



You Invest, We Protect

ASSESSMENT REPORT ON THE OBSERVANCE OF THE CPMI-IOSCO PRINCIPLES FOR FINANCIAL MARKET INFRASTRUCTURES BY CENTRAL SECURITIES DEPOSITORY (GH) LIMITED.

This Assessment Report was prepared by Central Securities Depository (GH) Limited in the context of its role as a Financial Market Infrastructure in Ghana.

Copies can be obtained from: Central Securities Depository (GH) Ltd.
4th Floor, Cedi House
PMB CT 465, Cantonments, Accra, Ghana
Email: info@csd.com.gh
Contact: +233-0302689313/4
Fax +233-0302689315
www.csd.com.gh

Publication Date: November, 2019

TABLE OF CONTENTS

| | |
|---|-----|
| DEFINITION OF TERMS | ii |
| I. EXECUTIVE SUMMARY | iii |
| II. INTRODUCTION | 1 |
| III. OVERVIEW OF THE PAYMENT, CLEARING AND SETTLEMENT LANDSCAPE | 2 |
| IV. SUMMARY ASSESSMENT AND RECOMMENDATIONS | 5 |
| V. DETAILED ASSESSMENT OF OBSERVANCE OF THE PRINCIPLES | 9 |
| ANNEX A: REFERENCE MATERIALS | 59 |

DEFINITION OF TERMS

| | |
|----------|---|
| ATS | Automated Trading System |
| BCC | Business Conduct Committee of the Board of CSD (GH) |
| BCP | Business Continuity Plan |
| BIC | Bank Identifier Code |
| BoG | Bank of Ghana |
| CCC | Cheque Codeline Clearing |
| CCP | Central Counterparty |
| CMB | Cocoa Marketing Board |
| CPMI | Committee on Payments and Market Infrastructures |
| CPSS | Committee on Payment and Settlement Systems |
| CSD | Central Securities Depository |
| CSD (GH) | Central Securities Depository (GH) Limited |
| DP | Depository Participants |
| DR | Disaster Recovery |
| DvP | Delivery versus Payment |
| EOC | Emergency Operating Centre |
| ERM | Enterprise Risk Management |
| FIX | Financial Information eXchange |
| FMI | Financial Market Infrastructure |
| GACH | Ghana Automated Clearing House |
| GFIM | Ghana Fixed Income Market |
| GhIPSS | Ghana Interbank Payment and Settlement Systems Limited |
| GIS | Ghana Interbank Settlement |
| GSD | Ghana Stock Exchange Securities Depository Limited |
| GSE | Ghana Stock Exchange |
| IOSCO | International Organisation of Securities Commission |
| ISA | Investor Service Account |
| ISMS | Information Security Management System |
| KC | Key Consideration |
| KYC | Know Your Customer |
| KPI | Key Performance Indicators |
| MCSD | Millennium Clearing, Settlement and Depository System of CSD (GH) |
| OPM | Operational Risk Management |
| OTC | Over-the-counter |
| PFMIs | Principles for Financial Market Infrastructures |
| Repo | Repurchase Agreement |
| RTGS | Real Time Gross Settlement |
| SEC | Securities and Exchange Commission of Ghana |
| sFTP | secure File Transfer Protocol |
| SSS | Securities Settlement System |
| SWIFT | Society for Worldwide Interbank Financial Telecommunication |
| T | Transaction Day |

I. EXECUTIVE SUMMARY

Ghana has three financial market infrastructures (FMIs) for payment, clearing and settlement activities. These infrastructures include the Ghana Interbank Settlement (GIS) system of the Bank of Ghana, the Ghana Interbank and Payment Settlement System (GhIPSS), and the Central Securities Depository (GH) Ltd. However, for securities clearing and settlement, only the GIS system and the CSD (GH) platforms are used. CSD (GH) is the only central securities depository in Ghana. It provides depository, clearing, settlement and registrar services for the Ghanaian securities market.

The vision of CSD (GH) is to become a globally recognised provider of efficient and reliable securities services, contributing to a well-organised and robust financial market in Ghana. This self-assessment report was completed as part of CSD (GH)'s aim to attain its vision. The assessment was completed within the context of the Ghanaian securities market. This means that where appropriate, entrenched market practices were held as binding even when not consolidated in writing. This was particularly so in respect of Principles covering areas where CSD (GH) provides services to institutions that perform multiple roles in the depository. An example of such institution includes financial organisations performing a dual role as a Commercial Bank and Custodian Bank.

Principle 1 (Legal): CSD (GH) has enforceable legal basis for its operations. These are derived from the Central Securities Depository Act, 2007 (Act 733) and the Securities Industry Act, 2016 (Act 929). In addition, CSD (GH) has established Rules and Procedures in place to guide its general operations in the securities market of Ghana. The Rules of CSD (GH) are subject to approval by the Securities and Commission, and are issued pursuant to Section 5 of the Central Securities Depository Act, 2007 (Act 733). These are binding on the CSD, Depository Participants, Issuers of securities deposited with the CSD and any other institution CSD (GH) may prescribe. The Rules and Procedures are regularly reviewed to accommodate market developments. The last review of the CSD Rules was done in 2018. The legal basis of CSD (GH) is applicable only in the jurisdiction of Ghana.

Principle 2 (Governance): CSD (GH) has a sound governance structure established within the relevant statutory and regulatory framework. The roles and responsibilities of the Board and its relationship with Management are clearly provided for within its Board Charter. The Board has developed a risk management framework within its Risk Charter. The governance structure of the Board is well-developed and full disclosure will be made to the general public when completed.

Principle 3 (Framework for the Comprehensive Management of Risks): CSD (GH) has a risk management framework which is reviewed semi-annually. The framework spells out the roles and responsibilities of the Board, the Risk Committee, and the Economic and Risk Analysis Department—the Department responsible for risk management within CSD (GH). The framework employs an Enterprise Wide Risk Management approach. As part of the risk management framework, CSD (GH) is currently working on a resolution and recovery plan.

Principle 4 (Credit Risk): CSD (GH) does not face any credit exposures from participants. Each Participant is responsible for settling its own obligations and so a Depository Participant may face credit risk from the activities of other Participants. CSD (GH) monitors the transactions of each Depository Participant, and sets the appropriate credit limits for Brokers and Custodian Banks in order to manage the credit risk they present to other participants. CSD (GH) has a Guarantee Fund

in place to be used for participant default and liquidity shortages. The size of the settlement guarantee fund as at the end of June 2019 stood at GH¢ 2.5 million. .

Principle 7 (Liquidity): As in Principle 4, participants are responsible for their own obligations, but they may face liquidity risk from other participants. CSD (GH) offers participants real time access to their settlement obligations as they fall due. Participants facing funds shortage can commence procedures to access the Guarantee Fund. The fund currently focuses on the fund component in the settlement process. However, steps are being taken to expand the scope of the fund to address the issue of securities failure. Also CSD (GH) is presently working on providing clearer rules on the replenishment of the Guarantee Fund when there is temporary or permanent default by a participant.

Principle 8 (Settlement Finality): Settlement is completed on a DvP II model basis. Settlement is final and irrevocable on settlement day when title to the securities are transferred.

Principle 9 (Money Settlement): CSD (GH) settles in central bank money. Funds are settled directly in accounts of Depository Participants held at the BoG. Funds settlement is final and irrevocable on settlement date at the settlement time.

Principle 11 (Central Securities Depository): CSD (GH) holds securities in dematerialised form only. There are appropriate legislation, rules and procedures to ensure that CSD (GH) protects the integrity of the securities it holds. CSD (GH) also performs Securities Settlement Services (SSS) and offers Registrar services. CSD (GH) has risk management tools to ensure that these services pose no risk to its activities as a Central Securities Depository.

Principle 12 (Exchange of Value Settlement System): CSD (GH) settles using the DvP II model. This model ensures that principal risk is eliminated by simultaneous delivery of securities on the transfer of funds.

Principle 13 (Participant-Default Rules and Procedures): CSD (GH) has rules and procedures on circumstances under which a Depository Participant will be deemed a defaulter. The rules also contain details on the process by which the outstanding net obligation of a participant will be determined. The rules on participant default also provide for the clients of the defaulting participants. CSD (GH) is in the process of enhancing its procedures on participants that are put into administration or liquidation.

Principle 15 (General Business Risk): CSD (GH) has a risk management framework which contains procedures and controls to identify, analyse, evaluate and manage its business risk. CSD (GH) has sufficient net liquid resources in excess of the period of six months recommended under the PFMI.

Principle 16 (Custody and Investment Risks): CSD (GH) does not hold any assets on behalf of individual Depository Participants. Assets of the Guarantee Fund, which are held on behalf of all Depository Participants, are held with the Bank of Ghana in highly marketable Government of Ghana securities. The assets of the Guarantee Fund are also managed independently of the assets of (CSD) GH. CSD (GH) holds its own assets in Government of Ghana securities.

Principle 17 (Operational Risk): Operational Risk management forms part of the enterprise-wide risk management framework of CSD (GH). As part of its operational risk management, CSD (GH) has developed comprehensive Business Continuity and Disaster Recovery Plans. CSD (GH) has a dedicated Information Security Management System (ISMS) which ensures that all policies and

procedures for the management of Information Security conforms to ISO27001:2013 standards, including that of physical security. CSD (GH) has setup an Emergency Operating Centre as part of its efforts to improve operational reliability.

Principle 18 (Access and Participation Requirements): Procedures and requirements for appointment of Depository Participants are publicly disclosed. The requirements allows for a fair and equitable access to the Depository system. Section 24 of the CSD Rules outlines the requirements for prospective applicants to join CSD (GH) as Depository Participants. Also Section 33 of the CSD Rules makes provision on the continuous obligations of Depository Participants which are approved to operate by CSD (GH).

Principle 21 (Efficiency and Effectiveness): The goals and objectives of CSD (GH) are captured in its Five-Year Strategic plan. The efficiency and effectiveness of these objectives are measured through Key Performance Indicators specified in the annual work program.

Principle 22 (Communication and Procedures): CSD (GH) uses a combination of SWIFT and FIX messaging and Secured File Transfer Protocols (sFTP) to facilitate payment, clearing and settlement and information dissemination. Bank of Ghana sends SWIFT messages on behalf of CSD (GH) to notify participants of funds transfer. CSD (GH) has engaged SWIFT to obtain its own BIC with the aim of improving communication in the country's securities market.

Principle 23 (Disclosure of Rules, Key Procedures and Market Data): All the rules, procedures and guidelines of CSD (GH) are publicly available on its website, as are also the market data pertaining to the holding and settlement of securities. Depository Participants are actively involved in the formation of the rules, procedures and guidelines. CSD (GH) offers training programs for both new and existing users.

II. INTRODUCTION

Assessor:

The self-assessment exercise was performed by staff of Central Securities Depository (GH) Limited with training support from a private consultant. The assessors express their appreciation to the entire Staff and Management of CSD (GH), the Board of Directors of CSD (GH) and, most especially, the consultant for the training support and co-operation leading to the successful completion of this initial self-assessment report.

Objective of the assessment

The primary focus of this self-assessment exercise is to evaluate the operation of CSD (GH) against recommended international standards and identify potential gaps for improvement.

Scope of the assessment

The assessment was carried out using the Principles for Financial Market Infrastructures (PFMIs), with particular focus on CSD (GH) as a central securities depository (CSD) and securities settlement system (SSS) operator. This assessment forms the initial self-assessment report by CSD (GH).

Methodology of the assessment

The methodology used for this assessment was based on the benchmark methodology set out by the CPSS-IOSCO for conducting self-assessment. Principles were examined within the context of the Ghanaian market and time-honoured market practices were also considered. Principle 4, Principle 5, Principle 6, Principle 10, Principle 14, Principle 19 Principle 20 and Principle 24 do not apply because CSD (GH) does not:

- face credit risk;
- accept collateral;
- use margins to manage the credit risk of participants;
- take physical deliveries;
- act as a CCP;
- have tiered participation arrangements; and
- maintain links with other FMIs or operate as a trade repository.

Sources of Information in the Assessment

The key sources of information for conducting this assessment were the relevant laws, regulations, rules, procedures, guidelines, annual reports, and other applicable documents identified for the assessment. A detailed list of these sources is provided in Annex A of this report.

