Managing an LGIP Through Market Volatility

A Risk Management Approach

Introduction

The resilience of a local government investment pool (LGIP) depends on maintaining enough immediately available liquidity, credit quality, diversification, and operational readiness to meet redemptions without forced sales or disorderly losses.

LGIP stress generally begins when cash demands rise faster than the fund can convert assets to cash at or near carrying value. Credit deterioration, abrupt interest rate changes, secondary-market dysfunction, counterparty problems, and concentrated investor activity can compound the pressure. Although each risk can be managed separately, the most severe events occur when several channels reinforce one another.

The most important lessons learned about risk management for LGIPs stemmed from the Great Financial Crisis in 2008-09. The most difficult issues for LGIPs were not related to credit issues, but rather liquidity issues stemming from large investor withdrawals. When Lehman Brothers filed for bankruptcy on September 15, 2008, a large money market fund failed, which triggered a wave of large redemptions among institutional money market funds. The immediate result was extensive price deterioration for credit instruments and even among federal agency discount notes. In addition, investors withdrew approximately $310 billion from prime money market funds with the heaviest redemptions coming from institutional funds. This represented 15 percent of those funds' assets.[1] The run was halted by the announcement of government facilities that provided liquidity to the commercial paper market.

Because local government investment pools operate in the same market as SEC-regulated money market funds, any issues that emerge in the money market fund space also affect LGIPs. While a small number of LGIPs did indeed experience credit defaults during the Great Financial Crisis, most dealt with the impacts of market disruptions and liquidity issues. The most significant takeaway for today's LGIPs is that liquidity stress can be more dangerous than credit loss, which is why understanding the details of risk management is a critical element of pool management.

Array of Risks

Assessing the risk of any single event is fairly straightforward and can be more easily contained. However, when a combination of events emerges, then risks can cascade. The risks faced by LGIPs are related to forced sales (Liquidity), spread widening (Credit), rapid interest rate changes (Interest Rate

[1] *https://www.sec.gov/spotlight/mmf-risk/mmf-risk-transcript-051011.htm*

Risk), broker-dealer issues (Market Functioning), clearing activity (Counterparty Risk) and the investor profile (Concentration Risk). The combination of any of the events can turn a localized concern into a fund-wide liquidity event, even when most holdings remain high quality.

The table below provides a summary of risks faced by an LGIP and potential risk management strategies employed by the LGIP portfolio manager.

Risk Management Strategies

Risk	Primary Trigger	Potential Effect	Risk Management Strategies
Liquidity	Large or rapid redemptions	Forced sales; cash shortfall	High overnight liquidity buffer; assess large redemptions
Credit	Downgrade, default concern, sector stress	Spread widening; impairment; confidence loss	Conduct independent research; establish conservative concentration limits; surveillance, diversify across issuers, industries, structures, and geographic exposures
Interest rate	Rapid rate increase or decrease	Net asset value (NAV) pressure; yield lag; fee pressure	Keep weighted average maturity and weighted average life within conservative operating ranges; use floating-rate exposure where appropriate, avoid reaching for yield by extending maturity or weakening credit standards
Market Functioning	Dealer constraints or frozen trading	Wider bid-ask spreads; weak price discovery	Hold larger buffers of instruments with reliable same-day or next-day liquidity, track bid-ask spreads, dealer inventories, issuance conditions, and trade execution
Counterparty	Repo, custodian, or clearing disruption	Delayed cash access; collateral dispute	Set and monitor counterparty limits based on credit strength and operational capacity, diversify repo and trading relationships
Concentration	Large investor exposure	Forced sales; cash shortfall	Analyze shareholder concentration, model the simultaneous exit of the largest investors

Stress Testing

A credible stress-testing program should evaluate severe but plausible events individually and in combination. The objective is not merely to produce a passing result. The objective is to identify the point at which liquidity, the NAV stability, or operational capacity becomes vulnerable and to define actions before that point is reached.

