ANALYSING FINANCIALS STATEMENTS OF BANKS
OBJECTIVE OF ANALYSIS

The underlying objective of financial analysis is the comparative measurement of risk and return useful for making investment, credit or regulatory decisions. Usually these decisions require a very good understanding of the past events and the macro-economic environment prevailing then. This understanding represents the basis for estimating the future, be it a month, six months or several years. Information as to the past, provide a basis for assessing projecting the future earnings and cash flows.

Banking supervision, which is based on an ongoing analytical review of banks, continues to be one of the key factors in maintaining stability and confidence in the financial system. The analysis used in off-site surveillance is similar to that used by private sector analysts. The objectives are to:

- assess the capacity of the bank to operate safely and productively
- ensure compliance with regulatory requirement
- diagnose problems early,
- identify the reasons for problems (if any)
- assess problems in the context of the industry as a whole or a peculiarity of the bank
- formulate effective and practical course of action

Various persons are also interested in the performance of banks or various reasons:
- Creditors
- Government
- Equity investors
- General public
- Staff
- Various interest groups

The starting point for everyone is the financial statements of the business. Hence, the requirement for financial statements to be prepared in line with prescribed accounting standards.
FRAMEWORK FOR FINANCIAL ANALYSIS

The level of development of the financial sector in every economy will impact the nature of the financial statement to be analyzed and the interpretation to be made. Factors such as –

- The competitiveness and volatility of the market
- Stability of the financial systems and markets
- Adequacy of financial sector infrastructure
- Level of market discipline
- Sufficiency of the safety net

All these factors make it essential that the analyst have knowledge of the particular regulatory, market and economic environment of the entity being analyzed. An analyst must have a holistic perspective on the financial system even when considering a particular bank.

THE FINANCIAL STATEMENT

It is interesting to see what information published company accounts contain, and what they do not show. Published accounts normally contain information that is required by law or by various other regulations but not much else. Companies, quite naturally, like to keep their affairs secret from the eyes of competitors, and so are reluctant to publish more information than they have to meet regulations e.g. International Accounting Standards, Securities and Exchange Commission and Stock Exchange Regulations.

A Company’s annual report and accounts will contain the following statements and reports:
- Chairman’s statement
- Directors’ report
- Auditors’ report
- Profit and loss account
- Balance sheet
• Cash flow statement
• Explanatory notes to the accounts
• A five year summary of results

Item (d), (e), (f) and (g) are sometimes referred to collectively as the financial statements and will form the focus of our analysis.

In risk based supervision of banks however, it is essential that financials being reviewed are not just those at the end of the financial year – the more frequently the financials, the higher the level of market discipline of players and the earlier deterioration in condition can be picked up, thereby improving the chance of correction.

Peer comparison is also essential together with industry norms especially as it relates to significant issues such as profitability, structure of the balance sheet and capital adequacy.

**BANK’S BALANCE SHEET STRUCTURE**

The composition of a bank’s balance sheet is one of the key factors that determine the risk level faced by the institution. Growth in the balance sheet and resulting changes in the relative proportion of assets and liabilities, impact the risk management process. Monitoring key balance sheet components may alert the analyst to negative trends in relationships between asset growth and capital retention capability. It is particularly important to monitor the growth of low, non-earning, and off-balance sheet items.
1. Review the composition of assets over time (i.e. trend) in terms of
   - Structure which should reflect the business orientation, market environment, customer type and mix, economic environment, etc.
   - Likelihood of risk being taken by relative share of various asset items and changes in proportion over time
   - An assessment of risk return by comparing with net income earned.

2. Review each asset category briefly
   **Minimum (Liquid) Risk Assets** consists of cash (both local and foreign currency) in the vault and unrestricted funds with local banks including the Central Bank and tradable instruments held such as Treasury bills/certificates, etc. This represents a bank’s total holding towards meeting immediate withdrawal needs of its customers. What determines the appropriate proportion of liquid assets a bank should hold???
Core Risk Assets are core assets held for the business of banking. They include all the assets held for intermediation business, funds in offshore bank accounts, restricted funds with banks both local and foreign. They represent a bank’s main sources of income.

