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**PRUDENTIAL INDICATORS
IN THE WAMZ : A GAP ANALYSIS**

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Table of Contents

EXECUTIVE SUMMARY	ii
1.0 Introduction.....	1
2.0 Overview of Prudential Rules/Indicators	3
3.0 Analysis of Key Prudential Indicators in WAMZ Countries	4
3.1 Regulatory Capital to Risk-Weighted Assets (Capital Adequacy Ratio).....	4
3.2 Non-performing Loans (NPLs) to Gross Loans	7
3.3 NPLs Net of Provision to Capital.....	9
3.4 Leverage (Debt/Equity)	13
3.5 Large Exposure	14
3.6 Single Obligor Limit	16
3.7 Insider Related Lending	17
3.8 Profitability Measures	19
3.8.1 <i>Net Interest Margin to Gross Income</i>	<i>19</i>
3.8.2 <i>Return on Assets (ROA) and Return on Equity (ROE).....</i>	<i>21</i>
3.9 Liquidity.....	23
3.9.1 <i>Core Liquid Assets to Total Assets.....</i>	<i>23</i>
3.9.2 <i>Core Liquid Assets to Short-term Liabilities.....</i>	<i>23</i>
3.10 Net Open Position to Capital.....	25
4.0 Summary, Conclusion and Recommendations	26
4.1 Summary.....	26
4.2 Conclusion and Recommendations.....	27
References	29

EXECUTIVE SUMMARY

***D**uring its seventh meeting on the activities of the College of Supervisors of the West African Monetary Zone (CSWAMZ), held on 16th January, 2014, in Accra, Ghana, the Committee of Governors (CoGs), observed that there were different measurement of key prudential indicators across Member States. The CoGs consequently directed the CSWAMZ to undertake a comprehensive study to identify the gaps in the measurement or calculation of key prudential indicators across the Zone and suggest ways for harmonizing them. The paper is in pursuant of the directive of the COGs - to undertake a gap analysis of key prudential indicators in the WAMZ and recommend ways of harmonizing them. The study adopted survey based techniques to identify the different practices in the measurement of prudential indicators across the Zone.*

The findings of the study indicate some level of convergence in the measurement of some indicators (for example capital, earnings and liquidity) and degrees of divergence or disparities in measuring other indicators (for instance NPLs, provisioning for NPLs and Exposure limits). A key implication of the study is that there are difficulties in comparing countries on indicators that are measured differently across Member States. This poses a particular challenge for WAMZ since its Member States are aspiring for single currency through the convergence of macroeconomic policies including the harmonizing of financial sector policies. The findings therefore underscore the need to harmonize prudential regulations in the WAMZ not only to ensure comparability across all the key indicators but also to provide a consistent framework for strengthening financial stability in the Zone, a major objective of the CSWAMZ.

To facilitate the harmonization of prudential regulations, the paper proposed the introduction of a harmonised framework for setting common standards for financial regulation and supervision, such as the establishment of regional Financial Stability Board to set the relevant supervisory standards that take into account regional peculiarities. This may provide a catalyst to the establishment and operationalization of a common supervisory authority upon the launch of the single currency. Furthermore, the paper called for the adoption a model or common banking law or code that encapsulate as much as possible the core principles on effective banking supervision. In addition, increased coordination should be adopted in the implementation of financial sector reforms, especially regulatory reforms in the banking sector, in order to facilitate convergence of prudential

regulations. Capacity building programmes for bank supervisors on contemporary issues in bank supervision should also be strengthened in order to empower them to develop modern rules and techniques for regulating and supervising banks in the Zone.

1.0 Introduction

The financial landscape in the West African Monetary Zone¹ (WAMZ) has witnessed significant changes particularly with regard to the increase in cross-border banking activities in the last decade. Many experts have attributed this to the consolidation of the banking industry in Nigeria, the increasing level of trade, relatively low minimum capital requirement in other Member States and the perceived interest rate differentials. In addition, cross-border capital flows to bank subsidiaries increased largely in compliance with regulatory requirements as well as on account of the introduction of new financial products. These developments gave rise to the need for close supervision of banks, especially against the backdrop of the recent global financial crises and the need to prevent contagion. Furthermore, the financial crisis showed that financial instability can occur even in an environment where monetary policy had achieved low and stable inflation. The implication is that sound monetary policy is a necessary but not a sufficient condition for financial stability and sustainable economic growth. Safeguarding the stability of banks and other financial intermediaries was therefore given greater emphasis by regulators in Member States of

the WAMZ. The Central Banks of the WAMZ consequently established the College of Supervisors of the West African Monetary Zone (CSWAMZ) in 2010 to enhance supervisory co-operation, harmonize supervisory processes, build capacity of bank examiners, deepen information sharing and strengthen financial stability in line with international efforts aimed at improving global financial stability.

Since its establishment, the CSWAMZ has emerged as a key platform for deepening cooperation among supervisors, harmonizing supervisory processes as well as strengthening information sharing and capacity building among others. Through its quarterly meetings and publications, the CSWAMZ communicates its assessments of developments in the banking systems including the risks to the system and the effort undertaken to mitigate the impending risks. At the seventh meeting of the Committee of Governors (CoGs) of the CSWAMZ, it was observed that there were different measurement of key prudential indicators across Member States. The situation implied that there were difficulties in comparing countries on identical

¹ The WAMZ is a group of six (6) West African countries (The Gambia, Ghana, Guinea, Liberia,

Nigeria and Sierra Leone) with the joint objective of attaining economic and monetary union.

indicators which are measured differently across Member States. For WAMZ Member States, aspiring for single currency through the convergence of macroeconomic policies including the harmonizing of financial sector policies, this may pose a serious challenge for financial regulation and supervision. The CoG therefore directed the CSWAMZ to undertake a comprehensive study to identify the gaps in the measurement or calculation of key prudential indicators across the Zone and suggest ways for harmonizing them.

