Market Risk Data Flow

Effective market risk management requires all markets risks to be appropriately identified, measured and controlled. Market risk itself is defined as the potential (adverse) change in portfolio value from changes in the market inputs. A well-functioning risk control process reflects the foundational role of valuation and the direct linkage with risk from end-to-end with appropriate control points and feedback loops.

In the Risk Measurement Data Flow, positions are valued using models and market inputs. The valuation process is enhanced via Independent Price Valuation (IPV), Valuation Adjustments (VA) and proxy bookings. The valuation process then feeds profit and loss (P&L) and Risk which can be connected through the P&L Attribution (PAA). Market risk measures and diagnostics, such as VaR, are an outcome from the risk measures. This forms the cornerstones of the Market Risk Measurement Management and Data Review Process.

The Market Risk Measurement Management and Data Review Process establishes the linkages which are required in an effective risk management system. All data composing these linkages can theoretically trace dependencies back to market inputs and position inputs. Market inputs are defined as the inputs required in the valuation that are dynamic in nature and are sourced from markets. As an input to the risk process, the positions require thorough review and validation processes to ensure completeness and consistency. The set of inputs required for valuation should also be employed for other calculations such as P&L attribution (PAA) and should be simulated when computing Value at Risk (VaR).

By virtue of these common dependencies, the P&L attribution, risk measurement and inputs are interrelated and should corroborate each other. A complete and robust risk process allows for the triangulation between risks, valuations and P&L. The errors introduced by risk management models need to be evaluated, controlled and minimized to ensure effective risk measurement and maintain triangulation.

A comprehensive P&L attribution will need to incorporate a quantification of unexplained P&L and P&L from non-market factors. However, the differences between P&L attribution excluding these factors and P&L measured through risks should be minimized.

VaR represents a critical risk model which requires governance around Risks not in VaR (RNIV). RNIV are market factors driving P&L which are not captured in the VaR model. Performance of the VaR model can be evaluated through backtesting by comparing the model's risk measures and actual trading outcomes.

The Market Risk Measurement and Data Review needs to consider all potential risk measurement and data process gaps during the life cycle of a trade in the risk system. From inception, when a trade is first executed, the trade needs to be modelled and captured accurately in the risk system. This includes capturing the appropriate market data and market factor sensitivities for the specific trade. Additionally, all market factors driving valuation need to be modelled in the VaR system. Thus the process will comprise five review streams to connect the necessary valuation, risk measurement and risk capture processes.

The five streams consist of the following:

- Risk Measurement Performance Review

- Risk Measurement Completeness Review
- IPV/Valuation Adjustment Review
- Proxy Review
- Market Data Review

The roles and responsibilities section describes each stream in further detail.

These five streams will support the Risk Measurement and Data Review Group, whose responsibility will be to e*nsure completeness and integrity of risk measures (VaR). The group will collect and review results of the five review streams with a mandate to compare results, identify trends and evolve the controls.*

Once implemented, the Market Risk Measurement and Data Review Process must be reviewed annually by the Risk Measurement and Data Review Group or more frequently as required. The Market Risk Measurement and Data Review Process document must be signed off by those accountable and responsible as outlined in the Approval Matrix section. The signoff will attest:

1. That the Market Risk Measurement and Data Review Process remain valid and congruent with the organization's practices.
2. That the Market Risk Measurement and Data Review Process has ensured completeness and integrity of the risk measure (VaR).
3. That the five streams underlying the process continue to support the Risk Measurement and Data Review Group and provide the necessary guidance to review results, identify trends and evolve the controls.

The following denotes the responsibilities created through this framework. In addition, the new Information Technology architecture will increase the linkages and dependencies on Front Office and Global Middle Office data and processes. These linkages will support the Risk Measurement and Data Review process.

The Risk Measurement and Data Review Group require access to the following review tools and processes to monitor and resolve risk measurement gaps.

- Pricing Models and new End of Day Process
- Identification and Selection of Risk Factors
- Review of Modelling Assumptions
- Unexplained P&L
- Backtest Exceptions
- Independent Price Verification and Valuation Adjustment Review
- Additional Measures for Model Validation

Reference:

https://finpricing.com/lib/IrCurveIntroduction.html