Getting a Grip on Liquidity

Notes from the Vault

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Liquidity is, pardon the pun, a slippery concept. If you're looking for a definition, the answer will likely depend on whom you're asking. A trader, portfolio manager, or investor might well think you have in mind the ability to buy or sell a large security position quickly, relatively cheaply, and without affecting the market price, a concept aptly termed "market liquidity." But if you ask a bank regulator or a senior manager of a major financial institution, you may hear about the ability to meet short-term financial obligations, through access to funding markets or liquidating assets. We term this "institutional liquidity." And finally, in the world of monetary policy, increasing liquidity most often refers to the injection of monetary base or collateralized lending by a central bank.

Although its exact meaning can be slippery, the maintenance of appropriate levels of all three types of liquidity is essential to the operation of the financial system. In recognition of the importance of understanding liquidity, the Atlanta Fed's Center for Financial Innovation and Stability (CenFIS) hosted an academic conference in November 2015 that examined aspects of institutional, market, and central bank liquidity. That conference is being followed by the 21st Annual Atlanta Fed Financial Markets Conference this May, during which we will bring together market practitioners and policymakers, along with academic experts, to synthesize these three perspectives and make progress toward Getting a Grip on Liquidity. This *Notes from the Vault* post highlights some of the policy concerns that will motivate the discussions in May.

Institutional liquidity

A textbook function of banks is to transform short-term deposits into longer-term loans and securities. This is a risky function for banks, however, as net deposit withdrawals may exceed loan repayments. In order to honor the deposit withdrawals, banks may be forced to sell assets at distress or "fire sale" prices. Such sales not only result in the bank taking losses on its assets, these sales also reduce the perceived value of similar loans on the seller's and on other banks' books.

Many commercial and investment banks became illiquid during the global financial crisis, in part because of deposit withdrawals. The Federal Reserve and other central banks provided additional funding to the banks to lower their incentive to reduce the banks' risk of failure and their incentive to engage in fire sales. Since the crisis, however, bank supervisors have sought to reduce the risk of institutional illiquidity in the future by adopting new numerical minimum requirements (liquidity coverage ratio and net stable funding ratio) for banks to hold more high-quality liquid assets in proportion to the instability of their funding.

Although these requirements have the unambiguous effect of making banks less vulnerable to illiquidity, a *Notes from the Vault* post by Larry Wall observes that this comes at the expense of making other individuals and institutions less liquid. One consequence of the reduced liquidity for others is that central banks may be under greater pressure to lend to nonbank firms in some future financial crisis. As banks are required to hold a larger percentage of assets with high market liquidity the risk that they will face an institutional liquidity stress event, an inability to meet their short-term obligations, is lessened. However, there will still be a demand by borrowers for long-term loans and a demand by lenders for products that offer them daily (or short-term) access to their funds. Thus, as banks reduce their provision of this "liquidity transformation" service, nonbanks will step in to fill the void.

This raises the question of how to regulate institutional liquidity in nonbank financial firms, an issue that has already received significant attention since 2008. Large-scale withdrawals from prime money market mutual funds also played an important role in the crisis and the Securities and Exchange Commission (SEC) has taken measures intended to reduce the risk of money fund illiquidity.[1] Concern has since moved on to the risk that other types of open-ended mutual funds and other managed funds could come under liquidity pressure in a future crisis. Mutual funds per se cannot fail, as whatever losses they incur are passed through to their shareholders. Instead, the financial stability concern is that large and rapid investor redemptions across a large number of funds will trigger sales of assets with low market liquidity and drive large price declines that could transmit financial stress to other institutions. This hypothetical scenario combines elements of redemption contagion across mutual funds and fire sales that can feed back on one another.

In response to these concerns, a new SEC proposal would require open-end mutual funds (other than money market mutual funds) to establish liquidity management programs and increase disclosure on the market liquidity of their asset holdings and practices related to meeting investor redemptions.

Following up on last year's conference session that explored the impact of business model differences on broad macroprudential regulation, this year's conference will feature a session on institutional liquidity management that will compare and contrast the risks, practices, and impact of regulation across both the bank and asset management sectors. In addition to shining some light on the liquidity risk management practices inside asset management firms and the SEC proposal, we hope the session will also aid in the development of the theory and practice of liquidity regulation within banks. Relative to bank capital regulation, institutional liquidity risk assessment and management is still in its infancy. Regulators are now collecting large amounts of granular data on liquidity, but how to optimize the analysis of this data and assess potential stress events are still somewhat open questions.

Market liquidity

While the market liquidity of an asset class can affect institutional liquidity, the activities of institutions can also affect market liquidity and here again, regulatory changes play a role. In this case, large banks are involved through their role as dealers, counterparties, and intermediaries involved in trading a wide variety of assets, including futures, bonds, and short-term secured borrowing and lending ("repo"). Most of these market-making activities have been historically regarded as low risk and accordingly had low-risk-based capital requirements. In general, however, risk-based requirements may become biased over time toward underestimating risk (see Larry Wall's discussion of how banks respond to capital regulation), so supervisors have increased the minimum amount of capital that banks must hold against their total assets via the supplemental leverage ratio (SLR) to limit the increase in

risk. The SLR does not assign lower requirements to low-risk assets, which effectively implies a substantial increase in the amount of capital banks must hold against the risks in their market-making activity. In addition, the costs of certain types of market making have increased as a result of a variety of new regulations for derivative markets, and the tri-party repo market has undergone substantial reform.

