FBI Ratio Descriptions, Interpretations, and Definitions
Contribution Leverage

DESCRIPTION

Contribution leverage compares a pool’s net contributions to its net position. This ratio measures a pool’s tolerance to absorb contribution level changes, for instance net contribution increases or decreases due to changes in membership. The ratio also helps a pool measure its ability to use net position as a cushion for any pricing inaccuracies.

The adequacy of a pool’s net contributions could be threatened if member risk profiles turn out to be different than historical trends, membership in the pool increases or decreases unexpectedly, or there’s a dramatic shift in loss expectations for any other reason. The contribution leverage ratio is a way to monitor adequacy of a pool’s net position to manage for these sorts of risks.

For example, think of a pool with $44 million in net contributions and a net position of $50 million. The pool’s contribution leverage ratio is 0.88, or 0.88:1 ($44M/$50M). For every 88 cents of net contribution the pool brings in, it has 1 dollar of net position. If the pool’s estimate of needed net contributions is too low for any reason, it has net position to use as a financial balance.

INTERPRETATION

A contribution leverage ratio of 1.0 (1:1) or below is considered very strong.

If a pool’s net contributions increased relative to net position, or net position decreased dramatically while net contributions remained steady, the pool would become more highly leveraged.

In the insurance industry, a contribution leverage ratio up to 3.0 (3:1) is more common, meaning an insurer might write up to three dollars of net contribution for every dollar of net position. This would equate to $150 million in net contributions with a $50 million net position.

Pools are often less leveraged than traditional insurers when it comes to net contributions and net position because pricing stability is very important within the public entity environment. Having adequate net position to absorb unexpected fluctuations in net contribution is one way a pool might accomplish this goal.

COMPONENT DEFINITIONS

Net Contributions are a pool’s contribution income, after subtracting the amount a pool pays for excess insurance and reinsurance coverage.

Net Position is a pool’s assets minus its liabilities. Net position is sometimes referred to as “surplus” or “member equity.” Unrestricted net position is used for purposes of the FBI.
Reserve Leverage

**DESCRIPTION**

Reserve leverage compares a pool’s claim liabilities to its net position. This measures a pool’s ability to use net position to absorb larger than expected losses. The lower the ratio, the more financially able the pool is to absorb losses in excess of its expectations.

Claim liabilities comprise the vast majority of all expenses within a pool, but can be difficult to predict. Ultimate claim liabilities for a pool include all claim costs already paid, expected development on claims already reported, and claims that have been incurred by members but not yet reported to the pool.

For a pool with net loss reserves of $16 million and net position of $32 million, the reserve leverage ratio is 0.50, or 1:2 ($16M/$32M). This pool could withstand a 100 percent increase to its claim cost estimates by using net position to absorb those higher than expected costs.

**COMPONENT DEFINITIONS**

**Net Loss Reserves** are the pool’s total estimated liability for unpaid losses and loss adjustment expenses, net of amounts ceded to reinsurers or excess insurance carriers. Net loss reserves include case-based reserves on known claims, a provision for incurred but not reported (IBNR) losses, and a provision for unallocated loss adjustment expenses (ULAE).

**Net Position** is a pool’s assets minus its liabilities. Net position is sometimes referred to as “surplus” or “member equity.” Unrestricted net position is used for purposes of the FBI.

**INTERPRETATION**

Pools with claim patterns that pay over a long period of time (such as workers’ compensation) generally strive to maintain lower reserve leverages as claims with a longer duration are subject to uncertainty in the estimates of ultimate loss. Maintaining a lower reserve leverage allows for an additional cushion should claim cost estimates develop adversely over time. However, some pools choose to address this through other means. Property and liability pools generally have different targets and may not have as much in net position. For health pools, it really depends on the pool’s surplus management philosophy.

The ultimate question pools should be asking is whether they are appropriately maintaining net position to be ready to withstand adverse claim development.
Change in Net Position

**DESCRIPTION**

Change in net position can help measure a pool’s overall financial condition year-over-year.

A pool’s net position reflects the assets that remain after covering all the pool’s known obligations, or liabilities. In most cases, pools prefer stability in net position and seek to minimize dramatic year-over-year changes.

