Liquidity Management Made Easy

By Stefan Jaskulak and James M. Nicholson

Proper liquidity management allows a government to optimize investment income, avoid overdraft fees, and identify irregularities, errors, or fraud.

Managing an organization's liquidity, while a relatively simple function, is crucial to ensuring that taxpayer dollars are properly managed. Improper management can lead to ratings downgrades and higher interest rates on bonds, negative press, and frustrated vendors and employees who receive payments that don't clear the bank. Proper liquidity management, however, allows a government to optimize investment income, avoid overdraft fees, and identify irregularities, errors, or fraud.

Although the terms "liquidity management" and "cash-flow forecasting" are often used interchangeably, they are not synonymous. Instead, they go hand in hand. Proper liquidity management requires a good understanding of the organization's cash-flow needs and requirements, and cash-flow forecasting is the art of successfully estimating the magnitude and timing of the organization's cash inflows and outflows — the foundation for managing liquidity.

CASH-FLOW FORECASTING

Cash-flow forecasting forms the basis for successful liquidity management. The key is to have a comprehensive understanding of all of the sources and uses of the organization's liquidity (e.g., cash).

In its simplest form, a cash-flow forecast is nothing more than a projection of periodic (e.g., daily, weekly, monthly, quarterly) anticipated receipts (i.e., cash inflows) and anticipated disbursements (i.e., cash outflows). The net of the receipts (i.e., total inflows less total outflows) is the estimate of the organization's investible cash balances. A positive number represents the amount of investible funds, and a negative number represents the amount of additional amount of cash needed. In the case of a shortfall, the funds manager would need to liquidate an investment or borrow the cash on a short-term basis.

Creating a cash-flow forecasting model requires answers to three very simple questions:

1. How much cash is available?
2. When will it become available?
3. How long will it be available?

In addition to improving investment earnings and ensuring that sufficient cash available for disbursements like payroll and accounts payable, cash-flow forecasting acts as an early warning system. It can communicate that the organization's cash-flow characteristics are changing, warning the organization about impending budget problems. At the same time, it can enhance interdepartmental cooperation, as the departments are engaged in the process to gain a better understanding of their cash flows, project requirements, and operational needs.

FORMAT AND GRANULARITY

Deciding on the format and frequency that works best for forecasting the organization's cash flows depends not only on the organization's needs, but also on the size of the organization and the volume and complexity of transactions. The format selected should be a rolling forecast that is not restricted to a budget year. The forecast should always look forward for at least one full year. If multiple formats are used (e.g., annual, monthly, weekly, project-based), they must be linked and flow together.

It's a good idea to start with an annual forecast, which estimates the government's cash position in monthly columns to determine the cash available for investments of more than 30 days. The annual forecast provides a clear and easy-to-use monthly overview for investment or decisions about borrowing, and should be prepared for the current fiscal year as well as the next 1 to 3 fiscal years.

For more detail, a monthly forecast can estimate the net cash position in weekly columns to determine the cash available for investments of less than 30 days. The monthly forecast can also be used as a tool to monitor the accuracy of the annual forecast model.

A weekly forecast estimates the cash daily position to determine the cash available for investments of less than seven days. The weekly forecast can also be used to monitor the accuracy of the monthly forecast.

For large or complex projects (e.g., capital projects), the funds manager can use a project-based forecast, which will likely require input from the project managers or contractors. Ideally, a project-based forecast should flow into the larger overview, whether that is weekly, monthly, or annually.

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In deciding on a preferred format, the funds manager should identify the resources available to maintain a cash flow forecast model (e.g., staff, time, and technology). Next, determine whether the type and amounts of cash flows are available to populate the model, and their reliability — whether they are predictable or erratic. Finally, the funds manager should identify the government's specific liquidity considerations (i.e., the level of liquidity required) and the level of accuracy or precision required.

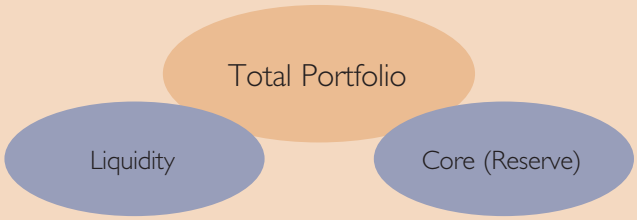
The first step in creating a cash-flow forecast is to gather historical financial data from the organization's general ledger, bank, and statements. Next, add in the current year's budget information to begin looking forward. Include any capital spending projections and incorporate investment maturities, coupon payments, and debt service in the analysis of cash inflows and outflows. Individually identify major revenue-generating items and separately identify the periodic accounts payable and payroll disbursements. Include enterprise funds (e.g., utilities like water and sewer, airport, mass transit), although these may need to be broken out separately if the investments for those funds are managed separately rather than being commingled. If they're not individually material, smaller sources of inflows and outflows can either be grouped together as a single item or disregarded entirely.