Non-banking assets are assets held as ancillary to the core business of banking. They represent items such as fixed assets, prepayments, etc.

LIABILITIES OR FUNDING

1. Just like on the asset side, review the composition of liabilities or the funding side of the balance sheet especially –
   • Type of liabilities essentials and is reflective of liability generation strategies
   • Review funding structure in terms of
     o Type of maturities – impact on cost of operations, profit potential and risk level
     o Type of products
     o Types of customers
     o Concentration in funding structure
   • Strategies on deposit attraction and retention

2. Review each liability category briefly also
   “Hot” or Purchased Funds are borrowings from the money market from financial institutions such as discount house, other banks to cover short-term shortfall in the liquidity needs of a bank. Always review inter-bank positions on a net basis i.e. deduct takings from placements. They are funding that are quick to disappear once there is a change in the money market. They are therefore not to be depended upon long-term hence the need to ensure they are lower than the holding of liquid assets.

Deposits & Other Liabilities represent the core funding for a bank. The structure of a bank’s deposit base has implications as to its profitability and long-term solvency. It is important that this funding source represent the
main source of funds invested in core banking assets for long-term sustainability.

It is also important to review deposits in terms of their currency i.e. what proportion are in local versus foreign currency denominated. This will give a few as to the extent of foreign exchange risk being taken.

Assess the deposit structure vis a vis your knowledge of the bank’s policy and deposit retention strategies.

Other liabilities are simply payables i.e. funds held by the bank on behalf of customers as a result of pending transactions e.g. draft issued, cheques in course of clearing, payables, etc. They represent free funds with which the bank can invest short-term pending when those instruments are presented for payment. It is also important to ensure deposits have not been intentionally misclassified to avoid liquidity ratio computations or deposit insurance premium payment.

**EXPECTED RELATIONSHIPS IN A BANK’S BALANCE SHEET**

Certain relationships must exist in a bank’s asset and funding sources to assure stability and long-term solvency. These relationships are –

a. Non-banking assets must be completely financed by long-term funds i.e. capital and reserves. The total amount of long-term funds available to a bank must at least equal the total value of non-banking assets on its balance sheet.

b. “Hot” or Purchased funds must be less than the value of minimum risk assets so as to assure the bank’s ability to repay at short notice without impairing its ability to continue in business.

c. Balance of risk assets vs. minimum risk assets should reflect level and structure of the bank’s deposits, other liabilities and unutilised lending commitments.
OVERALL

a. Assess level of balance sheet growth
   • Too quick growth may represent unjustified risks in terms of inadequate support administratively and/or management information systems
   • Too slow – take risks that are different or not clearly understood
b. Structure should be pre-determined while maintaining adequate liquidity and risk profile
c. Clear performance targets and a consistent conceptual framework is essential for long-term stability

COMMON-SIZE FINANCIAL STATEMENTS

The starting point of financial analysis is the Common-size financial statements. The financial statement expresses each item as a percentage of a common base as follows:

1. Balance sheet – percentage of total assets
2. Profit and loss account – percentage of Gross earnings

BENEFITS

• Helps to identify important characteristics and any differences stemming from reporting choices and competitive strengths or drawbacks.
• Eliminates the effect of size and highlights economic issues.
• Useful for trend analysis
• Highlights factors that require further analysis.

FINANCIAL ANALYSIS

It is generally acknowledged that a bank’s financial condition can be related to a fairly consistent set of financial variables. These variables include measures of capital adequacy, C, asset quality, A, profitability, P, and Liquidity, L.
The analysis undertaken is based to a large extent on regulatory reporting data and annual accounts. It is undertaken to make past performance comparisons for individual banking institutions and also for setting benchmarks of financial performance for different “peer groups” in order to identify outlier banks.

