

Annex 2 – Sound Practices for Liquidity Risk Management

Governance

1. The Board of Directors determines and articulates the “liquidity risk tolerance” for the AI both qualitatively and quantitatively. For the latter, various types of limits including liquidity ratio limits, cash-flow mismatch limits under both normal and stressed conditions, concentration limits on the holdings of liquid assets, as well as concentration limits on funding sources are established. The limits are further supported by clearly documented assumptions or methodologies for the quantification of factors such as behavioural maturity and contingent liquidity commitments (more details in paragraph 5).
2. Liquidity costs are allocated to business lines according to their respective risk taking activities so that business incentives are aligned with the AI’s liquidity risk tolerance. Liquidity cost is calculated based on the cost of maintaining high quality liquid assets and raising longer tenor funds. The possibility of substantial increases in the cost of maintaining adequate liquidity during stressed environments is fully taken into account by drawing reference to past financial crises, including the global financial crisis of 2008. Liquidity costs are allocated to the products, commitments, and risk positions of the AI based on their terms (behavioural patterns are considered when contractual terms are hard to determine, for example, due to optionality). Liquidity costs are applied to both on- and off-balance sheet items, including undrawn commitments.

Risk identification, measurement, monitoring and control

3. Net cash-flow mismatches along different time horizons are measured: day-by-day for the near term (e.g. up to the seventh business day) to ensure management has a clear picture of the most imminent funding needs, and by time buckets for the medium to long term. Limits (in amount and/or in ratio, with the latter supplemented by a specified minimum amount or “floor” for short tenor limits) are applied to day-by-day cash-flow mismatches for the near term and also on a cumulative basis (e.g. net cash inflows should exceed HK\$50 million or 3% of gross cash outflows for each of the first 3 days, and positive cumulative cash-flow for the first 7 business days.¹).
4. Cash-flows are monitored by individual currency when AIs’ exposures to FX liquidity risk in respect of that currency are significant. Quantitative criteria are established to define “significant exposures”. These tools enable prudent monitoring of cash-flow mismatch and mitigate the risk that foreign exchange swap markets may become dysfunctional during crises, thus impairing an AI’s ability to switch surplus liquid assets denominated in one currency into the currencies required.

¹ The example provided is for illustration purposes only. AIs with different funding models may adopt different limit structures.

5. The behavioural and contractual assumptions applied in cash-flow projections to each applicable asset, liability and off-balance sheet item are properly documented. Assumptions used in cash-flow projections are back-tested on a periodic basis and the results are presented to senior management or risk management committees for review.
6. Effective management information systems are put in place to enable the timely generation of accurate cash-flow analysis and other liquidity risk management reports, both on a regular basis and upon the request of users (e.g. the senior management and the regulators). Specifically, detailed information including cash-flow analysis under normal and stressful conditions, analysis of deposit run-offs, the amount and distribution of high quality assets that can be liquidated under different degrees of market liquidity squeeze, the amount of assets eligible for obtaining lender of last resort (LOLR) support, and the projection of regulatory ratios under different scenarios, etc. should be made available expeditiously when needed.
7. Regular basic qualitative review of the AI's resilience to liquidity squeezes is conducted, including reviewing, and when necessary testing, the AI's ability to access the wholesale funding markets, its eligibility to obtain LOLR support from the HKMA, and the readiness of its shareholder controllers, or its head office in the case of AIs incorporated overseas, to provide liquidity support in case of need.

Intraday liquidity risk management

8. Review is undertaken of intra-day liquidity reports generated at various predefined times throughout the day to assess cash-flows needs and the adequacy of the AI's intraday liquidity resources (e.g. securities available for intra-day repo).
9. The respective levels of intra-day liquidity needs, during both normal and stressed market conditions, are regularly reassessed, taking into account potential outflows that may arise from each of the AI's trading positions (e.g. collateral posting, highly leveraged trades whose cash flows vary significantly with market conditions) and business commitments (e.g. corresponding banking services). This review is sometimes included as part of the AI's stress-testing and scenario analysis (see paragraph 10).

Stress-testing and scenario analysis

10. The impact of significant cash outflows under market-wide and institution specific stress scenarios is analyzed. Different assumptions are tailored for each scenario. For instance, stress assumptions on second round effects including failure to receive expected cash inflows due to the default of interbank counterparties and unexpected requests for the posting of additional

collateral as a consequence of market illiquidity (and/or volatility) are considered in the market-wide scenarios but not necessarily in the institution specific scenarios.

11. Reasonable assumptions are applied with respect to key parameters based on relevant market and/or institutional experience. For instance, deposits are classified according to customer behaviour: corporate deposits are in general more sensitive to market changes than retail deposits and therefore a higher run-off rate is assumed. A similar rationale applies to other characteristics such as non-connected versus connected deposits, non-pledged versus pledged deposits, etc. Management is made responsible for reviewing and approving the assumptions periodically.
12. The cash inflows expected to be generated from the sale of liquid assets are fairly incorporated by applying prudent assumptions on factors including (i) the haircuts expected as a result of the fire-sale of the assets, (ii) the time expected to be required for disposing of the assets in an orderly manner, and (iii) the time lag between the settlement date and the trade date of the assets in question.
13. Regular reporting of stress-testing results to the senior management is required. Limit excesses in stress-testing are formalised as one of the triggers for the AI's contingency funding plan.

Maintenance of liquidity cushion

14. A reasonable amount of liquidity cushion is maintained by setting floor limits on the holding of very high quality liquid assets which the management believe would remain liquefiable even under very stressful scenarios (an example of high quality liquid assets includes government paper issued by countries with high sovereign credit ratings). The list of high quality liquid assets is subject to periodic review and approval by the senior management. The floor limits are set at a level sufficient to cover the imminent cash outflows anticipated in stressful scenarios.

Contingency funding plan

15. Detailed and prescriptive policies and procedures on a contingency funding plan (CFP) are maintained and comprehensive assessment on the feasibility of the CFP conducted, drawing on experiences in respect of stresses on markets and/or institutional liquidity during past financial crises. Both qualitative and quantitative early warning indicators are employed to determine different levels of remedial action including the triggering of the CFP. The CFP is tested periodically, including but not limited to the ability to conduct timely cash-flow analysis and the readiness of unencumbered assets which can be disposed of swiftly to generate liquidity. The clarity and effectiveness of the escalation procedures is also tested through regular drills.