Central Securities Depository (GH) Ltd

CSD (GH) is a limited liability company established under the Central Securities Depository Act, 2007 (Act 733), and incorporated under the Companies Code, 1963 (Act 179), which has been repealed and replaced by the Companies Act, 2019 (Act 992). CSD (GH) is 70 percent owned by Bank of Ghana (BoG) and 30 percent by the Ghana Stock Exchange (GSE). Within the Ghanaian securities market, CSD (GH) performs the dual role of a Central Securities Depository (CSD) and a Securities Settlement System (SSS). CSD (GH) is the only institution licensed to operate depository, clearing and settlement business in Ghana's securities market. CSD (GH) holds securities issued by Government of Ghana (GoG), BoG, quasi-Government agencies and corporate organizations.

The legislative framework for CSD (GH) is provided under the Central Securities Depository Act, 2007 (Act 733) and the Securities Industry Act, 2016 (Act 929). CSD (GH) is regulated, supervised, and overseen by the Securities and Exchange Commission of Ghana (SEC). The legislative framework is structured to ensure that the operations of CSD (GH) conform to the standard regulatory framework in Ghana. The SEC is a member of the International Commission of Securities Organisation (IOSCO).

Bank of Ghana (BoG) also provides some level of oversight responsibility regarding the clearing and settlement activities of the Depository since the CSD settles trades using the central bank, Bank of Ghana as the Settlement Bank.

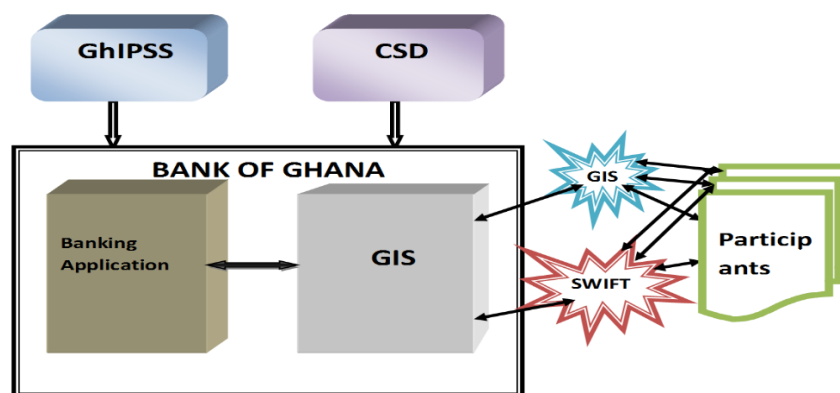
III. OVERVIEW OF THE PAYMENT, CLEARING AND SETTLEMENT LANDSCAPE

The statutory responsibility for the payment and settlement system in Ghana lies with the Bank of Ghana. Under the Bank of Ghana Act, 2002 (Act 612) and the Payment Systems Act, 2003 (Act 622), the Central Bank is required to establish, operate, supervise, promote and regulate the payment and settlement systems in Ghana. The Central Bank set up the Ghana Interbank Settlement system (GIS) as its payment and settlement system for domestic interbank funds transfer in 2002. GIS is a highly secured funds transfer system for large value payments. Settlement is completed on a Real Time Gross Settlement (RTGS) basis. All large value interbank payments, including payments associated with securities clearing and settlement, are made via the GIS. Participants in the GIS include all domestic Commercial Banks, and the Social Security and National Insurance Trust (SSNIT) which is a state-owned pension trust.

In 2007, the Central Bank set up the Ghana Interbank Payment and Settlement Systems Limited (GhIPSS) as wholly owned independent subsidiary company of BoG to improve the interoperability of payment and settlement between banks and non-bank institutions. GhIPSS has introduced several reforms to enhance the payment, clearing and settlement systems in Ghana

CSD (GH) forms an integral part of the payment, clearing and settlement system of Ghana. Its platform allows for the clearing and settlement of securities. The platform is interfaced with the GIS for cash settlement of securities transactions. Equity and debt trades performed on their respective trading platforms flow down to CSD (GH)'s system for settlement. Participants in the depository are responsible for their own settlement obligations. Depository participants such as Brokerage Firms which are not Commercial Banks are required to appoint a settlement partner which must be a Commercial Bank with access to the GIS system.

Fig. 1: Payment, Clearing and Settlement Landscape of Ghana



Source: Banking Department, Bank of Ghana

CSD (GH) Statistics

Number of Depository Participants

- CSD (GH) has sixty six (66) Depository Participants as at end-August 2019. This comprise twenty three (23) Commercial Banks, fifteen (15) Custodian Banks, ARP Apex Bank, twenty two (22) Brokerage Firms, Three (3) Investment Firms, the Social Security and National Insurance Trust (SSNIT), and the Bank of Ghana.

Number of Issuers

- CSD (GH) holds fixed income securities issued by fourteen (14) institutions. These include Government of Ghana, Bank of Ghana, Cocobod, and other corporate organisations.
- Also, the CSD holds shares issued by thirty eight (38) companies listed on the Ghana Stock Exchange.

Value of Securities Issued in the Debt Market

- The total face value of securities issued and admitted into the depository system in 2018 amounted to GH¢138 billion.
- The face value of new securities issued by Government of Ghana (GoG), Bank of Ghana (BoG), Cocobod and admitted into the depository in 2018 were GH¢ 42.4 billion, GH¢ 86.5 billion and GH¢ 8.1 billion, respectively (See table 1 below).

Table 1: Summary Distribution of the Value of Debt Securities Issued by Issuers (2017-2018)

| Issuer | Face Value (GH¢) | | | No. of Times Issued | | |
|-------------------------|------------------|-----------------|----------|---------------------|------|----------|
| | 2017 | 2018 | % Change | 2017 | 2018 | % Change |
| Bank of Ghana | 207,074,239,545 | 86,464,915,181 | (59.2) | 99 | 101 | 2.0 |
| Corporate Organisations | 6,375,993,544 | 1,066,272,768 | (83.3) | 70 | 214 | 205.7 |
| Cocobod | 3,145,725,477 | 8,087,534,028 | 157.1 | 4 | 16 | 300.0 |
| Government of Ghana | 66,218,359,173 | 42,361,993,357 | (36.0) | 154 | 145 | (5.8) |
| Total | 282,814,317,739 | 137,980,715,334 | (51.2) | 327 | 476 | 45.6 |

Outstanding Debt Stocks

- The face value of outstanding stock of fixed income securities held in custody by the CSD for investors increased by 18.4 percent to GH¢ 81 billion in 2018 from GH¢ 68.4 billion in 2017.
- Government of Ghana securities formed about 77 percent of the outstanding stock at the end of 2018.
- Securities issued by Bank of Ghana, Cocobod and corporate firms also constituted close to 8 percent, 7 percent, and 8 percent, respectively, of the outstanding stock in 2018.

Holders of Outstanding Debt Instruments

- Out of the GH¢81 billion outstanding stock, foreign and domestic investors held 34 percent and 66 percent, respectively

- The value of securities held by domestic investors increased by 25.1 percent from GH¢42.7 billion in December 2017 to GH¢53.4 billion in December 2018.
- Holdings of foreign investors also increased by 7.4 percent from GH¢25.7 billion in December 2017 to GH¢27.6 billion in December 2018.

Corporate Action (Interest and Maturity Payments)

- A total of GH¢144.3 billion entitlement was generated by CSD as interest and maturity proceeds paid by Issuers to 121,514 beneficiary investors.
- The GH¢144.3 billion proceeds consisted of GH¢10.2 billion and GH¢134.1 billion interest and maturity proceeds, respectively.
- The annual interest proceeds generated by the CSD to Issuers for payments increased by 47.8 percent from GH¢6.9 billion in 2017 to GH¢10.2 billion in 2018.
- The value of maturity proceeds generated by the CSD recorded a decline of 45.7 percent from GH¢265.8 billion in 2017 to GH¢144.3 billion in 2018.

Settlement of Secondary Trades involving Debt Securities

- The number of trades settled by CSD in 2018 was 82,820. This is a reduction of 22.8 percent compared to 107,219 trades settled in 2017.
- The settlement value of trades settled through the CSD increased by 23.4 percent from an amount of GH¢30.7 billion in 2017 to GH¢37.9 billion in 2018.
- Also, the face value of securities settled increased by 25.4 percent from GH¢ 28.7 billion in 2017 to GH¢ 36.0 billion in 2018.

Repurchase Agreement (Repos)

- A total of 5,427 repo transactions were settled through the CSD in 2018, down from 5,618 repo transactions settled in 2017 by 3.4 percent.
- The settlement value for the repo transactions increased by 0.9 percent to GH¢160.2 billion in 2018 compared to GH¢158.8 billion in 2017.
- The annual repo rate declined to 16.98% p.a. in 2018 from 22.85% p.a. in 2017.

Pledges (Debt Securities)

- The number of pledge transactions involving debt securities reduced 1.8 percent from 1,739 in 2017 to 1,705 in 2018.
- There was also a reduction in the face value of securities used in the pledged transactions by 1.28 percent from GH¢14.41 billion in 2017 to GH¢14.23 billion in 2018.

Clearing and Settlement of Equity Trades

- The number of equity trades settled by CSD dropped marginally from 20,492 in 2017 to 20,406 in 2018. Also the volume of equity trades settled by CSD declined by 38.1 percent from 320.6 billion in 2017 to 198.6 million in 2018.
- There was an upsurge in the value of settled equity trades by 28.1 percent from GH¢514 million to GH¢658.3 million during 2018.

IV. SUMMARY ASSESSMENT AND RECOMMENDATIONS

The summary results of the principle-by-principle assessments are indicted below together with the recommendations for each of the principles.

| Assessment Category | Principle |
|---------------------|--|
| Observed | Principles 12,16, & 21 |
| Broadly Observed | Principles 2,3,7,9,11,15,17,18,22, &23 |
| Partly Observed | Principle 1,8, & 13 |
| Not Observed | None |
| Not Applicable | 4,5,6,10,14, 19,20 & 24 |

The recommendations from the assessments are guided by the following descriptions.

| Term | Descriptions |
|------------------|---|
| Short Term | Within six months |
| Medium Term | Within one year |
| Long Term | Within 2 years |
| Low Priority | CSD (GH) may address the issue in the course of normal business operations. |
| High Priority | CSD (GH) should have a time frame within which to resolve the issue. |
| Highest Priority | CSD (GH) should urgently address the issue. |

Recommendations

| Principle | Issue of concern or other gaps or shortcoming | Recommended action and comments | Relevant Parties | Time frame for addressing recommended action and priority |
|---|---|---|---|---|
| Principle 1: <i>Legal Risk</i> | Legal Analysis | CSD (GH) should continue to perform regular reviews of its rules and procedures to address the development needs of Ghana's securities market and also potential gaps as may be identified from time to time. | CSD (GH) | Long term, high priority. |
| | Contracts/Agreements | CSD (GH) should have a binding agreement with the Registrars or Transfer Agents since they have access to the CSD (GH) system. | CSD (GH), and Registrars. | Short term, highest priority |
| | Guarantee Fund | CSD (GH) should enhance its rules and procedures on the administration of the Settlement Guarantee Fund. | CSD (GH), SEC, BoG, and Depository Participants | Medium term, highest priority |
| | Buy-in rules | CSD (GH) needs to clarify its rules and procedures on buy-in arrangements. | CSD (GH) BoG, GSE, SEC and DPs | Medium term, highest priority |
| | Default Procedure | CSD (GH) should develop comprehensive default procedures for Depository Participants (DPs). | CSD (GH) | Medium term, highest priority |
| Principle 2: <i>Governance</i> | Disclosure of Board Charter | CSD (GH) should consider making its Board Charter publicly available. | CSD (GH) | Short term, low priority |
| | Performance Review | CSD (GH) should improve its assessment of the performance of the Board and its Directors. | CSD (GH) | Short Term, high priority |
| Principle 3: <i>Framework for the comprehensive management of Risk</i> | Default Arrangements | CSD (GH) should engage the DPs and adopt a policy on default arrangements in relation to the Guarantee Fund. | CSD (GH), Depository Participants | Short term, highest priority. |

