Definition and Components of Technical Provisions

Technical provisions are the primary liability on an insurer's balance sheet, representing the estimated funds required to settle all insurance obligations. Under Solvency II, "the technical provisions are made up of: Claims provision + Premium provision + Risk margin".

- **Claims Provision:** "The discounted best estimate of all future cash flows (claim payments, expenses and future premiums) relating to claim events prior to the valuation date".
- **Premium Provision:** "The discounted best estimate of all future cash flows (claim payments, expenses and future premiums due) relating to future exposure arising from policies that the (re)insurer is obligated to at the valuation date".
- **Risk Margin:** An amount required to "ensure that the value of the technical provisions is equivalent to the amount insurance and reinsurance undertakings would be expected to require in order to take over and meet the insurance and reinsurance obligations".

Gross vs. Net Reinsurance Calculation

In Solvency II, technical provisions are calculated on a gross basis first. "The best estimate shall be calculated gross, without deduction of the amounts recoverable from reinsurance contracts and special purpose vehicles. Those amounts shall be calculated separately".

For Mulsanne, this means:

1. First calculate total gross technical provisions, as shown in the balance sheet where liabilities are explicitly labelled "gross amount".
2. Then perform a separate calculation for the reinsurers' share, as detailed in Section 5 of the manual, "SOLVENCY II BALANCE SHEET - TECHNICAL PROVISIONS (REINSURANCE)" (Total RI Premium Provision: £19,684,000).
3. This reinsurance recoverable amount is adjusted for the risk of reinsurer default, for which Mulsanne makes a "Reinsurance default adjustment".
4. The final liability on the balance sheet is the gross figure minus these reinsurance recoverables.

Relationship with Risk and Capital

Technical provisions are a liability, not a risk. They serve as a key input for calculating the capital required for various risks.

Premium and Reserve Risk

This is the risk that actual claims will be worse than the best estimate set aside in the technical provisions. The Mulsanne manual shows the capital calculation for this risk is based on a formula where the volume measure, V, is derived from technical provisions. $V = V_{prem} + V_{res}$

`V_prem` represents the premium risk the company will be exposed to over the next 12 months. It's not based on existing technical provisions but rather on earned premiums, which protects the SCR calculation from being artificially lowered by a temporary drop in premium writing.

```
Vprem = max(Ps, Plast) + FPexisting + FPfuture
```

- `max(Ps, Plast)` : This is the core of the calculation. It takes the **greater of** the forecasted earned premiums for the next 12 months (`Ps`) and the actual premiums earned in the last 12 months (`Plast`). This ensures that if the company plans to shrink its business, the capital requirement doesn't fall faster than the risk runs off.
- `FPexisting` **and** `FPfuture` : These components are adjustments for premiums on policies that earn over a period longer than 12 months, ensuring all future premium exposure from existing and bound-but-not-incepted (BBNI) policies is captured.

`V_res` directly represents the risk associated with the company's existing claims liabilities. This is the part of the volume measure that is derived from the technical provisions.

```
Vres = Σ (Res_net,s + Exp_s)
```

- `Res_net,s` : This is the main component. It is the best estimate of the discounted net claims provision for each business segment (`s`). This includes the provision for claims outstanding and IBNR, after deducting the reinsurance share and making adjustments for things like ENIDs and sliding scale commissions.
- `Exp_s` : This adds the discounted share of expenses associated with servicing those claims.

Operational Risk

This risk also uses technical provisions as an input. The formula component `Op_Prov` is based on `TP_Non-Life` . In Mulsanne's manual, `TP_Non-Life` is defined as "the technical provisions recorded in the non-life underwriting module". This specifies that the operational risk capital is based on the technical provisions for the lines of business subject to underwriting risk.

`TP_non-life` in the summary Doc is the Solvency II Best Estimate Technical Provision, while the number in the balance sheet is the GAAP Technical Provision. The two figures differ because they are calculated on different bases

- GAAP is an accounting valuation
- Solvency II is a risk-based economic valuation that includes discounting and other adjustments (explaining why it is a lower value)

`TP_non-life` is the value of the non-life technical provisions used specifically for calculating the operational risk component of the Solvency Capital Requirement.

This figure represents the **Solvency II Best Estimate**, which is the sum of the claims provision and premium provision calculated on a forward-looking, economic basis. For the purpose of the operational risk calculation, it excludes the Risk Margin. The value used by Mulsanne for this calculation is £208,807,000.

The balance sheet shows the Gross GAAP Technical Provisions, which total £246,639,000. This figure is an accounting value based on historical premiums and is different from the Solvency II economic value.

The difference between the GAAP value (£246.6m) and the Solvency II value used for operational risk (£208.8m) is due to adjustments required to move from one basis to the other, as detailed in the reconciliation waterfall. The main adjustments are:

- **Different Valuation Basis:** Solvency II replaces the GAAP "Provision for unearned premiums" (£34.2m) with a forward-looking "Premium provision" (£26.4m) that values future cash flows.
- **Discounting:** Solvency II requires liabilities to be discounted to their present value. This has a major impact, reducing Mulsanne's provisions by £22.6 million.
- **Other Solvency II Concepts:** The calculation also includes adjustments for future premiums receivable, run-off expenses, and Events Not In Data, which are not part of the initial GAAP valuation.
- **Exclusion of Risk Margin:** The final Solvency II Gross Technical Provision on the balance sheet is £210,639,000, which includes a Risk Margin of £1,831,000. The specific `TP_non-life` figure for the operational risk calculation is taken before this margin is added: £210,639,000 (Total SII Gross TP) - £1,831,000 (Risk Margin) = **£208,808,000**

This result matches the `TP_non-life` value used in the operational risk calculation.