The objective of the paper is mainly in pursuant of the directive of the COG - to undertake a gap analysis of key prudential indicators in the WAMZ and recommend ways of harmonizing them. As this is a maiden study on prudential indicators in the sub-region, it will contribute significantly to the literature and will assist Member State to not only identify the gaps in their respective computation of key prudential indicators but to take steps to bridge the gap and harmonize the measurement of indicators. The study adopted survey based techniques to identify the different practices in the measurement of prudential indicators across the Zone. A

questionnaire on key prudential indicators was sent to all central banks in Member States. The responses were analyzed by comparing countries' computation of each indicator to the standard international definitions recommended by the Basel Committee or the International Monetary Fund (IMF) or both. Each indicator was analyzed separately and scored as 'YES' if consistent with international standards and 'NO' if otherwise. This approach will help us identify the similarities or differences in the computation of indicators across Member States. A similar approach is adopted by the Basel Committee in the assessment of compliance with the Core Principles for effective banking supervision.

The remaining part of this paper is organized thus: section II gives an overview of prudential indicators and why they are important while section III undertake a comparative analysis of key prudential indicators across the zone in order to identify the gaps. Section four IV presents the summary and conclusion as well as policy recommendations.

2.0 Overview of Prudential Rules/Indicators

Prudential rules/indicators are matrices or measures adopted to maintain the stability of the financial system. These include standards adopted to ensure the solvency and financial soundness of institutions as well as protecting depositors and investors from losses resulting from inefficient management, fraud and bankruptcies of financial service providers. At the minimum, prudential rules/indicators intend to create a uniform framework for the operation of the institutions within the market.

Prudential rules/indicators may be generally divided into two broad groups. The first group includes those influencing the conditions of access to the market and intended to prevent the emergence of entities with doubtful reputation or without the financial capacity necessary for the operations they intend to implement. Specifically, they include those that control the acquisition of qualifying holdings, the reputation of the Board of Directors, and the imposition of an amount for the start-up share capital. The second group of prudential rules/indicators are those aimed at controlling the risks associated with financial activities. They typically include the rules on the adequacy of own funds to risks (credit, market and exchange risks) incurred by the credit institutions, the limits to the concentration of risks on a single customer or

group of related customers, the limits of financial participations and fixed assets, and rules on the constitution of provisions intended to face effective losses or to cover potential risks. In order to control risks, the supervisory authorities utilize preventive and corrective prudential instruments.

The failure to appropriately calibrate risks through prudential rule/indicators has been associated with instances of systemic bank failures. Recent events in global financial markets (financial crisis) have heightened the need for effective regulation of banking institutions. The financial crisis showed that banks did not always consistently measure, aggregate and control the various risks across their books and operations. In addition, the liberalization of financial markets worldwide has raised the level of cross-border risks facing banks. Prudential regulation has therefore arisen as a tool for mitigating overall risks and containing the losses that bank could face in the event of a sudden counterparty. For example, the Basel III capital regulation has enabled banks to develop a reserve of capital (capital buffers) which can be used in times of difficulty. Furthermore, against the backdrop of regular bank failures and increased globalization of financial markets, the need to harmonize prudential regulations and measures has been brought to the front burner.

3.0 Analysis of Key Prudential Indicators in WAMZ Countries

The analysis of prudential indicators would involve an assessment of the various laws which are outside the scope of this work. Therefore, this work was done mainly for the second group of prudential measures which are mainly aimed at controlling risk and strengthening financial stability. This approach is very critical in gauging the attitude of Member States to financial stability and ascertaining the potential risk to financial stability through the gaps in the measurement of prudential indicators. It also helps to compare the performance of countries on key risk indicators.

As mentioned earlier, the study adopted survey based techniques by administering questionnaires to identify the different

practices in the measurement of prudential indicators across the Zone. The responses to the questionnaire, which was sent to all central banks in Member States, were analyzed by comparing countries' computation of each indicator to the standard international definitions recommended by the Basel Committee or the International Monetary Fund (IMF) or both. Each indicator was analyzed separately and scored as 'YES' if consistent with international standards and 'NO' if otherwise. In the end, Member States were assessed based of their compliance with international standards. The approach of the study is similar to the Basel Committee's methodology for assessing compliance with the Core Principles for effective banking supervision.

3.1 Regulatory Capital to Risk-Weighted Assets (Capital Adequacy Ratio)

The capital adequacy ratio (CAR) is calculated using the definition of regulatory capital and risk-weighted assets. The Basel Standard recommends that banks' maintain minimum capital adequacy ratios to ensure that they can absorb a reasonable level of losses before becoming insolvent. Essentially, setting a minimum CAR will help to protect depositors and promote the

stability and efficiency of the financial system.

Regulatory Capital

The two components of regulatory capital are Tier 1 and Tier 2 capital. Tier 1 capital serves to determine if a bank can absorb losses without ceasing operations. It mainly includes ordinary share capital and disclosed reserves. Tier 2 capital is supplementary bank

capital that includes items such as revaluation reserves, undisclosed reserves, hybrid instruments and subordinated term debt. Tier 2 capital determines if a bank can absorb losses in the event of a winding-up and so provides a lesser degree of protection to depositors.

Risk Weighting

Under the Basel Capital Accord Framework (Basel I), risk weighting was typically done by measuring credit risk exposures through adjustments to the amount of assets shown on a bank's balance sheet. The adjustments are made based on risk weights. For example, bank loans are weighted, in a broad manner, according to their degree of riskiness. Loans to Governments are given a 0% weighting whereas loans to individuals are weighted at 100%. Off-balance sheet contracts, such as guarantees and foreign exchange contracts also carry credit risks. These exposures are converted to credit equivalent amounts which are also weighted in the same way as on-balance sheet credit exposures. On-balance sheet and off-balance sheet credit exposures are added to get total risk weighted credit exposures.

According to the Basel Standards, the minimum capital adequacy ratios that apply are:

- Tier-one capital to total risk weighted credit exposures to be not less than 4 percent;
- Total regulatory capital (tier one plus tier two less certain deductions) to total risk weighted credit exposures to be not less than 8 percent.

Under Basel II, the risk weighted assets are based on credit risk, operational risk and market risk. Credit risk weighting is done in line with credit risk charge under Basel I while the risk weighting for operational and market risks are based on the recommendation of Basel II.