Financial ratio analysis for individual institutions generate warning if a ratio exceeds a pre-determined critical level, or lies within a set interval, or is an outlier as far as past performance is concerned. Peer group analysis is undertaken on the basis of financial ratios for a group of banks taken together. It is used to ascertain whether an individual bank is performing in a significantly different way from its peers and the reason for such significant difference, which may or may not imply supervisory concern.

The constitution of peer groups under this approach is generally done on the basis of –

- asset size or
- business segment i.e. domestic commercial, foreign banks, cooperative banks or savings bank.

It is also possible to construct a customized peer group for comparisons e.g. banks belonging to a particular geographical region.

Within each peer group, the financial ratios can be sorted from best to worst and an average calculated. Individual banks whose ratios have deteriorated relative to the averages of their peer group can then be identified.

Financial ratios can also be used to identify trends in the banking sector as a whole or in specific segments and to carry out a systematic analysis across the selected field. It is also used in a limited manner for performing stress testing and scenario analysis, e.g. the expected condition of banks under adverse financial conditions or different economic situations.”

Culled from an article from BIS website

For Financial ratio analysis to be meaningful, it must be done within a broad
framework of –

- Risk assessment, risk management, changes or trends in such risks
- Institutional aspects such as quality, style of corporate governance and management
- Adequacy, completeness and consistency of bank’s policies and procedures
- Effectiveness and completeness of internal controls
- Accuracy of Management Information Systems and information support

Internationally, risk assessment of banks is based on the CAMELS rating system viz:
1. Capital adequacy, C
2. Asset quality, A
3. Management, M
4. Earnings, E, also termed Profitability
5. Liquidity, L
6. Sensitivity to market risk, S

In this course, we shall be evaluating the ratios used to assess 1, 2, 4, and 5. There are other components for the assessment of each key area that are more quantitative than qualitative in nature. Management and Sensitivity to market risks are more difficult to assess from financials as they require internal information and are mainly processed based.

**CAPITAL ADEQUACY**

Capital is required as a buffer against unforeseen losses and is not a substitute for good management. It is required in every business to provide stability and absorb losses thereby protecting depositors and other creditors in the effect of liquidation. Capital should be permanent, have no fixed charge on earnings, and must be legally subordinated to depositors and creditors. It should therefore be provided by those who truly have a surplus!

Capital Adequacy seeks to measure the level of “shock absorbing” capacity
available in a bank’s financial position. It is customary for the Central Bank, in each jurisdiction to issue specific guidelines in this regard and penalties for contravention of this requirement will usually include the revocation of licenses given.

By Basle rules, the major requirements of capital adequacy are:

- Tier 1 capital is a bank’s core capital and includes paid-up share capital, which must be at least a minimum specified by regulations, share premium and disclosed or published reserves. The disclosed or published reserves are statutory reserve, revenue reserve, exchange difference reserve, irredeemable preference shares and other non-distributable reserves.

**Statutory reserve** - In most countries, there is a requirement for every profitable bank to maintain a statutory reserve account. The reserve is made from annual appropriations out of profit after taxation. Statutory reserves are non-distributable profit. Each country has specific regulations in its banking law as to the amount to be appropriated annually.

- Tier 2 capital is supplementary capital. It includes revaluation surplus, general provisions, hybrid capital instruments such as redeemable preference shares and subordinated debt.

**Limitations:**

1. It is required that at least 50% of a bank’s capital base should consist of Tier 1 capital.
2. Subordinated debt will be limited to a maximum of 50% of Tier 1 elements.
3. Where general provisions represents latent but unidentified losses present in the balance sheet, the amount of such provisions will be limited to 1.25% or exceptionally, to 2% of risk assets.
4. Asset revaluation reserves which take the form of latent gains or unrealized gains on unrealized securities will be subject to a discount of 55%.

**Note:**
Adjusted capital is calculated as Tier 1 capital less goodwill, other intangible assets and deferred losses, plus Tier 2 capital less investments in unconsolidated banking and financial subsidiaries and associates.

