METHODOLOGY FOR ASSESSING THE VIABILITY AND SUSTAINABILITY OF RFIs' BUSINESS MODELS

DECEMBER 2023

EXPOSURE DRAFT

The Bank of Ghana (BOG) has issued the Methodology for Assessing the Viability and Sustainability of RFIs' Business Models as an **Exposure Draft** to solicit comments and inputs from the banking industry and the general public.

This **Internal Document**, forms part of BOG's Supervisory Tools aimed at fostering a holistic and forward-looking approach to supervision. The document is, therefore, **NOT** a directive to the industry but has been exposed to the public to promote transparency.

In light of this, the Exposure Draft shall be made available on the BOG's website at www.bog.gov.gh for a period of not less than fourteen (14) days from the date of the publication of the Exposure Draft, for comments.

All comments shall be sent to the Bank of Ghana via email at bsdletters@bog.gov.gh by 31st January 2024. The Bank of Ghana shall consider all material comments received and may provide a written explanation for comments that were incorporated into the final document or otherwise.

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Introduction

This enhanced approach to Business Model Analysis (BMA) will be used by Bank of Ghana (BOG) to guide the assessment of the viability of current business models and sustainability of long-term strategies of banks and Specialized Deposit-taking Institutions (SDIs) in Ghana, herein referred to as Regulated Financial Institutions (RFI), and to facilitate a more effective, proactive and forward-looking supervision by enabling supervisors to timely identify RFIs' risks and vulnerabilities, including those that could lead to failure. The BMA will ultimately be integrated into other supervisory processes including the Risk Based Approach to Supervision (RBS) and Supervisory Review Process (SRP) under Pillar 2 of the Basel Capital Framework to ensure a more holistic view of banks' risk profile and optimal supervisory outcomes. Under RBS, BMA will be used to inform the examiners' understanding of the banks' business strategies, operating environment, profitability including its key drivers, and vulnerabilities as part of the Knowledge of Business (KOB).

Without undermining the responsibility of the Board and Management of RFIs in running and organizing their deposit taking business, or indicating preferences for specific business models, BOG's examiners will conduct regular BMA, in line with the adopted Risk Based Approach to Supervision (RBS), to assess business and strategic risks and to further determine:

a) the **viability** of the RFI's current business model on the basis of its ability to generate acceptable returns over the following twelve (12) months; and

b) the **sustainability** of the RFI's strategy on the basis of its ability to generate acceptable returns over a forward-looking period of at least three (3) years, based on its strategic plans and financial forecasts.

1. Objectives of Business Model Analysis (BMA)

The objective of the BMA is to:

a) better understand the drivers of profitability of individual RFIs including whether profitability is achieved through weakening of credit standards, reliance on short-term funding or increase in risk not commensurate with RFIs' risk appetite;

b) assess the ability of RFIs to adjust, adapt and change their business models in response to changes in business environment;

c) identify vulnerabilities of RFIs' business model and assess their impact on RFI's profitability, liquidity and ability to continue as a going concern;

d) evaluate consistency between a RFI's business strategy, risk appetite, governance arrangement, internal controls and resource allocation;

e) facilitate timely supervisory intervention in RFIs with business model deficiencies which may include preventing RFIs with weak profitability or solvency challenges from resorting to excessive risk-taking behaviour; and

f) support supervisory actions by identifying the root causes of a RFI's weakness.

Box 1: Unsustainable business model and bank failures

Vulnerabilities related to unsustainable business models are often the root causes of failure of banks and other financial institutions. This is evidenced by the well-documented cases of Silicon Valley Bank (SVB), Northern Rock, Royal Bank of Scotland (RBS), Halifax Bank of Scotland (HBOS) and Washington Mutual (WaMu). Further, banks in Ghana which were heavily invested in longer-term Government of Ghana (GOG) securities were highly impacted by the Domestic Debt Exchange Programme (DDEP) with some banks being required to recapitalize due to their solvency ratio falling below the minimum regulatory requirement. Most frequent cause of bank failure include:

a) Switching from a low-risk business model to a high-risk one

b) Pursuing rapid growth without having appropriate risk culture and risk management capacity

c) Poorly conceived and unrealistic business plans and/or inadequate execution of such plans

2. Inputs into Business Model Analysis

The assessment of viability of individual RFIs will be based on several information sources including:

a) board approved strategic plans including financial projections and underlying economic assumptions;

b) audited financial statements for the previous three years (profit or loss, balance sheet and notes to financial statements) and other reports from external audit;

c) prudential returns and other submissions for previous three years including, where relevant: Internal Capital Adequacy Assessment Process (ICAAP) document, Capital Restoration Plans (CRPs), etc;

d) internal board packs for previous three years and relevant board minutes;

e) reports from equity analysts and credit analysts for listed and credit rated banks;

f) relevant findings from on-site examination, thematic reviews and deep-dive analyses (special supervisory exercises);

g) relevant industry surveys and publications; and

h) where applicable, banks' recovery and resolution plans in consultation with BOG's resolution office.

