Central Securities Depository (CSD) Risk Assessments

Methodology
Methodology for determining the Central Securities Depository Risk Assessments (CSD Risk Assessments)

**Purpose**

The purpose of assessing a Central Securities Depository (CSD) is to determine the extent to which the depository minimises risk and maximises asset safety for participants and investors.

A CSD Risk Assessment evaluates the risk exposures for investors in the post trade capital market infrastructure when transactions are settled while securities are held in a particular depository. It assesses the effectiveness of a CSD and the processes used in post-exchange settlement and safekeeping to minimise investor risk exposures. CSD Risk Assessments can be compared across markets. It should be noted that a CSD Risk Assessment does not assess trade execution risk but the settlement, safekeeping and asset servicing risks after trade execution.

The CSD Risk Assessment evaluates the key processes and procedures required to hold, settle and service securities and includes an analysis of custody, clearing and settlement procedures within a CSD.

Risk elements excluded from consideration include investment risk, legal risk, macroeconomic, political and social trend analysis.

CSDs vary country by country. Components that may be found in a CSD include:

- Matching systems
- Central counterparty or clearing house
- Settlement and safekeeping mechanisms
- Asset servicing mechanism
- Cash settlement systems

The procedures for settlement and safekeeping can be highly automated or they may be manual processes operating outside of CSDs (for example, where OTC trades settle between brokers). The CSD Risk Assessments only assess mechanisms operated by CSDs, although they take account of market mechanisms and market regulations that support the mitigation of risk exposures.

Central counterparties or clearinghouses are often separate from the CSD (but in some countries these operations are combined in a single legal entity). Only a few CSDs are actually banks that can carry out cash settlement on their own behalf. Typically, CSDs instruct cash settlement either via appointed settlement banks or directly to the central bank. In some cases, central banks operate the CSD function, usually for the safekeeping and settlement of government securities.
The CSD Risk Assessment and associated individual Risk Exposure Assessments¹ (REAs) enable an investor to compare CSD risk exposures across markets. The CSD Risk Assessments are risk exposure assessments based on an absolute and hence comparable scale. (Refer to Risk Definitions - Appendix). The assessments measure the risk exposure an investor has to other participants using the system, as well as to the CSD itself irrespective of the particular method adopted to settle and safe-keep securities – there may be different settlement methods available within a CSD. Thus, for example, it is impossible to directly compare the settlement processes of DTCC in the USA with those of CBLC in Brazil. However, it is possible to compare the risk exposures which investors in the USA and Brazil are exposed to when buying, selling or holding securities in the respective CSDs in those markets. For example, the particular methods chosen to prevent failing settlements (auto-borrowing, buy-ins or blocking of securities/cash) is not as important as the effectiveness of the chosen methods to minimise risk exposures arising from failing settlements.

CSDs traditionally administer securities, either in immobilised or dematerialised form and in many cases, co-ordinate the delivery versus payment (DvP) of securities against cash. CSDs are often monopolies and are run as market utilities. Surpluses are often used either to reduce fees or provide rebates to members/participants. Many CSDs have completed the process of demutualisation in recent years and now engage in commercial activities, which frequently alters their risk profile. In addition, many have broadened their participation criteria which may impact the counterparty risk associated with their use.

¹ The Risk Exposure Assessments are an assessment for each of the risks covered within the CSD Risk Assessments. They refer to Asset Commitment Risk, Liquidity Risk, Counterparty Risk, Asset Safety Risk, Asset Servicing Risk, Financial Risk, Operational Risk and Governance & Transparency Risk.
The key criteria for assessing CSDs are as follows (Refer to Appendix II for the risk definitions):

There are eight primary risks being asset commitment, liquidity, counterparty, asset safety, financial, operational, asset servicing, and governance & transparency risk.

**For Asset Commitment, Liquidity and Counterparty risks:**
- Factors influencing risk include: Securities and cash settlement systems, securities and cash delivery times, access to credit facilities, access to stock lending facilities, nominee and registration arrangements, settlement cycles, participation criteria, surveillance arrangements, capacity in which CSD operates, settlement assurance arrangements, and the existence of Delivery versus Payment arrangements.

**For Asset Safety and Financial risks:**
- Factors influencing risk include Account segregation, legal framework, reconciliation and audit of records, financial condition of the CSD, ownership arrangements, ability to replenish funds through income in fee review, insurance arrangements.