| Principle | Issue of concern or other gaps or shortcoming | Recommended action and comments | Relevant Parties | Time frame for addressing recommended action and priority |
|---|--|---|----------------------------------|---|
| Principle 7: <i>Liquidity Risk</i> | Use of Guarantee Fund | CSD (GH) should establish an overnight repo agreement with the Settlement Bank for immediate conversion of guarantee fund from investment in government securities to cash. | CSD (GH) and Bank of Ghana | Short term, highest priority |
| | Scenario analysis and stress testing | CSD (GH) should integrate scenario analysis and stress testing as part of its liquidity risk management tools. | CSD (GH) | Long term, high priority |
| | Credit line | CSD (GH) should consider the setting up of a credit line with the Bank of Ghana to facilitate settlement and to curtail potential settlement risks. | CSD (GH) and Bank of Ghana | Long term, low priority. |
| Principle 8: <i>Settlement Finality</i> | Delayed delivery of securities | CSD (GH) should enhance the procedures for the T+0 settlement cycle for fixed income trades as a way of reducing the number of delayed deliveries. | CSD (GH), GFIM and DPs. | Medium term, high priority |
| Principle 9: <i>Money Settlement</i> | Memorandum of Understanding (MoU) | CSD (GH) should officially establish an agreement with the Bank of Ghana specifying each party's obligations in the settlement process. | CSD (GH), and BoG. | Long term, highest priority |
| Principle 11: <i>Central Securities Depository</i> | Account Structure | CSD (GH) should advocate for the elimination of omnibus and nominee accounts. | CSD (GH), SEC and DPs. | Long term, high priority |
| | Insurance Policy | CSD (GH) should perform scenario analysis to examine the adequacy of its insurance arrangements to protect the holders of the securities. | CSD (GH) | Medium term, high priority |
| Principle 13: <i>Participant Default and Procedures</i> | Procedures on handling depository participants default | CSD (GH) should enhance the procedure on handling DPs that are liquidated, placed under administration, and cease to become going concerns. This will ensure that investors or clients of such DPs are not unduly affected. | CSD (GH), Bank of Ghana, and SEC | Medium term, Low Priority |
| Principle 12: <i>Exchange of Value</i> | T+0 settlement cycle | CSD (GH) should engage the stakeholders to re-examine the use of the T+0 settlement cycle to avoid delayed delivery by the end of the value date. | CSD (GH), GSE and DPs | Medium term, highest priority |

| Principle | Issue of concern or other gaps or shortcoming | Recommended action and comments | Relevant Parties | Time frame for addressing recommended action and priority |
|--|---|---|----------------------|---|
| Principle 15: <i>General Business Risk</i> | Development of a Recovery & Resolution plan | CSD (GH) should develop and periodically test a recovery and resolution plan. | CSD (GH) | Long term, highest priority |
| Principle 17: <i>Operational Risk</i> | Processes and Changes | Risk assessment on changes in processes, procedures and activities should be enhanced. CSD (GH) should also introduce an enhanced tracking system to facilitate easy monitoring and tracking of every activity undertaken by the depository and its participants. | CSD (GH) | Short term, highest priority |
| Principle 19: <i>Access and Participation Requirements</i> | Surveillance of Depository Participants | CSD (GH) may consider enhancing its surveillance activities through collaboration and open communication with stakeholders, such as Ghana Stock Exchange and the Securities and Exchange Commission. | CSD(GH), GSE and SEC | Medium term, highest priority. |
| Principle 21: <i>Efficiency and Effectiveness</i> | Monitoring and Evaluation | CSD (GH) should integrate monitoring and evaluation tools in the measurement of its performance. | CSD (GH) | Medium term, high priority |
| Principle 22: <i>Communication Procedures</i> | SWIFT | CSD (GH) should expedite the process of acquiring its own BIC to enable application of SWIFT communication standards in transactions involving the securities' legs. | CSD (GH) | Short term, high priority |
| Principle 23: <i>Disclosure of Rules, Procedures and Market Data</i> | System Design | The published rules and procedures of CSD (GH) should be regularly reviewed to ensure that they include clear descriptions of the Depository's system design and operations. | CSD (GH) | Medium term, low priority |

V. DETAILED ASSESSMENT OF OBSERVANCE OF THE PRINCIPLES

| PRINCIPLE-BY-PRINCIPLE ASSESSMENT | |
|--|---|
| Principle 1 – Legal Basis An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions. | |
| Key practices and achievements CSD (GH) | <ol style="list-style-type: none"> 1. The Central Securities Depository (GH) Ltd (CSD (GH)) is licensed and regulated by the Securities and Exchange Commission (SEC) of Ghana to operate as a depository, to provide clearing and settlement services, and to provide registrar services in the Ghanaian securities market. 2. CSD (GH) only operates within the jurisdiction of Ghana 3. The principal legislative act governing the structure and operation of CSD (GH) is the Central Securities Depository Act, 2007 (Act 733), the Securities Industry Act, 2016 (Act 929), and the SEC Regulations, 2003 (LI 1728). These are read in conjunction with other applicable laws of Ghana. 4. The CSD Act, 2007 (Act 733) gives CSD (GH) the power to create and enforce its guidelines, rules and procedures. These Guidelines, Rules and Procedures have been approved by the Securities and Exchange Commission and, therefore, govern the general operations of CSD (GH). 5. The rules, procedures, and guidelines are clear, understandable, and consistent with relevant laws and regulations. 6. Participants admitted into the depository are informed of the legislation, the rules, procedures and guidelines upon which CSD (GH) operates. Participants sign a Participation Agreement upon appointment into the depository. This agreement together with the legislation, rules, procedures and guidelines form a Master agreement which ensures the enforceability of same between CSD (GH) and participants and between participants themselves. 7. CSD (GH) also conducts training sessions on the Rules, Procedures and Guidelines for both new and existing Depository Participants, as well as other market stakeholders. |
| Rating of Principle 1 | Partly observed. |
| Key Consideration 1 (KC 1) | The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions. |
| Rating of KC 1 | <p>Observed.</p> <p>Every material aspect of the operations of CSD (GH) is provided for in its legislation, rules, procedures, and guidelines. This legal basis provides a high degree of certainty for CSD (GH)'s activities.</p> <p>Refer to the Key Practices and Achievements 3 to 5.</p> |

| | |
|-----------------------------------|---|
| Key Consideration 2 (KC) | An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations. |
| Rating of KC 2 | <p>Broadly observed.</p> <p>Refer to Key Practice and Achievements 5.</p> <p>CSD regularly reviews its rules, procedures, and contracts. The rules (and any amendment thereto) are formulated to promote the safety and security of the securities market through sound, clear and consistent operations in the market. This in turn reduces uncertainty and misinterpretation of the rules.</p> <p>CSD (GH) consults and solicits inputs from depository participants on proposed amendments to its rules, procedures and guidelines.</p> |
| Key Consideration 3 (KC 3) | An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way. |
| Rating of KC 3 | <p>Observed.</p> <p>Refer to Key Practices and Achievements 5,6 and 7</p> |
| Key Consideration 4 (KC 4) | An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays. |
| Rating of KC 4 | <p>Observed.</p> <p>Refer to Key Practices and Achievements 2, 3, and 4.</p> <p>The rules, procedures and guidelines developed by CSD (GH) will only be applied in the jurisdiction of Ghana since it operates solely in Ghana.</p> |
| Key Consideration 5 (KC 5) | An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions. |
| Rating of KC 5 | N/A; CSD (GH) operates solely within the jurisdiction of Ghana. |

Principle 2: Governance

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

Key practices and achievements of CSD (GH)

1. CSD (GH) is governed by a Board of Directors. The Board is the apex decision making body of the Depository. The Board is made up of one Executive Director and six Non-Executive Directors. The Board Chairman is appointed from one of the Non-Executive Directors. The members of the Board have expertise in the following areas: IT, Accounting, Finance, Economics, Risk Management, and Law.
2. The Companies Act, 2019 (Act 992) and the Code of Corporate Governance established by SEC provide the general framework for the corporate governance arrangement of CSD (GH).
3. A Board charter has also been developed as part of the governance framework. The Board Charter defines the responsibilities and terms of reference for the Board of Directors. The Board Charter covers areas such as:
 - a. The mandate of the Board
 - b. Composition and appointment of the Executive and Non-Executive Directors
 - c. The tenure of Board Directors
 - d. Removal and disqualification of Board of Directors
 - e. Disclosure of interest in board decisions by Board of Directors
 - f. Responsibilities and duties of both the Executive and Non-Executive Directors as well as that of the company secretary
 - g. Relationship between the Board and Management
 - h. Relationship between the Board Chairman and the Chief Executive Officer
 - i. Responsibilities of the board regarding risk management, compliance and internal controls
 - j. Provision of strategic policy directions and leadership to the company
 - k. Performance assessment of the board and the individual directors of the board.
 - l. Functions of the board committees
4. The Board has four (4) Committees. With the exception of the Risk Committee which meets at least one every quarter, all the other committees meet at least twice a year. The committees are:
 - a. Finance and Audit Committee;
 - b. Business Conduct Committee;
 - c. Human Resource and Legal Committee; and
 - d. Risk Committee
5. The functions and terms of reference of the Board committees are determined and reviewed periodically by the Board. Each of the committees has a unique Board Committee Charter.

| | |
|-----------------------------------|---|
| | <p>6. CSD (GH) has developed a five-year Strategic Plan (2015-2019) with the objective of ensuring stability of the securities market, by providing secure and efficient depository, clearing and settlement services. The annual work plan and objectives are derived from the five-year strategic plan and adequate budgetary resources are allocated to ensure effective execution of the annual work plan. The annual work plan, together with the budget provision, are reviewed and approved by the Board of Directors prior to their implementation.</p> |
| Rating of Principle | Broadly Observed |
| Key Consideration 1 (KC 1) | An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations. |
| Rating of KC 1 | <p>Observed</p> <p>Refer to Key Practice and Achievement 7.</p> <p>CSD (GH) updates its progress as a business through an annual work programme. The annual work programme is designed to reflect the strategic objectives of the company with key emphasis on safety and efficiency. The programme is reviewed each year by Senior Management for the Board's consideration and approval. The Board evaluates the work programme on a semi-annual basis.</p> |
| Key consideration 2 (KC 2) | An FMI should have documented governance arrangements that provide clear and direct lines of responsibilities and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public. |
| Rating of KC 2 | <p>Observed</p> <p>Refer to Key Practice and Achievements 2,3,4 and 6</p> <p>CSD (GH) has a well-documented and structured governance arrangement in place. The governance arrangement clearly defines the roles and responsibilities of both the Board and Management. The governance arrangement is available to shareholders and relevant stakeholders</p> |
| Key Consideration 3 (KC 3) | The roles and responsibilities of an FMI's Board of Directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly. |
| Rating of KC 3 | <p>Broadly observed.</p> <p>Refer to Key Practice and Achievements 4</p> <p>Procedures for managing member conflicts of interests are also outlined in the Board Charter.</p> <p>The assessment of the performance of the Board is based on the attainment of the objectives of the annual work programme.</p> |

| | |
|-----------------------------------|---|
| Key Consideration 4 (KC 4) | The Board should contain suitable members with appropriate skills and incentives to fulfil its multiple roles. This typically requires the inclusion of non-executive board member (s). |
| Rating of KC 4 | <p>Broadly observed.</p> <p>Refer to Key Practice and Achievements 1.</p> <p>The Board remuneration is determined by the shareholders and it is in accordance with the Companies Act, 2019 (Act 992).</p> |
| Key Consideration 5 (KC 5) | The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, relevant mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI. |
| Rating of KC 5 | <p>Observed.</p> <p>The Management of CSD (GH) is appointed by the Board according to the legislative requirements of the Companies Act, 2019 (Act 992) and the Securities Industry Act, 2016 (Act 929). The Board determines and defines the authority of the Management of CSD (GH). The roles and responsibilities of Management are documented in the Board Charter.</p> <p>The Management of CSD (GH) is accountable to the Board of Directors. The performance of Management is assessed by the Board on a continuous basis through the submission of quarterly management reports.</p> <p>The CSD conditions of service manual has a provision for the removal of Management which is in accordance with the labour laws of Ghana.</p> |
| Key Consideration 6 (KC 6) | The Board should establish a clear, documented risk-management framework that includes the FMI's risk tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the Board. |
| Rating of KC 6 | <p>Broadly observed.</p> <p>The Risk Committee of the Board is responsible for the administration of the general risk profile of the company. The activities of the Risk Committee are guided by a Risk Charter developed by the Board.</p> <p>CSD (GH) employs an enterprise-wide approach (ERM) to its risk management. The Economic and Risk Analysis (ERA) Department co-ordinates the ERM function of CSD (GH). The Department reports to the Board through the Chief Executive Officer on matters relating to risks.</p> <p>CSD (GH) also has an Internal Audit Unit that reports directly to the Board.</p> <p>Periodically the Risk Department of Bank of Ghana assesses the reputational risk profile of CSD (GH). The outcome of this assessment is reported to the CSD (GH) Board and Management.</p> |

