Market liquidity as a sentiment indicator ☆

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Abstract

We build a model that helps to explain why increases in liquidity—such as lower bid–ask spreads, a lower price impact of trade, or higher turnover–predict lower subsequent returns in both firm-level and aggregate data. The model features a class of irrational investors, who underreact to the information contained in order flow, thereby boosting liquidity. In the presence of short-sales constraints, high liquidity is a symptom of the fact that the market is dominated by these irrational investors, and hence is overvalued. This theory can also explain how managers might successfully time the market for seasoned equity offerings, by simply following a rule of thumb that involves issuing when the SEO market is particularly liquid. Empirically, we find that: (i) aggregate measures of equity issuance and share turnover are highly correlated; yet (ii) in a multiple regression, both have incremental predictive power for future equal-weighted market returns.

1. Introduction

A growing body of empirical evidence suggests that liquidity predicts stock returns, both at the firm level and in the time series of the aggregate market. Amihud and Mendelson (1986), Brennan and Subrahmanyam (1996), and Brennan et al. (1998) find that measures of increased liquidity, including a low price impact of trade, low bid–ask spreads and high share turnover, are associated with lower future returns in cross sections of individual firms. More recently, Chordia et al. (2000, 2001), Hasbrouck and Seppi (2001), and Huberman and Halka (2001) document that there is considerable time-variation in market-wide liquidity, and Amihud (2002) and Jones (2002) show that these market-wide movements in liquidity also forecast aggregate returns.[1]

The traditional explanation for why liquidity might affect expected returns is a straightforward one (Amihud and Mendelson, 1986; Vayanos, 1998). Investors anticipate having to sell their shares at some point in the future, and recognize that when they do so, they will face transactions costs. These costs can stem either from the inventory considerations of risk-averse market makers or from problems of adverse selection.[2] But in either case, when the transactions costs are greater, investors rationally discount the asset in question by more. This story would seem to fit most naturally with the purely cross-sectional results. In particular, if we compare two stocks, and one is observed to have permanently lower bid–ask spreads and price impacts than the other, as well as higher turnover, it is plausible that the more liquid stock would have a somewhat higher price, and hence lower expected returns.

It is less clear whether the same story can be carried over without modification to explain the time-series results for the aggregate market. First of all, we do not have a well-developed understanding of what drives the common time-series variation in measures of liquidity. For example, though it is a possibility, it seems more of a stretch to argue that there are large swings in the degree of asymmetric information about the market as a whole. Second, as Jones (2002) shows, and as we verify below, the predictive power of aggregate liquidity for market returns, particularly for equal-weighted returns, is large. In a univariate regression, a one-standard-deviation increase in stochastically detrended turnover (equivalent to turnover going from, say, the 1932–1998 mean of 30 percent up to 42 percent in a given year) reduces expected returns on the CRSP equal-weighted index over the next year by approximately 13 percent.

In this paper, we develop an alternative theory to explain the connection between liquidity and expected returns.[3] Our focus is on understanding why *time-variation* in

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[1] Somewhat more subtly, Pastor and Stambaugh (2003) argue that expected returns are higher on stocks with a greater sensitivity to market-wide liquidity—i.e., that aggregate liquidity is a priced risk factor.

[2] On the former, see Demsetz (1968), Garman (1976), Stoll (1978), Amihud and Mendelson (1980), and Grossman and Miller (1988). On the latter, see Copeland and Galai (1983), Glosten and Milgrom (1985), Kyle (1985), Easley and O'Hara (1987) and Admati and Pfleiderer (1988).

[3] Although our focus is on the stock market, the link between high prices and market liquidity seems to be pervasive. See, e.g., Shleifer and Vishny (1992) and Stein (1995) for models of the market for corporate asset sales and the housing market, respectively. We discuss the relationship of our theory to this work below.