The WAMZ Evidence

In the WAMZ, there is some degree of convergence among countries in defining regulatory capital to risk-weighted assets. All countries adopt the standard Basel definition of the CAR, that is, Tier 1 plus Tier 2 capital net of deductions divided by the sum of the risk weighted assets (see Table 1). However, some countries exercise national discretion to limit the inclusion of Tier-two capital. In line with the Basel recommendation, Ghana restricts Tier 2 Capital to 100% of Tier 1 Capital while subordinated term debt is accepted at a maximum of 50% of the core capital element (Tier 1 Capital) and subject to adequate amortization arrangements. The

Gambia restricts Tier 2 capital to 50% of Tier 1 Capital while subordinated debt is accepted at 50% of Tier 1 capital. Nigeria on the other hand, limits the inclusion of Tier 2 capital to one-third of Tier 1 in calculating regulatory capital. In Liberia, the inclusion of Tier 2 capital is limited to 50% of Tier 1, while Sierra Leone restricts subordinated debt to 50% of Tier 1 Capital, based on the Basel I guidelines, with deposit liabilities not permitted to exceed 25 times the capital base.

In the WAMZ risk weighted assets for the computation of capital adequacy are based on credit risk charges in line with Basel I. In Ghana, the risk weighted assets are based on credit risk charge, market risk charge and operational risk charge to align with the introduction of Basel II. Nigeria has adopted Basel II and hence computes risk weights for capital adequacy ratio using the Basel II framework. The Gambia, Guinea, Liberia and Sierra Leone apply full risk weighting for on and off balance sheet items to cover credit, market and operational risk.

Table 1: Assessment of Similarity in the Definition of Capital Adequacy Ratio

	Capital Adequacy Ratio	Regulatory Capital	Risk Weighting
The Gambia	YES	YES	YES (with some national discretion)
Ghana	YES	YES	Basel Standards (with some national discretion)
Guinea	YES	YES	Basel Standards
Liberia	YES	YES	Basel Standards with national discretion
Nigeria	YES	YES (but national discretion is applied to Tier 2 Capital)	Basel Standards
Sierra Leone	YES	Yes (but national discretion is applied to Tier 2 Capital)	According to the Basel Capital Accord (but with national discretion)

NB; YES: implies consistent with the Basel Standards, No: means different from the Standard, and N/A means Not Available

Source: Authors' Compilation

3.2 Non-performing Loans (NPLs) to Gross Loans

This indicator is intended to identify problems with asset quality in the loan portfolio. It is calculated by using the value of NPLs as the numerator and the total value of the loan portfolio (including NPLs and before the deduction of specific loan loss provisions) as the denominator.

Non-performing loans (NPLs)

Large variations exist in terms of the classification, scope, and content of non-performing loans. Such a problem potentially adds to disparity and uncertainty in the classification of loans. Different jurisdictions use different ways to classify loans. For example, in the United States, federal regulated banks are required to use the five-tier loan classification system prescribed by the Bank for International Settlements (BIS), namely; Pass, Special Mention, Substandard, Doubtful, and Loss. Presently, the five-tier system is the most popular risk classification method with variants in the use of the classification terminologies such as standard or current for pass, other loans especially mentioned for special mention loans. However, in some countries, there is a dual system of reporting according to their domestic policy guidelines as well as the five-tier system. According to BIS, the

standard loan classifications are defined as follows:

- (1) **Passed:** means solvent loans (prompt principal and interest payments);
- (2) **Special Mention:** Loans to enterprises which may pose some collection difficulties, for instance, because of continuing business losses;
- (3) **Substandard:** Loans whose interest or principal payments are longer than three months in arrears of lending conditions are used. The banks make 10% provision for the unsecured portion of the loans classified as substandard;
- (4) **Doubtful:** Full liquidation of outstanding debts appears doubtful and the accounts suggest that there will be a loss, the exact amount of which cannot be determined as yet. Banks make 50% provision for doubtful loans;
- (5) **Virtual Loss and Loss (Unrecoverable):** Outstanding debts are regarded as not collectable, usually loans to firms which applied for legal resolution and protection under bankruptcy laws. Banks make 100% provision for loss loans.

According to BIS, NPLs comprise the loans in the last three categories (Substandard, Doubtful and Loss), and are further

differentiated according to the degree of collection difficulties.

In addition, according to the Compilation Guide on Financial Soundness Indicators (IMF, 2008), “*loans can be categorized as nonperforming when payments of principal and interest are past due by three months (90 days) or more, or interest payments corresponding to three months (90 days) or more have been capitalized (reinvested into the principal amount), refinanced, or rolled over (that is, payment has been delayed by agreement)*”. However, loans with payments less than 90 days past due can be recognized as nonperforming under national supervisory guidance if evidence exists that the debtor has filed for bankruptcy.

Critically, when a loan has been classified as nonperforming, it (and/or any replacement loan(s)) should remain so classified until written-off or payments of interest and/or principal are received on the initial or subsequent loans that replace the original loan. Going by the ‘Compilation Guide’, replacement loans include loans arising from rescheduling or refinancing the original loan(s) and/or loans provided to make payments on the original loan.

The paper considered the BIS definition of NPLs as the Standard definition for two main

reasons. First, the standard definition makes it possible to compare the non-performing loan problem across countries and banks. Second, the BIS definition is a prudential definition for NPLs, which includes loans with uncertainty in addition to the virtual loss, thus, it enable banks to address the NPL problems before it cause disasters.

Gross Loans

Gross loans imply the total credit exposure to customers. According to the IMF (2008), data on gross loans should exclude accrued interest on nonperforming loans and lending among deposit takers in the reporting population that are part of the same group.

The WAMZ Evidence

The survey analysis in Table 2, indicates that with the exception of Guinea, WAMZ countries generally adopt the BIS recommendation of classifying loans in a tier-system with NPLs being the sum of loans from the Substandard, Doubtful and Loss categories). In addition, all Member States include a duration of 90, 180 and 365 days past due for substandard, doubtful and loss categories, respectively. In practice, qualitative factors are also used in classifying loans so that the classifications are not based only on time.

In terms of the definition of gross loan, all Member States include the aggregate credit exposure. However, it is not clear whether deductions are made for accrued interest on NPLs and interbank lending. In Ghana

interest on NPLs are kept in suspense accounts and not included as part of gross loans. Interbank lending is not customer loans and is not included in gross loans calculations.