As is currently being practiced, BOG's bank supervisors will continue to engage in dialogue with the RFIs' board, senior management, business heads, control and risk management functions, and internal and external auditors aimed at:

a) better understanding the RFIs' strategy, financial projections and underlying assumptions;

b) assessing the ability of RFIs to respond to changes in the financial and economic environment;

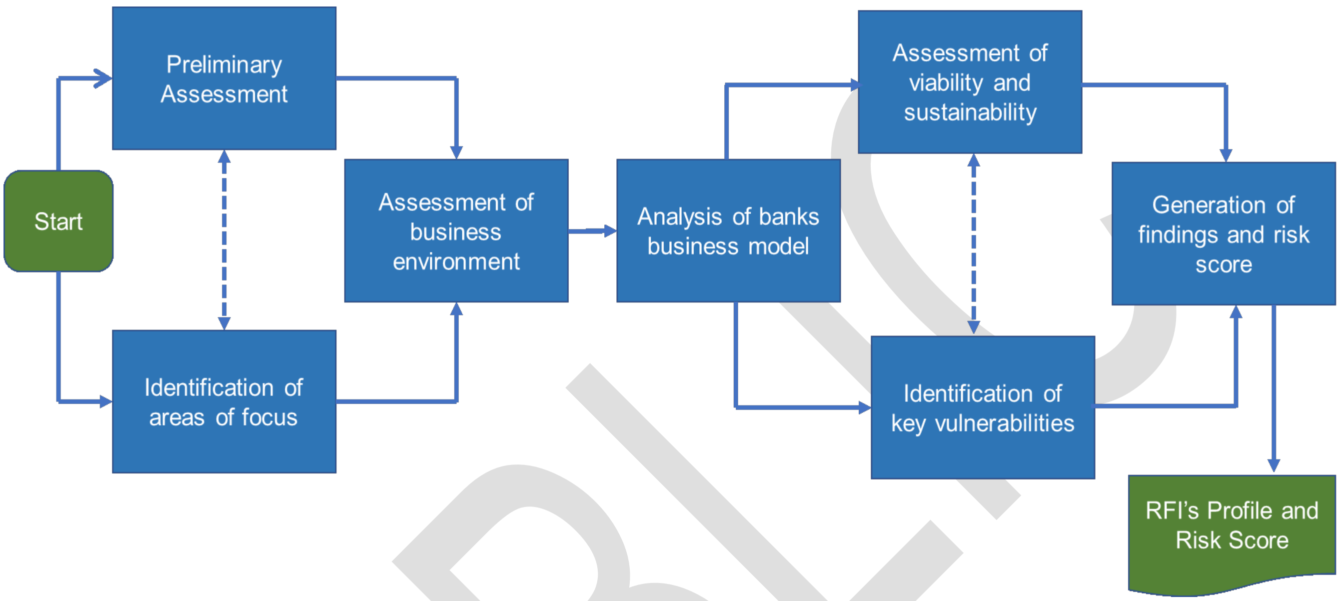
c) gaining insight on opportunities, threats and vulnerabilities that RFIs could face in the foreseeable future; and

d) understanding RFIs' perception of their strengths and weaknesses relative to their peers.

3. Steps in Business Model Analysis

The enhanced approach takes into consideration the principle of proportionality and will involve the following steps.

Figure 1: Business Model Analysis



3.1 Preliminary Assessment

This involves the analysis of an RFI's main business lines, geographical spread, and market position to identify it's: geographical footprint, key subsidiaries and branches, main business lines and key products. This assessment will be used to:

a) determine the materiality of the RFI's business lines based on contribution to profits, risk and organisational or statutory priorities, and to identify what the BMA should focus on (see section 4.2 below for further details);

b) identify the relevant peer group for the RFI for peer comparison purposes based on, amongst others, products or business lines targeting the same customers or sources of profits, and

c) support the application of the principle of proportionality in the assessment and ongoing supervisory engagement with the RFI. Specifically, for the larger and more vulnerable RFIs, the assessment of viability and sustainability of business model will be done on a more frequent basis and at a more granular level (e.g., subsidiary, geographical location, business line or product level) as compared to smaller and less vulnerable RFIs. The more vulnerable RFIs will include those which are operating more complex and/or rapidly evolving business models.

