

Liquidity

Liquidity

Principles & Objectives

Principles of Liquidity Risk Management Framework

- LME Clear Board has zero tolerance for the company to fail to meet its payment obligations within pre-committed timescales.
- LME Clear will ensure that it has access to sufficient liquid resources in order to meet payment and settlement obligations as they fall due, covering simultaneously both operational and default management activity.
- A significant component of applicable liquid resource is generated from cash collateral provided as margin cover or Default Fund contributions from members. Liquidity requirements take precedence over any yield related objective.
- All cash received from Members as margin cover or Default Fund contributions is considered to be owned by LME Clear and therefore fungible for liquidity purposes.
- LME Clear's Liquidity Risk Management Framework is supported through its Rules.

Objectives of the LME Clear investment strategy are:

- Preservation of capital
- Ensure sufficient liquidity is available at all times
- Management of portfolio credit and market risk, in line with the risk tolerances predetermined by the Board
- Generation of income is a secondary objective to the above.

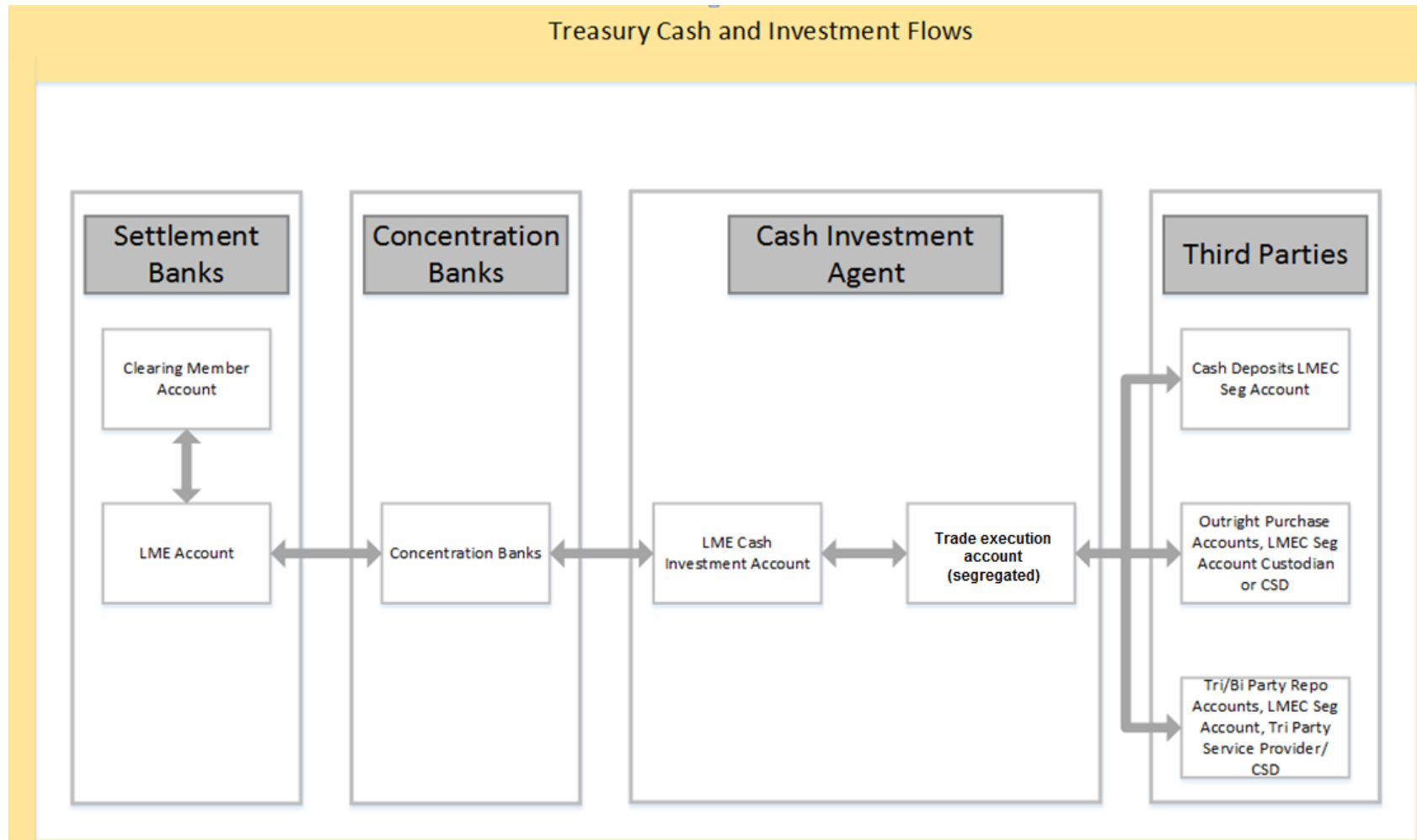
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Liquidity Risk Management - Types of Liquidity Risk

- Operational - related to actual liquidity flows that are handled on a daily basis, including intra-day and in stressed market conditions.
- Default (Cleared Activity) - the need to meet cash flow requirements in respect of the default of one or multiple Clearing Members, at a minimum the two creating the largest liquidity exposures.
- Other Counterpart Failure - the failure of an investment counterpart or any other third party with whom LME Clear interfaces during the process of collecting, investing and safekeeping all forms of margin cover.