| | |
|-----------------------------------|--|
| Key Consideration 7 (KC 7) | <p>The Board should ensure that the FMI's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interest of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, to the public as well.</p> |
| Rating of KC 7 | <p>Observed.</p> <p>The Board ensures that the legitimate interest of participants and stakeholders in general are reflected in the decisions it takes. The Business Conduct Committee (BCC) of the Board addresses matters affecting the market. Depository Participants and key stakeholders appoint three representatives onto the Committee. Issues addressed by the Business Conduct Committee are reported to the Board of Directors for further assessment.</p> <p>CSD (GH) regularly organizes and attends user group meetings with all participants and key stakeholders. Proposed changes or additions to the rules, procedures and guidelines are discussed with participants and key stakeholders. CSD (GH) has direct relationship with the Depository Participants who in turn deal directly with the indirect participants or the underlying investors. In other words, CSD (GH) has no established arrangements in relation to dealing with the indirect participants. The indirect participants are classified as customers of the Depository Participants and, as part of the duties of the Depository Participants, they are responsible for managing the activities they performed for their clients in the securities market of Ghana. There is constant interaction between the CSD (GH) and the Depository Participants to address market issues brought forward by their customers.</p> <p>All market decisions and policies are communicated through CSD (GH)'s website, national newspapers, radio, brochures, and by e-mail. Decisions are also disclosed to the Depository Participants at User Group forums, forums comprising of all the Depository Participants.</p> |

| Principle 3 : Framework for the comprehensive management of risks An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks. | |
|---|---|
| Key practices and achievements of CSD (GH) | <ol style="list-style-type: none"> 1. The Board of CSD (GH) is responsible for the overall risk-management framework. All activities that have potential material impact on the company's risk profile requires Board approval. The Board defines the risks profile of the Depository. The Risk committee meets at least once every quarter to review the company's risk profile. 2. The governance structure of the risk management framework defines the roles and responsibilities assigned to the key departments and persons assigned to manage risk. 3. Under this structure, Management is responsible for the daily management of risks at the company and has the duty to report any perceived risks to the Board for guidance. The Internal Audit Department audits the rules, procedures, policies, guidelines and practices of CSD (GH)'s operations and reports this directly to the Board. The ERA Department coordinates the ERM function to ensure that all departments and staff are cognisant of their roles in the risk management process. The ERA Department also monitors risks, presents periodic reports to the Risk Committee of the Board, and is also responsible for the maintenance of the risk management framework of CSD (GH). 4. The key areas covered in the risk management framework include the benchmarks against which risks are identified, measured, defined, and monitored for continual improvement. The framework also includes tools to facilitate effective management of risks to ensure that the company remains a going concern at all times. 5. The risk management framework is reviewed semi-annually. Simulation exercises are conducted at least twice a year to ascertain and evaluate the effectiveness of the risk management tools employed by the Depository. |
| Rating of Principle | Broadly observed. |
| Key Consideration 1 (KC1) | An FMI should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk-management frameworks should be subject to periodic review. |
| Rating of KC 1 | Broadly observed. Refer to the Key Practices and Achievements 1 to 5. CSD (GH) has developed an enhanced risk management framework, policy, procedures and systems capable for comprehensively managing the risk objective of the depository. In August 2019 the enhanced risk management framework was adopted for implementation by the Board of Directors and it is on the basis of that an improved risk register is currently being developed by CSD (GH). |

| | |
|-----------------------------------|---|
| | For tools used by CSD (GH) to manage material risk, refer to Principles 1, 7, and 17. |
| Key Consideration 2 (KC 2) | An FMI should provide incentives to participants and, where relevant, their customers, to manage and contain the risks they pose to the FMI |
| Rating of KC 2 | <p>Observed.</p> <p>Participants are informed of the rules, procedures, and processes involved for participating in the Depository before their appointment. Participants are also informed of their responsibilities.</p> <p>CSD (GH) provides incentives for participants who are unable to manage and contain the risks they pose to the CSD. Other incentives include training and refresher programmes which are organized for the DPs. In addition, review of the CSD rules, procedures, and processes are carried out regularly to accommodate new developments in the market.</p> |
| Key Consideration 3 (KC 3) | An FMI should regularly review the material risks it bears from, and poses to, other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies, and develop appropriate risk-management tools to address these risks. |
| Rating of KC 3 | <p>Broadly observed.</p> <p>The risk management framework of CSD (GH) identifies, monitors, and reviews the material risk posed as a result of interdependencies. A risk management framework was adopted in August 2019 and, on the basis of that, an enhanced risk register is being developed for the Depository.</p> <p>An integral risk management tool in the risk management framework of CSD (GH) includes the Business Continuity Plan (BCP) and the Disaster Recovery Plan (DRP). These plans ensure that CSD (GH) can carry on material operational activities. Another important tool CSD (GH) uses to manage risk is the Risk Register, which is currently being enhanced for effective and informed decision making processes.</p> <p>Participation agreement and confidentiality agreements are signed between CSD (GH) and depository participants. Other third party service providers sign a confidentiality agreement.</p> <p>In 2018, CSD (GH) signed an MoU with GSE, which requires both the GSE and CSD (GH) to perform an assessment to identify the various risks that each party poses to the other and report same to the other party, including the remedial measures to address the identified risks. CSD (GH) is also in the process of signing an MoU with the Bank of Ghana, an important stakeholder in the clearing and settlement activities of CSD (GH).</p> |

| | |
|------------------------------------|--|
| | |
| Key Consideration 4 (KC 4) | An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern, and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning. |
| Rating of KC 4 | <p>Partly observed.</p> <p>The BCP and DR provide a comprehensive recovery plan for business activities of CSD (GH). The BCP and DR plan is reviewed regularly for improvement based on the results of the penetration and vulnerability assessment of the Depository's operating system. This assessment is carried out twice a year.</p> <p>In 2018, CSD (GH) commenced a process to develop an extensive Recovery and Resolution Plan for all of its activities.</p> |

Principle 4: Credit Risk

An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more complex risk profile or that is systematically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions.

Key practices and achievements CSD (GH)

1. CSD (GH) uses Central Bank Money for settlement.
2. CSD (GH) uses the Delivery versus Payment II (DvP II) model for its settlement functions. Funds and securities settlement occur **simultaneously**.
3. CSD (GH) does not assume any credit exposure on behalf of its participants.
4. CSD (GH) does not novate between counterparties or assume any counterparty risk and credit risk in its settlement functions.
5. CSD (GH) has a Settlement Guarantee Fund of which CSD (GH) contributes 50% of the funds.
6. CSD (GH) does not provide intraday and overnight credit facilities to market participants.
7. In the area of interest and maturity payments, CSD (GH) only acts as a calculating agent, and not as a paying agent.

Rating of Principle 4**Not Applicable**

CSD (GH) is currently not exposed to credit risk in its operations. This is because CSD (GH) does not extend intraday or any form of credit facility to the Depository Participants or its stakeholders. Moreover, in terms of the corporate action activities that the CSD (GH) performs, it is again not exposed to credit risk because CSD (GH) is not a paying agent. Rather, it only serves as a calculating agent during corporate action events on debt securities. This includes interest and maturity payments. Also CSD (GH) is not exposed to credit risk because it does not accept collateral for itself in dealing with the Depository Participants.

Depository Participants may face credit risks in their dealings with other counterparties. Exposures faced by the Depository Participants are managed independently of CSD (GH). To address this level of exposure among the DPs, the Rules and Procedures of the CSD have been structured to eliminate and or reduce the level of counterparty credit risk among the DPs particularly during the clearing and settlement processes of the CSD (GH). This is achieved through the usage of the DvP II model, which ensures that there is simultaneous payment of funds and delivery of securities using central bank money.

| | |
|-----------------------------------|--|
| | |
| Key Consideration 1 (KC 1) | An FMI should establish a robust framework to manage its credit exposures to its participants, and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both. |
| Rating of KC 1 | <p>Not applicable since CSD (GH) is not a paying agent, but only acts as a calculating agent.</p> <p>Refer to Key Practice and Achievement 3 and 7.</p> |
| Key Consideration 2 (KC 2) | An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks. |
| Rating of KC 2 | Not applicable. |
| Key Consideration 3 (KC 3) | A payment system or SSS should cover its current exposures and, where they exist, potential future exposures to each participant fully with a high degree of confidence, using collateral and other equivalent financial resources (See Principle 5 on collateral). In the case of DNS Payment system, or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system. |
| Rating of KC 3 | Not applicable. |
| Key Consideration 4 (KC4) | A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). In addition, a CCP that is involved in activities with a more-complex risk profile, or that is systemically important in multiple jurisdictions, should maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliate that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains. |
| Rating of KC 4 | Not applicable. |

| | |
|-----------------------------------|---|
| Key Consideration 5 (KC 5) | A CCP should determine the amount and regularly test the sufficiency of its financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP, and to use these results to evaluate the adequacy of its total financial resources and adjust to them. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On, at least, a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions employed to ensure they are appropriate for determining the CCP's required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP's participants increase significantly. A full validation of a CCP's risk management model should be performed at least annually. |
| Rating of KC 5 | Not applicable. |
| Key Consideration 6 (KC 6) | In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters' positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. |
| Rating of KC 6 | Not applicable. |
| Key Consideration 7 (KC 7) | An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's processes to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner. |
| Rating of KC 7 | Not applicable as CSD (GH) is not exposed to any credit risk in its dealings with Depository Participants. CSD (GH) does not extend any intraday liquidity credit facility to Depository Participants as part of its clearing and settlement functions. In addition, CSD (GH) has no arrangement to borrow from a liquidity provider to support Depository Participants in meeting their obligations. |

Principle 5: Collateral

An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

Principle 5 on collateral **does not apply** to CSD (GH) Ghana as a Depository and SSS since CSD (GH) does not accept assets as part of any collateral to manage participants' credit risks towards each other.

Not applicable: CSD (GH) does not accept collateral or any form of guarantee as part of its operations either for itself or in dealing with the Depository Participants. The Settlement Guarantee Fund which is the only fund managed by CSD (GH) is solely made up of cash contributions. Thus no other form of collateral contribution is accepted to the Settlement Guarantee Fund other than cash. Also, even though DPs are permitted to carry out repurchase agreement (i.e. repo) transactions using the MCSD system, CSD (GH) is not exposed in terms of the collateral used in the repo market. This is because the repo transaction is purely a bilateral transaction. Hence CSD (GH) only provides the platform to enable DPs execute their transactions for real time settlement. The parties involved in the repo transactions are allowed to apply the appropriate haircut to manage their exposures.

Principle 6 : Margin

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

Not applicable since CSD (GH) is not a CCP .

| | |
|---|---|
| Principle 7: Liquidity An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions. | |
| Key practices and achievements of CSD (GH) | <ol style="list-style-type: none"> 1. The rules and procedures of CSD (GH) require all depository participants to settle their own funds obligations. 2. Non-bank depository participants are required to appoint Settlement Partners (i.e. Commercial Banks) in accordance to the CSD (GH) rules. CSD (GH) provides a standard Settlement Partner agreement to be executed between a non-bank depository participant and its settlement partner. 3. Participants have real-time access to view their obligations as they fall due for settlement. Participants are required to make funds available in their cash accounts with the Settlement Banks at designated times. 4. Depository Participants that are unable to make funds available to their Settlement partners for settlements are required to inform CSD (GH) by the time frame specified in the clearing and settlement rules of CSD. Consequently, the Settlement Guarantee Fund will be used to meet the funds obligation. 5. CSD (GH) does not assume any liquidity risks on behalf of the market participants. 6. Depository participants that are unable to meet their obligations because of insufficient security balances, could commence buy-in procedures to purchase the securities before the value date. |
| Rating of Principle 7 | Broadly observed. |
| Key Consideration 1 (KC 1) | An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers and other entities. |
| Rating of KC 1 | <p>Partly observed.</p> <p>Refer to Key Practices and Achievements 1 to 6.</p> <p>Depository Participants are responsible for making funds available for settlement at designated timelines. CSD Operational Procedures 7.1 provide detailed information on the timelines within which Depository Participants are required to make funds available for settlement at Bank of Ghana. These procedures are designed to ensure that liquidity risk is reduced to the barest minimum. The Settlement Guarantee Fund, which is a key tool for managing liquidity risk in the clearing and settlement process of CSD (GH), is yet to be operationalised. The temporary inability to operationalise the fund exposes the settlement process to some levels of liquidity risk. CSD (GH) is currently in an engagement with Bank of Ghana</p> |

