**RiskGPS: Data Insights**

**Overview of Assumptions and Data Sources**

RiskGPS generates baseline assumptions using your bank’s historical and current Call Reports, supplemented by select external data sources. Regulators expect each bank to understand these assumptions, adjust them as needed to reflect your bank’s position, and thoroughly document any modifications along with the rationale behind them.

The **quarterly Balance Sheet** serves as the foundation for rate shock calculations and helps identify historical trends and anomalies.

While **Income Statement** data is entered as year-to-date in Call Reports, RiskGPS arrives at the quarterly value by subtracting prior YTD totals.

**Selected Average Balances**, also sourced from Call Reports, are crucial in determining the yields and costs tied to interest-bearing accounts.

Since the Call Report does not directly provide **Yields and Costs** data, these are computed in RiskGPS by dividing interest income or expense by the corresponding Average Balance.

**Rate Shock and Repricing Assumptions**

Rate Shock modeling analyzes your current balance sheet and the repricing opportunities within balance sheet categories. Given that Call Reports may lack certain repricing details, RiskGPS allows refinement through **Assumptions Tables**.

**Risk Tolerance Framework**

**Risk Tolerance Assumptions**

This section projects the bank’s anticipated trajectory over the next four quarters. Based on historical data, RiskGPS provides default estimates that can be customized. Saving your responses redirects you to the most affected report.

**Risk Tolerance Report**

While not a regulatory requirement, this report is essential for management. It calculates the **minimum required margin** to support projected growth and maintain capital adequacy.

**Calculations Explained**

* **Minimum Margin Requirement**: Begins with current balance sheet totals and applies projected growth, as indicated in your Risk Tolerance Assumptions, to determine earnings needed for capital, overhead, and dividends.
* **Risk Tolerance**: Measures the maximum allowable change in Net Interest Margin (NIM) before capital falls below acceptable thresholds. A **positive value** signals cushion against rate shocks, while a **negative value** suggests potential capital ratio deterioration even in static rate conditions. The **Risk Limit** is the maximum percentage NIM change from the Current Margin (under flat rates) before the bank’s capital falls below the current amount or the designated minimum required amount, whichever is higher.

**Loan Assumptions**

**General Overview**

While Call Reports provide some maturity data, they do not capture repricing opportunities within your loan portfolio. The Loan Assumptions section allows customization to improve rate sensitivity modeling.

**Market Rate on Loans Used as Discount Rate**

The system estimated Weighted Average Rate on New Loans is derived from historical data but can be adjusted to reflect current market rates. This rate represents the current market rate on loans and is used as the discount rate for calculating economic value of equity. It also represents the rate that loan maturities are expected to reprice at, plus or minus the rate shock, during the risk simulation.

**All Other Loans (not including 1-4 Family Residential Mortgages)**

This section begins with *Volume of Floating Loans without Floor*, also known as *Variable Rate Loans*. Throughout the model, RiskGPS will estimate information not detailed within your Call Report. For example, there is no line item for recording immediately re-priceable loans. Therefore, the model will provide an estimate for you. As with all system estimates, they are there to remind you to confirm or replace those values with actual data from your internal reports. When repricing Floating Loans without Floors, the rate used will be the Weighted Average Yield as seen within Floating Loans Above Floor. If, however, you provide a Weighted Average Contractual (Indexed) Rate for Floating Loans above floors, RiskGPS will use this rate for repricing both Floating Loans Above Floor and without Floors during the rate shock simulation.

Another area to note within the *Other Loans Floating* assumptions is that, in rare cases, the Weighted Average Yield and the Weighted Indexed Rate may differ. For those special circumstances we have provided separate areas to enter that information. However, for most institutions these values will be identical. Work through the loan assumption form by reviewing and answering each question regarding your floating, non-real estate residential loans.

*Other Loans with scheduled maturities,* such as Consumer Loans, have principal reductions or maturities that are recorded in your Call Report. These are automatically picked up by the model and incorporated into your GAP and Loan Cash Flow reports. No additional modeling is needed for these loans.

**Closed-end Loans Secured by First Liens on 1-4 Family Residential Properties**

* **Data Handling**: Loan maturity data is extracted from Call Reports.
* **Amortization Flag**: If loans are reported by final maturity date, leave the amortization flag set to "Yes." Your loans will then be amortized over the midpoint of the time bucket in which they are recorded.
* **ARM vs Fixed Loans**: The matrix allows you to break out Adjustable Rate Mortgages (ARM) from fixed rate loans for improved accuracy during rate shocks. During Rate Shock, ARM balances will reprice until they hit their floor or ceiling. If they hit their floor or ceiling during the analysis, they are then treated as fixed rate loans.