Liquidity

Daily Cash Lifecycle – Secure Payment System to Investment



Liquidity

Investments/Counterparties/Issuers

Approved instruments/investment types:

- Bi-lateral repo, securities lending or reverse repo (open or fixed date) against eligible fixed income securities with Approved Counterparties
- Tri-party repo, securities lending or reverse repo (open or fixed date) against eligible fixed income securities with Approved Counterparties
- Outright holdings of eligible fixed income securities issued by Approved Issuers
- Overnight fixed term cash deposits with Approved Counterparties – classed as unsecured exposures

Approved Counterparties

- Approved by the Clearing Risk Committee
- Subject to an internal credit review prior to dealing, and must meet a minimum internal credit rating which is then monitored on an ongoing basis
- Where two counterparts are part of the same overall Group, limits are to be assigned accordingly to reflect this status. Total limits for the Group entities do not exceed that applicable to the highest rated counterpart within it

Approved Issuers - All issuers of fixed income securities for outright investment, repo or reverse repo must have a minimum internal credit and collateral tiering score and be one of, or explicitly guaranteed by one of, the following:

- a government;
- a central bank; or
- a multilateral development bank.

Third Party Investment Services - LME Clear utilises cash investment services from 3rd party agents that can be failed over between in a timely fashion.

Liquidity

Limits and Controls

LME Clear's investment risks and exposures are managed through the setting of limits and monitored in near real time and reported daily.

- Credit and concentration risk
- Sovereign limits
- Issuer limits
- Counterparty limits
- Instrument limits

Maturity - reverse repo, unsecured deposits, reverse repo collateral, outright security holdings

Market Risk – IRR (PV01, stress testing), FX.

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Liquidity Risk Management - Requirements

Liquidity is monitored with requirements determined for minimum cash, intra-day, daily and multi day activity.

Member Minimum Cash Requirement Percentage (MMCRP)

- Liquidity requirements as a percentage of member requirements that must be met with USD cash.

Intra-Day

- Liquidity requirements (and credit exposure) related to commercial concentration banks;
- Usage of intra-day liquidity;
- The impact on intra-day liquidity related to large prompt dates.

Daily Operational Requirements

- Reductions in Member's cleared exposures leading to reduced Margin Requirements
- Removal of Member's excess cash positions;
- Switching from cash to non-cash collateral, or between cash cover currencies, and the timescales within which this is allowed under LME Clear Rules; and
- Settlement failures, should these arise.

Default Liquidity Requirements

- Capturing liquidity requirements during the default of the 2 Members with the largest liquidity needs
- Includes delivery settlement, realisation of VM, P&L during close out including stress losses, cost of auction
- Underlies calculation of minimum cash requirements

Liquidity

Liquidity Risk Management - Requirements

A suite of extreme but plausible stress tests assessing potential future liquidity needs is run and reported against on at least a daily basis.

- operational and default stresses and combinations of these;
- firm specific scenarios (both LME Clear or counterparty related) and market wide stresses, as well as combinations of these covering both funding liquidity and market liquidity risk;
- cleared products and associated large settlements/prompt dates, cash investment activity, collateral held as well as any other third party counterpart, including the Cash Investment Agent, which could generate a liquidity risk to LME Clear, factoring in any interdependencies between these where appropriate;
- Main focus on USD but run for all relevant currencies on a stand-alone basis as well as assessment across currencies; and
- if relied upon to meet requirements, rigorous assumptions related to availability, and potential change in value, of liquid financial resources from defined sources, given volatile market conditions.

Intra-day testing identifies trends in and changes to daily settlement cycles and potential stresses to these at critical points in the day.

Forward looking monitoring identifies large positions that would lead to liquidity requirements should they crystallise and enables management of these. Stress testing is performed against these forward positions.

LME Clear has limits in place to manage the timing and size of cash collateral withdrawals and, to a lesser extent, lodgements in order to enable efficient liquidity management.

Investment Management

Investment

Investment Policy - Introduction

The LME Clear Investment Policy applies to investments made falling into the following categories:

- Investment of Members' cash margin
- Investment of Default Fund contributions
- Investment of LME Clear's capital and reserves
- Investment of any other cash arising from LME Clear's operational processes

LME Clear investment strategy objectives;

- Preservation of capital;
- Ensure sufficient liquidity is available at all times;
- Management of portfolio credit and market risk.