The calculation is used to work out adequacy of Adjusted Capital to Risk Weighted Assets.

**Adjusted Capital to Risk Weighted Assets**

Internationally, banks are required to maintain a minimum ratio of 8% between their adjusted capital and risk-weighted assets. This means that a bank is required to cover every $100 of risk-weighted assets with at least $8.00 of capital.

<table>
<thead>
<tr>
<th>Risk Weight</th>
<th>Balance sheet Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>Cash</td>
</tr>
<tr>
<td></td>
<td>Claims on Central governments and Central banks denominated and funded in local currency</td>
</tr>
<tr>
<td></td>
<td>Other claims on OECD central government and central banks</td>
</tr>
<tr>
<td></td>
<td>Claims collateralized by cash of OECD central government securities or guaranteed by them</td>
</tr>
<tr>
<td>0, 10, 20 or 50%</td>
<td>Claims on domestic public-sector entities, excluding central government, and loans guaranteed by such entities.</td>
</tr>
<tr>
<td>(at national discretion)</td>
<td></td>
</tr>
<tr>
<td>20%</td>
<td>Claims on multilateral development banks and claims guaranteed by, or collateralized by securities issued by such banks</td>
</tr>
<tr>
<td></td>
<td>Claims on banks incorporated and loans guaranteed by banks incorporated in OECD countries</td>
</tr>
<tr>
<td></td>
<td>Claims on banks incorporated in countries outside the OECD with residual maturity of up to one year and similar loans guaranteed by these banks.</td>
</tr>
<tr>
<td></td>
<td>Claims on non-domestic OECD PSE excluding central government, and loans guaranteed by such entities</td>
</tr>
<tr>
<td></td>
<td>Cash items in process of collection</td>
</tr>
<tr>
<td>50%</td>
<td>Loan fully secured by mortgage on residential properties that is or will be occupied by the borrower or that is rented.</td>
</tr>
<tr>
<td>100%</td>
<td>Claims on the private sector</td>
</tr>
<tr>
<td></td>
<td>Claims on banks incorporated outside the OECD with a residual</td>
</tr>
</tbody>
</table>
maturity of over one year
Claims on central governments outside the OECD (unless denominated and funded in the local currency)
Claims on commercial companies owned by the public sector
Premises, plant and equipment and other fixed assets
Real estate and other investments (including non-consolidated investment participations in other countries)
Capital instruments issued by other banks (unless deducted from capital)
All other assets

100%
Direct credit substitutes like SBLC, acceptances, general guarantees of indebtedness
Sale and repurchase agreements and asset sales with recourse
Forward asset purchases, forward deposits and partly paid shares and securities which represent commitments with certain draw-down

50%
Transaction related contingencies like performance/bid bonds, warranties and SBLC related to particular transactions
Note issuance facilities and revolving underwriting facilities
Other commitments (e.g. formal standby facilities and credit lines) with an original maturity of over one year

Risk Weight | Balance sheet Category
---|---
20% | Self-liquidating trade-related contingencies such as documentary credits collateralized by the underlying shipments
0% | Commitments with original maturity of less than one year or which can be unconditionally cancelled at any time.

In calculating a bank’s risk weighted assets, the Central Bank in Nigeria, for instance, attaches the following weights to the bank’s assets:

<table>
<thead>
<tr>
<th>TYPE OF ASSET</th>
<th>RISK WEIGHTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Cash &amp; equivalents</td>
<td>0</td>
</tr>
<tr>
<td>Government securities</td>
<td>0</td>
</tr>
<tr>
<td>Quoted investments</td>
<td>50</td>
</tr>
<tr>
<td>Placements with discount houses</td>
<td>0</td>
</tr>
<tr>
<td>Placements with banks outside Nigeria</td>
<td>0</td>
</tr>
<tr>
<td>Loans to FGN</td>
<td>0</td>
</tr>
</tbody>
</table>
Loans to States and Local Government 20
Residential Mortgage loans 50
Other loans 100
Interest receivable 100
Other assets 100
Deferred losses Adjustment to Tier I capital
Restricted funds 0
Unconsolidated subsidiaries & associates Adjustment to Tier II capital
Other long-term investments 50
Fixed assets & intangibles 100
Acceptances & direct credit substitutes 50
Guarantees, bonds etc. 20
Short-term self liquidating contingencies 20

