

### Examples of deficiencies or inadequacies

#### (A) Overall liquidity risk management framework

The establishment and maintenance of a clear and effective liquidity risk management framework is important to ensure that liquidity risk is properly managed in a consistent manner which is commensurate with the size of the funds and the complexity of the investment strategies used.

In particular, fund managers should monitor the liquidity risk of each fund under its management on an ongoing basis. They should define what scenarios and circumstances would trigger escalation (for example, exceeding certain risk targets or indicators) and map out action plans to meet redemption requests under both normal and stressed market conditions.

Some fund managers did not have an adequate liquidity risk management framework in place. In some cases, while the fund managers implemented certain aspects of a liquidity risk management framework, internal liquidity targets were not set to assess and monitor liquidity risk. Even when such targets had been set, the fund managers did not regularly review them to ensure they remained valid. In other cases, no clear guidance was provided to staff on how to handle exceptional events.

#### Examples

Case 1a: A number of fund managers were allowed under the offering memorandum of the funds under their management to use certain liquidity risk management tools, which included (i) limiting the number of units of an SFC-authorized fund to be redeemed on any dealing day; (ii) borrowing to meet redemption requests; and (iii) suspending redemption or delaying the payment of redemption proceeds during any period in which the determination of a fund's net asset value is suspended. However, there were no clear internal procedures for (i) determining the circumstances under which these tools would be implemented; and (ii) the responsibilities of the parties involved in making this determination and implementing the appropriate measures.

Case 1b: Some fund managers did not establish any procedures (including contingency plans) to enable them to assess, review and decide on the actions required to meet liquidity demands at short notice under exceptional stressed conditions.

Case 1c: Some fund managers had implemented risk management measures but they were not sufficiently comprehensive and could not identify potential risks and pressure points.

- Fund Manager A conducted stress testing but did not set any internal liquidity targets or indicators to monitor and assess the results.
- Apart from monitoring the weighted average number of days it took to liquidate individual investments, Fund Manager B did not classify funds' assets into liquidity categories. Moreover, it did not set other internal liquidity targets or indicators in the form of minimum or maximum amounts which should be invested in each liquidity category, taking reference to the fund's asset and liability profiles and other relevant factors.

Fund managers should have a liquidity management framework in place which could identify and respond to potential pressure points, taking into account the investment strategies of the funds, the liquidity profiles of the funds' assets and the funds' liabilities, obligations and redemption policies, as well as market conditions.

Specifically, fund managers should set appropriate internal liquidity targets or indicators and review them regularly to take into account any changes in circumstances.

## **(B) Assessment of liquidity profiles of fund assets**

In general, fund assets are expected to be sufficiently liquid to meet the redemption requests of investors and any other payment obligations.

Some fund managers had failed to conduct adequate assessments of the liquidity profiles of fund assets.

### **Examples**

Case 2a: Some fund managers did not conduct any liquidity assessments of certain assets held by the funds, and others conducted inadequate assessments. For example, in assessing the liquidity of listed stocks held by a fund, Fund Manager A only compared the total number of shares held by the fund against the total number of the listed company's issued shares in the market, without taking into account market conditions such as the stock's average daily trading volume.

Case 2b: Some fund managers assumed that certain assets, such as government bonds, policy bank bonds and short term commercial paper, could be liquidated within five business days. However, these fund managers could not demonstrate that proper assessments were performed before making these assumptions. In particular, it was noted that the last traded price of certain government bonds held by funds under their management had been stale for over 100 days, which called into question the reasonableness of the assumptions.

Case 2c: Some fund managers assessed the liquidity risk of fixed income investments with reference to the maturity of the bonds but did not take into account other factors, such as bid-ask spreads, when assessing liquidity risk.

Case 2d: Fund Manager B assumed that all underlying funds held by a fund of funds could be redeemed on a daily basis and had not taken into account the actual dealing frequencies and redemption-related restrictions of the individual underlying funds.

All fund managers should regularly assess the liquidity profiles of the assets of the funds, taking into account the characteristics of the assets and their markets. In particular, they (especially Authorised Fund Managers) should determine reasonable and appropriate metrics and other factors to assess liquidity and categorise assets. Multiple metrics and factors should be used when necessary.

