Evaluating liquidity as part of a cash management strategy

Considerations for expected returns of liquidity in cash markets

Ron Akke, Dan Golosovker, Mark Salzman

1. Introduction

The fundamental question of any investment is how the return compares to the risk. Investing in cash is no exception to this rule, although cash is special in that it's often considered riskless.[1] Investors who believe that cash is riskless naturally gravitate toward cash instruments with the highest yield. This is understandable, because yield represents the return you could expect if nothing went awry and if cash had no risk. You wouldn't need to look beyond the yield to compare different strategies.

However, the yields of different cash strategies should be interpreted in light of their risks. This best practice enables investors to discount yields from best case scenarios to expected returns. We use 'expected' here in a mathematical sense; it represents the probability-weighted mean of returns across a range of outcomes.

Some cash instruments carry liquidity risk.[2] In concept, investors must be compensated for the ease (or lack of it) to transact an instrument. The harder and more costly it is to transact, the more compensation is required. In this paper, we provide insight into this liquidity premium and how it can fit into an investor's cash management strategy.

2. Key takeaways

[1] We disagree with the idea that cash investments are riskless, but would concede that a short-term U.S. Treasury bill, for a USD-denominated investor, probably is — or is comparable in risk to — the lowest risk instrument in their universe.
[2] Credit risk is the probability of a financial loss resulting from a borrower's failure to repay a loan.

- If liquidity premiums are high and investors don't need liquidity immediately, investing in instruments that pay a liquidity premium may offer an additional source of return for investors.
- Historically, the liquidity premium has been substantial (+21 bps annualized) with periods of over +50 bps annualized.
- Liquidity premiums tend to vary over time and are higher during high-stress periods. During these times, investors with excess liquidity may be able to earn outsized returns.

3. Context

Would you rather own an asset that's easy or difficult to sell? It's safe to assume that, *ceteris paribus*, investors prefer to own assets that are easy to sell. If an asset can't be easily disposed, it almost certainly will demand a premium as compensation for the greater difficulty of holding it. In the domain of cash and cash equivalents, holding a less than perfectly liquid asset generally means you're compensated for the higher transaction costs that would be incurred should you sell your asset early. This premium also provides some insurance (called the liquidity insurance premium), given that these costs can become much larger during times of stress.

In order to understand the size of premiums an investor might demand, let's explore how liquidity is a spectrum across both instruments and time:

- **Liquidity across instruments.** Highly liquid markets have lower bid-ask spreads, which allows an investor to capture more of the return on their investment. In less liquid markets, bid-ask spreads can be much wider. This dynamic leads investors to capture less of their return — and expect to be compensated for that.
- **Liquidity across time.** Regarding time horizons, periods of market stress and/or stress in the individual asset held tend to correspond with a decrease in the number of investors buying or selling a given asset. This leads to larger spreads and worse returns. Indeed, during stressful times, assets that were once fairly liquid may become fully illiquid, and investors can't get out of their positions without paying exorbitant costs.

The liquidity insurance premium scales with duration. In calmer times, there's some premium because of the probability that we could enter a more stressed liquidity period while holding an asset. As that asset's duration lengthens, so does the probability that we'll encounter a stressed period before the asset matures. Therefore, longer duration assets should have higher premiums.

Given these dynamics, investors should consider both their cash holdings and future liquidity needs when deciding whether to invest in semi-liquid or illiquid products in order to earn a liquidity premium.

Investors who have modeled their future cash flows and have a good idea of their cash needs may prefer illiquid products as an extra source of return, particularly when duration-matched to future cash outflows. For example, imagine an investor with upcoming private investment capital calls. The investor knows that they will need money available in the short- to medium-term, but also knows that they will not need that cash immediately. This is a scenario where the investor may want to take a bit of a liquidity premium with the cash that they're setting aside for capital calls.

4. Findings

We estimate the liquidity premium by comparing yields on 3-month tri-party fully collateralized USD repo instruments against yields on 3-month Treasury bills. Each of these matched duration assets have extremely high credit ratings. However, term repos tend to be over-the-counter rather than traded on exchanges, which makes these contracts very expensive to sell before maturity. While market dynamics can impact our ability to isolate liquidity premiums, the following simple analysis should help provide insight.

Three key findings stand out:

