Market Liquidity and Funding Liquidity: An Empirical Investigation

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Summary

The influence of market imperfections on security prices has long been recognized. Liquidity, a fundamental concept in finance and economics, relates to a number of transactional properties of the markets and its measurement has included direct trading costs, such as quoted or effective bid-ask spreads, to indirect trading costs, such as price impact of trades. However, recent studies have emphasized that the usual definitions of liquidity can be restrictive since they do not capture the multidimensional aspects of financial assets trading. In fact, in all financial markets, trading requires capital. When a trader buys a security she can use the security as collateral and then borrow a fraction of its value against it. The difference between the security price and the collateral value must be financed by traders' own capital. When this additional realistic feature of financial markets trading is taken into account, then liquidity is not a unique concept but assumes a dual perspective: the ease with which an asset is traded (market liquidity) affects and is affected by the ease with which traders can obtain funds (funding liquidity).

Our study proposes a new empirical framework that is able to characterize the dynamic relationship between market liquidity and funding liquidity. It also allows us to test some of the general predictions implied by recent theoretical models of market trading with financially-constrained agents. Our empirical results, obtained using daily data for the US equity market, are as follows: first, there is strong evidence that the relationship between market liquidity and funding liquidity is characterized by significant nonlinearities. While the existence of nonlinearities in this context is not novel per se from a theoretical point of view, our model documents this evidence for the first time from an empirical point of view. Second, in line with the empirical implications of recently proposed theoretical models of trading with financially-constrained agents, we find that when shocks to funding liquidity are small, market liquidity conditions are not affected, hence market liquidity shocks are serially uncorrelated and they are not correlated with shocks to funding liquidity. When shocks to funding liquidity are large enough to force agents towards their capital constraints a positive relationship between market and funding liquidity conditions arise.