Many market participants cite these regulations as the cause of reduced market liquidity, most significantly in fixed-income markets. Market liquidity is a "network good"—meaning that liquidity begets liquidity as buyers and sellers gravitate to trading venues and asset markets where there are a lot of other buyers and sellers with whom to trade. Thus the argument is made that as intermediation becomes more costly, from a capital perspective, large banks are reducing their activities (sometimes termed "capacity") and market liquidity declines. Buyers and sellers would then incur higher trading costs, experience longer lags in executing their trades, especially large trades, and suffer the adverse effects of impacting prices. This video of the June 2015 Commodity Futures Trading Commission Market Risk Advisory Committee presents a variety of practitioner perspectives on the current state of market liquidity in derivative markets, and an article in *Euromoney* details the potential for impact on the massive eurodollar futures market.

While this argument makes economic sense, there are several open questions. First, is this an empirical reality, has market liquidity in fact declined? If so, in which markets? What is the role of regulations in causing any changes? And if large banks have indeed scaled back, where will the "capacity" for market intermediation come from? Some of our colleagues at the New York Fed have found that large bank dealers do seem to have "stepped back" from intermediation, but market liquidity in corporate bond markets does not seem to have decreased, as measured by bid-ask spreads, trading volume, and price impact. Their conclusion is that other market participants may have already stepped in to provide liquidity and capacity, including hedge funds and high-frequency traders. The conference will explore this changing cast of characters and the challenges it may pose for ensuring liquidity in times of market stress.

Closely related to these questions are ones related to the role of market microstructure in facilitating or hindering market liquidity. Here we are referring not to the institutions and entities that are trading but the platforms they trade on and how trading activity is linked across markets for different assets or different markets for the same asset. For example, the Bank for International Settlements recently released a report on the increasing electronification of fixed-income markets and the consequence for market liquidity, including the greater participation by high-frequency algorithmic trading firms. In addition, new platforms for fixed-income assets (such as Liquidnet in the United States and Honeycomb in the European Union) provide an opportunity for more direct trading between buy-side institutions, reducing or perhaps even eliminating the need for institutional brokerage services. Equity trading began a similar evolution some 15 to 20 years ago, and the lessons from that experience will help to inform both the development and assessment of the future for other markets.

Finally, it is important to note that market liquidity is not a static concept. Liquidity changes over time, sometimes very quickly. Market microstructure may also play a role in this type of liquidity risk—the likelihood of large increases in day-to-day illiquidity and attendant price volatility. Once again, colleagues at the New York Fed have written a number of pieces on assessing liquidity risk in markets, a forensic analysis of three "flash crash" events, and cross-market liquidity. An obvious implication of the changing nature of market liquidity is that institutional liquidity is therefore also dynamic—an important perspective for policymakers and regulators to keep in mind.

Central bank liquidity

Finally, regulators and market participants are not the only innovators in financial markets. Since 2008, the global financial system has experienced innovative monetary policy in the form of large-scale asset purchases by all major central banks and, more recently, forays into negative policy rate regimes. Most of the analysis of these policies centers on their potential for delivering on price stability and growth mandates. Less discussed are the implications for institutional and market liquidity. This report from the Committee on the Global Financial System and work by Manmohan Singh are among the few studies that address this important topic. At issue is the role of high-quality (i.e., low-risk) collateral in financial markets and the impact of central bank asset purchases on the availability and use of that collateral in the open market. High-quality collateral is also, by nature, typically highly liquid (the U.S. Treasury market is the most liquid fixed-income market in the world). Several regulatory changes may be increasing the demand for these assets. Beyond the new regulations on institutional liquidity, a large amount of derivatives trading is migrating from the over-the-counter market to exchanges. These central counterparties use collateral requirements to manage their credit risk, so this additional trading activity may be adding to demand as well.

Assessing the impact of large-scale asset purchases by central banks (otherwise known as quantitative easing) on the market liquidity of sovereign debt and the collateral "lubrication" available to the global financial system, encompassing both banks and nonbanks, will be among the topics discussed by our final panel at the conference. We also hope to engage attendees in a discussion of the impact of negative policy rates on financial institutions and markets. If anything, questions surrounding the potential impact of negative rates loom even larger than those regarding asset purchases. At this point, we don't know exactly what the effective lower bound is once rates go negative. Partly that is a function of the ongoing evolution of responses by market participants.

Conclusion

Each year we attempt to identify open questions on important financial policy topics that will benefit from discussions involving multiple perspectives and areas of expertise. This year's conference is particularly ambitious—Getting a Grip on Liquidity may be much like trying to nail Jell-O to a wall. We are fairly confident that we will end the conference with yet more questions, informed by both the details of regulation, innovation, and policy implementation as well as the fundamental economics that drive and shape financial markets. Please check the conference web page in mid-May for papers and presentations along with videos of the sessions.

Paula Tkac is a vice president and senior economist at the Atlanta Fed. The author thanks Larry Wall for helpful comments. The views expressed here are the author's and not necessarily those of the Federal Reserve Bank of Atlanta or the Federal Reserve System. If you wish to comment on this post, please email ***atl.nftv.mailbox@atl.frb.org***.

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[1] In particular, the newly amended rule 2a-7 imposes new restrictions on the credit quality, maturity, and diversification of the portfolio securities as well as requiring that certain money funds (e.g., prime institutional funds) use daily net asset value pricing. This floating net asset value rule will become fully effective in October 2016.

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