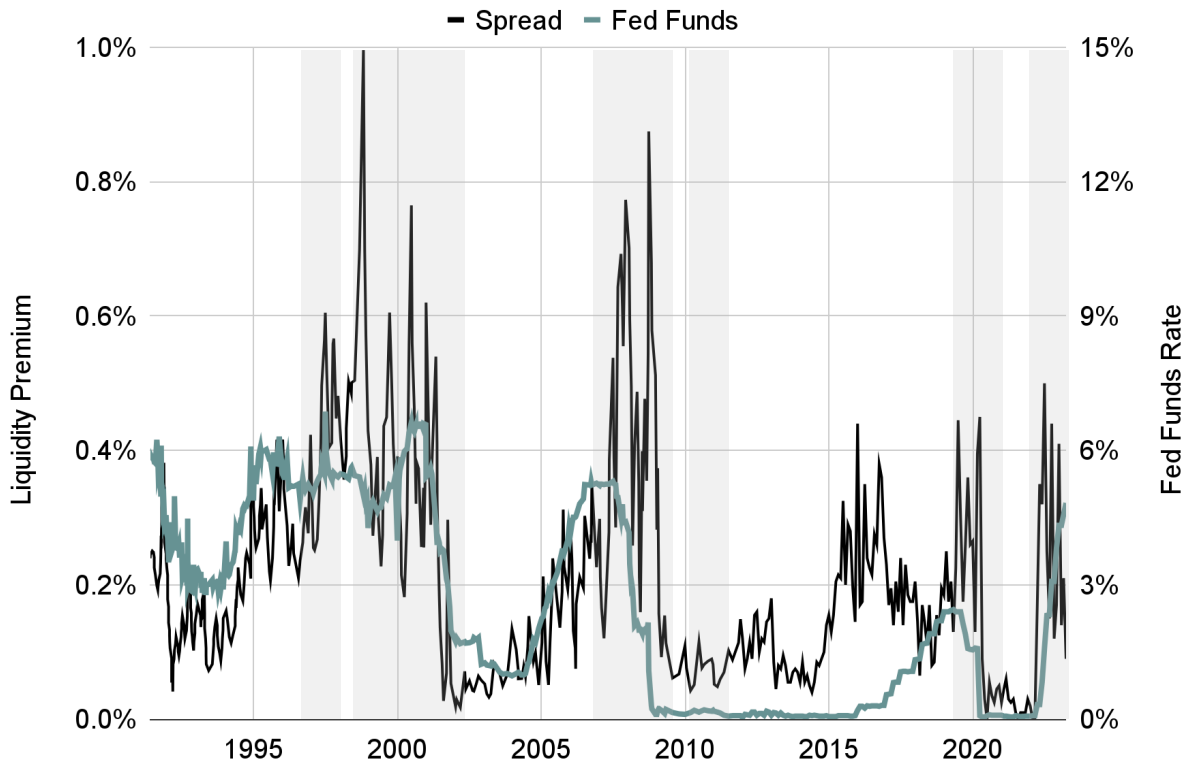
1. **Liquidity premiums tend to be positive**, with the median liquidity premium since 1991 being +21 bps on an annualized basis. However, liquidity premiums can be dramatically time-variant, from periods of being slightly negative to periods where investors were compensated by +50 bps.
2. **The opportunity cost of money (fed funds) and liquidity premiums has a strong positive relationship.** This held up until the financial crisis and has recently re-emerged since 2022 when the Fed started to raise rates and remove liquidity through quantitative tightening.
3. **Periods with the highest liquidity premiums tended to coincide with times of upper quartile equity market stress,** as measured by the CBOE's Volatility Index (VIX), shaded in

gray. Indeed, the average liquidity premium during lower quartile equity stress has historically been +18 bps while upper quartile has been +29 bps.

Exhibit 1

Liquidity premiums are time-variant and increase during period with high fed funds rates and high equity market risk

3-month USD repo and 3-month Treasury bill spread against upper quartile VIX, fed funds, 1991–2023



Source: "The Liquidity Premium of Near Money Assets" Nagel 2014, Refinitiv, CBOE

Note that these time periods of high equity market market volatility and Fed tightening also coincide with periods of higher credit risk. That is, liquidity premiums rise at similar times to when credit risk, and hence credit risk premiums, rise. There may be some interaction then between credit risk premiums and liquidity risk premiums. Tying up money in something that has extremely low credit risk, such as collateralized repos, is a very different proposition for earning liquidity premiums than tying up money in something that could default if economic conditions worsen, such as commercial paper.

5. Conclusion

Liquidity premiums exist because, all else equal, investors prefer to be able to cheaply sell out of instruments at a moment's notice. If an instrument does not offer that ability, the investor demands payment for that inconvenience. That payment, in the form of a liquidity premium, exists as both compensation for the current enlarged bid-ask spread as well as insurance against the possibility that the bid-ask spread will widen in the future, should economic conditions deteriorate.

Over the past 30 years, the liquidity premium has tended to be positive and increase during times of market stress. For investors with known cash needs that are not immediate but several months in the future, the liquidity premium could offer a new source of return.

References

Nagel, S. (2014). “The Liquidity Premium of Near Money Assets,” *The Quarterly Journal of Economics, 131* (4).

Notice and disclaimers

All information provided by Addepar, Inc. or its subsidiaries (collectively, "Addepar"), including without limitation, all text, data, graphs and charts (collectively, the "Information") is the property of Addepar and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or re-disseminated in whole or in part without prior written permission from Addepar. All rights in the Information are reserved by Addepar.

The Information may not be used to create derivative works or to verify or correct other data or information without prior written permission from Addepar. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other Addepar data, information, products or services.

The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information.

Addepar makes no express or implied warranties or representations with respect to the information (or the results to be obtained, but rather the use thereof), and to the maximum extent permitted by applicable law, Addepar expressly disclaims all implied warranties (including, without limitation, any implied warranties of originality, accuracy, timeliness, non-infringement, completeness, merchantability and fitness for a particular purpose) with respect to any of the information.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.

The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.

None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.

Addepar does not recommend, endorse, approve or otherwise express any opinion regarding any issuer, securities, financial products or instruments or trading strategies and Addepar's research products or services are not intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such.

Addepar, Investment Sentiment Index and other Addepar brands and product names are the trademarks, service marks or registered marks of Addepar or its subsidiaries in the United States and other jurisdictions.