Pools use net position to support membership changes and new risk exposures, as well as other possible changes in risks. Net position could be threatened if member risk profiles turn out to be different than historical trends, or if there is a dramatic shift in loss expectations for any other reason.

A pool with a net position of $25 million in the current year and a net position of $24 million for the prior year has a change in net position of four percent (($25M-$24M)/$24M).

**INTERPRETATION**

A pool must determine its own most appropriate net position goal and its own target for year-over-year net position changes.

Pools use net position to offset a myriad of unknowns in the risk business, absorb changes in reinsurance or excess insurance coverage and pricing, experiment with new coverages, and smooth net contribution changes that might otherwise be required from members. And, pools invest assets to derive income which can be used further to the benefit of their members. For these reasons, strong and stable net position is generally desired.

Although a decrease in net position could signal a diminishing of a pool’s overall financial strength, it does not necessarily point to a problem. For instance, a pool may have less net position due to release of a dividend or a planned use of net position to support a new coverage area.

Public entity pools tend to have a narrow range of change in net position from one year to the next. Insurance industry changes in net position may fluctuate more broadly.

**COMPONENT DEFINITIONS**

Net Position is a pool’s assets minus its liabilities. Net position is sometimes referred to as “surplus” or “member equity.” Unrestricted net position is used for purposes of the FBI.
**Net Leverage**

**DESCRIPTION**

Net leverage is a combination of contribution leverage and reserve leverage. Even if both individual ratios meet a pool’s target range and appear reasonable, combining the two may provide additional useful insight.

Think about a pool with $30 million in net position, $60 million in net contributions, and $35 million in loss reserves. This pool has a contribution leverage ratio of 2.0, or 2:1 (net contributions are twice as large as net position) and a reserve leverage ratio of 1.2, or 1.2:1 (reserves are greater than net position). The pool’s net leverage is 3.2, or 3.2:1.

Considering its net leverage ratio, a pool might ask whether its net position is sufficient to handle multiple stressors at the same time. For instance, if the pool experienced a simultaneous shift in membership (which would impact the contribution leverage ratio) and its actuarially projected reserve estimates (which would impact the reserve leverage ratio), it could find itself over-leveraged relative to its financial targets and goals.

**INTERPRETATION**

A common net leverage maximum in the insurance industry is 5.0, or 5:1, but a leverage ratio of 5:1 might be considered high within the pooling industry, where pricing stability is very important to public entity members. The more leveraged a pool is, the more it may find itself needing to increase net contributions in order to accommodate changes in membership or estimates of claim liabilities.

**COMPONENT DEFINITIONS**

**Net Contributions** are a pool’s contribution income, after subtracting the amount a pool pays for excess insurance and reinsurance coverage.

**Net Position** is a pool’s assets minus its liabilities. Net position is sometimes referred to as “surplus” or “member equity.” Unrestricted net position is used for purposes of the FBI.

**Net Loss Reserves** are the pool’s total estimated liability for unpaid losses and loss adjustment expenses, net of amounts ceded to reinsurers or excess insurance carriers. Net loss reserves includes case based reserves on known claims, a provision for incurred but not reported (IBNR) losses, and a provision for unallocated loss adjustment expenses (ULAE).
**Liability Leverage**

**DESCRIPTION**

Liability leverage measures a pool’s net position against the totality of its liabilities. The liability leverage ratio is very similar to the reserve leverage ratio, but with additional liabilities included. Therefore, a pool’s liability leverage ratio will be greater than its reserve leverage ratio. Reserve leverage only includes estimated cost of unpaid claims, whereas liability leverage includes other expenses like unearned net contributions, accrued expenses, dividends payable, etc. A low liability ratio is an indicator of financial strength and the ability of the pool to support variations in all of its liabilities.

For a pool with a net position of $25 million and total liabilities of $38 million, the liability leverage is 1.52:1, and therefore, for every dollar in net position the pool has $1.52 of liabilities. Compare those results to a pool that has a net position of $5 million and total liabilities of $38 million, with a liability leverage ratio of 7.6:1. In this case the pool has $7.60 in total liabilities for every dollar of net position and far less net position to support variation in any of its liabilities.