**Loan Prepayment Percentages**

Prepayments affect GAP and Loan Cash Flow reports and are incorporated into all rate shock calculations. Initial prepayment estimates are provided from Plansmith’s Advisory Services and should be adjusted based on your bank’s most recent prepayment study or modified to reflect the current economic situation within your market. Prepayments are applied to all loans and mortgage backed securities.

Saving assumptions takes you directly to the GAP report, which will incorporate your changes.

**Securities Assumptions**

System estimates should be reviewed and adjusted if needed. For instance:

* **Interest-Bearing Deposits in Other Banks**: Refine based on actual repricing frequency (number of months). This may be as long as six or twelve months if the balances are in CDs, or as short as one month if the balances are held in an account such as a money market. As the call report only allows you to enter your interest-bearing deposits in other banks in the three-to-twelve-month bucket, this form allows you to break out those dollars more specifically. This is especially helpful to distinguish overnights from your longer-term CDs held at other banks.
* **Market Values**: As your broker dealer has calculated market values for every instrument, replace system estimated values with broker-calculated values for improved accuracy in Rate Shock Market Value reports.

**Deposit Assumptions**

**Rate Sensitivity and Elasticity**

Page 13 of the report, titled *Rate Sensitivity of Non-Maturing Balances*, is an analysis that tracks the six-month treasury yield over two periods of sustained interest rate change, one rising and one falling. RiskGPS then overlays your historical rates paid on interest bearing checking, and money market and savings balances over the same period. This provides information regarding the bank’s price elasticity to external economic changes.

**Key Assumption Components**

1. **Betas**: Reflect the bank’s pricing behavior in response to a 100-basis-point rate change. These indicate:
   * Repricing responsiveness
   * Client loyalty interpretation (i.e. volatility/’stickiness’ of your customers)
   * Decay term: automatically adjusted by RiskGPS based on beta inputs, higher betas equal shorter decays, whereas lower betas suggest longer decays
2. **Decay Term**: Indicates customer retention. If your beta changes are large, then your client base is likely short term or not as loyal, perhaps, as they tend to shop for the best rate available. For many banks customer loyalty is quite strong, and the decay term should reflect that. Decay terms are instrumental for discounting cash flows for the calculation of your deposit market values.
3. **Discount Rate**: This rate is used to discount the cash flows on your deposit balances for market value reporting. They are automatically determined using decay terms and matched to the corresponding term on the yield curve. The rate is then used as the discount rate for market value calculations. Defaults are recommended for regulatory compliance reporting, though alternative scenarios may be created for comparison by inputting local market rates.

**Impact of Assumptions on Reporting**

**GAP Report**

The GAP report is a great starting point to understanding which dollars are repricing, in which accounts, and when.

* **Positive GAP**: More assets than liabilities repricing
* **Negative GAP**: More liabilities than assets repricing

These are neutral indicators that indicate what is available to reprice and at what rate.

The GAP report combines assumptions from Loans, Securities, and Deposits. Cash flows for **non-maturing deposits** are estimated by splitting the deposits into “floating or immediately repriceable” and “longer-term”, based on beta information. Non Maturing Deposits have betas for both rising and falling conditions; the two betas are added together then divided by two, arriving at a percentage. This percentage of the total balance of the category (e.g., Interest Bearing Checking) is placed in the floating bucket and the remainder of the balance is placed in the 1-3 year bucket.

**Rate Shock Report**

Uses balance and maturity data from the call report, along with assumption modifications, to simulate changes in:

* **Net Interest Margin**
* **Economic Value of Equity**

The **Risk Tolerance Minimum Margin** is marked on the NIM simulation graph with a red line—banks should not fall below this benchmark as it represents the net interest margin needed to cover anticipated growth and overhead while maintaining capital.

**Economic Value of Equity (EVE) Shock Report**

This regulatory report accounts for all Call Report and assumption data. It reflects changes in balance behavior (e.g., reaching floors/ceilings) and maturity adjustments during simulations.

**Policy Limits and Examiner Readiness**

Your bank’s policy limits for rising and falling rate shocked scenarios will be important during an exam. The data entered in the assumptions will directly influence the results of your net interest margin and economic value of equity measures. If you find that certain results do not comply with your policy limits first identify which asset or liability is affecting the calculation the most, then review the assumptions associated with that category.

**Support and Advisory Services**

RiskGPS helps organize and interpret your data but relies on your inputs. The system includes narrative explanations for each report page. Plansmith’s Advisory Services can assist with:

* Decay and prepayment studies
* ALM consulting
* Board training

Please contact us for personalized guidance or to address questions from examiners or auditors.