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A CONCEPTUAL FRAMEWORK OF CAMELS MODEL FOR PERFORMANCE EVALUATION OF BANKS IN INDIA

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ABSTRACT

Operational efficiency and optimum utilisation of the resources available in different sectors play a vital role in the developmental of an economy. Banking sector is considered as the pivotal sector for providing finance and liquidity services to the other sectors, facilitating them flourish and expand through speedy Capital Formation, Innovation, Monetisation along with formulating Monetary Policy etc and thus leading the economy towards progress and development. Therefore, analysing the banking sector through its performance evaluation has become a necessity for assessing the soundness of the financial system and the economy as well. For evaluating the financial performance of banking sector, CAMELS model or rating is used across the world. CAMELS model was first introduced by United States to ascertain overall performance of a bank with the name CAMEL. Later on, the letter S was added as sixth parameter making it as CAMELS model. CAMELS model basically measures the performance of banks with the applications of parameters like Capital Adequacy, Assets Quality, Management Efficiency, Earning Quality, Liquidity and sensitivity to market risk. This paper is just an attempt has to explain the concept of CAMELS model for performance evaluation of banks in India.

***KEYWORDS**: CAMELS, NVUA, Performance Evaluation of Banks in India.*

Introduction

The CAMELS model was originally developed as a supervisory rating system, in the United States in 1979-80 to classify bank's overall position. The model is basically based on a ratio analysis of the financial statements, combined with on-site examinations made by a designated supervisory regulator. In United States, the Federal Reserve, the Office of the Comptroller of the Currency (OCC), the National Credit Union Administration (NVUA) and the Federal Deposit Insurance Corporation (FDIC) are included in these supervisory regulators. CAMEL model or rating is applied to every bank and credit union in the U.S. and also implemented outside the U.S. by different banking supervisory regulators. The Uniform Financial Institution Rating System (UFIRS),commonly termed to the acronym CAMELS rating was accepted by the Federal Financial Institution Examination Council (FFIEC) on November13, 1979 and then afterwards by the National Credit Union Administration (NCUA) in October 1987. The ratings are given on the basis of a ratio analysis of the financial statement of the bank.

In India, The Reserve Bank of India (RBI) as the central bank of the county is empowered by the banking Regulation Act, 1949 to inspect and supervise commercial banks. The RBI executes these powers through on-site inspection and off-site surveillance. A working group under the chairmanship of shri S. Padmanabhan to review the overall supervision set up of banking sector was established by RBI in 1995. On the basis ofthe recommendations and suggestions given by the Padmanabhan committee, a rating system namely CAMEL model (based on an internationally adopted model) which was later modified as CAMELS was introduced for banks commencing from July, 1998 audit and inspection cycle. Committee recommended that the banks should be rated on a five-point scale (1 TO 5) based on the

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guideline of the international CAMELS rating model. This model measures operational as well as financial performance of banks on the five parameters: (1) C for Capital Adequacy (2) A for Asset Quality (3)M for Management (4) E for Earning and (5) L for Liquidity. Later on,a sixth parameter S relating to 'Sensitivity to Market Risk' has also been added to this CAMELS model.

Explanation of the Various Parameters of Camels Model

- **The First Parameter C - Capital Adequacy**

Capital Adequacy is the state of maintaining the sufficient amount of capital with the bank for the purpose of maintaining balance with the various risk exposures like credit risk, market risk and operational risk to absorb the potential losses and protect the bank's debt holder. The capital adequacy is depicted by the overall financial condition of the bank and its ability to meet the need for additional capital. In other words, the capital adequacy ratio is just a ratio of banks' capital to its risk exposure. A strong capital adequacy ratio or position strengthen the confidence of various stakeholders in the bank. Capital adequacy of a bank is mainly calculated by the ratio of Capital to Risk Weighted Assets (CRAR), followed by other various ratios. The higher the CRAR of a bank, the better capitalized it is considered.

- **The Second Parameter A - Asset Quality**

The percentage of banks loans that are declared as non-performing assets (NPA), is analysed under Asset Quality. The Asset Quality is determined with the motive to ascertain the ingredients of NPAs as a percentage of total assets and the movement of NPAs is also measured under it. The gross non-performing loans to gross advances ratio reflect the quality of credit decisions of the bank management. Higher NPAs depict the lower quality of the loans given by banks. The higher NPA effects can be noticed firstly, in the increase of the provisions and reduction in profits and secondly in the internal accruals for banks in the form of reduced profit. So, poor asset quality can be a big threat even for existence of the banks in long run.

