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## **CAMELS vs. CARAMELS**

Financial markets are defined as a system which brings economic entities who need funds and who have much of them together. In this structure, it is necessary for the third parties called as financial intermediates or banks to reduce the risks and to provide effective fund transfer. The banking sector occupies a very important position in the country's economy, acting as an intermediary to all industries, mobilising and disbursing funds. The banking industry contributes directly to national income and its overall growth, and is thus the backbone of any economy. As the banking sector has a major impact on the economy as a whole, evaluation, analysis, and monitoring of its performance is very important. Generally, the financial performance of banks and other financial institutions has been measured using a combination of financial ratio analysis, benchmarking, measuring performance against budget or a mix of these methodologies. In recent years one of the most used models for the estimation of a bank performances and soundness is the **CAMELS** framework.

Actually the most effective way to enforce financial rules and regulations in the financial supervisory system is to conduct financial examinations based on the CAMELS framework. The **CAMELS** acronym stands for **Capital adequacy, Asset quality, Management, Earning and Liquidity and Sensitivity** to market risk. Thus the CMELS framework is the financial soundness indicator used for banking sector.

**Capital Adequacy:** Capital base of financial institutions absorb unanticipated shocks, it signals that the institution will continue to honour its obligations. The most widely used indicator of capital adequacy is capital to risk weighted assets ratio (CRWA). It is useful to track capital-adequacy ratios that take into account the most important financial risks—foreign exchange, credit, and interest rate risks—by assigning risk weightings to the institution's assets. The following ratios measure capital adequacy:

$$\text{Capital Risk Adequacy Ratio} = \text{Capital} / \text{Total Risk Weighted Credit Exposure}$$

**Asset Quality:** Asset quality determines the healthiness of financial institutions against loss of value in the assets. The weakening value of assets, being prime source of banking problems, directly pour into other areas, as losses are eventually written-off against capital, which ultimately expose the earning capacity of the institution. One of the indicators for asset quality is the ratio of non-performing loans to total loans.

$$\text{Gross NPA ratio: } \text{Gross NPA} / \text{Total Loan}$$

$$\text{Net NPA ratio: } \text{Net NPA} / \text{Total Loan}$$

**Management:** In addition, performance evaluation includes Sound management is one of the most important factors behind financial institutions' performance. Compliance with set norms, ability to plan and react to changing circumstances, technical competence, leadership and administrative ability are indicators of management soundness. The ratios used are

*Total Advance to Total Deposit Ratio= Total Advance/ Total Deposit*

*Business per Employee= Total Income/ No. of Employees*

**Earnings & Profitability:** Earnings and profitability, the prime source of increase in capital base, helps to support present and future operations of the institutions. The single best indicator used to gauge earning is the Return on Assets (ROA). Strong earnings and profitability profile of banks reflects the ability to support present and future operations. More specifically, this determines the capacity to absorb losses, finance its expansion, pay dividends to its shareholders, and build up an adequate level of capital.

*Return on Asset: Net Profit/ Total Asset*

*Dividend Pay-out Ratio: Dividend/ Net profit*

*Interest Income to Total Income: Interest Income/ Total Income*

**Liquidity:** An adequate liquidity position refers to a situation, where institution can obtain sufficient funds, either by increasing liabilities or by converting its assets quickly at a reasonable cost. It is, therefore, generally assessed in terms of overall assets and liability management, as mismatching gives rise to liquidity risk. The ratios suggested to measure liquidity under CAMELS Model are as follows:

*Liquidity Asset to Total Asset: Liquidity Asset/ Total Asset*

*Government Securities to Total Asset: Government Securities/ Total Asset*

**Sensitivity to market risk:** It refers to the risk that changes in market conditions could adversely impact earnings and/or capital. Market Risk encompasses exposures associated with changes in interest rates, foreign exchange rates, commodity prices, equity prices, etc. The diversified nature of bank operations makes them vulnerable to various kinds of financial risks. Sensitivity analysis reflects institution's exposure to interest rate risk, foreign exchange volatility and equity price risks (these risks are summed in market risk). Risk sensitivity is mostly evaluated in terms of management's ability to monitor and control market risk.