LIQUID VERSUS CORE PORTFOLIO

To effectively manage the organization's liquidity, cash balances can be segregated into two components: liquid and core. The liquidity portfolio is established to meet the organization's cash requirements on an ongoing and operational level. The core portfolio represents the funds available for longer-term investments, and can be based on 6- to 12-month projected net expenditures, one year's annual budgeted expenditures, or a percentage of the total portfolio with a cushion included to cover unforeseen variables. (See Exhibit 1.)

The split between the liquid and core portfolios is based on the size of the overall pool balance and how the balance has been growing, shrinking, or remaining stable. The funds manager should also determine whether or not the balance fluctuates during the year. The core portfolio should be designed to accommodate periodic liquidity needs, with the expectation that it will not be unexpectedly called upon to

Exhibit 1: Investing Liquidity and Core Portfolios



Liquidity Portfolio (<=1 Year)

- Meets Specific Liquidity Needs
- Invest in Short-term Securities
- Average Maturity Short
- Very Low Volatility
- Cash Flow Matching
- LGIPs and Money Market Instruments

Core Portfolio (>1 Year)

- Targeted to Highest Suitable Duration
- Longer-term Securites
- Normally Not Used for Liquidity, but Invested in Highly Marketable Securities, in Case
- Greater Volatility

fund cash flow needs (i.e., a buy and hold investing strategy).

In Exhibit 2, the total value portfolio is growing over time, but the maximum value fluctuates over the course of the fiscal year. This variability drives decisions about the average maturity or duration of the liquidity component, and allocations to different maturity points. For example, should the investible funds be placed entirely in local government investment pools (LGIPs)? Should they be invested in securities with laddered maturities that are matched to projected cash needs? Or should the funds be invested using other short-term investment strategies?

The GFOA recommends the following steps:

1. Involve all operating departments in developing cash-flow projections.
2. Prioritize expenditures based on organizational goals, objectives, and initiatives.
3. Use historical financial data to identify and measure activity of a cyclical nature.
4. Include expected investment income and maturity inflows in cash-inflow forecasts.
5. Include regular expenditures such as payroll and accounts payable in cash-outflow forecasts. Non-repetitive expenditures (e.g., progress payments on projects) should be quantified and included in the forecast.
6. Use cash-flow forecasts to recognize items and controls that affect the overall cash position.

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7. Make forecasts conservatively. Generally speaking, it is preferable to have more cash on hand than to find the organization in a liquidity crisis.
8. Update forecasts regularly. It doesn't help the organization if the process is done once or twice a year, and the results filed away. The forecast should be dynamic and updated as projected needs and resources change.