| | |
|-----------------------|---|
| | to establish modalities for use of the Settlement Guarantee Fund as a measure to reduce liquidity risk in the market. |
| KC 2 | An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity. |
| Rating of KC 2 | <p>Broadly observed.</p> <p>Refer to Key Practices and Achievements 1 and 3.</p> <p>CSD (GH) monitors the daily settlement reports to ensure that each participant's obligations (i.e. Brokers and Custodian Banks) do not exceed the participant's settlement limits. Brokers and Custodian Banks have arrangements with their Settlement Banks (i.e. commercial banks) to provide funds for settlement in the event that they do not have sufficient money for settlement. A copy of this agreement is submitted to CSD (GH). As part of the agreement, there is a credit line arrangement between the commercial banks and the Brokers and even with the Custodian Banks.</p> <p>The size of the credit line arrangement is used to determine the settlement limit for each of the Brokers and Custodian Banks. A Broker and a Custodian Bank at any point in time cannot settle more than ten times of their credit lines, and these are configured as part of the MCSD system. Anytime a Broker or a Custodian Bank plans to settle beyond their settlement limit, a new agreement must be submitted to that effect. Unlike the Brokers and Custodian Banks there is no settlement limit for the commercial banks.</p> <p>For the commercial banks there is an agreement for the CSD (GH) to hit their GIS account directly at Bank of Ghana with any amount which forms part of their settlement obligations. To assist the Depository Participants to make available sufficient funds for settlement, they have real time access to the settlement report for any transactions occurring in their name on the MCSD system.</p> <p>As part of improving market liquidity, a process has been initiated to introduce intraday liquidity facility (ILF) to the market. This is being done by Bank of Ghana in collaboration with the CSD (GH).</p> <p>CSD (GH) performs daily reconciliation between the settlement obligations which occurs at Bank of Ghana and the settlement obligations on the participants' settlement report.</p> |
| KC 3 | A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement and, where appropriate, intraday or multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be |

| | |
|-----------------------|---|
| | limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligations in extreme but plausible market conditions. |
| Rating of KC 3 | Not applicable —CSD (GH) basically maintains only cedi currency. |
| KC 4 | A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. |
| Rating of KC 4 | Not applicable. |
| KC 5 | For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed. |
| Rating of KC 5 | Broadly observed. The Settlement Guarantee Fund is CSD (GH)'s qualifying liquid resource. The liquid resource is maintained in highly marketable Government of Ghana securities at Bank of Ghana and may be promptly liquidated into cash. In principle Bank of Ghana has agreed to extend overnight credit to CSD (GH) for use of the Settlement Guarantee Fund. Once the engagement is done, the Settlement Guarantee Fund, which is currently invested into Government of Ghana securities, would be used to secure the overnight credit to be extended to CSD (GH) in the name of the Settlement Guarantee Fund for settlement purposes by Bank of Ghana. |

| | |
|-----------------------|--|
| KC 6 | An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as a part of its liquidity plan. |
| Rating of KC 6 | <p>Not applicable.</p> <p>CSD (GH) has no supplementary arrangements with other forms of liquid assets. Bank of Ghana is in the process of introducing Intraday Liquidity Funds (ILF) to buoy the payment, clearing, and settlement landscape. Although CSD (GH) does not have access to routine central bank credit, the liquid resources of the SG Fund are maintained in Government of Ghana securities, which is typically accepted by Bank of Ghana, for credit arrangements to facilitate clearing and settlement. CSD (GH) is in the process of establishing an agreement with Bank of Ghana to allow the SG Fund to routinely access central bank credit in a prompt and efficient manner. This credit will not be considered as emergency central bank credit.</p> |
| KC 7 | An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider. |
| Rating of KC 7 | <p>Not applicable.</p> <p>CSD (GH) presently has no liquidity provider to meet its minimum required qualifying liquidity resources. The Settlement Guarantee Fund's recourses has not been so tested.</p> |
| KC 8 | An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk. |
| Rating of KC 8 | <p>Observed.</p> <p>CSD (GH) settles with central bank money.</p> |

| | |
|-----------------|---|
| KC 9 | <p>An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of its liquidity risk management framework and revise it if and when necessary. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs) and, where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.</p> |
| Rating of KC 9 | <p>Not observed. CSD (GH) consistently keeps increasing its resources or reserve as evidenced in the various annual Audited Financial Statements published on the website of CSD (GH). However, the resources or reserves are not used for the purposes of settlement. CSD (GH) has adequate procedures to ensure that DPs do not default. In addition the SG Fund is also available to serve as a form of buffer in the settlement process. Nonetheless, no stress test has been conducted by CSD (GH) to ascertain the sufficiency of its liquid resources.</p> |
| KC 10 | <p>An FMI should establish explicit rules and procedures that enable the FMI to effect same day and, where appropriate, intraday and multiday settlement of payment obligations on time, following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls, and should aim to avoid unwinding, revoking, or delaying same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.</p> |
| Rating of KC 10 | <p>Broadly observed.</p> <p>Refer to Key Practices and Achievements 4 and 6.</p> <p>The Settlement Guarantee Fund guidelines require a participant to replenish the SG Fund the next business day following its use. The Guideline on the Settlement Guarantee Fund would be reviewed in 2019 to address the issue of replenishment and likely default arising from an inability of a Depository Participant to replenish its on time.</p> |

| Principle 8: Settlement Finality An FMI should provide clear and certain final settlement and, at a minimum, by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time. | |
|--|---|
| Key Practices and Achievements of CSD (GH) | <ol style="list-style-type: none"> 1. Settlement may be done on a Delivery versus Payment (DvP) basis or Free of Payment (FoP) basis. 2. Settlement finality occurs when title to the securities is transferred on the settlement date. According to Rule 62 (7) of the CSD Operational Rules (amended), upon settlement of the eligible securities and payment thereof, title to the securities shall be transferred on settlement date, and the transaction shall be final and irrevocable. 3. CSD (GH) has two separate market timelines for settling DvP transactions in both the equity and the fixed income markets. 4. Fixed income transactions settle at 4.20 pm. Participants are required to make funds available for settlement by 2.00 pm. 5. Equity transactions settle at 2.00 pm. Participants are required to make funds available for settlement by 12.00 pm. . <p>The clearing and settlement system of CSD (GH) is aligned with the payment system of the Bank of Ghana. A mechanism for straight through processing of funds and securities for settlements is available.</p> |
| Rating of Principle 8 | Partly observed. |
| Key Consideration 1 (KC) | An FMI's rules and procedures should clearly define the point at which settlement is final. |
| KC 1 | Broadly observed. Refer to Key practice and Achievement 2. |
| KC 2 | An FMI should complete final settlement no later than the end of the value date and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day. |
| Rating of KC 2 | Broadly observed. The settlement process is designed to ensure that final settlement occurs on the value date. This is at 4:20 pm on T+2 for fixed income transactions and at 2:00 pm on T+3 for equity transactions. RTGS or multiple-batch processing of settlement is not done at CSD (GH). The default settlement in the fixed income market is T+2, but depository participants are permitted to book T+0 and T+1 settlement cycles. This is to increase liquidity in the market. CSD (GH) uses SWIFT communication standards to notify participants of fund settlement obligations occurring at the Ghana Interbank Settlement System of Bank of Ghana. |

| | |
|-----------------------|--|
| KC 3 | An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant. |
| Rating of KC 3 | <p>Partly observed.</p> <p>Matched transactions performed on the ATS cannot be revoked by the parties (i.e. buyer and seller) involved. OTC transactions involving fixed income securities may be revoked.</p> <p>By practice, Depository Participants cannot unilaterally revoke or cancel matched OTC transactions for fixed income securities. Both Depository Participants (counterparties) to the transaction are required to confirm in writing to CSD (GH) any cancellations that may have occurred.</p> <p>CSD (GH)'s Rules provide clear market timelines. These timelines are not subject to change or extension.</p> |

| | |
|--|--|
| Principle 9 : Money Settlement An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimize and strictly control the credit and liquidity risks arising from the use of commercial bank money. | |
| Key practices and achievements CSD (GH). | <ol style="list-style-type: none"> 1. CSD (GH) conducts money settlement using central bank money. 2. All Depository Participants are required to have access to the GIS of the Bank of Ghana. This may be either directly where depository participants are also participants in the GIS system, or indirectly where Depository Participants appoint a commercial bank in the GIS system as their Settlement Partner. 3. CSD is at the final stages of signing a business operating agreement with the central bank, Bank of Ghana, as the Settlement Bank. 4. Settlement is completed in the currency in which securities are denominated. CSD (GH) currently holds securities denominated in both Ghanaian cedi and United State dollar currencies. |
| Rating of Principle 9 | Broadly observed. |
| Key Consideration 1 (KC 1) | An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks. |
| Rating of KC 1 | Observed. Refer to Key Practice and Achievement 1. |
| KC 2 | If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk. |
| Rating of KC 1 | Not applicable. Refer to Key practice and Achievement 1. |
| KC 3 | If an FMI settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalization, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks. |
| Rating of KC 3 | Not applicable. Refer to Key Practice and Achievement 1. |
| KC 4 | If an FMI conducts money settlements on its own books, it should minimize and strictly control its credit and liquidity risks. |
| Rating of KC 4 | Not applicable. Refer to Key Practice and Achievement 1 and 2. |
| KC 5 | An FMI's legal agreements with any settlement bank should state clearly when transfers on the books of individual settlement banks are expected to |

| | |
|------------------------------|--|
| | <p>occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.</p> |
| <p>Rating of KC 5</p> | <p>Broadly observed.</p> <ol style="list-style-type: none"> 1. Under the GIS system through which funds settlement occurs, all commercial banks have an account where funds are directly credited or debited. On settlement day, these accounts will be directly credited or debited with the net obligations of Depository Participants. 2. Settlement occurs on the value date. Settlements for equity securities and fixed income securities occur at 2.00 pm and 4.20 pm, respectively. 3. Funds for securities settlement are directly settled in the accounts of the commercial banks at Bank of Ghana for onward transfer to Depository Participants (i.e. Brokers) or their clients. Commercial Banks are required to transfer and/or credit the beneficiary accounts within twenty four (24) hours upon receipt of the settlement amount at Bank of Ghana. However, this may vary depending on the contractual agreement established between the commercial bank and the beneficiary account holder. CSD is in the process of signing an MoU with Bank of Ghana which acts as the Settlement Bank for CSD (GH). |

Principle 10 : Physical Deliveries

An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

Principle 10 on physical deliveries does not currently apply to CSD (GH). This is because CSD (GH) does not currently deal in physical instruments or commodities.

Not applicable. CSD (GH) does not deal in physical instruments or commodities. In other words, CSD (GH) deals only in electronic securities.

Principle 11 : Central Securities Depositories

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimize and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilized or dematerialized form for their transfer by book entry.

| | |
|---|---|
| Key practices and achievements CSD (GH). | <ol style="list-style-type: none">1. In its role as a Central Securities Depository, CSD (GH) Ghana handles only securities that are in their dematerialised form.2. CSD (GH) is required, under the CSD Act, 2007 (Act 733) and its rules, to guard against falsification of any records or account kept and or maintained with the Depository. In addition, the Depository has in place, rules, procedures, and internal controls that protect the rights of issuers and securities holders and guard against the unauthorized creation or deletion of securities.3. The Depository is required to maintain and continuously update a register of existing depositors by type of security and the corresponding net balance of their holdings.4. The Depository performs a daily reconciliation of the quantity of all issued securities. This is made available to all Registrars/Issuers for confirmation.5. Depository Participants are required to sign and uphold confidentiality agreements with the CSD. These agreements require the Depository Participant to take all necessary measures to protect the records of the investors.6. CSD (GH) protects the information assets at its disposal in line with the Data Protection Act 2012 (Act 843). All Depository Participants are also required to adhere to Act 843.7. All measures, procedures, and rules for safeguarding the integrity of issued securities and for minimizing and managing the risks associated with the safekeeping and transfer of securities held are in accordance with best market practices.8. CSD (GH) operates a segregated account structure. Depository Participants are required to segregate their proprietary accounts from the accounts of investors. Investors may elect to hold individual accounts, nominee accounts, or omnibus accounts. Nominee accounts are subject to approval by the Commission. The nominee accounts are regulated by the Securities and Exchange Commission to safeguard the assets of the underlying clients. |
| Rating of Principle 11 | Broadly observed. |
| Key Consideration 1 (KC 1) | A CSD should have appropriate rules, procedures, and controls, including robust accounting practices, to safeguard the rights of securities issuers and holders, prevent the unauthorized creation or deletion of securities, and conduct periodic and, at least, daily reconciliation of securities issues it maintains. |
| Rating of KC 1 | Observed. Refer to Key Practices and Achievements 1 to 4. |