Many LGIPs in the United States obtain investment grade ratings. A key element of the rating process is the requirement to conduct regular stress tests on the portfolio. Shown below are two illustrative examples of an LGIP with $1 billion of assets and a 75% allocation to credit issuers such as commercial paper and negotiable certificates of deposit. At a basic level, the NAV is assessed relative to instantaneous shifts in yields of up to 300 basis points and five-day investor redemptions ranging from -30% to +20%. The structure of an LGIP plays an important role in its ability to withstand market stress and maintain an NAV of $1.00 per share. Most LGIPs have fund objectives that require the NAV to stay above $0.9950 per share. The rating agencies often require an NAV of $0.9975 to maintain the highest rating, typically AAAm or the equivalent.

In Scenario 1, the fund has a weighted average maturity to reset (WAM R) of 20 days and a weighted average maturity to final (WAM F) of 60 days. This scenario also makes the assumption that there is no change in the spread of credit instruments relative to U.S. Treasury bills. The percent of corporate floaters in this example is 0%. The results of this stress test indicate that even assuming the most extreme example of a shift in interest rates of 300 basis points and 30% investor redemptions, the NAV was calculated at $0.9977 per share. Thus, even this extreme example does not trigger a rating downgrade ($0.9975 threshold) or a fund freeze ($0.9950 threshold).

Stress Test: Scenario 1

Stress Test Assumptions	
Fund Assets	$1 billion
WAM (R)	20
WAM (F)	60
Credit Spread (bps)	0
% Credit Issuers	75%
% Corp Floaters	0%

Notification Thresholds
Rating Agency
Fund Freeze

	5 Day Redemption							
Basis Point Shift	-30%	-20%	-10%	-5%	0%	5%	20%	Gain/Loss
300	0.9977	0.9979	0.9982	0.9983	0.9984	0.9984	0.9986	(1,643,836)
250	0.9980	0.9983	0.9985	0.9986	0.9986	0.9987	0.9989	(1,369,863)
200	0.9984	0.9986	0.9988	0.9988	0.9989	0.9990	0.9991	(1,095,890)
175	0.9986	0.9988	0.9989	0.9990	0.9990	0.9991	0.9992	(958,904)
150	0.9988	0.9990	0.9991	0.9991	0.9992	0.9992	0.9993	(821,918)
125	0.9990	0.9991	0.9992	0.9993	0.9993	0.9993	0.9994	(684,932)
100	0.9992	0.9993	0.9994	0.9994	0.9995	0.9995	0.9995	(547,945)
75	0.9994	0.9995	0.9995	0.9996	0.9996	0.9996	0.9997	(410,959)
50	0.9996	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998	(273,973)
25	0.9998	0.9998	0.9998	0.9999	0.9999	0.9999	0.9999	(136,986)
0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	-
-25	1.0002	1.0002	1.0002	1.0001	1.0001	1.0001	1.0001	136,986
-50	1.0004	1.0003	1.0003	1.0003	1.0003	1.0003	1.0002	273,973
-75	1.0006	1.0005	1.0005	1.0004	1.0004	1.0004	1.0003	410,959
-100	1.0008	1.0007	1.0006	1.0006	1.0005	1.0005	1.0005	547,945
-125	1.0010	1.0009	1.0008	1.0007	1.0007	1.0007	1.0006	684,932
-150	1.0012	1.0010	1.0009	1.0009	1.0008	1.0008	1.0007	821,918
-175	1.0014	1.0012	1.0011	1.0010	1.0010	1.0009	1.0008	958,904
-200	1.0016	1.0014	1.0012	1.0012	1.0011	1.0010	1.0009	1,095,890
-250	1.0020	1.0017	1.0015	1.0014	1.0014	1.0013	1.0011	1,369,863
-300	1.0023	1.0021	1.0018	1.0017	1.0016	1.0016	1.0014	1,643,836

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In Scenario 2, fund assets total $1 billion, while the 75% credit allocation remains identical to Scenario 1. However, the weighted average maturity to reset (WAM R) is 50 days and the weighted average maturity to final (WAM F) is 75 days. This scenario also assumes that credit conditions have weakened and that credit spreads widened by 25 basis points. It is also assumed that corporate floaters account for 25% of the portfolio. In this example, the fund is exposed to a higher degree of interest rate risk. As in Scenario 1, we also examined an extreme situation in which the fund was exposed to a 300 basis point shift in yields and 30% investor redemptions. In this extreme example, the NAV declines to $0.9937. This decline in the NAV not only triggers a rating agency notification, it also potentially causes the fund to freeze operations because the NAV dropped below $0.9950 per share.