Generation of income is a secondary objective to the above and will be superseded at all times by the other objectives in the event of any conflict.

Investment

Investment Policy – Approved Instruments / Counterparties

Instruments used as investments must be approved prior to dealing. LME Clear will utilise the following investment types:

- Bi-lateral repo, securities lending or reverse repo (open or fixed date)
- Tri-party repo, securities lending or reverse repo (open or fixed date)
- Outright security holdings
- Overnight fixed term cash deposits
- In some cases, cash collateral may be subject to an FX swap in order to ensure secure investment

Changes to the list of instruments require Board approval.

Counterparties for investment transactions must have prior approval from the LME Clear Clearing Risk Committee and will be subject to an internal credit review prior to dealing, meeting a minimum internal credit standard - monitored on an ongoing basis.

All transactions with counterparties shall be undertaken within market standard documentation.

Where two counterparts are part of the same overall Group, limits are assigned to manage exposures accordingly. Total limits for the Group entities do not exceed that applicable to the highest rated counterpart within it.

Investment

Investment Policy – Approved Issuers / Custody Risk

All issuers of fixed income securities for outright investment, repo or reverse repo must meet a minimum internal credit and collateral tiering score, approved by the Clearing Risk Committee. An issuer must be, or be explicitly guaranteed by, one of the following:

- a government;
- a central bank; or
- a multilateral development bank (supranational); and their issues should also
- exhibit low credit risk, low market risk and high liquidity.

Where considered material, wrong way risk between the issuer of collateral and the counterparty providing it, is managed through the collateral limit framework.

All assets purchased as investments, or through reverse repo transactions, are held in in an LME Clear account at an operator of a Securities Settlement System (SSS – effectively an ICSD/CSD) or, where unavailable, through a custodian. If held through a custodian, the assets are segregated in LME Clear's name in custodian's books and records. Minimum internal credit scores required in both cases.

Investment

Investment Policy – Limits & Monitoring

Applicable limits are monitored in near real time and reported against at least daily. Hard dollar and percentage concentration limits are set at the level of:

- Securities - Limits applied under Collateral Tiering structure based upon credit and liquidity assessment of issuer/issue within Collateral Limit framework.
- Counterparty – Designed to cover gradual credit deterioration and jump to default scenarios. Each Counterparty assigned a limit, driven by internal credit score and size of LME Clear capital base. Reverse repo limits factored upwards referencing haircuts negotiated on underlying collateral and what is received. Lower of calculated hard dollar limit and concentration limit based upon percentage of portfolio is applicable.
- Instrument – Total unsecured exposures represent no more than 5% of the cash investment portfolio.
- Custody – Exposure to any bank custodian across both reverse repo activity and outright security holdings limited to 50% of cash portfolio without express approval from Clearing Risk Committee.

Percentage limits based upon amount of portfolio allowed to cover. Absolute limits based upon ability to liquidate in a 2 Member/counterpart default scenario.

Further limits set on the amount of an individual issue that is held in terms of total issuance size, percentage of issuance and minimum piece size.

Monitoring will take place for exposures to individual security issuers across outright purchases, reverse repo activity and margin collateral

Investment

Investment Policy – Maturity / Market Risk

Maximum term;

- Outright security purchases; 2 years – significantly lower WAM in practice.
- Reverse Repo; max 35 days (shorter for lower rated counterparts) – majority within 1 week, significant percentage overnight
- Reverse Repo Collateral; 30 years
- Unsecured bank exposures; overnight.

Trades with a forward start longer than market convention are not permitted.

Concentration limits apply upon daily maturities per counterpart – no more than 25% per individual counterpart. Other liquidity targets apply in accordance with Liquidity Risk Management framework and related stress testing.

Interest rate risk subject to an overall PV01 limit with measurement of MTM assessed under stress conditions.

LME Clear is exposed to foreign exchange risk through cross-currency repo or reverse repo; this is managed via an additional foreign exchange haircut with each counterparty.

Where any parameters cannot be managed at source, collateral received is monitored and exceptions highlighted.

Investment

Investment Policy – Third Party Investment Services

- LME Clear utilises cash investment services from 3rd party service providers. These arrangements have been entered into under strict contractual and operational arrangements.
- LME Clear retains full control of the investment parameters, with the ability to make immediate changes in all areas, including related to investment limits.
- In the event of a failover from one Cash Investment Agent to another, LME Clear has ensured access to maturing investments as well as the capability to continue to invest within regulation and investment policy parameters through a timely failover process.
- Failover arrangements are subject to regular testing.