The metrics that will be considered (at the point of assessment and changes over the previous three years) include:

a) contribution of the geographical locations (regional & international), subsidiaries and product lines to overall revenues and/or costs,
b) share of assets by geographical location (regional and international), subsidiaries and business lines,
c) market position, and
d) share of Risk Weighted Assets (RWAs) by business lines and asset classes.

3.2 Identification of Areas of Focus

Examiners should focus on the RFIs' significant business lines in terms of viability or future sustainability of current business model, and/ or most likely to increase the RFI's exposure to existing or new vulnerabilities. Examiners should consider the:

a) materiality of individual business lines,
b) previous supervisory findings including on business model and overall strategy,
c) internal and external audit findings on viability and sustainability of RFI's specific business lines,
d) any recent significant changes in the RFI's business model and strategy, performance of the RFI in comparison to its peers,
e) and findings and observation from the preliminary business model assessment including those that point to a potential exposure of the business model to Money Laundering and Terrorist Financing (ML/TF), climate-related risks and risks due to the increasing adoption of financial technologies by RFIs.

3.3 Assessment of Business Environment

This assessment, which will inform examiners view on the plausibility of RFI's strategic and macroeconomic assumptions, will consider current and potential future business conditions in which the RFI operates in or likely to operate in based on its business model, and mix and will include analysis of the potential direction of macroeconomic and financial trends, and the strategic intentions of peer institutions. The assessment will be used to identify:

a) the key macroeconomic variables and financial market trends driving the performance of the RFI, which may include Gross Domestic Product (GDP) and interest rates, etc;

b) competitive landscape including the sub-sector in which the RFI is operating and how it could evolve considering the activities of the peer group, and

c) trends in the market likely to impact on the performance and profitability of the RFI including regulatory, technological and customer demographic trends. In the assessment, supervisors will leverage on the outcome of RFI's SWOT and PEST analysis as per their strategy[1].

3.4 Analysis of an RFI's Business Model

The aim is to understand how an RFI operates and generates profits or economic value for shareholders. The analysis is based on a mix of quantitative and qualitative approaches.

Quantitative analysis involves a review of current and evolution of an RFI's:

a) profit or loss accounts including the key drivers and components and in particular the breakdown of income streams and costs, provisions for credit loss impairment and key ratios, e.g., Net Interest Margin (NIM) and its components such as funding costs and interest income, cost-to-income ratio and sectoral Non-Performing Loan (NPL) ratios;

b) balance sheet structure and related metrics including the asset and liability mix, the funding structure, changes in risk-weighted assets and regulatory capital, maturity profile of assets and liabilities, loan portfolio risk indicators (sectorial distribution, accounting and prudential classification, maturity profile, collateral coverage, expected credit loss etc) and key ratios such as Return on Equity (ROE), Return on Assets (ROA), CET 1, Tier 1 capital, leverage, loan-to-deposit, funding gap, and other liquidity metrics;

c) concentration of income streams, and to asset classes, sectors and funding sources (deposit mix, borrowings, 50 largest depositors etc); and

d) risk appetite including the set limits and targets by risk type, RFI's adherence to the set limits and targets, and alignment between the banks risk appetite and risk-taking capacity given its capital and liquidity position.

[1] SWOT Analysis involves the assessment of an RFI's: strengths, weaknesses, opportunities and threats while PEST Analysis involves the assessment of political, economic, social and technological factors that could impact on an RFI's performance.

Qualitative analysis, on the other hand, will involve analysis of:

a) external factors that are likely to impact on the success of the RFI's business model. These may include third-party service providers, intermediaries and specific regulatory drivers;

b) capacity of the RFI to execute its business strategy. These may include the quality of IT platforms, operational efficiency, and adequacy of the resources to ensure that the business strategy is well executed in a timely manner and to manage the risks and vulnerabilities due to change in strategy, if any;

c) quality of relationship with key stakeholders such as customers, suppliers and partners. These may include the RFI's reliance on its reputation, the effectiveness of branches and other distribution channels, the loyalty of customers and the effectiveness of partnerships including with Telco's and FinTech's;

d) areas in which the RFI has a competitive advantage over its peers. These may include quality of the RFI's IT platforms, or other factors such as the RFI's global network, the scale of its business or its product and market development; and

e) Quality of management of concentration and other material risks that could impact on sustainability of a bank's business model, including those related to exposure to: climate-related risks, risks related to increasing adoption of financial technologies, and Money Laundering and Terrorist Financing (ML/TF).