INVESTING AND LIQUIDITY

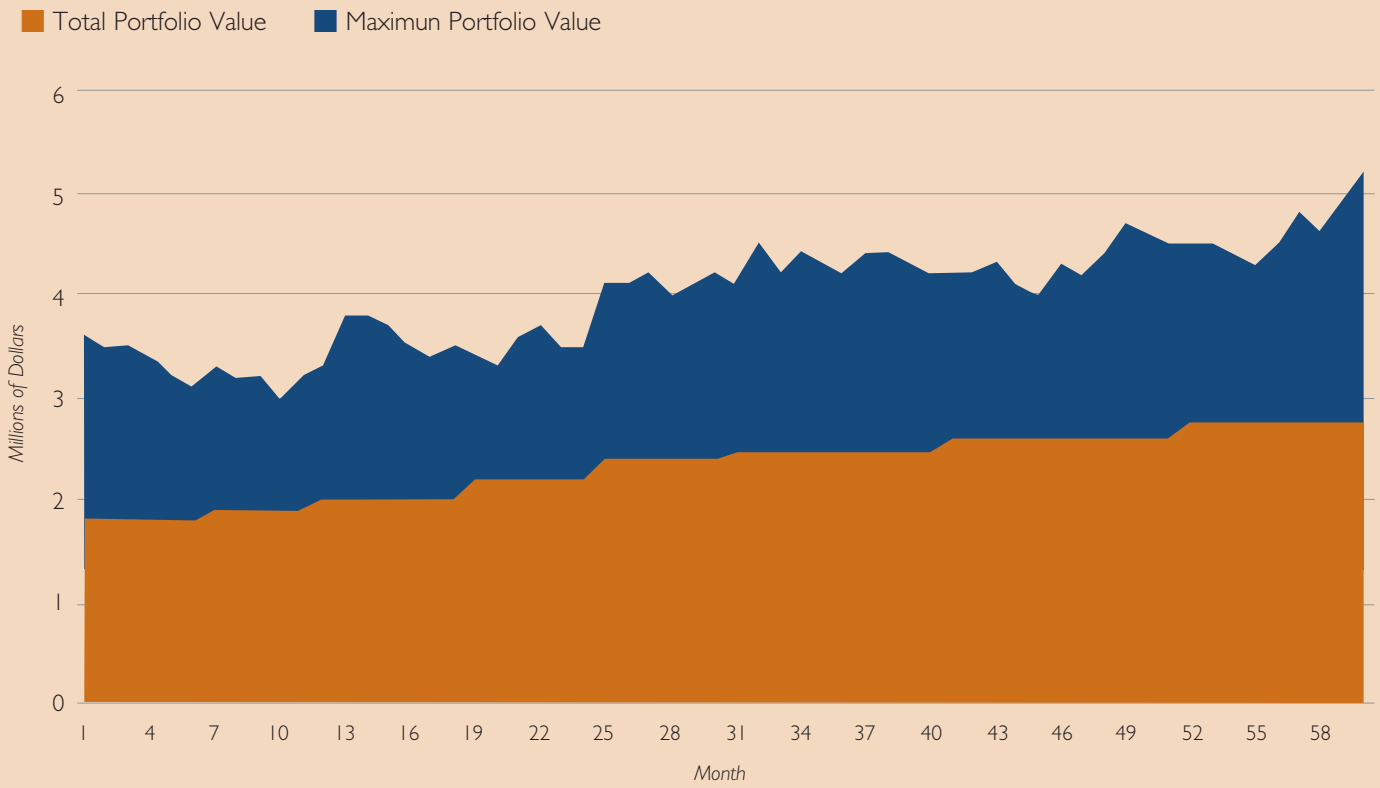
Public funds managers should consider investment strategies and liquidity management as two sides of the same coin. A comprehensive understanding of the organization's short-term and longer-term liquidity requirements makes it possible to appropriately invest available funds. Specifically, the organization's liquidity needs will determine the overall size of the investment portfolio and the structure of the portfolio (e.g., when will funds be needed?).

As part of an overall investment strategy, all assets and cash should be continually invested to maximize the compounding effect from reinvestment of investment income. Invest short-term for liquidity purposes (1 to 6 months) and match near-term liabilities to ensure cash availability. Core funds should be used to enhance yields through longer-term investing for investment income, and safety of the principal (6 to 12 months and longer) to match longer term liabilities.

The regulatory environment will determine what is permitted in creating an investment portfolio. State laws gov-

Exhibit 2: Portfolio Fluctuations over a Year

The portfolio value grows, but the maximum value fluctuates.



erning authorized and eligible investments vary widely and can have a significant impact on the structure of the portfolio. Generally speaking, a high-level overview of a portfolio structure can be defined as follows:

- Liquidity portfolio (typically 1 year or less)
  - Bank — demand deposit accounts, overnight sweep, and certificates of deposit
  - LGIP
  - Money market mutual funds
  - Money market instruments (U.S. Treasury bills, agency discount notes, commercial paper, and bankers acceptances)
- Reserve portfolio (typically 3 to 5 years maximum)
  - U.S. Treasury notes and bonds
  - Agency bonds
  - Corporate bonds
  - Municipal bonds

CONCLUSIONS

Managing an appropriate level of liquidity is relatively simple when certain steps are followed: 1) identify the organization's liquidity needs by developing a cash flow forecasting model; 2) separate the portfolio into liquidity and core components (if appropriate, depending on size); 3) invest to known liabilities to ensure the cash is available when you need it (i.e., portfolio laddering); 4) maintain an appropriate cash buffer for emergencies or unanticipated expenditures; and 5) invest in high-quality securities in compliance with the state's permitted investments and the organization's investment policy.

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