ADJUSTED CAPITAL/RISK WEIGHTED ASSETS (BASLE RATIO)

Measures the capital available to support the risks undertaken by the bank. Each asset category has associated risk and consequently different capital back-up requirement. Current international standard is 8%.

Other factors to consider include:

1. Changes in volume of capital and its structure over time especially where there is a reduction in core capital.
2. Changes in the structure of the risk weighted assets. It usually signals a change in business strategy.

**Asset Quality**

Asset quality, which hinges strongly on credit risk management, lies at the heart of survival for a vast majority of banks. The profile of who to lend to must be transparent. Credit risks associated with the key banking products must be understood and managed. The maturity profile of loan products interacts strongly with liquidity risk management. Asset classification and subsequent
provisioning against possible losses impacts not only the value of the loan portfolio but also the true underlying value of the bank’s capital.

Asset quality is impacted strongly by the underlying process and policies governing the entire credit process. It is essential to find out what the portfolio management strategy, level of concentrations, types of loans i.e. by customer type, products, tenor, etc.

Asset Quality ratios measures the quality of the bank’s assets i.e. the recoverability of the risk assets and the revenue earning potential of the bank. The higher the quality of a bank’s assets, the more stable and consistent its profit potential.

| RISK-WEIGHTED ASSETS/TOTAL ASSETS & CONTINGENTS | Measures the level of risk in the balance sheet of a bank. Each asset item on the balance sheet of a bank has an associated risk factor. The higher the ratio, the higher the risk being taken by the bank. |
| NON-PERFORMING LOANS/TOTAL LOANS | Gives the ratio of the bank’s total loan portfolio that is non-performing. The higher the ratio the lower, the quality of the portfolio |
| LOAN LOSS EXPENSE/INTEREST INCOME | Measures the proportion of interest income lost to poor credit. The higher the ratio, the lower the quality of the bank’s credit portfolio. |
| LOAN LOSS PROVISIONS/NON-PERFORMING LOANS | Gives the proportion of provisions already made on bad and doubtful loans. The higher the ratio, the lower the impact of existing bad loans on the bank’s future profitability. |

Or the following quantitative issues, which may indicate a deterioration in asset quality in the future, if not now –
- Culture
- Self dealing
- Compromise of credit culture
- Anxiety over income
• Incomplete credit information
• Complacency over perceived ‘good’ customers
• Lack of supervision
• Technical incompetence
• Poor selection of risks

Earnings or Profitability

Profitability is an indicator of a bank’s capacity to carry risk and/or increase its capital. It also indicates competitiveness and confirms the quality of management. Profit provides a cushion against short-term problems and is a good source of retained earnings which increases capital and consequently, the capacity to grow the business.

Supervisors should welcome profitable banks as contributors to the stability of the banking system only after being assured of the quality of the earnings. The income statement, especially the common size one, reveals the sources of a bank’s earnings, their quantity, quality and profile of its expenditures. It should serve as a confirmation of a bank’s business orientation.

The analyst should review the income statement to ascertain the following –

• Source of profitability and hence sectors of the business or economy upon which the entity is dependent
• Quality and quantity of earnings especially given the risk taken
• Quality of the loan portfolio i.e. asset quality
• Taxation and its impact on the choice of products
• Dividend payout and level of earnings retention
• Expense recognition policies that may distort earnings

An assessment of earnings mix gives an indication of the bank’s areas of dependence for profit:

| Fund-based income | A |

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Net interest income + Other income

\[ \text{Fee-based income} \quad \text{B} \]

Net interest income + Other income

Note: \( A + B = 1 \)

