BANK ANALYSIS

ALM – Basics

Asset and Liability Management (ALM) addresses the risks that arise due to mismatches between a balance sheet´s assets and liabilities, but also in regards the timing of cash flows related to them. Hence, ALM is a process of evaluating and executing steps with a view to control a bank's risks and ultimately reach an institution´s financial goals.

For example, part of ALM addresses the availability of borrowing capacity or of feasible assets to redeem liabilities as such come due as well as when assets or earnings can be converted into cash. - Next to liquidity and credit risk, such as the solvency of a bank´s debtors, a major focus of ALM is put on a financial institution´s exposure towards interest rate risk (IRR): As banks tend to borrow short term (fixed or floating) and lend long term (fixed or floating) mismatches are typical. Whereby, changes in interest rates can have adverse effects on both, a bank's earnings as well as its economic value. Therefore, it also makes sense to break down IRR into one component assessing its impact on a bank´s earnings and another one assessing its impact on a bank´s capital.

The IRR on earnings reflects the consequences of changing interest rates on the earnings stream of a bank, or the impact such changes have on a bank´s interest income as well as on interest expense, or the combined impact on net interest income. - The IRR on capital, on the other hand, foremost reflects the effect of changing interest rates on the respective values of both, a bank´s assets and its liabilities. Therefore, this risk component deals with the effects on prices and valuations and their combined impact on a financial institution´s capital, in essence its equity position. – Clearly, valuation impacts can also be caused by factors other than changing interest rates only, such as (external) capital markets-related factors or (bank-internal) operations-related factors.

The so-called maturity gap model measures the asset-liability mismatch of assets and liabilities by grouping them into time buckets according to maturity. For each time bucket the maturity gap equals the difference between the interest rate sensitive assets and the interest rate sensitive liabilities. Now, if in a specific maturity bucket the rate sensitive assets exceed the rate sensitive liabilities and interest rates increase, then the net interest income of that very bucket will increase as well.

The duration gap model, on the other hand, weighs the individual durations of each asset and each liability position with a view to obtain the combined asset and liability duration. Whereby, the duration gap forms the basis to directly indicate the effect of interest rate changes on the net worth of an institution. Consequently, if the duration gap is close to zero, then the market value of the bank's equity will not change and, accordingly, become practically immunized to any changes in interest rates. Therefore, the duration gap analysis can be regarded as an improvement upon the maturity gap model by taking into account the timing and market value of cash flows rather than merely the horizon maturity.

In general, the implementation of ALM strategies is not only along on-balance sheet transactions, but also through off-balance sheet hedging of on-balance sheet risks as well as by securitization, which removes risk from the balance sheet.

These days, simulations are widely applied in the course of ALM to construct the risk-return profile of a bank´s portfolio. Scenario analysis addresses the issue of uncertainty associated with the future direction of interest rates by allowing the analysis of isolated attributes with the use of 'what if' simulations. However, it is debatable if simulation analysis, with its attendant controls and ratification methods, can effectively capture the dynamics of yield curve evolution and interest rate sensitivity of key financial variables.

.

ASSET LIABILITY MANAGEMENT

ASSETS

CASH
INVESTMENTS
LOANS
FIXED ASSETS

CASH FLOWS
COMPETITION
ECONOMY
NEW PRODUCTS
CUSTOMER NEEDS
CALL DATES
PREPAYMENTS
OPTIONS
INTEREST RATES
TERMS
⋮

LIABILITIES & CAPITAL

DEPOSITS
INTER-BANK LIABILITIES
BONDS
HYBRIDS
CAPITAL | EQUITY