Securities Clearing Center Company

Assessment of Securities Clearing Center against CPMI-IOSCO PFMI

“Pre-Launch Summary Report”

10th September 2019

TABLE OF CONTENTS

1 BACKGROUND

To leverage its existing infrastructure more effectively, diversify its revenue and align itself with the Kingdom's Vision 2030, Tadawul has established Muqassa, a 100% Tadawul owned subsidiary, as a Central Counterparty Clearing House (CCP). Muqassa will clear a variety of derivative instruments, beginning with Stock Index Futures and then Single-Stock Futures. Later, equity clearing will be introduced. As one of the top 20 exchanges in the world by market capitalisation and its recent inclusion into the MSCI Emerging Markets Index, Tadawul's aim has been to provide additional risk management techniques to remove systemic risks from the Saudi Capital Market as part of the Financial Sector Development Program. The establishment of Muqassa will allow Tadawul to meet these aims.

Muqassa is expected to go live in the second half of 2019 and the current work is to develop infrastructure, rules, processes and procedures that are in accordance with international best practices and standards.

This report has been commissioned form Independent Consultants, Kinetrix, to review the current set up, which is still a work in progress to understand the current gaps in order to validate the readiness of Muqassa to go live. A future report will be conducted following go-live.

2 ASSESSMENT SCOPE

The key risks reviewed were:

- **Systemic Risk:** This relates to the safety, soundness and reliability of the infrastructure, in particular, the safety and efficiency of Muqassa to mitigate systemic risk through the inability of one or more participants to meet their obligations, which may have a variety of "knock-on" effects on the wider financial market
- **Legal Risk:** Legal risks arise when there is an unexpected application of a law or regulation, usually resulting in a loss. Legal risk can also arise if the application of relevant laws and regulations is uncertain or the application of a law is different from that specified in a contract, by a court in a relevant jurisdiction
- **Credit Risk:** Participants may face various types of credit risk, which is the risk that a counterparty, whether a participant or other entity, will be unable to meet fully its financial obligations when due, or at any time in the future. The resulting exposure is the cost of replacing the original transaction at current market prices
- **Liquidity Risk:** Muqassa and their participants may face liquidity risk, which is the risk that a counterparty, whether a participant or other entity, will have insufficient funds to meet its financial obligations which can potentially create systemic problems
- **General Business Risk:** These are risks related to setting the strategy, administration and operation of Muqassa as a business and ensuring revenues exceeds costs. Poor execution of the strategy may result in adverse reputational effects, ineffective response to competition, losses in other business lines of its parent, or other business factors
- **Custody and Investment Risk:** The risk of loss on assets held in custody as a result of the custodian's insolvency, negligence, fraud, poor administration or inadequate record keeping. Investment risk is the risk of loss faced by Muqassa when it invests its own or participant's resources, such as collateral. These risks can be relevant to the cost of holding and investing resources but also to the safety and reliability of Muqassa risk management system
- **Operational Risk:** The risk that deficiencies in information systems or internal processes, human errors, management failures, or disruptions from external events will result in the reduction, deterioration, or breakdown of services provided by Muqassa

3 INFORMATION GATHERING

The Independent Consultants submitted a range of questions, requested a number of documents and conducted a series of meetings with each relevant department via conference calls. Following the submission of this draft report, follow up meetings to provide further information and feedback were undertaken. This involved calls with Board Secretary; Legal Team; Finance; Operations; Operational Risk Manager; CCP Risk Manager; IT and HR.

4 MUQASSA ASSESSMENT CONCLUSION

The Consulting Team have been impressed with the overall progress of the establishment of Muqassa and in particular the robustness of the risk management framework. Notwithstanding the fact that the establishment of Muqassa is still a work in progress and can only be fully validated once it goes live in the second half of 2019, the process, procedures and methodologies developed to date are in line with international best practice. Usually these assessments are conducted when a CCP is in operation and for this reason some of the questions remain unanswered as they relate to an assessment in a live environment.

Based on the assessment of the current status of Muqassa set up, the Consulting Team have given an overall rating of “Broadly Observed” as per the rating shown below. The Consulting Team are confident that once all documents have been completed and approved by the Board / Regulator, Independent Legal Opinion on material aspects of the rules and laws and successful go live of Muqassa, then the Consulting Team would conduct a reassessment of Muqassa and it is anticipated that the overall rating of “Observed” could be achieved.

