company's earnings and capital from large losses. The company does not rely on financial or finite reinsurance. Exposure of capital to reinsurance recoverables is low and the credit quality of reinsurers is very high.

Capitalization at the insurance company level is very strong on both an absolute and risk-adjusted basis under Fitch's Prism model. Capital has experienced steady growth and provides sufficient cushion against high-severity losses and potential adverse loss reserve development. Operating leverage is conservative and appropriate for the mix of business, reflecting a sound capital position consistent with a high rating.

Holding company financial leverage is conservative with a mix of debt, hybrid securities, and shareholders' equity. Debt service is primarily funded by upstream ordinary dividends from the insurance company subsidiary. The holding company also maintains favorable financial flexibility through a shelf registration and a revolving credit facility that are devoid of ratings triggers or other adverse covenants.

Appendix C — Examples of Attributes of Rated Issuers (Continued)

Attributes of One Lower-Rated, Non-Investment-Grade Non-Life Insurer

BB Non-life Insurer is a wholly owned subsidiary and sole operating company of BB Holdco, a small, privately held insurance holding company. The company is a monoline insurer with a solid position in its chosen niche market, a reasonably long history, and an experienced management team. The operating track record is mixed, and the exposure to the possibility of aggressive competition from insurers with much greater financial resources is high.

The company has limited diversification in that it only offers professional liability for the accounting profession in a single jurisdiction. However, the company is very knowledgeable about its markets and provides products and services that are valued by the market as evidenced by high renewal rates. Nevertheless, as a result of its focus on a long-tail liability line, the company is subject to sizable reserving risk if estimates are not accurate.

Profitability has been good in hard markets, but has been very weak, at times, in soft markets. Over a market cycle, the insurer produces ROEs in the low single-digits and underwriting losses with combined ratios that often underperform industry averages. The company is particularly susceptible to market conditions and is generally a disciplined underwriter in favorable hard market conditions. However, during soft pricing environments, the company will often continue to grow even when it is unprofitable in order to preserve its market share.

The investment portfolio is high quality and generally low risk, with the vast majority of invested assets in bonds and cash, which places the company in a good position to meet liquidity demands. The bond portfolio is diversified into various types of securities, most of which are government securities and corporate bonds, including a small allocation to below investment-grade bonds. The remaining invested assets include a broad portfolio of equity securities and other investments that add diversification to the overall portfolio. The equity portfolio is higher than average as a percentage of capital.

Reserves are reviewed in detail at least annually and are judged to be adequate to modestly deficient by independent actuaries in most periods. Development on prior period reserves has been adverse overall, although some accident years have developed favorably. At times, the level of adverse development has been high relative to capital.

Reinsurance is very important to the company due to the large gross exposure of insured risks that could potentially result in high frequency and/or severity of losses. The company uses a sizable amount of reinsurance leverage as a defensive tool to protect the company's earnings and capital from large losses. The company is also reliant on reinsurers in order to provide large policy limits to stay competitive with larger competitors. Surplus exposure to reinsurance recoverables is somewhat high, and the credit quality of reinsurers is generally strong, though the company needs to use some marginal reinsurers in order to fill its placement, which has led to some collection issues.

Insurance company capitalization is moderately weak on a risk-adjusted basis under Fitch's Prism model, and the absolute level of capital is relatively small. Capital has increased gradually over time, although experiencing some material declines over a one- to two-year period. Operating leverage is high compared with peers as premium growth has generally kept pace with growth in capital.

Financial leverage at the holding company is conservative as the company has only trust preferred securities and surplus. Interest coverage is adequate and is funded by the insurance subsidiary's operating earnings. However, the company has very limited financial flexibility given its relatively small size and narrow operating profile.