### (C) Assessment of liquidity profiles of fund liabilities

Fund managers need to properly assess the potential redemption requests of investors and prepare for any potential delivery and payment obligations.

Some fund managers had failed to conduct adequate assessments of the liquidity profiles of fund liabilities.

#### Examples

Case 3a: Some fund managers did not conduct any assessments of the liquidity profiles of the funds' liabilities or did not take into account the profile and historical and expected redemption patterns of investors when assessing liquidity profiles.

Case 3b: Fund Manager A, in assessing the liquidity profiles of the liabilities of funds, assumed a fixed percentage of redemption over certain periods. However, no assessment had been conducted by the fund manager to ensure the ongoing validity of these assumptions.

Case 3c: Fund Manager B only estimated the redemption trends of funds with reference to the turnover of major stock exchanges and capital flows in the market without taking into account the funds' historical redemption patterns.

Case 3d: Fund Manager C manages certain funds (ie, feeder funds) and each of these funds invested all or substantially all of its assets into another fund (Fund X) managed by it. However, when assessing the liquidity profiles of these funds' liabilities, Fund Manager C had only implemented some monitoring procedures for Fund X and not for the feeder funds.

All fund managers should regularly assess the liquidity profiles of the liabilities of their funds. In doing so, they (especially Authorised Fund Managers) should take reasonable steps to (i) understand the types of underlying investors in the funds they manage and the historical and future redemption patterns associated with each type of investor; and (ii) consider the liquidity demands which the funds will likely face, taking into account historical demands as well as reasonable and prudent estimates of expected demands.

### (D) Stress testing

Stress testing is a key risk management tool which allows fund managers to assess the impact of stressed situations on the liquidity of the funds' assets and liabilities and take appropriate steps to respond to such situations.

Some fund managers had not conducted ongoing stress tests or the stress test scenarios were not sufficiently comprehensive.

#### Examples

Case 4a: Some fund managers did not conduct any stress tests to assess the impact of possible severe adverse changes in market conditions on the liquidity of all the funds or some types of funds (for example, bond funds).

Case 4b: Some of the scenarios used by the fund managers could not enable them to properly assess and monitor liquidity risk. For example, the scenarios did not take into account or did not include:

- Historical market conditions;
- All the instruments invested by the funds, for example, stress test scenarios were only developed for listed stocks even though the funds also invested in bonds and other products, including futures contracts;
- The liability profiles of the funds, for example, a rise in redemption, the historical redemption patterns or forward-looking hypothetical redemption scenarios; or
- An assessment of a combination of multiple stress factors, for example, a simultaneous rise in redemption and fall in the liquidity of the underlying assets.

All fund managers should regularly conduct assessments of liquidity under different scenarios. In addition, they (especially Authorised Fund Managers) should:

- (a) develop stress test scenarios based on historical market conditions and previous redemption demands on the fund or similar funds. The stress tests should include assessments of the impact of a specific stress factor and a combination of multiple stress factors; and
- (b) consider developing stress test scenarios based on forward-looking hypothetical scenarios where appropriate and practicable.

## **(E) Governance structure for risk management**

A proper governance structure enables the risks of the funds to be considered properly and managed holistically.

Some fund managers did not have an adequate risk management governance structure.

### **Examples**

Case 5a: The Chief Executive Officer cum Chief Investment Officer of Fund Manager A, who was responsible for the day-to-day portfolio investment function, was also responsible for overseeing the risk management function.

Case 5b: At Fund Manager B, there was no independent risk management personnel responsible for monitoring the liquidity risk of the funds. Instead, monitoring was performed by the funds' investment managers.

Case 5c: The risk profiles of certain funds were not reviewed by the Risk Management Committee of Fund Manager C. It was unclear whether these funds were subject to adequate risk oversight.

All fund managers should maintain a risk management governance structure commensurate with the nature, size and complexity of the firm's operations and the investment strategy adopted by each of the funds. In addition, Authorised Fund Managers should have in place:

- (a) a liquidity risk management function (which is functionally independent of the portfolio investment function) to monitor the implementation of liquidity risk management policies and procedures; and
- (b) an appropriate degree of oversight, by a committee responsible for liquidity risk management or senior management, over the liquidity risk management function and the ongoing management and monitoring of liquidity risk.