Observed	Broadly Observed	Partially Observed	Not Observed	Not Applicable

P1 - Legal basis	**P2** - Governance
P3 – Framework for management of risks	**P4** – Credit Risk
P5 – Collateral	**P6** – Margin
P7 – Liquidity risk	**P8** – Settlement finality
P9 – Money Settlement	**P10** – Physical deliveries
P11 – Central Securities Depositories	**P12** – Exchange of value settlement systems
P13 – Participant default rules and procedures	**P14** – Segregation and Portability
P15 – General business risk	**P16** – Custody and investment risks
P17 – Operational risk	**P18** – Access and participation requirements
P19 – Tiered participation arrangements	**P20** – FMI links
P21 – Efficiency and effectiveness	**P22** – Communication procedures and standards
P23 – Disclosure or rules, key procedures and market data	**P24** – Disclosure of market data by trade depositories

5 RATING RESULTS

The following ratings are assigned against each Principle:

- **Observed:** Any identified gaps and shortcomings are not issues of concern and are minor, manageable and of a nature that could be consider resolving in the normal course of business.
- **Broadly Observed:** The assessment has identified one or more issues of concern that should be addressed and followed up in a defined timeline.
- **Partly Observed:** The assessment has identified one or more issues of concern that could become serious if not addressed promptly.
- **Not Observed:** The assessment has identified one or more serious issues of concern that warrant immediate action.
- **Not Applicable:** The principle does not apply to Muqassa because of the particular legal, institutional, structural or other characteristics.

6 ASSESSMENT FINDINGS

The following is a summary of the analysis completed by the Consulting Team; it is expected that this may change after further review by Muqassa and their functional teams.

General Organisation

- **Principle 1 – Legal Basis: Broadly Observed**

  Legal basis for the establishment of Muqassa is provided by the Capital Market Law (CML) 2003 and all the detailed provisions including Settlement Finality, Netting and the form of novation are provided by the Implementing Regulations. Muqassa's Rules and Procedures have been drafted with the assistance of an international law firm and in close collaboration with prospective Clearing Members. Muqassa has a principle-to-principle relationship with its Clearing Members and this is reflected throughout the Rules and Procedures. Additionally, Muqassa, at this stage, does not envisage offering clearing for Clearing Members based outside of the Kingdom of Saudi Arabia.

  With relation to a Clearing Member default, it is understood that the Implementing Regulations have primacy over Insolvency/Bankruptcy Provisions which is an important point for Clearing Member's collateral in the event of default; however, this, along with the rest of the legal framework, will need to be confirmed via a legal opinion once Muqassa is operating in a live environment to be consider fully observed.

- **Principle 2 – Governance: Broadly Observed**

  As Muqassa is still in the process of establishment many of the current governance arrangements have been devolved to senior management from the Board of Directors to ensure the right skill resources, policies and procedures are established. Muqassa has a Board of Director's whose responsibility is to monitor, validate and approve the policies and procedures and ensure that Muqassa is fit to go-live. The Consulting Team has reviewed the CVs of the current Board and is of the view that their experiences is of a high level to provide the right oversight and guidance to Muqassa. The Board of Directors has several advisory committees, including the Audit, Remuneration and Risk Management Committee.

  At every stage, Muqassa has consulted with potential Clearing Members as well as worked closely with the regulator, CMA and external experts.

  In order to fully observe the principle the governance arrangements will need to be tested once Muqassa is operational, an independent director will need to be appointed and the Board of Directors will need to approve all the policies.

- **Principle 3 – Framework for the Comprehensive Management of Risks: Broadly Observed**

  Muqassa has a number of policies in place, subject to Board approval, that once approved will provide it with a comprehensive framework for the management of risk. The responsibilities for the management of risks and the commitment to externally validate these policies on an annual and ad-hoc basis are clearly stated. Muqassa follows the 'three lines of defence' model which provides the Board with the independent assurance that Muqassa is operating in compliance with the Risk Policy Framework.

  Muqassa has informed the Consulting Team that they are currently in the process of drafting the Recovery and Wind-Down Plan, hence why this principle is not fully observed. The legal basis for recovery is provided for in the CCP Rules, and at a higher level the Implementing Regulations.

  In addition, Muqassa incentivises its Clearing Members to manage the risks that they pose by having clear documentation on the risk models and more importantly providing them with functionality for them to be able to simulate margin requirements.

Credit and Liquidity Risk Management

- **Principle 4 – Credit Risk: Broadly Observed**

  Muqassa has established a number of policies that articulate the management of credit risk by identifying the sources and origination of credit risk. Muqassa has in place a Default Waterfall, the structure of which is common among other international CCPs and it includes CCP capital contribution to the Default Fund of SAR 8.75mn.

  Muqassa sizes its member contributed Default Fund to cover the largest two Clearing Members (and affiliates) – Cover 2 Model, that could potentially cause the largest aggregated credit exposure for Muqassa in extreme but plausible market conditions, this is determined by following the Stress Testing Methodology. Given that the CCP does not appear to be a more-complex CCP or be systemically important in multiple jurisdictions this is considered to be very conservative.