Table 2: Assessment of Similarity in the Definition of the NPLs to Gross Loan

	Non-performing Loans	Gross Loans	NPLs Ratio
The Gambia	YES	YES	YES
Ghana	YES	YES	10% OR LESS
Guinea	NO: National Discretion is applied (Unpaid credit after a maturity of 6 months or restructured facility for which settlement terms were breached).	YES (but without deduction of provisions or accrued interest on NPLs)	10% OR LESS
Liberia	YES	YES (but without deduction of provisions or accrued interest on NPLs)	10% OR LESS
Nigeria	YES	YES (with the deduction of provisions or accrued interest on NPLs)	5% OR LESS
Sierra Leone	YES	YES (but without deduction of provisions or accrued interest on NPLs)	10% OR LESS

NB; YES: implies consistent with the BIS definition, No: means different from Definition, and N/A: implies Not Available

Source: Authors Compilation

3.3 NPLs Net of Provision to Capital

This indicator aims to provide a broader measure of nonperforming assets in order to ascertain the potential impact of NPL losses on capital, which is uncertain in most circumstances since banks sometime expect to recover some of the potential NPL losses.

It is calculated by taking the total value of NPLs less the value of specific loan provisions as the numerator and capital as the denominator. If it is the case that collateral are widely used in the banking system, then the indicator is the ratio of Provisions for

NPLs plus Collateral net of NPLs over capital (IMF, 2008). This is to give a more realistic picture of the potential for losses by banks than when the ratio is calculated by excluding collateral.

Provisions for NPLs

Provisions for loan losses are general and specific provisions. Those relating to NPLs are specific loan provisions. Banks are therefore required to make specific provisions when there is an indication that there has been deterioration in the credit quality of a loan wherein the borrower has defaulted in making interest or principal payments when due. This implies that loans should be generally identified as impaired when payments are contractually in arrears for a minimum number of days, reflecting payment practices for the type of loan in question. Based on BIS definition of NPLs, specific provisions should be made for the three classification categories of loans (Substandard, Doubtful and Loss). National discretion is used in specifying the specific charges for the various NPL categories. Though OLEM is not defined as NPL in computing specific provisions, this category is included since the category is specifically identified. The following are recommended

charges used by most countries for the various specific provisions:

- OLEM – 10%
- Substandard – 25%
- Doubtful – 50%
- Loss – 100%

In addition, a bank should be required to make a general provision to account for the general risk of default inherent in the credit portfolio. Under the Basel I regime general provision is equivalent to 1% of pass (standard or current) loans.

According to the Basel II framework, general provisions or general loan-loss reserves should be equal to:

- i. 1.25 percentage points of weighted risk assets or to the extent a bank uses the Standardized Approach for credit risk; and
- ii. 0.6 percentage points of credit risk-weighted assets or to the extent a bank uses the Internal Risk Based (IRB) Approach for credit risk.

The security of collateral should be examined when evaluating the loan portfolio since the consideration of collateral can have significant impact on the amount of provisioning in each category of loans classified.

Loan Loss Provisions: The Basel Regime

Bank supervisors and regulators favor an “expected loss” approach in provisioning for credit losses. Under the Basel Capital Accord I (Basel I), banks’ provisions include identified losses (specific provisions) and unidentified losses that are expected to occur (general provisions). Specific provisions are those associated with identified loan losses or deterioration, while general provisions pertain to losses that have not arisen yet but expected to emerge based on an evaluation of economic and financial factors and the borrower’s ability to pay. The BCBS (2006) recommends that valuation of loan impairment not be based solely on prescriptive rules or formulae but also be enhanced by judgment from bank management. Under Basel II, loan loss provisioning requirements incorporate the notion of default, past due and other indicative elements. Even though Basel II provides no specific definition of non-performing loan (NPL), the judgment of which is at the discretion of each jurisdiction, the threshold of 90 days overdue is implied. According to Basel II, a default is considered to have occurred if the borrower is unlikely to pay its credit obligations to its bank or if a payment is past due more than 90 days. General provisions, as defined by Basel II, are for possible or latent losses that are not yet identified. Such provisions are sometimes calculated as a percentage of total loans. Alternatively, they can be calculated by applying progressively higher percentages for lower quality assets, reflecting the increasing probability of losses.

Source: Supervisory Roles in Loan Loss Provisioning in Countries Implementing IFRS (IMF, 2014)

Capital

The Basel Committee defines capital as ‘equity capital’ and disclosed reserves. Equity capital is issued and fully paid ordinary shares or common stock and non-cumulative perpetual preferred stock (but excluding cumulative preferred stock). This definition of capital is common to almost all banking systems and it is distinctly visible in

the published accounts of commercial banks. It is also the basis on which most market judgments of capital adequacy are made and it has a critical bearing on profit margins and a bank’s ability to compete. This emphasis on equity capital and disclosed reserves reflects the importance that the Basel Committee attaches to securing an appropriate quality,

and the level, of the total capital resources maintained by major banks.

The WAMZ Evidence

In terms of provisioning for nonperforming assets, WAMZ countries generally use national discretion in applying charges for the NPLs categories. The analysis in Table 3 indicates that the charges are nonetheless similar particularly for the ‘doubtful’ and ‘loss’ categories (50% and 100% respectively). While The Gambia, Liberia and Sierra Leone apply a charge of 20% for

‘substandard’ loans, Ghana applies a charge of 25%. In Guinea, charges are applied to the guaranteed and nonguaranteed loans based on the duration of the “past due”. There is also a large disparity among members in the charges for OLEM.

Regarding the definition of capital used in the computation of the indicator, it is largely similar across Member States and based on the Basel Standard, that is, ‘equity capital’ and disclosed reserves. However, in Guinea, regulatory deductions are made.

Table 3: Assessment of Similarity in the Definition of NPLs Net of Provision to Capital

	Provisions for NPLs	Capital	NPLs Net of Provision to Capital Threshold
The Gambia	OLEM – 5% Substandard – 20% Doubtful – 50% Loss – 100% General – 1% Restructured - 5%	YES	Less than 100% is acceptable
Ghana	Substandard – 25% Doubtful – 50% Loss – 100%	Yes	Not stated
Guinea	Nonguaranteed 3-6months – 50% 6-9months – 80% 9-12months – 100% Guaranteed 6months – 30% 12months – 50% 18months – 80% 24months – 100%	Yes (but with regulatory deductions)	Not stated

Liberia	OLEM – 5% Substandard – 20% Doubtful – 50% Loss – 100% General – 1%	Yes	Not stated
Nigeria	OLEM - 0% Substandard - 10% Doubtful - 50% Loss - 100% General - 2%	Yes	20%
Sierra Leone	Substandard – 20% Doubtful – 50% Loss – 100%	Yes	Not stated

NB; YES: implies consistent with the Basel Standards, and No: means different from the Standard.