3.5 Analysis of the Strategy and Financial Projections

Examiners would need to undertake a quantitative and qualitative forward-looking analysis of the RFI's financial projections and strategic plan to understand the assumptions, plausibility and riskiness of its business strategy. The analysis should take into account:

a) the overall strategy of the RFI which should include both the key quantitative and qualitative management objectives;

b) projected financial performance covering the same or similar metrics as those covered in the quantitative analysis of the current business model under section 4.4 above;

c) success drivers of the strategy and financial projections. This may include determining the key changes proposed to the current business model to meet the objectives;

d) the plausibility and consistency of the assumptions made by the RFI that drive its strategy and forecast which may include assumptions related to macroeconomic factors, market dynamics, growth in volumes and margins etc; and

e) the RFI's execution capabilities based on the available and projected resources, and management's track record in adhering to previous strategies and forecasts, the complexity and ambition of the strategy set compared to the current business model, and the capabilities to execute the strategy from a risk management perspective.

3.6 Assessment of viability and sustainability of the business model

This involves the analysis of RFI's financial projections and strategic plan to better understand the key assumptions and their reasonableness, and risks to the business strategy. The analysis will include an in-depth review of the approved business strategy, financial projections, Key Success Factors (KSF) for the strategy and financial projections, planning assumptions and scenarios, and the ability of the RFI to execute its plan.

Assessment of Viability of Business Model – Following the conduct of the analyses covered under section 4.3 (assessment of business environment) and 4.4 (analysis of an RF's business model), examiners should form, or update, their view on the viability of the RFI's current business model on the basis of its ability to generate acceptable return over the next twelve (12) months, given its financial performance, key success drivers and dependencies and business environment. The assessment of viability of the business model will be based on:

a) comparison between Return on Equity (ROE) and Cost of Equity (COE) or equivalent measure. Consideration should be given to whether the business model generates a return above cost of equity on the basis of ROE against COE. Other metrics such as ROA or Risk-Adjusted Return on Capital (RAROC), as well as considering changes in these measures through the economic cycle, may also support this assessment.

b) assessment of the appropriateness of the funding mix to the business model and strategy. Volatility or mismatches in the funding mix may indicate that a business model or strategy, even one that generates returns above costs, may not be viable or sustainable given the current or future business environment. The quality and quantity of capital should be assessed for its impact on the viability; and

c) testing of alignment between the RFI's business strategy and the risk appetite and particularly whether the RFI's business model or strategy relies on a risk appetite that is either high or not consistent with those of peer institutions to generate sufficient returns [2].

Box 2: Computation of Cost of Equity (COE) Risk Adjusted Return on Capital (RAROC)

Cost of Equity (COE)

The Cost of Equity is the return that a firm theoretically pays its shareholders to compensate for the risk they are exposed to as a result of investment in their capital.

Cost of Equity = Risk-Free Rate of Return + Beta × (Market Rate of Return – Risk-Free Rate of Return)

Where:

- Beta measures the expected move in a bank's stock relative to movements in the overall market.
- Risk-Free Rate of Return is the return that accounts for the time value of money. That is, return on a hypothetical investment that is safe from default risk.
- Market Rate of Return refers to price changes in a broad market index such as the Ghana Stock Exchange Composite index (GSE-CI)

Risk Adjusted Return on Capital (RAROC)

$$RAROC = \frac{\text{Net Interest Income} + \text{Other Income} - \text{Operating Costs} - \text{Liquidity Costs} - \text{Expected Credit Loss}}{\text{Economic Capital (Total Regulatory Capital Requirements)}}$$

Where:

- Expected Credit Loss = Exposure at Default (EAD) x Loss Given Default (LGD) x Probability of Default (PD);
- Liquidity cost = Refinancing costs for the bank which should take into account the refinancing maturity and currency and, where applicable, Fund Transfer Pricing (FTP);
- Economic Capital = Minimum regulatory capital requirements as per the Capital Requirement Directive (CRD) including, where applicable, any regulatory Pillar 2 capital requirements.

The RAROC at the enterprise, subsidiary and business line (mapped to the Basel eight business lines for operation risk under standardised approach) should be compared with the hurdle rate and where RAROC is less than the hurdle rate then consideration should be given to requiring the bank to take the appropriate remedial action so as to preserve capital.

[2] The expectation is that the RFIs' risk appetite will take into account their risk-taking capacity, which is determined by their capital adequacy position, liquidity buffers and risk management capacity.

Features of unviable business model will include, amongst others:

a) Return on equity below the cost of equity;
b) Inability to return the bank to solvency status over a reasonable period based on supervisory judgement;
c) Cost-to-income ratio of above 100% over an extended period;
d) Interest expense exceeding interest income; and
e) Significant volatility, concentration or mismatch (maturity & currency) in funding mix.

