

## **Minutes of the June 16, 2017 Financial Advisory Roundtable (FAR) Meeting**

**Present:** FAR Members: Terry Belton, Laurie Goodman, Robin Greenwood, Charles Himmelberg, Ralph Koijen, Andrew Lo, Lynn Paquette, Stephen Ryan, Tano Santos, Antoinette Schoar, Til Schuermann  
FRBNY: Nina Boyarchenko, William Dudley, Thomas Eisenbach, Michael Held, Beverly Hirtle, Megan McConnell, Susan McLaughlin, Simon Potter, Seth Searls, Kevin Stiroh, Michael Strine, James Vickery

This meeting of the Financial Advisory Roundtable (FAR) considered how market liquidity has changed since the financial crisis. The meeting began with two prepared discussions from roundtable members on how to define and assess liquidity, the effects of regulation and technology on liquidity, and the evolution of liquidity in different markets. These comments were followed by an open discussion focusing on the topics listed in the meeting agenda.

### **The Multidimensional Nature of Liquidity**

Liquidity can be defined as the ability to execute trades of desired size, at low cost and/or price impact, in a timely manner. FAR members indicated that understanding and assessing market liquidity requires a holistic view along multiple dimensions, including price (e.g. bid-offer spread), market depth, and trade sizes. These dimensions of liquidity evolve over time but not necessarily in the same way.

According to FAR members, evidence on how liquidity has changed post-crisis is mixed, with conclusions depending on how liquidity is measured. While price-based measures show increased liquidity, measures based on market depth and trade size indicate lower liquidity. As such, market liquidity conditions may differ across market participants: small retail investors could benefit from low bid-offer spreads, while large institutional investors may face obstacles in executing large block trades due to shallow market depth. Liquidity conditions, and the evolution of liquidity in recent years, also vary across markets. For instance, one FAR member argued that market liquidity for collateralized loan obligations appears satisfactory, that investors' anticipated holding periods in different segments of this market are well-aligned with relative liquidity, and that liquidity differences across securities are appropriately reflected in prices.

### **The Role of Regulation**

FAR members also discussed whether post-crisis regulatory changes have impacted liquidity. Several members suggested that regulation has reduced at least some dimensions of liquidity, such as market depth, but argued that this is either by design or may be a worthwhile cost weighed against the benefits of regulation. As an example, new regulations have increased costs associated with warehousing risk for banks, which may have lowered liquidity but increased the safety and soundness of banks. Some FAR members also argued that lower liquidity may itself have some positive benefits, by making traders more conscious of underlying risks.

FAR members also discussed whether there are feasible ways to improve market liquidity without endangering financial stability. One FAR member argued that better measurement of leverage could offer improvements in liquidity, especially in the Treasury market, without much cost in terms of reduced financial stability. More broadly, FAR members agreed that market liquidity is instrumental for the efficient allocation of capital in the economy, though the magnitude of this link is difficult to assess. It was also suggested that, if post-crisis developments have moved the financial system away from the

efficient frontier, firms could adjust to changes in market liquidity by altering their capital structure and issuing more liquid securities.

### **Market Adaptation and the Evolution of Liquidity Provision**

Liquidity has traditionally been provided mainly by banks and broker-dealers. A number of FAR members argued that post-crisis regulation has affected the willingness and ability of these actors to provide market liquidity. One FAR member also suggested that the experience of the crisis itself may have made banks less willing to take risk in market-making, independent of regulatory changes.

FAR members also argued that technology has played an important role in shaping trends in market liquidity over the past decade. For instance, according to some estimates, high-frequency trading is now responsible for the majority of trading volume in equity markets. In that context, FAR members discussed a recent study suggesting that liquidity declines as the speed of trading increases; this suggests that high-frequency traders may reduce liquidity, with high-frequency momentum-based strategies playing a more important role relative to mean-reversion (market-making) strategies.

A related question is to what extent changes in liquidity in recent years have been driven by regulation versus technological changes, given that these happened simultaneously. FAR members suggested that the answer to this question may differ across markets; for instance, one member suggested that the Treasury market may be more affected by regulation, while the equity market may be more affected by technology. Others pointed out that answering the question is difficult given that some technological innovations may emerge partly in response to regulation.

Members discussed that in some markets, liquidity provision has adapted to the changed circumstances. As an example, auction-based approaches can facilitate trade without the need for dealers to warehouse risk. However, FAR members also noted that this kind of market structure may have limitations. In less transparent markets, it may be difficult for non-traditional liquidity providers, such as hedge funds, to identify asset sellers during stress events because trades are not visible. Price discovery may similarly be limited due to the lack of transparency.

### **Episodic Illiquidity and Market Vulnerabilities**

FAR members discussed concerns around the possibility of “episodic illiquidity,” in which actual market depth is lower than stated depth and liquidity quickly evaporates during downturns. The possibility of such episodic illiquidity was thought to be particularly salient at present, due to several potential sources of market vulnerabilities, including the low level of macroeconomic and financial market volatility. FAR members noted that volatility by itself provides an incomplete picture of tail risk, arguing that other risk measures such as volatility-of-volatility or implied skew in equity markets are at high levels and reflect the possibility of a sizeable negative shock to equity prices. It was argued that financial institutions’ risk management is primarily focused on second moments (volatility), and that this may lead to the build-up of excessive leverage in the current environment. Other sources of vulnerabilities discussed included potential market complacency, cross-market spillovers, the shift from active to passive risk-managed funds, and the rise of corporate bond exchange-traded funds.

FAR members broadly agreed on the need for more comprehensive analysis to understand market resilience to aggregate shocks. In this context, they discussed the difficulty of predicting market depth in

tail events, such as a “flash crash,” which arise infrequently. Members also emphasized that the limited availability of holdings data outside of equities hinders understanding on aggregate response to shocks and policies. Finally, some members argued that alternative trading platforms such as dark pools must be taken into account when considering market liquidity.