N/A: implies Not Available

Source: Authors' Compilation

3.4 Leverage (Debt/Equity)

Leverage is defined as the ratio of total debt to equity. It is principally the amount of debt used to finance banks' assets. There are three main types of leverage, namely: balance sheet, economic, and embedded. Leverage allows a financial institution to increase the potential gains or losses on a position or investment beyond what would be possible through a direct investment of its own funds (IMF 2008). No single measure can capture all three dimensions simultaneously. However, the indicator is based on balance sheet concepts of leverage because it is the most visible and widely recognized form. Whenever an entity's assets exceed its equity base, its balance sheet is said to be leveraged. Banks typically engage in leverage by

borrowing to acquire more assets, with the aim of increasing their return on equity.

Debt

The IMF FSI Compilation Guide defines debt as the outstanding amount of those actual current and non-contingent liabilities that require payments of principal and/or interest by the debtor at some point(s) in the future. Hence, debt comprises all financial liabilities including currency and deposits, loans, debt securities, and other liabilities.

Equity

Equity is basically the Tier I capital which is paid up capital plus reserves. "Capital and reserves" is defined as the equity interest of

the owners in an enterprise and is the difference between total assets and liabilities. It represents the amount available to absorb unidentified losses (IMF, 2008).

The WAMZ Evidence

Table 4 shows that the computation of the Leverage indicator is largely similar across Member States. The definition of both debt and equity is consistent with the standard definition in the IMF FSI compilation guide. However, in Nigeria, total debt excludes customer deposits.

Table 4: Assessment of Similarity in the Definition of Leverage

	Debt	Equity	Leverage
The Gambia	YES	YES	YES
Ghana	YES	YES	YES
Guinea	YES	YES	YES
Liberia	YES	YES	YES
Nigeria	YES (but customer deposits are excluded)	Yes	YES
Sierra Leone	YES	YES	YES

NB; YES: implies consistent with the Standard IMF Definition, and No: means different from the Standard Definition. N/A: implies Not Available.

Source: Authors' Compilation

3.5 Large Exposure

The Basel Core Principles (BCPs) define a “large exposure” as an exposure that is more than 10% or more of eligible capital. According to Basel Committee, eligible capital should be Common Equity Tier 1 (CET1) or Tier 1 capital. The purpose of defining a “large exposure” is primarily to specify which exposures banks should report to their supervisor, who can then monitor these positions for risk assessment purposes.

The definition of a large exposure encompasses direct exposures to single counterparties or groups of connected counterparties as well as exposures to credit protection providers, which should also be viewed as counterparties for large exposure purposes. As a consequence, exposures arising through the purchase of credit protection (such as credit default swaps and guarantees) should be added to the total of

any other direct exposures to the same counterparty.

Specifically, the additional criterion of principle 19 of the BCPs states that:

With respect to credit exposure to single counterparties or groups of connected counterparties, banks are required to adhere to the following definitions:

- a) ten per cent or more of a bank's capital is defined as a large exposure; and
- b) twenty-five per cent of a bank's capital is the limit for an individual large exposure to a private sector non-bank counterparty or a group of connected counterparties.

Minor deviations from these limits may be acceptable, especially if explicitly temporary or related to very small or specialized banks. A stocktaking exercise by the Basel Committee revealed many jurisdictions currently apply a large exposure limit of 25% of a bank's total regulatory capital. This value is consistent with both the Committee's 1991 large exposures guidance and the Core principles for effective banking supervision. Other member jurisdictions also apply different limits from within a range of 10–50% of capital and/or they base the limit on a different definition of capital.

The purpose of monitoring large exposures is to raise early warning flags that may then warrant further investigation by the supervisor. For these flags to be effective, the Basel Committee proposes that banks should report to their supervisor all their large exposures or, if the number of large exposures is less than 20, their largest 20 exposures irrespective of their size relative to the bank's capital base. The Committee is also of the view that the reporting of large exposures would be enhanced if the exposure is reported both before and after applying credit risk mitigation techniques. In addition, large exposures to counterparties to which the large exposure limit does not apply (for example sovereigns) should also be reported.

The WAMZ Evidence

With the exception of Sierra Leone, Member States generally have large exposure limits in place. However, there is wide disparity among WAMZ countries regarding the definition of 'large exposure'. Table 5 shows that the limits for large exposure include 10% (Ghana and Nigeria), 15% (Guinea) and 25% (The Gambia). Furthermore, the limits are not generally based on eligible capital as prescribed by the Basel Committee. Large exposure limits are based on net owned funds (Ghana), net shareholders' equity (Guinea), net worth (The Gambia and Liberia) and

shareholders unimpaired losses (Nigeria) (see Table 5).

In Sierra Leone, there is an ‘aggregate exposure’ limit in place which is defined as the sum of on and off balance sheet exposures not exceeding 300% of the capital base.

Table 5: Assessment of Similarity in the Definition of Large Exposure

	Large Exposure Limit	Eligible Capital
The Gambia	Yes	25% of net worth
Ghana	YES	10% of net own funds
Guinea	YES	15% of net shareholders’ equity
Liberia	YES (Limit not Stated)	X% of net worth
Nigeria	YES	10% of shareholders’ unimpaired losses
Sierra Leone	No	No

NB; YES: implies consistent with the Standard BASEL Definition, and No: means different from the Standard Definition or No ‘large exposure’ limit in place. N/A: implies Not Available.

Source: Authors’ Compilation

3.6 Single Obligor Limit

Generally, an obligor is also referred to as a "debtor/borrower." The single obligor limit is the maximum amount a bank can lend to a borrower and it is usually based on the capital of the bank. Hence, single obligor limit captures exposure to a single counterparty (individual or corporate entity). As mentioned above, Principle 19 requires that exposure to a single counterparty should not exceed 25% of eligible capital.

The WAMZ Evidence

As was the case for the large exposure limits, single obligor vary across Member States and ranges from 10% to 25% (see Table 6). Ghana has a single borrower limit of unsecured lending of 10% and 25% for secured lending. In The Gambia the obligor limit is 15% of net worth while in Guinea it is 25% of net own funds and net shareholders’ equity, respectively. Liberia and Nigeria set a 20% limit on aggregate net

worth and shareholders' fund. In Sierra Leone, there is a 10% percent limit on capital

base for unsecured lending and 25% for secured lending.

