



## Interest Rate Risk

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### III. Measurement Systems

# Types of Measurement Systems

## Short-term Models



Gap Analysis



Income Simulation

## Long-term Models

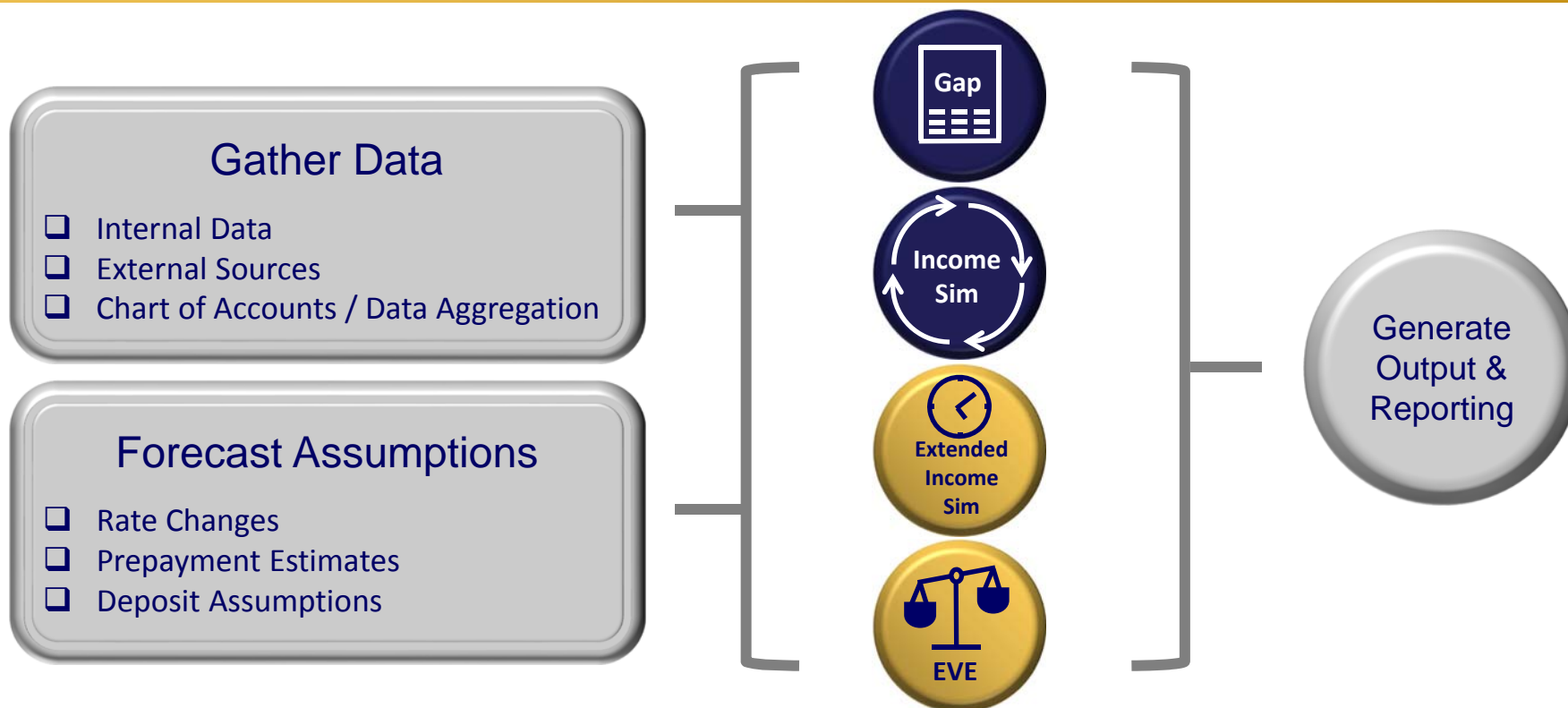


Extended  
Income Simulation



Economic Value  
of Equity (EVE)

# The Modeling Process



# Gap Analysis



- Identifies repricing mismatches within various time buckets
- Models static balance sheet
- Captures only repricing risk
- Uses basic data inputs & simplistic assumptions

# Gap Analysis Results



## Estimated Repricing Mismatches

	0-6 Months	6-12 Months	Cumulative 0-12
Rate Sensitive Assets (RSA)	6,000	4,000	10,000
Rate Sensitive Liabilities (RSL)	10,000	5,000	15,000
RSA Less RSL (Gap)	(4,000)	(1,000)	(5,000)
Gap / Average Earning Assets	-16%	-4%	-20%

Note: Dollar figures in thousands

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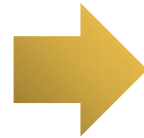
# Income Simulations



Projects earnings over various time horizons and under an array of interest rate scenarios



Capable of static and dynamic balance sheet modeling



Captures multiple types of IRR



Uses sophisticated data inputs & advanced assumptions

# Extended Income Simulation Results



## Estimated Change in Net Interest Income

Rate Scenario	Year 1	%	Year 2	%	Years 3-5	%
+300 bps	\$90	-10%	\$85	-15%	\$210	-30%
Base Case	\$100	-	\$100	-	\$300	-
-100 bps	\$105	5%	\$110	10%	\$345	15%

Note: Dollar figures in thousands

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# Economic Value of Equity (EVE)



- ➔ Identifies long-term risk exposures under selected interest rate scenarios
- ➔ Models static balance sheet through the use of net present value calculations
- ➔ Captures multiple types of IRR
- ➔ Uses standard data inputs & complex assumptions



# EVE Results



## Estimated Net Present Value of Assets and Liabilities

Rate Scenario	EVE	Change
+300 bps	\$3,750	-25%
Base Case	\$5,000	-
- 100 bps	\$5,500	10%

Note: Dollar figures in thousands

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# Summary



- **Earnings, capital levels, complexity, and risk profile**
- **Product attributes, aggregation, and optionality**
- **Cost, data management, and in-house expertise**