**INTERPRETATION**

All pools are going to have a claim liability, but there are other liabilities to consider, including things like debt, post-employment benefits liabilities or a dividend payable liability. These are all examples of how total liabilities between two otherwise similar pools might be different. A pool that borrowed $100,000 would have that debt included in their total liabilities while a debt-free pool would not. A staffed pool would likely have a post-employment benefit liability while a pool with outsourced staff would not. For the pools with these additional liabilities, the question would be whether they have set aside assets to satisfy these obligations as they come due, and the answer may depend on how much net position or surplus the pool has.

If the liability leverage ratio is high, for example in the pool described above whose liability leverage ratio was 7.6:1, the fundamental question to ask is, "If we had to pay all our liabilities today, would we have the money in the bank to pay everything that is outstanding?"

**COMPONENT DEFINITIONS**

**Total Liabilities** Total liabilities includes the net reserve for unpaid claims, plus all other liabilities including unearned contributions (also known as deferred revenue), accrued expenses, short and long-term debt, dividends or refunds payable, and all other liabilities. The total liabilities are presented on the balance sheet. If the reserve for unpaid claims presented on the balance sheet is gross of reinsurance recoverables, effort should be made to determine the net reserve for unpaid claims for purposes of determining total liabilities.

**Net Position** is a pool’s assets minus its liabilities. Net position is sometimes referred to as “surplus” or “member equity.” Unrestricted net position is used for purposes of the FBI.
**Invested Assets**

**DESCRIPTION**

This “leverage” ratio measures to what degree a pool’s net position could be put at risk by fluctuations in the value of its investment portfolio. Examined in conjunction with the portfolio yield, the invested assets ratio provides important perspective on the value and risks within a pool’s investment practices as well as the magnitude of total assets held by a pool.

A pool with $40 million of investments and net position of $25 million would have an invested assets ratio 1.6, or 1.6:1 ($40M/$25M). If the pool’s investment values were to decrease by 60 percent, that would be the equivalent of the pool’s entire net position. Of course, an investment shift this significant is unlikely - the point is that every pool has to balance not just investment yield but also overall invested assets relative to net position.

**INTERPRETATION**

The allocation of a pool’s invested assets is a key consideration when interpreting the invested assets ratio. If the pool’s investments have a large proportion of equities, there will be greater volatility upon equity market swings. Another important element of managing investment risk is for a pool to have investment policies that match its risk tolerance and net equity goals.

**COMPONENT DEFINITIONS**

**Invested Assets** are the assets a pool has devoted to its investment portfolio.

**Net Position** is a pool’s assets minus its liabilities. Net position is sometimes referred to as “surplus” or “member equity.” Unrestricted net position is used for purposes of the FBI.
Retention Ratio

DESCRIPTION

Retention ratio is examined by line of business, and compares a pool’s self-insured retention (SIR) to its net position.

This ratio offers perspective about the degree to which a pool can withstand multiple large losses at or above its reinsurance or excess insurance retention.

As an example, consider a pool with $25 million in net position for its workers’ compensation program and a work comp retention of $750,000 per occurrence. The pool’s retention ratio is 33.0, or 33:1. This pool could sustain 33 losses within its own retained risk level before depleting its net position.

INTERPRETATION

A general rule of thumb within the traditional insurance industry is that no single retained occurrence should expose more than ten percent of net position, which equates to a retention ratio of 10:1.

In order to create long-term stability for members, pools may be more conservative than insurance companies. Therefore, retention ratios of pools may be greater than 10:1. Retentions can vary by line of business, so it is beneficial to calculate the retention ratio independently for each line.

There are many factors in a retention analysis, such as growing or shrinking membership, statutory limits on net position, changing reinsurer relationships, and a state’s tort limit environment. A pool’s retention level (SIR) and its retention ratio may be established in conjunction with an actuarial analysis, to assure its appropriateness for overall pool operations and financial goals.

COMPONENT DEFINITIONS

Pool Self-Insured Retention (SIR) is the maximum risk per event or occurrence that a pool retains.

Net Position is a pool’s assets minus its liabilities. Net position is sometimes referred to as “surplus” or “member equity.” Unrestricted net position is used for purposes of the FBI.
**Loss Ratio**

**DESCRIPTION**

The loss ratio is a pool’s losses and loss adjustment expense (LAE) relative to its net contributions.