- **The Third Parameter M - Management Strength**

A subjective analysis for assessing the performance of management is done under this parameter of CAMELS rating. A number of ratios are calculated and then analysed to depict the performance of management. The ratios are Total advance to Total Deposit Ratio, Net Profit per Employee Ratio, Return on Net Worth Ratio, Non - interest Expenditure to Total Assets Ratio etc. Non - interest Expenditure to Total Assets Ratio is based on variety of expenses. Higher the Non- Interest Expenditures Ratio, implies that bank management is not able to control some needless expenses.

- **The Fourth Parameter E - Earning Quality**

The CAMELS rating shows both the quantity and trend in earnings, as well as the factors that may affect the sustainability of earnings. Earning Quality is related to analysing the net profit made by bank taking in to account all the factors. The higher earnings reflect the strong earning capacity and healthy performance of the bank but simultaneously it is very important to notice that this good earning is on account of main or core banking, i.e. interest income on lending operations. This aspect has become important due to the fact that one big portion of bank's earnings is earned through non- core activities, like treasury operations, investment advisory services, corporate advisory services and many other activities. So, main concern of Earning Quality is to ascertain the portion of earning from core banking activities in total earnings of a bank to assure the sustainability in earnings.

- **The Fifth Parameter L - Liquidity**

Liquidity as a parameter to evaluate the performance, ascertains the ability of a bank to pay its liabilities as and when they get matured. The banks with Higher liquidity will not only be able to meet out the sudden cash demands aroused due to untimely withdrawals by the depositors, but also, sometimes in a liquidity crunch situation, can earn good interest income in call money market. A bank must have sufficient liquidity sources for present and future requirements and also must possess the assets that can be readily convertible in to cash without any undue loss. Indian banks are rated under the RBI approved banking rating model CAMELS also for the reason that liquidity of banks is measured under it by various ratios.

- **The Sixth Parameter S - Sensitivity to Market Risk**

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.

There is always a threat of market risk exposer of a Banking institute due to the fact that changes in market conditions can inversely affect its earnings and/or capital. Market Risk exposures can cause various losses with adverse changes in interest rates, foreign exchange rates, commodity prices, equity prices, etc. The primary risk among all aforementioned risks in most banks is an adverse change in the interest rate i.e., Interest Rate Risk (IRR), which will be mainly explained under this parameter.

Various Ratios for Calculation of the Parameters of Camels Model

For calculating the parameters of CAMELS model, some of the ratios that are being used by banking institutions in India as well as in abroad are being discussed below:

- **C - Capital Adequacy**
  - **Capital Risk Adequacy Ratio**

CRAR is a basically a ratio of Total Capital to Risk Weighted Assets of a bank. Total capital is categorised into two parts; Tier-I capital and Tier-II capital. Tier-I capital includes paid up equity capital, free reserves, intangible assets etc. While, Tier-II capital includes long term unsecured loans, reserves, hybrid debt capital instruments etc. The higher the CRAR, the stronger is considered a bank, as it ensures high safety against bankruptcy.

With the view to ascertain Risk Weighted Assets (RWA), weights are assigned to the funded and non-funded items and other off-balance sheet exposures as per the risk perception. Banks are expected to maintain unimpaired minimum capital funds to the prescribed ratio on the risk-weighted assets. These risk weights assigned to each asset are multiplied with the estimated amount of the respective assets, finally to find out the amount of risk-weighted assets. Risk weights for different assets also differ, e.g., 0% on a Government Rated Security and 20% on an AAA-rated foreign bank etc.

The ideal ratio of CRAR is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process. The Basel III norms which aim at making most banks' trading book activities more capital-intensive, stipulated a capital to risk-weighted assets of 8%. In India, a CAR of 9% for scheduled commercial banks and a CAR of 12% for Indian public sector banks is prescribed as per RBI norms.

CRAR = Total Capital/ Total Risk Weighted Credit Exposure

- **Debt Equity Ratio**

The Debt Equity ratio indicates the proportion of debt and equity in the total finances of a bank. The degree of leverage of a bank is depicted by this ratio. This is calculated as the proportion of total outside liability to net worth. 'Outside liability' includes total borrowing, deposits and other liabilities. 'Net worth' includes equity capital and reserve & surplus. Higher debt equity ratio indicates less protection for the creditors and depositors in the banking system. The ideal debt equity ratio for banking institutions in India and across the world is considered as 2:1.

Debt Equity Ratio =Borrowings/ (Share Capital + reserves)

- **Total Advance to Total Asset Ratio**

As the name depicts; this is a ratio of the total advances or credits advanced by a bank totheits total assets. Advances are the major component in the total working fund (total assets).A bank's aggressiveness in lending is assessed by this ratio which ultimately increases its profitability. Higher ratio of advances by bank to deposits (assets) is preferred to a lower one. Total advances also include receivables. The value of total assets is excluding the revolution of all the assets. RBI has enforced this ratio to be greater than 1/2.