**For Asset Servicing risk:**
- Factors influencing risk include: Corporate action and proxy arrangements, centralised information source, obligations on issuers to provide information to the CSDs and CSDs’ liability for the accuracy, completeness and timeliness of corporate action information and the processing of corporate action instructions.

**For Operational risk:**
- Procedures and controls surrounding the clearing, settlement, safekeeping and asset servicing functions, disaster recovery and business continuity arrangements and liability to participants for operational errors.

**For Governance and Transparency risk:**
- Board arrangements, risk management structures and practices, disclosure of corporate and statistical information, and user group arrangements.

In compiling the CSD Risk Assessment, a series of key criteria (refer to the above) are assessed to form an opinion on the magnitude of each risk exposure.
Appendix 1: CSD Risk Assessment and REA Scale

A Central Securities Depository Risk Assessment and Risk Exposure Assessment (REA) are Thomas Murray’s opinion of the ability of a central securities depository to minimise specific post trade risk exposures suffered by investors when investing in the related country and holding their securities in the depository. The overall assessment assigned to the central securities depository is based on Thomas Murray’s assessment of six individual Risk Exposure Assessments. The CSD Risk Assessment and the six REAs are presented using an alpha scale from “AAA” being the highest assessment to “C” being the lowest assessment. The assessments correspond to Thomas Murray’s assessment of risk exposure based on relevant factors influencing each risk exposure evaluated. They take into account the structures, procedures, resources and controls used within the central securities depository to minimise investors’ risk exposure to potential losses when investing in the country. The scale indicates that Thomas Murray’s opinion is that the level of risk exposure incurred by investors within the central securities depository is:

- **AAA**: extremely low
- **AA+**
- **AA**: very low
- **AA-**
- **A+**
- **A**: low
- **A-**
- **BBB**: acceptable
- **BB**: less than acceptable
- **B**: quite high
- **CCC**: high
- **CC**: very high
- **C**: beyond any acceptable level of risk exposure

The overall CSD Risk Assessment contains an Outlook Indicator, which indicates the direction the assessment is likely to move. It is established and maintained using the sources used to determine the assessment and future changes/announcements which are likely to impact an assessment. The outlook scale is:

- **Stable**: There are no factors at this time that would affect the CSD Risk Assessment
- **Positive**: Factors exist that may result in an improvement in the CSD Risk Assessment
- **Negative**: Factors exist that may result in a deterioration of the CSD Risk Assessment
- **On Watch**: Factors exist that may result in a change in the CSD Risk Assessment, but the direction of the change is uncertain at this time
Appendix II: Risk Definitions and explanation

Asset Commitment Risk - The period of time from when control of securities or cash is given up until receipt of countervalue.

Asset commitment risk identifies the time during which securities and cash are tied up within the CSD and payment system during the settlement process, assuming that everything settles according to schedule. The impact is the unavoidable opportunity cost associated with the assets committed to the settlement process.

This risk refers to the time period during which a participant’s assets, either cash or stock, have their use restricted within the securities processing and payment system pending final settlement of the underlying transaction(s). Following settlement, the risk period is extended until the transfer of funds and stock become final. It excludes any periods when assets, cash or stock, are committed to a market participant including brokers, banks and custodians, not caused by CSD processing.

Liquidity Risk - The risk that insufficient securities and or funds are available to meet commitments; the obligation will be covered some time later.

Liquidity risk identifies the risks that start to arise as securities and cash do not settle according to schedule. Liquidity risk covers the situation where securities or cash are delivered late to the settlement process but in a situation that does not warrant a default. The impact is the opportunity cost of the assets delivered late.

Liquidity risk can occur for certain technical reasons (e.g. stock out on loan, stock in course of registration, turnaround of recently deposited stock is not possible) one or both parties to the trade has a shortfall in the amount of funds (credit line) or unencumbered stock available to meet settlement obligations when due. These shortfalls may lead to settlement fails but do not normally lead to a default.

Counterparty Risk - The risk that a counterparty (i.e. an entity) will not settle its obligations for full value at any time.

This is simply the total default of a direct participant of the CSD. This is the event when a participant is unable to meet its financial liability to other participants. This risk only goes as far as direct participants of the CSD and excludes clients of direct participants that default on liabilities to such participants, even if such a default should systemically cause the direct participant to subsequently default.