Loss ratio is one measure of a pool’s underwriting profitability. If this ratio gets above 1.0 (1:1) the pool is taking on more dollars in losses than it is collecting in net contributions. By contrast, if the ratio is too low, say below 0.5 (0.5:1), contribution levels may be excessive compared to the underwritten risk.

A pool with $31 million in net losses, $2 million in LAE, and $44 million in net contributions has a loss ratio of 0.75 (0.75:1), or 75 percent ($31M+$2M/$44M).

**INTERPRETATION**

Losses and their associated costs (LAE) are the largest expense component of a pool or insurer’s income statement. To fully understand a pool’s Loss Ratio results over time, there are many factors to consider, such as the frequency and severity of claims, the strategy and adequacy of pricing, loss control measures, and other nuances in a pool’s operation.

Confidence level calculations and practices can have a big impact on the Loss Ratio. Funding to a higher confidence level (collect more funds from members) increases net contribution and creates a smaller Loss Ratio.

Because pools are not generating profit for shareholders, they generally operate at higher loss ratios than commercial insurance companies. According to the National Association of Insurance Commissioners (NAIC), the average property and casualty loss ratio ranged from 68.5 to 82 percent between 2009-2018. In 2018, NAIC measured the overall workers’ compensation insurance industry loss ratios for in 2018 to be 51 percent. For comparison, the average loss ratio for property and liability pools in 2017 was 76.3%, and for workers’ compensation pools it was 76.9%. So in 2017, the pooling loss ratio property and liability was in a similar range to commercial insurance, but for workers’ compensation, the loss ratio was higher among pools.

**COMPONENT DEFINITIONS**

**Net Incurred Losses** are total amount of paid claims and loss reserves associated with a particular time period, usually a policy year. It includes incurred but not reported (IBNR) losses for purposes of the FBI.

**Loss Adjustment Expense (LAE)** refers to the costs associated with investigating and adjusting losses. LAE’s can be “allocated” or “unallocated” depending upon whether they are or are not allocated to a particular claim.
**Combined Ratio**

**DESCRIPTION**

The combined ratio measures overall underwriting results without the impact of investment income or distribution of net position. It is similar to loss ratio but also includes expenses not related to loss adjustments.

The combined ratio provides additional measure of profitability beyond either the loss or expense ratios alone. A pool with $44 million in net contributions, $33 million in incurred loss and LAE, and $11 million in overhead expenses will have a combined ratio of 100 percent (1.0).

Pooling is more complex than this ratio suggests, with factors such as investment income and inflationary forces impacting the pool. However, the combined ratio is still an important indicator to review overall pool financial health.

**INTERPRETATION**

Results above 100 percent (or over 1.0) indicate an overall underwriting loss for the year, while below 100 percent (under 1.0) indicates net contributions greater than losses and expense costs in the year. Because this ratio does not factor in investment income, even if a pool has a combined ratio over 100 percent it may still produce positive results for the year.

**COMPONENT DEFINITIONS**

- **Net Incurred Losses** are total amount of paid claims and loss reserves associated with a particular time period, usually a policy year. It includes incurred but not reported (IBNR) losses for purposes of the FBI.

- **Loss Adjustment Expense (LAE)** refers to the costs associated with investigating and adjusting losses. LAE’s can be “allocated” or “unallocated” depending upon whether they are or are not allocated to a particular claim.

- **Other Non-Loss Expenses Net of Reinsurance** include administrative expenses associated with investigating and adjusting claims net of reinsurance.

- **Net Contributions** are a pool’s contribution income, after subtracting the amount a pool pays for excess insurance and reinsurance coverage.
Portfolio Yield

DESCRIPTION

Portfolio yield is the percentage of investment income in relation to the size of a pool's invested asset portfolio.

Investment income is a critical element of a pool's business model and can be used to bolster net position to offset net contributions needed from members, pay dividends, or fund projects and programs for members. Considering a pool's average portfolio yield helps shape expectations for and possible uses of future investment income.

A portfolio with $50 million in invested assets generating $1.5 million of investment income has a portfolio yield of three percent. Because portfolio yield can vary from one year to the next, calculating three-year or five-year rolling averages may be appropriate.