## **(F) Risk management reports**

Fund managers generate different types of reports highlighting funds' risk profiles. The accuracy of the information in the risk management reports and the frequency of generating these reports can greatly affect the fund manager's ability to properly monitor and assess liquidity risk on a timely basis.

Some deficiencies were noted during our inspections.

### **Examples**

Case 6a: Some fund managers only prepared detailed liquidity risk management reports for the funds they manage on a quarterly basis. However, in some cases, the funds were daily dealing funds (ie, funds which could be subscribed and redeemed by investors on a daily basis). It appears that these reports were not generated at sufficiently frequent intervals to allow the proper monitoring and assessment of liquidity risk.

Case 6b: A number of errors were noted in the risk assessment reports used by the fund managers. For example, the investments were not classified into the respective risk buckets in accordance with the fund manager's risk management policy or the percentage of assets which could be liquidated within a specified timeframe was calculated incorrectly. Some of these errors were caused by missing data in the system or coding errors.

Fund managers should review the data source and formulae to ensure that accurate risk management reports are generated. Fund managers should also ensure that regular reports are available to monitor and assess liquidity risk on a timely basis.

## **(G) Documentation**

Written policies and procedures and documentation of work done are essential for fund managers to demonstrate that they have in place an effective liquidity risk management framework.

Some fund managers failed to maintain documentation.

## Examples

Case 7a: Some fund managers did not establish any written policies and procedures for liquidity risk management.

Case 7b: Some fund managers had implemented liquidity risk management measures to assess whether there would be any liquidity concerns. These measures included (i) limits on the maximum number of days required to liquidate a stock in the fund and the percentage of illiquid stocks in the portfolio; and (ii) a comparison of the percentages of fund assets which could be liquidated within five days against different redemption scenarios. However, these measures were not documented by the fund manager in any way.

Case 7c: A number of fund managers managed multiple funds which employed similar investment strategies or invested in the same underlying assets. In most of these cases, the fund managers advised that they had conducted assessments to determine if the liquidity of these funds should be assessed in aggregate and concluded that it would not be necessary to do so due to different factors. For example, multiple funds may invest in an individual stock, but the total value was insignificant when compared to the stock's total market capitalisation and average daily trading volume. However, no documentation of the assessment had been retained.

Case 7d: Fund Manager A had only adopted a single-factor stress testing scenario to assess liquidity risk. Based on its representation, it had considered the circumstances of its funds and concluded that a single scenario was sufficient. However, there was no documentation of its rationale or to demonstrate the factors which it had considered.

Case 7e: In choosing the proxy portfolio for estimating the redemption pattern of a newly launched fund, no documentation had been maintained by Fund Manager B to demonstrate that the proxy portfolio used was suitable for the estimation.

Case 7f: Fund Manager C advised that it had assessed the investor profile of the funds during regular portfolio review meetings. However, there was no documentation to demonstrate the assessments.

Case 7g: From the risk reports of Fund Manager D, it was noted that certain risk thresholds had been exceeded or risk indicators had been triggered. Fund Manager D advised that these issues had been discussed during risk committee meetings. However, these discussions and the rationales for not taking follow-up action were either not documented or not documented clearly.

Case 7h: The offering memorandum of some of the SFC-authorized funds managed by Fund Manager E stated that Fund Manager E could limit the number of units of the fund redeemed on any dealing day to 10% of the total number of units of the relevant fund if necessary. Upon the receipt of redemption requests which exceeded this limit, Fund Manager E would assess whether such redemptions should be allowed based on various criteria. However, no documentation of these assessments had been retained.

Fund managers should maintain clear and sufficiently detailed liquidity risk management policies and procedures (including the liquidity risk management measures adopted) in writing so that their staff could understand and adhere to them. Separately, fund managers should maintain proper documentation of the rationales underlying the choice of key risk management measures (including stress test scenarios) where applicable. Fund managers should also maintain proper documentation of the liquidity assessments conducted to demonstrate compliance with regulatory requirements and expected standards.