Table 6: Assessment of Similarity in the Definition of Single Obligor Limit

	Single Obligor Limit	Eligible Capital
The Gambia	YES	15% of net worth
Ghana	YES	10%- unsecured and 25% secured of net own funds (i.e. unimpaired capital base)
Guinea	YES	25% of net shareholders' equity
Liberia	YES	20% of aggregate net worth
Nigeria	YES	20% of shareholders' funds
Sierra Leone	YES	10% of capital base for unsecured 25% of capital base for secured

NB; YES: implies consistent with the Standard BASEL Definition, and No: means different from the Standard Definition or No 'large exposure' limit in place. N/A: implies Not Available.

Source: Authors' Compilation

3.7 Insider Related Lending

Principle 20 of the BCPs states that the supervisor should require banks to enter into any transactions with related parties on an arm's length basis in order to monitor these transactions, take appropriate steps to control or mitigate the risks and to write off exposures to related parties in accordance with standard policies and processes. The aim of principle 20 is to prevent abuses arising in

transactions with related parties and to address the risk of conflict of interest

Specifically, the Basel Committee defines related party and related party transactions as follows:

- (i) Related parties can include, among other things, the bank's subsidiaries, affiliates, and any party (including their

subsidiaries, affiliates and special purpose entities) that the bank exerts control over or that exerts control over the bank, the bank's major shareholders, Board members, senior management and key staff, their direct and related interests, and their close family members as well as corresponding persons in affiliated companies.

- (ii) Related party transactions include on-balance sheet and off-balance sheet credit exposures and claims, as well as, dealings such as service contracts, asset purchases and sales, construction contracts, lease agreements, derivative transactions, borrowings, and write-offs. The term transaction should be interpreted broadly to incorporate not only transactions that are entered into with related parties but also situations in which an unrelated party (with whom a bank has an existing exposure) subsequently becomes a related party.

The Basel Committee recommends that the exposure to related or connected

counterparties should not exceed 5% of the eligible capital base and that the supervisor should require banks to actively seek to identify possible connected or related counterparties and transactions.

The WAMZ Experience

Table 7 shows that all Member States have limits on 'insider related lending' and the definition of insider or related parties are fairly similar and consistent with the Basel definition. However, the lending limit to related party varies across member jurisdictions. The Gambia limits insider lending to 15% of net worth while Ghana and Guinea limit credit exposure to the insider related party at 10% of net own funds and net shareholders' equity, respectively, while in Sierra Leone it is 2% of the capital base. Insider related party transaction in Liberia and Nigeria must be approved by their respective central banks. In Nigeria, the aggregate limit for all insiders is 60% of paid up capital while that of single insider is 10%.

Table 7: Assessment of Similarity in the Definition of Insider Related Lending Limit

	Insider Related Lending Limit	Eligible Capital
The Gambia	YES	15% of net worth
Ghana	YES (but above recommendation)	10% of net own funds
Guinea	YES (but above recommendation)	10% of net shareholders' equity
Liberia	YES	Limit Not Stated
Nigeria	YES	10% of paid up capital for a single obligor and aggregate limit of 60% of paid up capital for all insiders
Sierra Leone	YES	2% of capital base

NB; YES: implies consistent with the Standard BASEL Definition, and No: means different from the Standard Definition or No 'large exposure' limit in place. N/A: implies Not Available.

Source: Authors' Compilation

3.8 Profitability Measures

3.8.1 Net Interest Margin to Gross Income

This FSI is a measure of the relative share of net interest earnings—interest earned less interest expenses—within gross income. It is calculated by using net interest income as the numerator and gross income as the denominator.

Net Interest Income

Interest income is a form of income that accrues on debt instruments such as deposits, loans, debt securities, and other accounts receivable. For the borrower it is the cost (known as an interest cost) of the use of another bank's funds. According to the IMF Guide on Compiling FSI the difference

between interest expense and interest income is known as net interest income.

Interest should be recorded as accruing continuously. However, a specific issue arises from whether interest should accrue on nonperforming assets, and if so, should this affect the net interest income line. The IMF Guide recommends that interest on a nonperforming asset should be recorded on a cash payment, not accrual, basis. Hence, interest income should not include the accrual of interest on nonperforming assets, otherwise net interest income would be overstated relative to the actual interest-earning capacity of the deposit taker.

Gross Income

Gross income includes both net interest income and other gross income. Other gross income is also called non-interest income. Noninterest income is all other income received by the deposit taker. Included are fees and commissions from the provision of services, gains and losses on financial instruments, and other income which includes dividend income. Hence, gross income is equal to net interest income plus noninterest income.

According to the FSI Guide, noninterest income inclusion of realized and unrealized gains and losses arising during each period on all financial instruments (financial assets and liabilities, in domestic and foreign currencies) valued at market or fair value in the balance sheet, excluding equity in associates, subsidiaries, and any reserve equity investments. Gains and losses on foreign exchange instruments and on financial derivative instruments, such as interest rate swaps, are also included. However, Gains and losses on financial instruments should exclude any interest included in the net interest income account as

accrued for that instrument in the reporting period, as such amounts have been already accounted for in the income account as interest income.

A number of adjustments are specified to eliminate the impact of intra sector transactions on sectoral gross income. These include the elimination of the following income items arising from positions and transactions with other deposit takers in the reporting population: fees and commissions receivable; the investing deposit taker's prorated share of the earnings of associate deposit takers, dividends receivable from other deposit takers, other income receivable from other deposit takers, and gains and losses on deposit takers' ownership of equities of other deposit takers.

The WAMZ Experience

The definitions of Interest Income, Noninterest income and gross income are relatively similarly and consistent with the IMF Guide and the Basel operational risk framework for gross income definition (see Table 8).

Table 8: Assessment of Similarity in the Definition of Net Interest Margin to Gross Income

	Net Interest Margin	Noninterest Income	Gross Income
The Gambia	YES	YES	YES
Ghana	YES	YES	YES
Guinea	YES	YES	YES
Liberia	YES	YES	YES
Nigeria	YES	YES	YES
Sierra Leone	YES	YES	YES

NB; YES: implies consistent with the IMF and Basel Definition, and No: means different from the Standard Definition. N/A: implies Not Available.