**Earnings Ratios**

<table>
<thead>
<tr>
<th>Earnings Ratio</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE - TAX RETURN ON ASSETS (ROA)</td>
<td>Measures the return attained for every naira of resources provided for the bank. The higher the ratio, the more profitable the business.</td>
</tr>
<tr>
<td>PRE - TAX RETURN ON EQUITY (ROE)</td>
<td>Measures the return attained on every naira of equity provided for the bank. The ratio should be compared to the return on treasury bill (the risk free investment alternative).</td>
</tr>
<tr>
<td>NET INTEREST MARGIN (after provisions for loan losses)</td>
<td>Measures the residue from intermediating business. Can be negative, which is indicative of poor pricing and/or poor credit quality.</td>
</tr>
<tr>
<td>OPERATING EXPENSES/NET EARNINGS</td>
<td>Measures efficiency of operations. The higher the ratio, the lower the efficiency of operations</td>
</tr>
<tr>
<td>PROFIT BEFORE TAX/GROSS EARNINGS</td>
<td>Measures proportion of gross earnings that “filters” to the bottom line. It is a measure of earnings quality.</td>
</tr>
<tr>
<td>Average Yield on Average Total Assets</td>
<td>Measures the average yield on all earning assets of the bank</td>
</tr>
</tbody>
</table>
Liquidity

Although regulators attempt to specify minimum liquidity requirements, the management of liquidity risk is a complex interaction between expected cash flows and interest rate forecasts. The source of deposits adds to the volatility of funds, the maturity structure assists in projecting cash flows and diversification of funding sources and maturities enables a bank avoid losing large deposits at short notice.

Liquidity ratios seek to measure the bank’s ability to meet customers’ withdrawal requests. A bank’s deposit Mix, gives an indication as to the stability of funding available to the bank as well as its cost of funds.

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand deposits/ Total customer deposits</td>
<td>Cheap, stable</td>
</tr>
<tr>
<td>Savings deposits/ Total customer deposits</td>
<td></td>
</tr>
<tr>
<td>Time deposits/ Total customer deposits</td>
<td>Costly, Unstable</td>
</tr>
<tr>
<td>Inter-bank takings/ Total customer deposits</td>
<td></td>
</tr>
</tbody>
</table>

Inter-bank funds are the most expensive, followed by time deposits and then savings deposits. Therefore a bank, which is heavily funded by inter-bank, or time deposits would have a high cost of funds, whilst one that is heavily funded with demand deposits would have a low cost funding base. As the funding cost of a bank determines the quality of risks that it can take on the asset side of its balance sheet, a “high cost”-funding funding base is usually indicative of a high risk asset base.

Key Indicators of Liquidity
How much Liquidity is adequate??
- Depends on the bank’s funding structure
- Concentration in deposit base
- Commitments made on the asset side of the balance sheet
- Expectations in interest rate changes

LIMITATIONS OF FINANCIAL ANALYSIS
Financial ratio and peer group analysis is seen as a valuable complement to bank examinations. Over the years, it has evolved from a simple set of calculations to a formal risk assessment tool. It is however generally recognized that financial ratio and peer group analysis is not sufficient on its own to identify the complex nature of risks undertaken by banks, particularly large banks and specialized institutions.

Peer group analysis measures a bank’s performance relative to that of other banks of similar size and activity. Thus if an entire group deteriorates, the relative performance of each bank may not change, even though the banks have become riskier.

The integrity, timeliness and processing of data as well as sound accounting practices are pre-condition for the effectiveness of ratios as a predictor of risk.

Other limitations of ratio analysis are:
**Economic assumptions** – implicit in ratio analysis is the assumption of linear proportionality i.e. that the relationship between the numerator and denominator should be similar irrespective of size.

**Benchmarks** – There are no benchmarks to indicate an optimal level for any ratio. Evaluating ratios depend on the question posed by the analyst. As stated earlier, using industry average and peer group analysis will be useful.

**Timing and window-dressing**