Total Advance to Total Asset Ratio = Total Credit or Advances/ Total Assets or Deposits

- **Government Securities to Total Investments**

The risk-taking ability of a bank is ascertained by the percentage of investment in government securities to total investment. A bank's strategy to go for whether high profit high risk or low profit low risk is indicated by this ratio. This ratio indicates to the availability of alternative investment opportunities. Generally, government securities are considered as the safest debt instrument, therefore it carries the lowest return. Since government securities are risk free, the higher the government security to investment ratio, the lower the risk involved in a bank's investments. In India, as per RBI guidelines, Banks have to mandatorily invest 19.5 per cent of their total deposits in government securities, known as statutory liquidity ratio (SLR).

Government Securities to Total Investments = Government Securities/ Total Investment

- **Assets Quality**
  - **Gross NPA Ratio**

NPA is not just an interest income loss to the bank, but a principal loss as well. That means, if a bank has lent 100 Crore to a company with an outstanding loan amount of 60 Crores, the bank would lose these 60 Crores along with the future interest payments as well- when the company defaults. If the loss is much higher and there is every possibility that the customer's deposits may get eroded. Knowing that the banks would take extra risk in giving the loans, they need to continuously assess their loans and set aside an amount called as provision in the beginning itself to accommodate for any losses due to bad assets and has the money to bear that loss.

To check whether the bank's gross NPAs are increasing on quarterly basis or on yearly basis, the Gross NPA ratio is used. If the ratio indicates that the bank is adding a fresh stock of bad loan, it is just an indication that the bank is either not exercising enough caution while offering loans or is too lethargic in terms of following up with borrowers on timely repayments. The ideal Gross NPA ratio should always be zero as there is no better situation than that for a bank. But even then, according to international standards, 3% of the loans becoming NPA is acceptable. Therefore, a bank should make all its efforts to see that the percentage of NPAs do not cross at least 5%.

Gross NPA ratio = Gross NPA/ Total Loan

- **Net NPA Ratio**

NPA is associated with financing and bank can't stop financing and hence, bank will have to go with NPA. Net NPAs are calculated just by subtracting the aforementioned provisions out of the grass NPAs of banks. A high level of NPAs suggests high probability as well as a large number of credit defaults that may affect the profitability and net-worth of banks and also wear down the value of the assets. The quality of the bank's loan portfolio is measured by the Net NPA ratio. The higher the ratio, the higher the credits risk. At the same time, the lower the NPA, BETTER the efficiency. Generally, gross NPA, may be there, but net NPA should be less than 1 %.

Net NPA ratio = Net NPA/ Total Loan

- **Some other Ratios**
  - Net NPAs to total assets
  - Total investments to total assets ratio
  - Percentage change in net NPAs

- **M- Management Efficiency**
  - **Total Advance to Total Deposit Ratio**

The efficiency and ability of the bank's management depends in converting the available deposits excluding other funds like equity capital, etc., into high earning advances. Total deposits include demand deposits, saving deposits, term deposit and deposit of another bank. Total advances also include the receivables.

Total Advance to Total Deposit Ratio = Total Advance/ Total Deposits

- **Business per Employee**

Revenue per employee measures how efficiently a bank is able to utilize its employees. Ideally, a bank wants the highest business per employee possible, as it leads higher productivity. Generally, rising revenue per employee is a positive sign which indicates that the bank is able to get more sales/revenues out of each of its employee.

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

- **Profit per Employee**

The profit earned per employee is showed by this ratio. It is determined by dividing profit after tax earned by the bank by the total number of bank employees. The higher ratio shows good efficiency of the management.

Profit per Employee =Profit after Tax/ No. of Employees

- **E- Earning Quality**
  - **Return on Asset**

Net profit to total asset indicates the efficiency of the banks in utilizing their assets in generating profits. A higher ratio indicates the better income generating capacity of the assets and better efficiency of management in future.

Return on Asset = Net Profit/ Total Asset Dividend Pay-out Ratio:

- **Dividend Pay-out Ratios:** Dividend pay-out ratio represents the percentage of profit distributed with the shareholders. The higher the ratio, the bigger goodwill that leads the market value of the bank's share to strengthen more.

Dividend Pay-out Ratio = Dividend/ Net profit

- **Operating Profit to Average Working Fund Ratio**

This ratio indicates how much a bank can earn from its operations for every rupee spent on working funds. Average working funds are the total resources i.e., the total assets or total liabilities employed by a bank. It is daily average of total assets/ liabilities during a year. This ratio determines the operating profits generated out of working fund employed. The better utilization of the funds will result in higher operating profits. Thus, this ratio will indicate how a bank has employed its working funds in generating profits. The higher the ratio, the better it is.