  Additionally, Muqassa has developed a Credit Risk Assessment Framework (CRAF) to internally score Clearing Members and Financial Infrastructures on a scale from 1 to 6, with 6 being the highest rating. The Internal Credit Score (ICS) is used for new members as well as for continuous monitoring of the entity in question.

  The effectiveness in the managing of credit risk will need to be tested in a live environment before this principle can be fully observed.

- **Principle 5 – Collateral: Broadly Observed**

  Muqassa has established a Collateral Policy which defines the principles for Margin and Default Fund collateral with respect to what the permitted collateral types are, the valuation and evaluation of collateral as well as the collateral haircuts and limits. However, at the present time, Muqassa only accepts cash denominated in Saudi Riyal (SAR) and has no plans to change this requirement in the near future.

- **Principle 6 – Margin: Broadly Observed**

  Muqassa's Margin Methodology is described in detail in the provided Margin Framework Policy and Margin Methodology documents. The margin model covers the Current and Potential Future Exposure of the underlying. The margin methodology used is NASDAQ's Delta Hedge product which is based on the widely used CME SPAN methodology. For current technical reason margin is calculated every 30 minutes; however, it is envisaged that by next year, when the clearing of the cash market is implemented, it will be real time. Where margin calls have been initiated Clearing Members can continue to trade so long as they are within their trading limits or can close-out their positions. They have 90 minutes to meet intraday margin calls or overnight for end-of-day calls.

- **Principle 7 – Liquidity Risk: Broadly Observed**

  Muqassa, through policies such as the Liquidity Policy and Risk Management Policy has demonstrated to the Consulting Team that it can, in theory, effectively measure, monitor and manage its liquidity risk; however, confirmation and indeed to fully observe this principle testing in a live environment must be conducted.

  As the only form of collateral is SAR-denominated cash, liquidity management is not considered particularly complex and Muqassa, like with credit risk, uses a Cover 2 methodology for the sizing of its liquidity needs which again is considered very conservative and should help to ensure that it has enough 'headroom' to manage its daily liquidity needs. In addition, Muqassa has plans to establish committed credit lines and conducts reverse liquidity stress testing to further ensure that it is able to address its liquidity needs.

  Muqassa will have an account at the Central Bank, SAMA, to deposit its cash collateral.

Settlement

- **Principle 8 – Settlement Finality: Broadly Observed**

  As mentioned under Legal Basis, Settlement Finality is provided for by the draft Capital Market Law (CML) which provides for the Implementing Regulations to detail when final settlement should be effected. The Implementing Regulations states that the CCP, within its Clearing Procedures, should detail the time at which instructions issued by a Clearing member or a relevant participant are capable of being revoked. The rules and procedures make clear when and how settlement finality is achieved.

  For this principle to be observed, it is prudent to seek an Independent Legal Opinion.

- **Principle 9– Money Settlement: Observed**

  Settlement at Muqassa will take place in central bank money; participants which do not have access to central bank accounts can receive payment at the settlement bank of their choice.

- **Principle 10 – Physical deliveries: Not Applicable**

  Not applicable.

  Central Securities Depositories and Exchange-of-Value Settlement System

- **Principle 11 – Central securities depositories: Not Applicable**

  Not applicable.

- **Principle 12 – Exchange of value of settlement systems: Not Applicable**

  Not applicable.

Default Management

- **Principle 13 – Participant Default Rules and Procedures: Broadly Observed**

  Muqassa has clearly defined Rules and Procedures in place to address a Clearing Member's default which provides both legal certainty and the operational flexibility to be able to respond to different default scenarios. Within the Default Management Procedure (DMP), it is very clear who is responsible for decision making and who needs to be informed at, during and on the conclusion of the default.

  Given the importance of the Default Rules, both them, and the related procedure will be publicly disclosed providing the clarity to the market. In addition, Muqassa has stated that the DMP will be tested internally quarterly and externally annually with the results from the tests communicated to Clearing Members on request. Evidence of both the disclosure of the DMP and evidence of testing with Clearing Members need to be provided before we can consider this principle observed.

- **Principle 14 – Segregation and Portability: Broadly Observed**

  Muqassa offers a number of different clearing account structures that allow for the identification and separate treatment of positions and collateral, either in the books of the CCP as an Individual Client Account or at the Clearing Member for Client Omnibus Accounts.

  In the Event of a Default being declared on a Clearing Member, clients of that Clearing Member may wish to move (port) to a different non-defaulting Clearing Member. Muqassa facilitates this by introducing the concept of a Replacement Clearing Member (RCM). A RCM is a non-defaulting Clearing Member that has agreed, either prior to or at the time of default, to receive the client positions from the defaulting Clearing Member.