Source: Authors' Compilation

3.8.2 Return on Assets (ROA) and Return on Equity (ROE)

ROA

Return on assets is calculated by dividing net income before and taxes by the average value of total assets (financial and nonfinancial) over the same period. However net income after and taxes could be used additionally. The indicator measures the efficiency of deposit money banks in utilizing their assets.

Net income includes all gains and losses on financial instruments, and gains and losses from the sales of fixed assets, which are measured as the difference between the sale value and the balance sheet value at the previous end period. Typically, net income equals gross income less gross expense. The IMF recommends that net income is calculated on a basis closer to commercial

accounting and supervisory approaches than to national accounting. At a minimum, it can be calculated by using the average of the beginning and end-period positions, but the IMF recommends the use of the most frequent observations available to calculate the average.

Total assets include the sum of financial and nonfinancial assets. The FSI Compilation Guide defines financial assets as those “*financial claims over which ownership rights are enforced, from which economic benefits may be derived by their owners, and that are a store of value. Financial claims arise out of contractual relationships between pairs of institutional units, and often such claims entitle the owner (that is, the creditor) to receive one or more payments (such as interest payments) from the institutional unit on which the owner has the*

claim (the debtor)". In addition, financial claims generate holdings gains (and losses) for their owners. When a financial claim is created, a liability of equal value is simultaneously incurred by the debtor as the counterpart to the financial asset. On the other hand, nonfinancial assets are all economic assets other than financial assets.

ROE

Return on equity is calculated by dividing net income (gross income less gross expenses) by the average value of capital over the same period. This measures the banks' efficiency in using their capital and also provides information on the sustainability of deposit takers' capital position over time. It can be interpreted in combination with FSIs on capital adequacy, because a high ratio could indicate high profitability and/or low

capitalization, and a low ratio could indicate low profitability and/or high capitalization.

Capital is measured as capital and reserves or Tier 1 capital. On a cross-border consolidated basis, some countries may prefer to employ total regulatory capital in calculating the remaining capital-based ratios instead of, or in addition to Tier 1 capital.

The WAMZ Experience

Table 9 shows that the definitions of earnings indicators are fairly similar across Member States and consistent with international recommendation. Net income is calculated in a similar manner across WAMZ countries. The calculation of ROA and ROE is also relatively similar across member countries. However, in The Gambia, Ghana and Sierra Leone, ROE is calculated on a post-tax basis which is also consistent with IMF recommendation.

Table 9: Assessment of Similarity in the Definition of Net Income, ROA and ROE

	Net Income	ROA	ROE
The Gambia	YES	YES	YES
Ghana	YES (net pre-tax profit)	YES	YES (post tax basis)
Guinea	YES	YES	YES
Liberia	YES	YES	YES
Nigeria	YES	YES	YES
Sierra Leone	YES (net pre-tax profit)	YES	YES (post-tax basis)

NB; YES: implies consistent with the IMF Definition, and No: means different from the Standard Definition. N/A: implies Not Available.

Source: Authors' Compilation

3.9 Liquidity

3.9.1 Core Liquid Assets to Total Assets

The indicator is calculated by using the core measure of liquid assets as the numerator and total assets as the denominator. It can also be calculated by using the broad measure of liquid assets (IMF 2008). Generally, the indicator provides an indication of the liquidity available to meet expected and unexpected demands for cash.

Liquid assets are those assets that are readily available to an entity to meet a demand for cash. For a financial asset to be classified as a liquid asset, the holder must have the reasonable certainty that it can be converted into cash with speed and without significant loss under normal business condition. According to the FSI compilation guide, liquid assets comprise mainly of currency, deposits, other financial assets that are available either on demand or within three months or less and securities that are traded in liquid markets (including repo markets) that can be readily converted into cash, with insignificant risk of change in value under normal business conditions (IMF 2008). However, deposit takers' deposits and other non-traded claims with other deposit takers are excluded.

The IMF FSI Compilation Guide distinguishes between core and broad liquid assets. Core liquid assets comprise currency and deposits and other financial assets that are available either on demand or within three months or less, excluding interbank deposits (and other non-traded claims). On the other hand, Broad liquid assets include those in the core measure plus securities that are traded in liquid markets (including repo markets) that can be readily converted into cash without a significant risk of change in value under normal business conditions. Such securities include those issued by the government.

Total assets include all financial and nonfinancial assets, as earlier defined.

3.9.2 Core Liquid Assets to Short-term Liabilities

This FSI is calculated by using the core measure of liquid assets as the numerator and the short-term liabilities as the denominator. As mentioned above, an indicator of liquidity can also be calculated by taking the broad measure of liquid assets. The indicator is intended to capture the liquidity mismatch of assets and liabilities, and provides an indication of the extent to which deposit

takers could meet the short-term withdrawal of funds without facing liquidity problems.

Short-term liabilities are the short-term element of the debt liabilities of banks plus the net short-term market value of the financial derivatives position (liabilities less assets). However, it excludes liabilities to other deposit takers in the banking system. In addition, the indicator could also be calculated excluding financial derivative positions, that is, by using the ratio using short-term debt only, especially if a net financial derivative asset position were significantly affecting the ratio. The IMF FSI Guide recommends that “short term” should be defined on a remaining maturity basis

although the original maturity could be an alternative.

The WAMZ Evidence

Liquidity indicators in WAMZ member states are largely consistent with the IMF Guide. Ghana and Liberia define core liquid assets in a similar manner, that is, currency, deposits, and other financial assets that are available either on demand or within 3 months or less. However, The Gambia, Guinea, Nigeria and Sierra Leone include government securities in core liquid assets, which technically imply that it is a broad liquid asset (see Table 10). This approach is consistent with IMF recommendation. Short-term liabilities are also defined in a similar fashion.

Table 10: Assessment of Similarity in the Definition of Liquidity Indicators

	Core Assets	Liquid Assets/Total Asset	Short-term Liabilities	Core Assets / Short-term Liabilities
The Gambia	YES	YES	YES	YES
Ghana	YES	YES	Not Specified	Not Specified
Guinea	YES (defined as broad liquidity)	YES	YES	YES
Liberia	YES	YES	Not Specified	Not Specified
Nigeria	YES (defined as broad liquidity)	YES	YES	YES
Sierra Leone	YES (defined as broad liquidity since Govt. Securities included)	YES	YES	YES

NB; YES: implies consistent with the IMF Definition, No: means different from the Standard Definition, N/A: implies Not Available.