INTERPRETATION

A portfolio with high yield might seem attractive, but with additional expected yield comes higher volatility in investment performance – meaning there could be a loss of investment income in any given year.

Statutory restrictions and guidance vary from pool-to-pool, and some public entity pools are statutorily restricted to low-yielding investment vehicles as a protection from volatility. The range of portfolio yields for public entity pools is typically narrower than those of commercial insurance companies, reducing the likelihood of any one year having notably better or worse results.

Investment income as used in this ratio is considered net of portfolio management expenses. Higher-yielding portfolios, such as actively managed accounts and equity funds, typically carry a higher fee structure; while low-yielding bond portfolios tend to cost less. Portfolio yield should be considered in conjunction with portfolio management expenses.

COMPONENT DEFINITIONS

**Investment Income** is income generated from the pool's investment portfolio less portfolio management expenses.

**Invested Assets** are the assets a pool has devoted to its investment portfolio.
Operating Ratio

**DESCRIPTION**

Like the combined ratio, a pool’s operating ratio is a basic measure of performance for a specific period. Operating ratio differs from the combined ratio in that it takes into account investment income. Investment income can be an important factor, particularly for workers’ compensation where the income can help to offset costs of a claim that is paid over 20, 30, or even 40 years or more.

As an example, a pool with $44 million in net contributions, $33 million in claims and LAE, $11 million in overhead expenses, and $1.5 million of investment income will have an operating ratio of 97 percent ($33M+$11M-$1.5M/ $44M).

**INTERPRETATION**

A low operating ratio indicates net contributions and investment income are more than sufficient to cover loss and operating expenses.

An operating ratio higher than 100 percent (1.0) may be the result of greater-than-expected losses, unfavorable loss development or reserve strengthening, higher-than-expected expenses, unfavorable investment results, or even a contribution holiday for members where the pool intentionally utilizes net position to meet financial needs for a given year.

It is important to understand the factors behind a pool’s operating ratio and any changes that have occurred. No single financial measure is a reliable indicator of a pool’s overall solvency or financial well-being, so pools are encouraged to evaluate multiple measures year-over-year to watch for important shifts or changes in their financial health.

**COMPONENT DEFINITIONS**

**Net Incurred Losses** are total amount of paid claims and loss reserves associated with a particular time period, usually a policy year. It includes incurred but not reported (IBNR) losses for purposes of the FBI.

**Loss Adjustment Expense (LAE)** refers to the costs associated with investigating and adjusting losses. LAE’s can be “allocated” or “unallocated” depending upon whether they are or are not allocated to a particular claim.

**Other Non-Loss Expenses Net of Reinsurance** include administrative expenses associated with investigating and adjusting claims net of reinsurance.

**Investment Income** is income generated from the pool’s investment portfolio less portfolio management expenses.

**Net Contributions** are a pool’s contribution income, after subtracting the amount a pool pays for excess insurance and reinsurance coverage.
**Liabilities to Assets**

**DESCRIPTION**

The liabilities to assets ratio measures how much a pool owes compared to its current assets.

Current assets are considered more liquid as they are easily convertible to cash or will be convertible within a year. Current assets are usually reported on the balance sheet in descending order of liquidity with the most liquid assets listed first. A pool with substantially more current assets than liabilities, and therefore having a low liabilities to assets ratio, would be expected to be able to meet its short-term obligations.

If a pool has $38 million in total liabilities and $45 million in current assets, the liabilities to assets ratio is 84 percent.

This ratio also provides a rough estimate of financial implications if liquidation of the pool becomes necessary for any reason. Cash and cash equivalents are used as current assets when a classified balance sheet is not presented.

**INTERPRETATION**

Tracking the liabilities to assets ratio year-over-year is an important consideration. If the ratio is increasing, it could signal financial matters that need attention. A pool with a high ratio (realizing there’s no common definition of “high”) might focus attention on reserve adequacy, as well as proper valuation, mix, and liquidity of assets to assure the pool will be financially strong enough to meet obligations.

Any benchmark presents perspective based upon only a snapshot in time, and the liabilities to assets ratio for a pool could change substantially if there were an extreme shift in direction of global or national market exchanges. Long-term averages and consistent monitoring will always reveal greater meaning than pegging pool performance on any one ratio at any singular point in time.