  Testing of the portability arrangements with Clearing Members will need to be conducted before this principle can be fully observed.

General Business and Operational Management

- **Principle 15 – General Business Risk: Broadly Observed**

  The Head of Risk and the Chief Finance Officer have the responsibility to ensure that all aspects of general business risk have been accounted for. The overall approach is approved by the Board and all risks are escalated to the Board when and as required.

  Muqassa has, within its Risk Appetite Statement, mentioned that it will set aside six months of operating expenses for an orderly wind-down of the CCP as well as capital to address business, operational and legal risks. Muqassa, within its Risk Capital Policy maintains a capital shortfall plan which permits it seek a capital contribution from Tadawul, its parent.

  Further information is required on Muqassa's recovery and wind-down plan as well as the development of a risk register before going live for this principle to be fully observed.

- **Principle 16 – Custody and Investment Risk: Observed**

  Muqassa bears no investment of custody risk as all collateral is received in cash in Saudi Riyal (SAR) which is held in SAMA, the Central bank. In addition, Muqassa's own Risk Capital is held in SAMA.

- **Principle 17 – Operational Risk: Broadly Observed**

  Muqassa addresses operational risks that it faces under two main policies; (1) CCP Risk Management Policy; and (2) Tadawul Enterprise Risk Management Policy. These policies set guidelines for the Enterprise Risk Management Framework, including Operational Risk Management and Business Continuity. Muqassa has in place departmental Key Risk Indicators (KRIs) which lists the indicators as well as the metrics in which they should be measured against.

  The IT infrastructure of the CCP should meet the necessary standards for replication and disaster recovery and should allow for the rapid resumption of activities in the event of a major failure. In addition, capacity planning is reflected in the business operations document and Service Level Agreements (SLAs) set out the potential constraints and how they can be met within certain timeframes.

  The risks from participants and services providers have been identified and form part of the risk monitoring.

  To consider this principle observed, Muqassa will need to test their Business Continuity Plan (BCP) in a live environment.

Access

- **Principle 18– Access and Participation Requirements: Broadly Observed**

  Clearing membership is clearly laid out in the Rules and Clearing Procedures and includes minimum paid-up capital and minimum contributions to the Default Fund. Clearing Members can participate in Muqassa directly or indirectly. For direct access, Clearing Members can choose either to become a General Clearing Member (GCM) or Direct Clearing Member (DCM). Indirect access is for clients of these Clearing Members and for Non-Clearing Members who clear via a General Clearing Member. The Consulting Team consider access and participation requirements to be fair and non-discriminatory.

  Clearing Members are reviewed on an annual basis, and quarterly where on a watch list, in accordance with the Credit Risk Assessment Framework (CRAF).

  Muqassa must develop a process for reviewing participation requirements and ongoing obligations before this principle can be fully observed.

- **Principle 19 – Tiered participation requirements**

  Not Applicable.

- **Principle 20 – FMI links: Not Applicable**

  Not Applicable.

Efficiency

- **Principle 21 – Efficiency and Effectiveness: Broadly Observed**

  Muqassa's design of its clearing arrangements and the choice of systems clearly point towards the desire to operate an efficient and effective CCP. The list of KRIs indicate that there are measurable targets to meet this objective whilst SLAs are in place to ensure that stringent standards are maintain with Nasdaq, the system service provider of certain business operations.

  In order to fully observe this objective, Muqassa will need to test the KRIs and SLAs in a live environment.

- **Principle 22 – Communication Procedures and Standards: Observed**

  Muqassa's participants can communicate with the CCP in two ways: (1) FIX protocol standard; and (2) through the Graphical User Interface (GUI). Currently, the arrangements in place are based on international standards and it was stated that any future expansions will also follow internationally accepted communication protocol standards.

Transparency

- **Principle 23 – Disclosure of Rules, Key Procedures and Market Data: Broadly Observed**

  Muqassa has demonstrated that its Rules and Clearing Procedures are in alignment with international best practices and it is expected that these will be disclosed to potential Clearing Members through the Muqassa website. The documentation was prepared with the assistance of international experts and has been further reviewed by the Consulting Team who confirm that they are readable, clear and comprehensive.

  The Rules and Clearing Procedures contain information about the overall design and operation of the clearing processes as well as the degree of discretion that Muqassa can exercise over decisions. This, PFMI assessment, is being undertaken in advance of the CCP commencing production. The intention of CCP's management is to meet the requirement of this assessment every two years; however, a post going-live assessment will be conducted which will be disclosed to the public via the website.

  In order to fully observe this principle a review of the fees and their disclosure as well as information related to the arrangements for dissemination of CCP data will need to be provided.

- **Principle 24 – Disclosure of Market Data by Trade Repositories**

  Not Applicable.