Of the 147 redemption/basis point assessments, there were three calculations in which the fund NAV dropped below $0.9950 per share and 29 calculations in which the decline in the NAV would require rating.

agency notification and a potential downgrade (below $0.9975 per share). The appearance of notification thresholds does not indicate imminent risks emerging for an LGIP. Rather, stress test scenarios simply serve as important tools to simultaneously test risk scenarios. During times of market stress scenarios can be run on a frequent basis to help achieve the investment objectives of an LGIP.

Stress Test: Scenario 2

Stress Test Assumptions	
Fund Assets	$1 billion
WAM (R)	50
WAM (F)	75
Credit Spread (bps)	25
% Credit Issuers	75%
% Corp Floaters	25%

Notification Thresholds
Rating Agency
Fund Freeze

	5 Day Redemption							
Basis Point Shift	-30%	-20%	-10%	-5%	0%	5%	20%	Gain/Loss
300	0.9937	0.9945	0.9951	0.9954	0.9956	0.9958	0.9963	(4,409,247)
250	0.9947	0.9953	0.9959	0.9961	0.9963	0.9965	0.9969	(3,724,315)
200	0.9957	0.9962	0.9966	0.9968	0.9970	0.9971	0.9975	(3,039,384)
175	0.9961	0.9966	0.9970	0.9972	0.9973	0.9974	0.9978	(2,696,918)
150	0.9966	0.9971	0.9974	0.9975	0.9976	0.9978	0.9980	(2,354,452)
125	0.9971	0.9975	0.9978	0.9979	0.9980	0.9981	0.9983	(2,011,986)
100	0.9976	0.9979	0.9981	0.9982	0.9983	0.9984	0.9986	(1,669,521)
75	0.9981	0.9983	0.9985	0.9986	0.9987	0.9987	0.9989	(1,327,055)
50	0.9986	0.9988	0.9989	0.9990	0.9990	0.9991	0.9992	(984,589)
25	0.9991	0.9992	0.9993	0.9993	0.9994	0.9994	0.9995	(642,123)
0	0.9996	0.9996	0.9997	0.9997	0.9997	0.9997	0.9998	(299,658)
-25	1.0001	1.0001	1.0000	1.0000	1.0000	1.0000	1.0000	42,808
-50	1.0006	1.0005	1.0004	1.0004	1.0004	1.0004	1.0003	385,274
-75	1.0010	1.0009	1.0008	1.0008	1.0007	1.0007	1.0006	727,740
-100	1.0015	1.0013	1.0012	1.0011	1.0011	1.0010	1.0009	1,070,205
-125	1.0020	1.0018	1.0016	1.0015	1.0014	1.0013	1.0012	1,412,671
-150	1.0025	1.0022	1.0020	1.0018	1.0018	1.0017	1.0015	1,755,137
-175	1.0030	1.0026	1.0023	1.0022	1.0021	1.0020	1.0017	2,097,603
-200	1.0035	1.0031	1.0027	1.0026	1.0024	1.0023	1.0020	2,440,068
-250	1.0045	1.0039	1.0035	1.0033	1.0031	1.0030	1.0026	3,125,000
-300	1.0054	1.0048	1.0042	1.0040	1.0038	1.0036	1.0032	3,809,932

For Illustrative Purposes Only

Conclusion

Liquidity risk and investor behavior are often the first channels through which LGIP stress becomes visible. The strongest defense is an integrated program combining high-quality assets, ample near-term liquidity, conservative concentration limits, independent credit surveillance, realistic stress testing, diversified counterparties, and clear governance. The LGIP should be designed to meet cash needs while avoiding forced sales, protecting NAV stability, and maintaining investor confidence.

A well-designed LGIP should be managed for resilience, not merely to minimum compliance. The relevant question is whether the portfolio can withstand the fund's own investor behavior and realistic market conditions while continuing to meet its operating objectives.

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Disclosures