**COMPONENT DEFINITIONS**

**Total Liabilities** Total liabilities includes the net reserve for unpaid claims, plus all other liabilities including unearned contributions (also known as deferred revenue), accrued expenses, short and long-term debt, dividends or refunds payable, and all other liabilities. The total liabilities are presented on the balance sheet. If the reserve for unpaid claims presented on the balance sheet is gross of reinsurance recoverables, effort should be made to determine the net reserve for unpaid claims for purposes of determining total liabilities.

**Current Assets** include cash and other assets that are easily convertible to cash or will be within a year. Also sometimes referred to as “liquid assets”.

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\text{Liabilities to Assets} = \frac{\text{Total Liabilities}}{\text{Current Assets}}
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Expense to Net Contributions

DESCRIPTION

The expense to net contributions ratio is the percentage of net contributions used to pay all the costs of administering and operating the pool.

A pool with net contributions of $25 million and $5 million in operating costs has a ratio of 20 percent.

INTERPRETATION

In the insurance industry, the expense ratio can be translated to profit - the lower the ratio, the greater the profitability. In pooling, however, lower expense to net contributions ratios do not necessarily imply greater efficiency since the risk management services provided by pools vary significantly and are usually more extensive than those provided by the insurance industry. And, because pools operate with different financial goals overall (e.g. not producing shareholder returns), expense ratios may not be comparable to the commercial insurance market.

Care should also be taken when comparing this ratio pool-to-pool. Not all pools operate the same. For example, not all pools utilize local agents, contribute for services from sponsoring organizations, or have the same mix of internal and external services.

COMPONENT DEFINITIONS

Other Non-Loss Expenses Net of Reinsurance include administrative expenses associated with investigating and adjusting claims net of reinsurance.

Operating Cost is non-loss expense net of reinsurance.

Net Contributions are a pool’s contribution income, after subtracting the amount a pool pays for excess insurance and reinsurance coverage.
One Year Reserve Development

DESCRIPTION

The one-year reserve development ratio measures the volatility of ultimate loss estimates and the ability of net position to withstand adverse development. By comparing the change in the ultimate loss estimates (excluding the current coverage year) to net position, the ratio captures changes in ultimate loss estimates over a one year period as a percentage of net position.

Take for example, a pool with a net position of $60 million and ultimate loss & LAE estimates of $69.9 million in the prior year that grew to $80.5 million as of the end of the current year. The pool’s one-year loss reserve development ratio is 18 percent (0.18 or 0.18:1). This is calculated by subtracting the prior year from the current year and dividing by net position: ($80.5 - $69.9)/$60 = .18.

INTERPRETATION

A reserve development ratio that is positive indicates reserves from prior years have increased, which is known as adverse development. A negative ratio indicates reserves for prior years have decreased. It is common for prior year reserves to change in either direction.

Increases in this ratio might be indicative of reserve strengthening, while significant decreases might be indicative of loss estimates overstated since inception or during a subsequent re-estimate.

The amount and consistency of the change year-over-year may indicate volatility that’s important for the pool to monitor. As with other ratios, examining this benchmark over time is more valuable than a snapshot of just one year.

General guidance from the commercial insurance industry suggests reserve development above 20 percent could be indicative of insufficient net position.

COMPONENT DEFINITIONS

**Net Incurred Losses** are total amount of paid claims and loss reserves associated with a particular time period, usually a policy year. It includes incurred but not reported (IBNR) losses for purposes of the FBI.

**Loss Adjustment Expense (LAE)** refers to the costs associated with investigating and adjusting losses. LAE’s can be “allocated” or “unallocated” depending upon whether they are or are not allocated to a particular claim.

**Current Coverage Year Ultimate Loss** is the total estimated loss costs on claims occurring during the current accident or coverage year. This amount must be estimated until all claims are actually settled. Ultimate loss includes amounts paid and reserved within the pool’s self-insured retention, as well as estimated incurred but not reported (IBNR) losses.

**Net Position** is a pool’s assets minus its liabilities. Net position is sometimes referred to as “surplus” or “member equity.” Unrestricted net position is used for purposes of the FBI.