Operating Profit to Average Working Fund ratio = Operating Profit/ Average Working Fund

- **Net Profit to Average Asset**

Net profit to average asset indicates the efficiency of the banks in utilizing their assets in generating profits. A higher ratio indicates the better income generating capacity of the assets and better efficiency of management. It is arrived at by dividing the net profit by average assets, which is the average of total assets in the current year and previous year. Thus, this ratio measures the return on assets employed. Higher ratio indicates better earning potential in the future.

Net Profit to Average Asset = Net Profit/ Average Asset

- **Interest Income to Total Income**

Interest income as a basic source of revenue to banks, indicates the ability of the bank in generating income from its lending. In other words, this ratio measures the income from lending operations as a percentage of the total income generated by the bank in a year. Interest income includes income on advances, interest on deposits with the RBI, and dividend income.

Interest Income to Total Income = Interest Income/ Total Income

- **Other Income to Total Income**

A major portion of a bank's other income is created by its fee-based income. The bank generates higher fee income through innovative products and adapting the technology for sustained service levels. The higher ratio indicates increasing proportion of fee-based income. The ratio is also influenced by gains on government securities, which fluctuates depending up on the interest rate movement in the economy.

Other Income to Total Income = Other Income/ Total Income

- **Some other Ratios**
  - Spread or net interest margin (NIM) to total assets
  - Operating profit to total assets
  - Non- interest income to total income
  - Return on average capital employed

- **L- Liquidity**
  - **Liquid Asset to Total Asset**

Liquidity is the ability of bank to meet its financial obligations. Bank lend or finances in relatively illiquid assets, but it funds its advances mostly with short-term liabilities. Thus, one of the main

challenges to a bank is ensuring its own liquidity under all reasonable conditions. Liquid assets include cash in hand, balance with the RBI, balance with other banks and money at call and short notice. Total assets include the revaluations of all the assets. The proportion of liquid asset to total asset indicates the overall liquidity position of the bank.

Other Income to Total Income = Liquidity Asset/ Total Asset

- **Government Securities to Total Asset**

Government Securities are the most liquid and safe investments. This ratio measures the government securities as a proportion of total assets. Banks invest in government securities primarily to meet their SLR requirements, which are around 19% of net demand and time liabilities or deposits. This ratio measures the risk involved in the assets held by a bank.

Government Securities/ Total Asset

- **Approved Securities to Total Asset**

Approved securities include securities other than government securities. This ratio measures the Approved Securities as a proportion of Total Assets. Banks invest in approved securities primarily after meeting their SLR requirements. This ratio also measures the risk involved in the assets held by a bank.

Approved Securities to Total Asset = Approved Securities/ Total Asset

- **Liquid Assets to Demand Deposits**

This ratio measures the ability of a bank to meet the demand from deposits in a particular year. Demand deposits offer high liquidity to the depositor and hence banks have to invest these assets in a highly liquid form.

Liquid Assets to Demand Deposit = Liquidity Asset/ demand Deposit

- **Liquid Assets to Total Deposit**

This ratio measures the liquidity available to the total deposits of a bank. Total deposits include demand deposits, savings deposits, term deposits and deposits of other financial institutions. Liquid assets include cash in hand, balance with the RBI, and balance with other banks and money at call and short notice.

Liquidity Asset to Total Deposit = Liquidity Asset/ Total Deposit

- **CASA to Total Deposit**

CASA stands for Current Account and Savings Account. For current accounts, banks usually do not give any interest, and the rate of interest on savings accounts is also very low; it lies between 3-4 %. So, CASA is the cheapest source of funds for banks.

CASA to Total Deposit ratio = Total CASA/Total Deposit)

- **S- Sensitivity to Market Risk**
  - **Interest Rate Risk Ratio**

In simple terms, interest rate risk is a balancing act. Banks are trying to balance the quantity of repricing assets with the quantity of repricing liabilities. The word Repricing literally means putting a different price on a product or commodity and thus repricing of assets and liabilities with a floating rate (interest rates) means a change in their prices due to changes in interest rates which can be called as interest resets. Therefore, the act of balancing is needed due to the reason when a bank has more liabilities re-pricing in a rising rate environment than assets reprising, the net interest margin (NIM) shrinks. Conversely, if your bank is asset sensitive in a rising interest rate environment, your NIM will improve because you have more assets reprising at higher rates.

Conclusion

Objective of CAMELS model is to provide a good, actual and consistent assessment of a bank's financial performance. Since, the banking sector constitutes a major chunk of the financial system, the CAMELS model is being increasingly used for evaluating financial performance of financial institutions. CAMELS model of rating is providing significant compliance data that is required by the supervisory authorities. The data captured through this model helps the supervisory bodies to address the supervisory concerns and to issue timely warnings to mitigate any negative effect on banks.

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