| | |
|-----------------------|---|
| | |
| KC 2 | A CSD (should prohibit overdrafts and debit balances in securities accounts. |
| Rating of KC 2 | <p>Observed.</p> <p>CSD (GH) does not allow securities accounts to operate with an overdraft or debit balances. An automatic daily reconciliation exists as a control, to ensure that the nominal value of fixed income securities and volume of equity securities in all client accounts are equal to their respective issued quantities at all times.</p> |
| KC 3 | A CSD should maintain securities in an immobilised or dematerialized form for their transfer by book entry. Where appropriate, a CSD should provide incentives to immobilise or dematerialise securities. |
| Rating of KC 3 | <p>Observed.</p> <p>Refer to Key Practice and Achievement 1.</p> <p>The CSD Act, 2007 (Act 733) permits investors to hold paper certificates for equity assets with the Registrars. Currently, there are four Registrars operating in the equity market of Ghana. The paper certificates are converted into an electronic book entry form into the depository system anytime an equity investor plans to trade the asset. In other words, without dematerialisation of the paper certificates into the depository system, the investor cannot trade the share certificate on the trading platform of the GSE. All debt securities are issued in dematerialized form. CSD (GH) does not permit the immobilisation of securities since it holds on electronic book entry securities.</p> <p>Incentives provided to encourage dematerialisation include the maintenance of securities account at no cost to the investor, and the provision of specialised CSD (GH) administered securities accounts for investors who meet certain requirements.</p> <p>CSD (GH) permits the withdrawal of equity securities from the Depository at a fee.</p> |
| KC 4 | A CSD should protect assets against custody risk through appropriate rules and procedures consistent with its legal framework. |
| Rating of KC 4 | <p>Observed.</p> <p>Refer to Key Practices and Achievements 2 to 4.</p> <p>CSD (GH) and its participants have indemnified themselves against actions beyond their control. CSD (GH) has an insurance policy in place to cover key areas of its operations.</p> |
| KC 5 | A CSD should employ a robust system that ensures segregation between the CSD's own assets and the securities of its participants, and segregation |

| | |
|-----------------------|---|
| | among the securities of participants. Where supported by the legal framework, the CSD should also support operationally the segregation of securities belonging to a participant's customers on the participant's books and facilitate the transfer of customer holdings. |
| Rating of KC 5 | <p>Observed.</p> <p>Refer to Key Practice and Achievement 7.</p> <p>The Depository's own assets are segregated from the assets of investors and the assets of Depository Participants. The legal framework allows for CSD (GH) to support the operations of Depository Participants by requiring authorisation from the Depository for movements in client holdings.</p> |
| KC 6 | A CSD should identify, monitor, and manage its risks from other activities that it may perform; additional tools may be necessary in order to address these issues. |
| Rating of KC 6 | <p>Observed.</p> <p>CSD (GH) also operates as an SSS and offers Registrar services in the equity market. Adequate risk management tools are in place to monitor and manage the risks arising from these other activities. The risk framework covers all the other activities carried out by CSD (GH). An enhanced risk register is being developed for these activities.</p> |

| | |
|--|--|
| Principle 12 : Exchange of Value Settlement System If an FMI settles transactions that involve the settlement of two linked obligations (for example securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other. | |
| Key practices and achievements of CSD (GH). | <ol style="list-style-type: none"> 1. Settlement of securities and funds is simultaneous and is completed on the DvP II Model. 2. Fund obligations are settled on a net basis, while security obligations are settled on a gross basis. 3. Securities settlement is conditioned only on the settlement of funds on the GIS of Bank of Ghana |
| Rating of Principle 12 | Observed. |
| Key Consideration 1 (KC) | An FMI that is an exchange-of-value settlement system should eliminate principal risk by ensuring that the final settlement of one obligation occurs if and only if the final settlement of the linked obligation also occurs, regardless of whether the FMI settles on a gross or net basis when finality occurs. |
| Rating of KC 1 | Observed. Refer to Key Practices and Achievements 1 to 3. |

Principle 13 : Participant-Default Rules and Procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

| | |
|--|---|
| Key Practices and Achievements of CSD (GH). | <ol style="list-style-type: none">1. The procedures and rules provide for the conditions that would result in a participant default and the actions CSD (GH) can take in the event of a participant default.2. CSD (GH) has a buy-in procedure in the event of a securities default.3. A Depository Participant who accesses the SG Fund in the event of fund default is still liable for the replenishment of the Fund. Non-replenishment of the Fund will result in the same action as provided in Key Practice and Achievement 1 above.4. CSD (GH) shall completely terminate the defaulter participant's access to the Depository.5. A Depository Participant whose activities are terminated as in (3) above is still liable for the Fund obligations of transaction set up prior to their termination.6. CSD (GH) shall take steps to recover any amount due from defaulted participants. This includes any costs or charges incurred by CSD (GH) in arranging funds for settlement due to delay in payment by the defaulter participant.7. CSD (GH), together with the regulator of the Depository Participant and the Commission, shall appoint a Manager for the securities accounts of the defaulter participant8. Securities accounts of the defaulter participants will be transferred to any Depository Participant of the investor's choice. |
| Rating of Principle 13 | Partly observed. |
| Key Consideration 1 (KC 1) | An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and also addresses the replenishment of resources following a default. |
| Rating of KC 1 | Broadly observed. Refer to Key Practices and Achievements 1 to 6. CSD (GH) is in the process of instituting procedures on defaulting Depository Participants that are liquidated, placed in administration or cease to become going concerns. The procedures would also address the issue of replenishment of the resources of the Settlement Guarantee Fund |

| | |
|-----------------------|---|
| | in the event a Depository Participant is unable to repay the portion of the Fund utilised on its behalf for settlement. |
| KC 2 | An FMI should be well-prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules. |
| Rating of KC 2 | Partly observed. Refer to Key Practices and Achievements 1 to 5. There is scope for CSD (GH) to enhance and implement a comprehensive default procedure. |
| KC 3 | An FMI should publicly disclose key aspects of its default rules and procedures. |
| Rating of KC 3 | Observed. The default rules and procedures of CSD (GH) are publicly available. |
| KC 4 | An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually, or following material changes to the rules and procedures |
| Rating of KC 4 | Partly observed. The default procedures, which are themselves a part of the general rules and procedures governing CSD (GH), were set up in consultation with key market stakeholders and the Depository Participants. Presently, there have been no material changes to the rules and procedures that would require testing and review of the default procedures. CSD (GH) is working on implementing a procedure for testing the default procedure. |

Principle 14: Segregation and portability

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral to the CCP with respect to those positions.

Principle 14 on segregation and portability does not apply to CSD (GH) because CSD (GH) does not operate as a CCP.

Not applicable.

| | |
|--|---|
| Principle 15 : General Business Risk An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialize. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services. | |
| Key practices and achievements of CSD (GH). | <ol style="list-style-type: none"> 1. The Risk Management Policy of CSD (GH) is a comprehensive policy that includes management of the general business risk of the Depository. 2. Management and control systems are in place to identify, monitor and manage general business risks. The management and control systems include approval of annual budgetary allocations by the Board of Directors prior to the utilization of the resources, among other things. 3. The Board reviews and approves all budgets including any expenditure that is likely to impact significantly on the business of CSD (GH). 4. CSD (GH) has adequate net liquid assets to make it a going concern for a period exceeding the recommendation of six months by the PFMI. 5. Capital requirement of the Regulator, Securities and Exchange Commission, is satisfied by CSD (GH). 6. CSD (GH) has insurance policies in place. 7. Recovery and or wind down policy is being developed by CSD (GH). |
| Rating of KC 15 | Broadly observed. |
| Key Consideration 1 (KC 1) | An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses. |
| Rating of KC 1 | <p>Broadly observed.</p> <p>Refer to Key Practices and Achievements 1 to 2.</p> <p>The budgets are reviewed mid-year by Management and the report is submitted to the Board for further assessment. Any additional changes in the budget during the mid-year review must be approved by the Board. The Board assesses and approves all major projects undertaken by the Depository. Monitoring of general business risks are performed by internal and external auditors. Audited financial statements are submitted to the Board for assessment on an annual basis.</p> <p>As part of improving the General Business Risk, CSD (GH) has a Five-Year Strategic Plan (2014-2019) which is reviewed every year to determine its progress and, where necessary, make amendments to the Plan. This is the</p> |

| | |
|-----------------------|--|
| | <p>maiden strategic plan of CSD (GH) since its establishment. A new five-year strategic plan would be developed in 2019.</p> <p>CSD (GH) will pursue avenues to diversify its sources of revenue and manage the expenditure on capital acquisitions.</p> |
| KC 2 | An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken. |
| Rating of KC 2 | <p>Observed.</p> <p>Refer to Key Practice and Achievement 3 and 4.</p> <p>CSD (GH) will develop a procedure for a more rigorous scenario and stress testing analysis of its financials and expenses.</p> |
| KC 3 | An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements. |
| Rating of KC 3 | <p>Partly observed.</p> <p>Refer to Key Practices and Achievements 3 and 4.</p> <p>CSD (GH) is in the process of developing a recovery and a wind down plan. In the event that the liquid net assets are unable to sustain CSD (GH) during the recovery or wind-down period, an informal arrangement exists among the shareholders to devote additional resources to make CSD (GH) a going concern. This arrangement needs to be reviewed, documented and formalised.</p> |
| KC 4 | Assets held to cover general business risks should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions. |
| Rating of KC 4 | <p>Observed.</p> <p>CSD (GH) has an investment policy as part of the management of its general business risks. The investment policy requires that its liquid net assets are invested in near cash instruments mainly in government securities.</p> |

| | |
|-----------------------|--|
| | CSD (GH) has an investment committee which is superintended by the Board. Regular assessments are done to determine the quality and liquidity of its net assets. |
| KC 5 | An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly. |
| Rating of KC 5 | <p>Not observed.</p> <p>CSD (GH) has initiated a process of developing a recovery and wind down plan. As part of the process, the issue of raising additional equity would be examined.</p> |

Principle 16 : Custody and Investment Risks

An FMI should safeguard its own and its participants' assets and minimize the risk of loss on these assets and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

| | |
|---|--|
| Key practices and achievements CSD (GH). | <ol style="list-style-type: none">1. CSD (GH) has an investment policy in place which is determined by the Board of Directors. There is also an investment committee that reviews the investment policy against the investments made by the Depository. These reviews are submitted to the Board of Directors.2. The investment policy permits CSD (GH) to invest its assets in cash or cash equivalent assets only.3. CSD (GH) does not invest in securities issued by participants. All purchases into GoG securities are made by Bank of Ghana in the secondary market. The GoG securities purchased by CSD (GH) are held in its own securities account registered by Bank of Ghana. CSD (GH) and has no assets with any Custodian Bank.4. The Settlement Guarantee Fund is held in GoG securities on behalf of all Depository Participants in its own securities account registered by Bank of Ghana. The assets of the Settlement Guarantee Fund and the assets of CSD (GH) are completely segregated. |
| Rating of Principle 16 | Observed. |
| Key Consideration 1 (KC 1) | An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets. |
| Rating of KC 1 | Observed. Refer to Key Practices and Achievements 1 to 4. |
| KC 2 | An FMI should have prompt access to its assets and the assets provided by participants, when required. |
| Rating of KC 2 | Observed. Refer to Key Practices and Achievements 3. |
| KC 3 | An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each. |
| Rating of KC 3 | Observed. CSD (GH) does not face any exposure from the Custodian Banks since it holds no assets under the custody of Custodian Banks. |
| KC 4 | An FMI's investment strategy should be consistent with its overall risk management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effects. |

| | |
|-----------------------|---|
| | |
| Rating of KC 4 | <p>Observed.</p> <p>The investment policy of CSD (GH) forms part of its risk management strategy. The investment policy is approved by the Board of Directors and is disclosed to the shareholders of CSD.</p> <p>Also investment of the Settlement Guarantee Fund is disclosed to the Depository Participants in line with the Settlement Guarantee Fund Guidelines approved by the Securities and Exchange Commission.</p> |

Principle 17 : Operational Risk

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate scalable capacity. Business continuity management should aim for timely recovery of operations and fulfillment of the FMI's obligations, including in the event of a wide-scale or major disruption.