Insurance sector as a part of financial sector has grown in past decades in developed as well as in developing countries. The main business of insurance companies is risk mobilization of individuals and companies based on the system of pooling and diversification. It also strengthens the linkages with other sectors of the economy promoting growth and stability, and creating a sizeable impact on the national income of the country. Insurance activity is characterized by the reversal of the production cycle because premiums are collected when the contract is signed and claims and costs arise only if specific event occurs. Therefore management of insurance company and the evaluation of their work are very complex. As insurance sector is currently facing many challenges such as increased competition, consolidation, solvency risks and a changing regulatory environment. Maintaining the sound financial health of insurance industry is the most challenging job for regulatory agencies while its contribution to the economy and society is noteworthy. By doing their core business, insurance companies are exposed to different types of risk, starting from underwriting risks that are accepted from insurers, through investment risks to the non-technical risks such as management risk, business risk and legal risk.

An insurance industry is not only providing the mechanism of saving money and transferring risk but also helps to conduit funds in an appropriate way from surplus economic units to deficit economic units thereby facilitate the investment activities in an economy. To do so the industry should financially solvent, operationally sound and have adequate capital base.

The main task of evaluating financial soundness of insurance sector is therefore to explore risks to which insurers are exposed and a way to manage them. Because of high growth rate of the sector, supervisors and regulators have developed different models to evaluate and control business activities of insurance companies. Some of the indicators used for evaluating financial health of insurers are financial soundness indicators developed by World Bank and International Monetary Fund presented in **CARMELS** framework. The CARMELS acronym stands for, **Capital adequacy, Asset quality, Reinsurance, Adequacy of claims and actuarial, Management soundness, Earnings and profitability, Liquidity and Sensitivity** to market risk

**Capital Adequacy Ratio:** The capital adequacy ratio indicates the capacity of the life insurance sector to absorb losses relative to risk exposures, exposures measured by asset size and reserves. No international standards exist for measuring capital adequacy of life insurance sector. A set of two indicators used are

$$\text{Share Capital to Total Assets Ratio} = \text{Share Capital} / \text{Total Assets} \times 100$$

$$\text{Share Capital to Mathematical Reserve Ratio} = \text{Share Capital} / \text{Mathematical Reserves} \times 100$$

**Asset Quality Ratio:** The asset quality of the insurers is the measure of reliance on equity to build sound and quality asset portfolio of the company.. This ratio indicates the proportion of total assets funded by equity shareholders' funds. It is expressed as relationship between equity shareholders' funds and total assets. A higher asset quality ratio is generally treated an indicator of sound financial position from long term point of view, because it means that a large proportion of total assets is provided by equity and hence the firm is less dependent on external sources of finance.

$$\text{Asset Quality Ratio} : \text{Equity} / \text{Total Assets} \times 100$$

**Reinsurance and Actuarial Issues:** The Reinsurance and Actuarial issues can be observed through Risk Retention Ratio and the ratio of Net Mathematical Reserves to Average of Net Premium Received.

$$\text{Risk Retention Ratio} : \text{Net Premium} / \text{Gross Premium} \times 100$$

$$\text{Mathematical Reserves to Average of Net Premium Ratio} : \text{Average of Net Premium} / \text{Mathematical Reserves} \times 100$$

**Management Soundness Ratio:** Management soundness in life insurance business means operational soundness. Therefore, this ratio reflects the operational efficiency of life insurers and also indicates the cost efficiency of the business, which ultimately reflects the efficiency of decisions regarding proper utilization of funds. The ratio is expressed as relationship between operating expenses and gross premium.

$$\text{Management Soundness} = \text{Operating Expenses} / \text{Gross Premium} \times 100$$

**Earnings/ Profitability Ratio:** Earnings are the key and arguably the only long term source of capital. Therefore, the main objective of every business is to earn profits. A business must be able to earn adequate profits in relation to the risk and capital invested in it. The efficiency and the success of a business can be measured with the help of profitability ratios. Therefore,

to arrive at CAMEL ratings in terms of Earning and Profitability, composite ratio for expenses to net premium and return on investment is used in total.

*Operating Expenses to Net Premium Ratio: Operating Expenses/ Net Premium Underwritten × 100*

*Return on Shareholders' Investment: Shareholders' Investment Income/ Shareholders Investment × 100*

**Liquidity Ratio:** The ratio indicates whether the firm is in a position to pay its current liabilities within a month or immediately. As such, the ratio is calculated by dividing liquid assets by current liabilities. Liquid assets thus include those assets which will yield cash very shortly.

*Liquid Ratio: Liquid Assets/ Current Liabilities × 100*

The "CAMELS" rating is a common phenomenon for all banking system all over the world.

For Insurance Companies the reinsurance and actuarial performance indicators are added to those presented in CAMELS framework.

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