Assessment of Sustainability of RFI's strategy – Having conducted the analyses covered in Sections 4.3 to 4.5 above, examiners should form, or update, their view on sustainability of the RFI's strategy on the basis of its ability to generate acceptable returns over a forward-looking period of at least three (3) years based on its strategic plans and financial forecasts and given the supervisory assessment of the business environment. Assessment of sustainability of the strategy will be based on:

a) the reasonableness of the key business assumptions and financial projections given the supervisory view on the current and future business environment;
b) the potential impact of future changes in business environment on projected financial performance of RFI; and
c) the degree of alignment between the current business model and strategy. These may include determining the complexity and ambition of the strategy compared to the current business model as well as the consequent likelihood of success based on the RFI's likely execution capabilities (this could be measured by the RFI's success in executing previous strategies of a similar scale or the performance against the strategic plan so far and taking into account the capabilities to execute the strategy from a risk management perspective).

Features of unsustainable business model include, amongst others:

a) targets that are based on unrealistic assumptions;
b) excessive concentrations to specific customer base, sectors, asset class, sources of income and funding;
c) excessive risk-taking behavior not supported by the bank's capital and liquidity position;
d) excessive volatility of earnings and investments in complex or unique products without appropriate controls, oversight or understanding of the risk; and

e) increasing reliance on volatile and unstable sources of funding.

3.7 Identification of inherent risk and vulnerabilities

Having conducted the BMA, examiners should assess the key vulnerabilities of the RFIs business model and strategy, considering any of the following:

a) Likely adverse/poor financial performance;

b) reliance on unrealistic business strategy;

c) any concerns with the RFI's funding structure;

d) excessive concentrations and/ or volatility of income and profitability;

e) excessive risk taking given the RFIs risk appetite and risk-taking capacity;

f) significant external issues that are likely to impact on the performance of the RFI; and

g) environmental, social and governance (ESG) risks (including climate-related financial risks) and their impact on the viability and sustainability of the business model.

The outcome of this step will be:

a) a supervisory view on the viability of the RFI's business model and sustainability of its strategy, and quality of measures that has been put in place by the RFI to address any emerging risks related to business model or strategy, and

b) proposed supervisory interventions to address any identified business model vulnerabilities.

3.8 Rating of Business Model Risk

Consistent with the current RBS framework, rating of business model risk (Low, Moderate, Above Average and High) for banks and the SLEMS ratings for SDIs (**Please see Appendix I below for further details)**, will take into consideration:

a) historical volatility of banks earnings,

b) diversity of and inter-dependence between revenue streams,

c) cost structure, asset concentrations,

d) quality of business strategy including plausibility of assumptions,

e) historical comparison between actual performance and projections,

f) research and development capability, and competitive position in its chosen market.

Box 3: Features of RFIs with high business model risk
RFIs with high business model risk will normally have: – very weak and highly unstable returns; – returns that rely on unacceptable risk appetite or funding structure; – extreme asset concentration or concentration of income sources; – very poor competitive position in its chosen markets and involvement in business lines that have limited prospect; – financial forecasts based on very unrealistic assumptions about the future business environment; and – strategic plans that are not plausible given the current business model and management execution capabilities.

4. Appendix I – Scoring of Business Model Risk

Consideration	Supervisory Risk Score			
	Low	Moderate	Above Average	High
Returns over the past 3 years - ROE, ROA	Strong and stable. Acceptable given its risk appetite and funding structure	Average compared to peers and/or historic performance. Broadly acceptable given RFIs risk profile and funding structure	Often weak or not stable or relies on risk appetite or funding structure that raise supervisory concerns	Very weak and highly unstable or rely on unacceptable risk appetite or funding structure
Asset concentrations	No material asset concentration or unsustainable concentrated sources of income	Some asset concentration	Significant asset concentration	Extreme asset concentration
Concentration of funding sources	No material concentration of funding sources	Some concentration of funding sources	Significant concentration of funding sources	Extreme concentration of funding sources
Proportion of nonstable income sources or income dependent on macroeconomic and market factors	Not material	Some concentration of income sources	Significant concentration of income sources	Unsustainable concentration of income sources
Competitive position in its chosen market	Strong competitive position and a strategy that is likely to reinforce this.	Competitive pressure in one or more key markets	Weak competitive position in its chosen markets	Very poor competitive position
Assumptions for financial projections	Plausible	Optimistic	Overly optimistic	Very unrealistic

Consideration	Supervisory Risk Score			
	Low	Moderate	Above Average	High
Appropriateness of strategic plans given current business model and execution capabilities of the management	Appropriate	Reasonable	May not be plausible	Not plausible