| | |
|--|--|
| Key practices and achievements of CSD (GH). | <ol style="list-style-type: none"> 1. Operational risk management (ORM) forms an integral part of the enterprise-wide risk management framework of CSD (GH). 2. The operational risk management approach of CSD (GH) involves the integration of risk management practices into the activities, procedures, and systems that ensure that CSD (GH) is able to carry out its securities clearing and settlement and all other functions of the Depository. 3. The Board is responsible for identifying the objectives of the ORM and develop strategies and tools to successfully execute the ORM. 4. The management of CSD (GH) is responsible for the identification, assessment, and monitoring of operational risk. The Economic and Risk Analysis (ERA) Department is responsible for enforcement of the operational risk management tools. 5. The performance of the operational risk strategy and tools are periodically audited by both internal and external auditors. 6. As part of the ORM, CSD (GH) has developed a comprehensive business continuity plan (BCP) and disaster recovery (DR) plan. Both plans include the continuous replication of data on real time basis and the availability of a secondary fully functional operational site. 7. A key component of the ORM strategy is the management of Information Security. CSD (GH) has a dedicated Information Security Management (ISMS) unit under the ERA Department. The unit ensures that all policies, procedures, and strategies deployed for the management of Information Security satisfy ISO 27001:2013 standards. |
| Rating of Principle 17 | Broadly observed. |
| Key Consideration 1 (KC1) | An FMI should establish a robust operational risk management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks. |
| Rating of KC 1 | <p>Broadly observed.</p> <p>Refer to Key Practice and Achievement 3.</p> <p>Risk is identified, monitored and managed by the Board through the Risk Charter of the Risk Committee of the Board.</p> |

| | |
|-----------------------|--|
| | <p>The ORM strategy also involves the policies, personnel, procedures and systems of the depository function. The ORM clearly sets out the role of all personnel identifying and managing operational risks. Recruitment of personnel is subject to a rigorous process. Staff are required to sign Confidentiality Agreements and a Code of Conduct to ensure strict adherence to the Depository's internal procedures.</p> <p>The ORM strategy has policies and processes on change management and project management to ensure that the implementation of all new projects progress efficiently. Moreover, CSD (GH) has developed process maps and written procedures on all operational activities. In relation to operation risk, a single point of failure has been identified by CSD (GH).</p> |
| KC 2 | <p>An FMI's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after any significant changes.</p> |
| Rating of KC 2 | <p>Broadly observed.</p> <p>Refer to Key Practice and Achievements 2 to 5.</p> <p>All Departments periodically identify operational risks and review and test the tools for mitigating these risks. The outcome of the reviews and testing are submitted by Management to the Board on quarterly basis for assessment.</p> <p>The Internal Audit Unit performs a periodic audit of the ORM system, the results of which are reported directly to the Board. The Internal Audit Unit is independent of Management and reports directly to the Audit Committee of the Board. ORM is also subject to annual external audits. The audits are carried out by external auditors with expertise in systems and operations audit.</p> |
| KC 3 | <p>An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.</p> |
| Rating of KC | <p>Broadly observed.</p> <p>CSD (GH) has clearly defined operational reliability objectives which are covered in its strategic plan, its enabling legislative Act, and its own Rules and Procedures.</p> <p>Achievements of these objectives are measured by key performance indicators reflected in the annual work program. Management reviews the annual work program semi-annually and makes the reports available to the Board.</p> |

| | |
|-----------------------|---|
| | CSD (GH) has a capacity management planning tool in place. The capacity management planning tool requires CSD (GH) to have 45% and 55% reserve capacity at the production and backup sites, respectively. The capacity management requirements are monitored on a daily basis. |
| KC 4 | An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service level objectives. |
| Rating of KC 4 | <p>Observed.</p> <p>CSD (GH) has a capacity management planning tool in place with pre-determined thresholds. The capacity thresholds are monitored using high level automated alert systems that have been incorporated into the operational systems.</p> <p>The IT Department is responsible for the monitoring and implementation of the capacity management planning tool. The Department monitors the system scalability and capacity on a daily basis, and the outcomes are captured in the monthly and quarterly Information Security Management System reports which are submitted to Management.</p> <p>CSD (GH) has adequate standby systems at both the primary and secondary sites. Operational risks assessments are performed to examine the scalability of the systems before the introduction of new products and services.</p> |
| KC 5 | An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats. |
| Rating of KC 5 | <p>Observed.</p> <p>CSD (GH) is ISO27001:2013 certified and, as a result, the physical and information security policies of CSD (GH) are aligned with ISO27001:2013 standards.</p> <p>Measures that have been put in place to achieve physical security include:</p> <ul style="list-style-type: none"> • Prevention of unauthorized access to the data centers and critical offices as well as 24 hour surveillance of the office premises; • Real time alerts systems have been installed at the Data centers to provide notification of any physical disturbance; • All external contractors to CSD (GH) are required to work under supervision with prior approval from the Executive Management; • Reporting lines have been established and communicated to all staff to escalate issues relating to both physical and information security; |

| | |
|-----------------------|--|
| | <ul style="list-style-type: none"> • The ISO27001 certification ensures that adequate security policies, standards, and guidelines are in place for the effective management of CSD's information security; • Penetration and vulnerability assessments are done at least twice a year to determine the security of the systems; and • The information security management of CSD (GH) is in consonant with the Data Protection Act 2012 (Act 843) of Ghana. |
| KC 6 | <p>An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical IT systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.</p> |
| Rating of KC 6 | <p>Observed.</p> <p>Refer to Key Practice and Achievement 6.</p> <p>The BCP involves various test scenarios, including industry-wide exercises and desktop exercises, which are conducted at least twice every year. Staff, stakeholders including BoG, GSE, and external service providers (specifically network providers), are involved as part of the testing process. The outcome of the tests is incorporated into the BCP after approval by the Board. The BCP plan is audited and reviewed by both external and internal assessors.</p> <p>In addition to the BCP, CSD (GH) has a Disaster Recovery Plan (DRP). The objective of the DRP is to enable CSD (GH) to restore its normal operations in the event of disasters within the stipulated two hour-criteria specified by this requirement. The DRP exists to reduce the impact on the business operations of CSD (GH) during periods of critical incidents.</p> <p>As part of the BCP and DRP, CSD (GH) also has a secondary site. This is to ensure that CSD (GH) assumes normal operations during business disruption and achieve settlement at the end of the value date. The restoration time to the secondary site is within two hours. Data is replicated in real time from the primary site to the secondary site. In addition, backup tapes are physically stored in a fire proof cabinet. The backup tapes cover end of day, end of week, end of month, and end of year data. The level of concentration or speed of data flows between the production and the DR site is monitored daily by the IT Department to identify potential gaps or</p> |

| | |
|-----------------------|--|
| | <p>breakages in the data replication process. Issues identified are immediately escalated to Management for resolution.</p> <p>CSD (GH) has adequate manual procedures in place to ensure that operations can be carried out when IT systems are offline.</p> <p>In the event that staff cannot access the primary site, key staff would be granted remote access to the secondary site to carry on the business of CSD (GH). CSD (GH) also has an Emergency Operating Centre (EOC). The EOC is located at a different site and is independent of both the production and the secondary (i.e. recovery) sites. Segments of the BCP and DRP of CSD (GH) have been factored into that of its key stakeholders, i.e. BoG and GSE.</p> |
| KC 7 | <p>An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.</p> |
| Rating of KC 7 | <p>Observed.</p> <p>CSD (GH) identifies external operational risks in its ORM.</p> <p>As part of the monitoring of the external risks posed by its participants, participants are required to satisfy technical, financial and capacity requirements which form part of their minimum operational requirements. There is scope for improvement in the area of operational risk assessment of CSD (GH)'s key external stakeholders. Mandatory training, including refresher programmes, are in place to equip the Depository Participants to deal efficiently with the Depository.</p> |

| | |
|--|--|
| Principle 18 : Access and Participation Requirements An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access. | |
| Key practices and achievements of CSD (GH) | <ol style="list-style-type: none"> 1. The appointment requirements for a Depository Participant are publicly disclosed by CSD (GH). These requirements are risk-based with the aim of ensuring that only entities that pose minimum or no risk to the Depository's activities are admitted. 2. Depository Participants are also required to meet continuing obligations. 3. CSD (GH) can enforce its rules, procedures and guidelines against all Depository Participants, and it may apply sanctions as provided in the CSD Rules. |
| Rating of Principle 18 | Broadly observed. |
| Key Consideration 1 (KC 1) | An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements. |
| Rating of KC 1 | Observed. Refer to Key Practices and Achievements 1 and 2. In terms of indirect participants, the rules of CSD (GH) allow for fair and open access to Depository's services by dealing directly with Depository Participants. Depository Participants are required to deal with the indirect participants fairly in accessing the services of CSD (GH). The indirect participants are perceived as customers of the Depository Participants. |
| KC 2 | An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavor to set requirements that have the least-restrictive impact on access that circumstances permit. |
| Rating of KC 2 | Observed. Refer to Key Practices and Achievements 1 CSD (GH) promotes fair and open access by appointing only market participants who satisfy the appointment requirements to be Depository Participants. CSD (GH) has a surveillance team responsible for monitoring the continuing obligations of DPs as part of its risk management framework. |
| KC 3 | An FMI should monitor compliance with its participation requirements on an on-going basis, and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements. |

| | |
|-----------------------|---|
| | |
| Rating of KC 3 | <p>Broadly observed.</p> <p>Refer to Key Practices and Achievements 1, 2 and 3.</p> <p>In collaboration with the Operations and IT Departments, the Economic and Risk Analysis (ERA) Department is charged with the responsibility of monitoring and overseeing the conduct of DPs. The ERA Department is tasked to perform both onsite and offsite compliance/surveillance visits and inspections of the DPs. CSD Rule 43 makes adequate provision for the suspension and orderly exit of a participant.</p> <p>CSD (GH) has the power to sanction a DP that violates the participation requirements. The sanctions may vary from restriction on business practices, monetary fines, and suspension, among others, as outlined in the CSD Rules. Some of the monetary sanctions are disclosed in the penalty schedule which is publicly disclosed on the CSD (GH)'s website.</p> <p>In the event of a suspension or dismissal of Depository Participants, a Manager will be appointed to undertake the business of the affected DP. The appointment of the Manager is done by CSD (GH) in consultation with the Securities and Exchange Commission and or other Regulators in the financial system, where applicable.</p> |

Principle 19 : Tiered Participation Requirements

An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.

Not applicable. Per the operations of CSD (GH), the Depository interacts directly with the Depository Participants and not the underlying investors who are considered Customers of the DPs. In other words, CSD (GH) does not assume any direct relationship with the customers of the Depository Participants. The Depository Participants are, therefore, responsible for identifying, monitoring and managing the risks posed by their clients, including high net worth investors such as pension funds whose activities may have significant impact on the Depository Participants. This arrangement is contained in the Participation Agreement, a document that binds the business relationship between CSD (GH) and the Depository Participants. The focus of CSD (GH) is to monitor the risks posed by the Depository Participants to the market. This is in line with the established Rules, Procedures, and Guidelines of the Depository. CSD (GH) operates both segregated and omnibus or nominee account structures. In most cases, CSD (GH) may not have adequate information on the beneficiary account holders. For segregated account holders, CSD (GH) has basic information (such as name, date of birth, contact number and address, ID) on the beneficiary investors in the MCSD system but not that of omnibus account or nominee account structures. In terms of nominee accounts, the Securities and Exchange Commission has market guidelines for regulating the activities of such accounts. The Anti-Money Laundering (Amendment) Act, 874 (Act 2014) requires all Financial Institutions, including Depository Participants, to perform due diligence on all their clients and, where possible, enhanced due diligence for high risk clients. The financial institutions are mandated to monitor, on an on-going basis, the transactions of these individuals and report any adverse findings to the appropriate authorities.

Principle 20 : FMI Links

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

Principle 20 on FMI links does not apply to CSD (GH) because CSD (GH) has no established links with other FMIs.

Not applicable. CSD (GH) has no established links with other FMIs.