Asset Safety Risk - The risk that assets held in custody at the CSD may be lost or misappropriated, either due to a default or an omission, misuse, or breakdown of controls (legal, operational or other).

The CSD should protect against the risk of loss of assets of the participant or their clients due to an insolvency, the CSD’s negligence, misuse of assets, fraud, poor administration, inadequate recordkeeping or other failure to protect a participant’s assets. Asset segregation at the CSD and/or the domestic custodian by account structure and naming convention, assertion of liens, form and nature of securities (e.g. dematerialised, physical, bearer, registered), certain key concepts in local law (e.g. recognition of nominees), reconciliation of holdings, vault controls and the nature and placing of client cash deposits, are all factors taken into consideration in the assessment.
Asset Servicing Risk - The risk that a participant may incur a loss arising from missed or inaccurate information provided by the CSD, or from incorrectly executed instructions, in respect of corporate actions and proxy voting.

Asset servicing risk assesses the consequences of late deliveries (in information or instructions) surrounding corporate actions (associated with the custody of securities as opposed to the settlement of securities). The impact can be small if it is just the opportunity cost, but could be large if corporate events are missed and the situation cannot be recovered (e.g. a missed rights issue or takeover).

This risk arises when a participant places reliance on the information or when the participant instructs the CSD to carry out a transaction on its behalf. If the CSD fails either to provide the information or to carry out the instruction correctly or in a timely manner the participant may suffer a loss for which the CSD may not accept liability. The CSD may provide these services on a commercial basis, without statutory immunity, or it may provide the service as part of its statutory role, possibly with some level of protection from liability. This risk is likely to become much higher when international securities are included in the service.

Financial Risk - The ability of the CSD to operate as financially viable company.

Financial risk measures the exposure of the whole market to a situation where the CSD itself is at risk. It assesses whether capital is sufficient to meet the ongoing operation of the organisation. The impact in this case could be systemic and likely to trigger significant opportunity, replacement or principal risk across the market depending on the position of the participants. This risk also includes where the CSD may act as central counterparty, or otherwise acts in a Principal capacity.

Operational Risk - The risk that deficiencies in information systems or internal controls, human errors or management failures will result in losses.

Operational risk identifies the risk of loss due to breakdowns or weaknesses in internal controls and procedures. Internal factors to be considered in the assessment include ensuring the CSD has formalised procedures established for its main services. The CSD should have identified control objectives and related key controls to ensure operations are maintained and there is proper control of established procedures. Systems and procedures should be checked and tested periodically. There should be external audit processes in place to provide third-party audit evidence of the adequacy of the controls.

Governance & Transparency Risk - The risk that deficiencies in the way that the CSD is governed and managed will result in losses. The risk of loss due to poor governance and management arrangements and inadequate disclosure of information.

The issues relate to the way that the depository is operated by directors and management, who have a responsibility to ensure that it operates according to the rules and regulations and the relevant securities market laws and to ensure that the market has adequate and timely information on a fair and equivalent basis. Factors to be considered in the assessment include ensuring the Board arrangements provide for high standards of governance, management operates to a high standard, participants are kept informed and able to equally provide their input to the CSD management, and the market has equal access to relevant and timely information.
Appendix III: Risk Components

Thomas Murray weight distribution of risk components is presented in the table below.

Table 1: Risk Assessment Weighting Factor

<table>
<thead>
<tr>
<th>Risk</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Commitment Risk</td>
<td>9.5%</td>
</tr>
<tr>
<td>Liquidity Risk</td>
<td>12.5%</td>
</tr>
<tr>
<td>Counterparty Risk</td>
<td>17%</td>
</tr>
<tr>
<td>Asset Safety Risk</td>
<td>9.5%</td>
</tr>
<tr>
<td>Asset Servicing Risk</td>
<td>22.5%</td>
</tr>
<tr>
<td>Financial Risk</td>
<td>10.5%</td>
</tr>
<tr>
<td>Operational Risk</td>
<td>14%</td>
</tr>
<tr>
<td>Governance &amp; Transparency</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

While the assessment is intended to assess all of the factors as shown above, in some circumstances CSDs do not provide full asset servicing or information has not been made available to Thomas Murray to make a valid assessment. In such cases the weighting of the factor associated to the missing or reduced risk(s) is distributed proportionately across the remaining risks.