Source: Authors Compilation

3.10 Net Open Position to Capital

A deposit taker's open position in foreign exchange is calculated by summing the foreign currency positions into a single unit of account as the numerator. Capital including reserves is the denominator. This indicator is intended to show deposit takers' exposure to exchange rate risk compared with capital. It measures the mismatch (open position) of foreign currency asset and liability positions to assess the potential vulnerability of the deposit-taking sector's capital position to exchange rate movements.

Foreign currency items are both those payable (receivable) in a currency other than

the domestic currency (foreign-currency-denominated) and those payable in domestic currency but with the amounts to be paid linked to a foreign currency (foreign-currency-linked). Foreign currency positions should be converted into the unit of account using the midmarket spot exchange rate as of the reporting date.

The WAMZ Evidence

Table 11 indicate that the computation of the net open position is similar and consistent with IMF definition. However, the limits set for the indicator varies across countries.

Table 11: Assessment of Similarity in the Definition of Net Open Position and Capital

	Net Open Position	Capital
The Gambia	YES	YES
Ghana	YES (10% Limit Single; 20% aggregate)	YES
Guinea	YES	YES
Liberia	YES	YES
Nigeria	YES	YES
Sierra Leone	YES (15% for single currency and 25% for aggregate currencies)	YES

NB; YES: implies consistent with the IMF Definition, and No: means different from the Standard Definition, N/A: implies Not Available.

Source: Authors Compilation

4.0 Summary, Conclusion and Recommendations

4.1 Summary

Overall, the results of the comparative analysis indicates some level of convergence in the definition of indicators of regulatory capital, leverage, earnings, liquidity and loan classification. However, there were major areas of divergence on the computation of NPLs, provisions for NPLs, limits to large exposures as well as single counterparty and insider lending,

All countries include Tier 1 and Tier 2 capital in the computation of regulatory capital. Although Ghana, Nigeria and Sierra Leone apply national discretion for Tier 2, it is consistent with the Basel I capital definitions and Basel II recommendations (Nigeria). On the other hand, there is a wide disparity in the risk weight particularly for operational and market risks. All Member States surveyed used similar definitions of debt and equity to compute leverage, consistent with IMF recommendation. However, Nigeria excludes customer deposits from total debt. In addition, the major indicators of earnings such as interest income, noninterest income, ROA and ROE are defined in a similar manner. The Gambia, Ghana and Sierra Leone compute ROE on a post-tax basis but the approach is consistent with the IMF

recommendation. Liquidity indicators are also calculated according to IMF recommendation in all countries. However, core liquid assets in The Gambia, Sierra Leone and Nigeria are technically broad liquid assets since they include government securities. All Member States except Guinea, classify loan according to the 5-tier classification system recommended by the BIS.

Regarding the computation on the level of NPLs and provisioning for NPLs, the results showed some degree of divergence. While Guinea has a national definition of NPLs, Ghana, Liberia, Nigeria and Sierra Leone classify loans in the substandard, doubtful and loss categories as NPLs in line with the recommendations of BIS. The level of provisioning for the various categories of NPLs also varies across countries (see Table 3). In terms of large exposures and exposures to insiders and single counterparties, the limits generally vary across countries but within the Basel recommendations for large exposures. In addition, the limits on insider lending are generally above the Basel recommendation (5% of eligible capital) except in Sierra Leone.

4.2 Conclusion and Recommendations

The study reviews the practices in the measurement of key prudential indicators in Member States of the WAMZ in order to provide the basis for harmonizing prudential regulations. The findings of the study indicate some level of convergence in the measurement of some indicators (for example capital, earnings and liquidity) and degrees of divergence or disparities in measuring other indicators (for instance NPLs, provisioning for NPLs and Exposure limits). A key implication of the study is that there are difficulties in comparing countries on indicators that are measured differently across Member States. This poses a particular challenge for WAMZ since its Member States are aspiring for single currency through the convergence of macroeconomic policies including the harmonizing of financial sector policies. The findings therefore underscore the need to harmonize prudential regulations in the WAMZ not only to ensure comparability across all the key indicators but also to provide a consistent framework for strengthening financial stability in the Zone, a major objective of the CSWAMZ.

To facilitate the harmonization of prudential regulations, the study therefore proposes the following recommendations.

a) The Authorities of the WAMZ should develop a framework for setting common standards for financial regulation and supervision. This may include transforming the CSWAMZ into a Regional Financial Stability Board (RFSB) that will be responsible for issuing common standards for regulating and supervising banks and other financial institutions.

The RFSB may collaborate with the global Financial Stability Board to set the standards that take into account regional peculiarities. In addition, RFSB will be a catalyst to the establishment and operationalization of a regional supervisory authority upon the launch of the single currency.

b) The Authorities should develop for adoption a model or common banking law or code that encapsulate as much as possible the core principles on effective banking supervision.

c) The Authorities should coordinate the implementation of Basel I and II, financial sector reforms, especially regulatory reforms in the banking sector,

in order to facilitate convergence of prudential regulations.

- d) Capacity building programmes for bank supervisors on contemporary issues in bank supervision should be strengthened in order to empower them to develop modern rules and techniques for regulating and supervising banks. Moreover, training should be at all levels

and on a continuous basis. Central banks should endeavour to recruit highly skilled staff as supervisors.

- e) The Authorities should complement this study with an External Assessment of Compliance with the Basel Core Principles and implementation of the recommendations of the Assessment.

References

Basel Committee on Banking Supervision (2011), Core Principles for Effective Banking Supervision

Basel Committee on Banking Supervision (2013), Supervisory framework for measuring and controlling large exposures

Basel Committee on Banking Supervision (2014), Basel III leverage ratio framework and disclosure requirements.

European Banking Coordination “Vienna” Initiative (2012), Working Group on NPLs in Central, Eastern and South-eastern Europe.

Monetary Authority of Singapore (2012), Related Party Transaction Requirements for Banks.

IMF (2006), Financial Soundness Indicators: Compilation Guide

IMF (2008), Financial Soundness Indicators: Amendments to the Guide