Principle 21 : Efficiency and Effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

Key practices and achievements

1. CSD (GH) has clearly defined goals and objectives stated in its Five-Year Strategic plan. The strategic plan includes clearly defined timelines within which key activities are to be achieved. The objectives of the strategic plan coordinates CSD (GH)'s operations, systems, personnel and risk management into an integrated enterprise unit capable of providing efficient and effective clearing, settlement, and depository services. This approach ensures that responsibilities are aligned and integrated to prevent fragmented, uncoordinated and repetitive actions.
2. Annual work programs are developed from the Strategic Plan. Management takes into consideration the concerns of Depository Participants in the design of the annual work program. The annual work program contains key performance indicators (KPIs) that are approved and monitored by the Board for efficiency and effectiveness. Management performs a semi-annual review of the performance of the annual work program and makes the results available to the Board.
3. Depository Participants and key stakeholders are continually involved in decisions taken by CSD (GH) that affect securities clearing, settlement and depository activities of the CSD in the securities market. These include the design of the operating system of CSD (GH), the mode of settlement, fees, and penalties. This is done through regular user group meetings.
4. CSD (GH) improves the effectiveness of its services by continuously responding to the needs of the market. A technical committee meeting with representatives from all categories of Depository Participants convenes at least once every year to discuss market concerns about the Depository's operations. Depository Participants are allowed representation on the Business Conduct Committee of the Board which ensures that the rules and procedures are properly understood and adhered to by Depository Participants.
5. Depository Participants are involved in the creation and review of all CSD (GH)'s rules, procedures and guidelines. This includes the development of the Five-Year Strategic Plan.
6. The Strategic Plan, rules, procedures and guidelines of the Depository are subject to periodic review. Annual work programmes are reviewed quarterly and annually.

Rating of Principle 21**Observed.****Key Consideration 1 (KC 1)**

An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard: to choice of a clearing and

| | |
|-----------------------|---|
| | settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures. |
| Rating of KC 1 | <p>Observed.</p> <p>Refer to Key Practices and Achievements 3 to 5.</p> <p>CSD (GH) actively involves participants in project designs and the determination of milestones to ensure that timelines are met.</p> |
| KC 2 | An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk management expectations, and business priorities. |
| Rating of KC 2 | <p>Observed.</p> <p>Refer to Key Practices and Achievements 1, 2, 3 and 5.</p> <p>In addition, the Strategic Plan is reviewed every year to monitor its progress and performance achievements, and ensure its effectiveness.</p> |
| KC 3 | An FMI should have established mechanisms for the regular review of its efficiency and effectiveness. |
| Rating of KC 3 | <p>Observed.</p> <p>Refer to Key Practice and Achievement 3.</p> <p>CSD (GH) is working on enhancing its assessment methodology to measure efficiency and effectiveness and will enhance its Key Performance Indicator (KPI) management system in this regard.</p> |

| Principle 22 : Communication Procedures An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording. | |
|---|---|
| Key Practices and achievements | <ol style="list-style-type: none"> 1. CSD (GH) uses internationally accepted communication standards to facilitate payment, clearing and settlement. 2. The clearing and settlement system of CSD (GH) communicates to the Ghana Interbank Settlement (GIS) system through a modified SWIFT messaging service. This is necessary because CSD (GH) relies on the Bank Identifier Code (BIC) to relay messages to the payment system for funds settlement. 3. The central bank, Bank of Ghana, in turn relays SWIFT messages to the commercial banks chosen by Depository Participants for their fund settlement arrangements. These messages notify participants of the successful transfer of funds. 4. Depository Participants have access to settlement reports which record the successful clearing and settlement of securities. Settlement reports are available on the operating system of CSD (GH). Participants are also notified via secured File Transfer Protocols (sFTP) of their securities obligation after settlement. The sFTP is also used to exchange files and reports with Depository Participants. Both the Settlement reports and the sFTP are subject to the information security management procedures of CSD (GH). |
| Rating of Principle 22 | Broadly observed. |
| Key Consideration 1 (KC 1) | An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards. |
| KC 1 | <p>Broadly observed.</p> <p>Refer to Key Practices and Achievements 1 to 3.</p> <p>CSD (GH) has engaged SWIFT in order to obtain its own BIC and improve communication in the country's securities market. This will enable CSD (GH) to apply SWIFT communication standards to both the security and fund sides of market transactions.</p> |

Principle 23 : Disclosure of Rules, Key Procedures and Market Data

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks and fees and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

| | |
|---------------------------------------|---|
| Key practices and achievements | <ol style="list-style-type: none">1. CSD (GH) has its own rules, procedures and guidelines which are publicly available on its website. These are the Operational Rules, CSD (GH) Operational Procedures, Clearing and Settlement Rules, and the Settlement Guarantee Fund Guidelines.2. Participants in the Depository are required to sign a Participant agreement which informs them of their rights, obligations and the costs to them of participating in the Depository.3. Information relating to the design of the CSD (GH) system and operations are disclosed to participants appointed to the Depository.4. The costs of managing and maintaining CSD (GH) is publicly disclosed in its audited annual financial statement which is published on its website.5. CSD (GH) provides relevant information on its website, including daily market data and monthly and yearly reports on the performance of the securities market.6. Participants are actively involved in the formation and review of the relevant rules and key procedures. This is done through user group meetings.7. Participants are involved in the formulation of fees, charges and penalties for the market. Revisions to the fees, charges and penalties must be approved by the Regulator, Securities and Exchange Commission. The fee structure of CSD (GH) is publicly available on its website.8. CSD (GH) requires all officers of Depository Participants to undergo a mandatory training exercise prior to receiving access to the operating system.9. Refresher training courses are offered to existing users at zero cost. |
| Rating of Principle 23 | Broadly observed. |
| Key Consideration 1 (KC 1) | An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed. |
| Rating of KC 1 | Broadly observed. Refer to Key Practices and Achievements 1 to 3. |
| KC 2 | An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the FMI. |
| Rating of KC 2 | Observed. |

| | |
|-----------------------|---|
| | Refer to Key Practices and Achievements 2 to 4. |
| KC 3 | An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures, and the risks they face from participating in the FMI. |
| Rating of KC 3 | <p>Broadly observed.</p> <p>Refer to Key Practices and Achievements 1, 8 and 9.</p> <p>CSD (GH) is currently reviewing the training program for new users to include a formal examination.</p> |
| KC 4 | An FMI should publicly disclose its fees at the level of individual services it offers, as well as its policies, on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes. |
| Rating of KC 4 | <p>Observed.</p> <p>Refer to Key Practices and Achievement 7.</p> |
| KC 5 | An FMI should complete regularly and disclose publicly responses to the CPSS IOSCO Disclosure framework for FMIs. An FMI also should, at a minimum, disclose basic data on transaction volumes and values. |
| Rating of KC 5 | <p>Broadly observed.</p> <p>This is the initial assessment of the CPSS IOSCO Disclosure Framework. Results of the assessment will be made public on CSD (GH)'s website. CSD (GH) discloses data on transaction volumes on its website as well.</p> |

ANNEX A: REFERENCE MATERIALS

| S/N | Name of Document | Document in Existence | For Publication | Principle 1 | Principle 2 | Principle 3 | Principle 4 | Principle 5 | Principle 6 | Principle 7 | Principle 8 | Principle 9 | Principle 10 | Principle 11 | Principle 12 | Principle 13 | Principle 14 | Principle 15 | Principle 16 | Principle 17 | Principle 18 | Principle 19 | Principle 20 | Principle 21 | Principle 22 | Principle 23 | Principle 24 |
|-----|---|-----------------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1 | Agency Agreement | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 2 | Agreement between CSD and GSE | Yes | No | √ | | | | N/A | N/A | √ | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 3 | Annual Report - 2018 | Yes | Yes | | | | | N/A | N/A | | | | N/A | | | | N/A | √ | | | | | N/A | | | √ | N/A |
| 4 | Annual Work programme - 2019 | Yes | No | | √ | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 5 | Asset Risk Register | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 6 | Audit and Finance Committee Charter | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 7 | Bankers Indemnity | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 8 | Board Charter | Yes | No | | √ | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 9 | Banks and Specialised Deposit-Taking Institutions Act, 2016 (Act 930) | Yes | Yes | √ | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 10 | Board Charter Sub Committee - Audit and Finance | Yes | No | | √ | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 11 | Board Charter Sub Committee - Business Conduct | Yes | No | | √ | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 12 | Board Charter Sub Committee - Human Resource and Legal | Yes | No | | √ | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 13 | Board Charter Sub Committee - Risk | Yes | No | | √ | √ | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 14 | Borrowers and Lenders Acts, 2008 (Act 773) | Yes | Yes | √ | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 15 | Business Continuity Plan | Yes | No | | √ | √ | | N/A | N/A | | | | N/A | | | | N/A | | | √ | | | N/A | | | | N/A |
| 16 | Companies Act, 2019 (Act 992) | Yes | Yes | √ | | | √ | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |

| S/N | Name of Document | Document in Existence | For Publication | Principle 1 | Principle 2 | Principle 3 | Principle 4 | Principle 5 | Principle 6 | Principle 7 | Principle 8 | Principle 9 | Principle 10 | Principle 11 | Principle 12 | Principle 13 | Principle 14 | Principle 15 | Principle 16 | Principle 17 | Principle 18 | Principle 19 | Principle 20 | Principle 21 | Principle 22 | Principle 23 | Principle 24 |
|-----|---|-----------------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 17 | Corporate Governance Guidelines on Best Practice by Securities and Exchange Commission of Ghana | Yes | Yes | √ | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 18 | Central Securities Depository Act, 2007 (Act 733) | Yes | Yes | √ | | | | N/A | N/A | | | √ | N/A | √ | | | N/A | | | √ | √ | | N/A | | | | N/A |
| 19 | Central Securities Depository Clearing and Settlement Rules | Yes | Yes | | | √ | √ | N/A | N/A | | √ | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 20 | Central Securities Depository Organogram | Yes | Yes | | √ | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 21 | Central Securities Depository's Investments Policy | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | √ | | √ | | | N/A | | | | N/A |
| 22 | Central Securities Depository Operational Procedures | Yes | Yes | √ | | √ | | N/A | N/A | √ | √ | √ | N/A | √ | √ | √ | N/A | | | | √ | √ | N/A | √ | √ | √ | N/A |
| 23 | Central Securities Depository Operational Rules | Yes | Yes | √ | | √ | | N/A | N/A | √ | √ | √ | N/A | √ | √ | √ | N/A | | | | √ | √ | N/A | √ | √ | √ | N/A |
| 24 | Data Protection Act, 2012 (Act 843) | Yes | Yes | √ | | | | N/A | N/A | | | | N/A | √ | | | N/A | | | √ | | | N/A | | | | N/A |
| 25 | Disaster Recovery Plan | Yes | No | √ | | √ | | N/A | N/A | | | | N/A | | | | N/A | | | √ | | | N/A | | | | N/A |
| 26 | DP Participation Agreements | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | √ | | N/A | | | √ | N/A |
| 27 | Employers Liability | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 28 | Foreign Exchange Act, 2006 (Act 723) | Yes | Yes | √ | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 29 | Fidelity Guarantee | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 30 | Group Personal Accident Cover | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 31 | Information Security Policy (ISO/IEC 27001:2013 Certification) | Yes | No | | √ | | | N/A | N/A | | | | N/A | √ | | | N/A | | | √ | | | N/A | | | | N/A |
| 32 | Insurance Policies | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 33 | Internal Audit Plan | Yes? | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |

| S/N | Name of Document | Document in Existence | For Publication | Principle 1 | Principle 2 | Principle 3 | Principle 4 | Principle 5 | Principle 6 | Principle 7 | Principle 8 | Principle 9 | Principle 10 | Principle 11 | Principle 12 | Principle 13 | Principle 14 | Principle 15 | Principle 16 | Principle 17 | Principle 18 | Principle 19 | Principle 20 | Principle 21 | Principle 22 | Principle 23 | Principle 24 |
|-----|--|-----------------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 34 | Monthly bulletin | Yes | Yes | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 35 | Non-Bank Financial Institutions Act, 2008 (Act 774) | Yes | Yes | √ | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 36 | Professional Indemnity | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 37 | Public Liability Insurance Cover | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 38 | Risk Committee Charter | Yes | No | | √ | √ | | | | | | | | | | | | | | | | | | | | | |
| 39 | Risk Management Framework | Yes | No | | √ | √ | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 40 | Risk Register | Yes | No | | √ | √ | | | | | | | | | | | | | | | | | | | | | |
| 41 | SEC Guidelines on Nominee Accounts | Yes | Yes | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 42 | Securities Exchange Commission Regulations, 2003 (LI 1728) | Yes | Yes | √ | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 43 | Securities Industry Act, 2016 (Act 929) | Yes | Yes | √ | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 44 | Service Level Agreements with service providers | Yes | No | | | | | N/A | N/A | | | | N/A | | | | N/A | | | | | | N/A | | | | N/A |
| 45 | Settlement Guarantee Fund Guidelines | Yes | Yes | √ | | √ | √ | N/A | N/A | √ | | | N/A | | | √ | N/A | √ | √ | | | | N/A | | | √ | N/A |
| 46 | Strategic Plan (2015-2019) | Yes | No | | √ | | | N/A | N/A | | | | N/A | | | | N/A | √ | | √ | | | N/A | √ | | | N/A |