Journal of International Money and Finance 44 (2014) 97–117

Contents lists available at ScienceDirect

Journal of International Money and Finance

journal homepage: www.elsevier.com/locate/jimf

Stock market liquidity and macro-liquidity shocks: Evidence from the 2007–2009 financial crisis

Chris Florackis [a,1], Alexandros Kontonikas [b,*], Alexandros Kostakis [c,2]

[a] Department of Economics, Finance and Accounting, University of Liverpool Management School, Chatham Street, Liverpool L69 7ZH, UK
[b] Accounting and Finance Subject Area, Adam Smith Business School, University of Glasgow, Glasgow G12 8QQ, UK
[c] Accounting and Finance Division, Manchester Business School, University of Manchester, Booth Street, Manchester M15 6PB, UK

JEL classification:
G12
E43
E44
E51
E52

Keywords:
Liquidity shocks
Monetary policy
Market micro-structure
Stock returns

A B S T R A C T

We develop an empirical framework that links micro-liquidity, macro-liquidity and stock prices. We provide evidence of a strong link between macro-liquidity shocks and the returns of UK stock portfolios constructed on the basis of micro-liquidity measures between 1999 and 2012. Specifically, macro-liquidity shocks, which are extracted on the meeting days of the Bank of England Monetary Policy Committee (MPC) relative to market expectations embedded in 3-month LIBOR futures prices, are transmitted in a differential manner to the cross-section of liquidity-sorted portfolios, with liquid stocks playing the most active role. We also find that there is a significant increase in shares' trading activity and a rather small increase in their trading cost on MPC meeting days. Finally, our results emphatically document that *during* the recent financial crisis the shocks–returns relationship has reversed its sign. Interest rate cuts *during* the crisis were perceived by market participants as a signal of deteriorating economic prospects and reinforced "flight to safety" trading.

* Corresponding author. Tel.: +44 (0) 141 3306866.
E-mail addresses: c.florackis@liv.ac.uk (C. Florackis), alexandros.kontonikas@glasgow.ac.uk, alexkontonikas@yahoo.co.uk (A. Kontonikas), alexandros.kostakis@mbs.ac.uk (A. Kostakis).
[1] Tel.: +44 (0) 151 79553807.
[2] Tel.: +44 (0) 161 2756368.

http://dx.doi.org/10.1016/j.jimonfin.2014.02.002
0261-5606/

1. Introduction

The recent global financial crisis has highlighted the importance of liquidity for the well-functioning of financial markets. It is now well understood that a decline or, worse, evaporation of liquidity may cause large falls in asset prices that are not justified by their fundamentals. It may also cause the initialization of a downward spiral in asset prices, amplified by fire sales and deleveraging to meet margin calls and higher haircuts (see Brunnermeier, 2009; Gorton and Metrick, 2010). Such feedback mechanisms can eventually pose a major threat to the stability of the financial system (Pedersen, 2009).

Liquidity plays a crucial role both at the macro level and at the micro level. Macro-liquidity refers to the money supply provision by central banks and the availability of funds for financial markets' participants, such as financial intermediaries. Micro-liquidity refers to the trading conditions of individual assets, namely the cost, speed, volume and price impact of transforming cash into financial assets and vice versa (Chordia et al., 2005). The aim of this study is to examine the potential link between liquidity at a macro and a micro-level by evaluating the response of liquidity-sorted stock portfolios' returns to macro-liquidity shocks extracted on the Bank of England (BoE) Monetary Policy Committee's (MPC) meeting days.

Central banks possess a set of monetary policy tools for managing macro-liquidity. The policy rate they determine is considered to be the benchmark for the term structure of interest rates. This is particularly true for the short-end of the yield curve (Kuttner, 2001). Moreover, the terms of liquidity provision to financial intermediaries affect to a great extent the broad money supply in the economy. Crucially for the focus of our study, the pivotal role of intermediaries in the modern financial system also implies that macro-liquidity shocks induced by changes in the monetary policy stance of central banks can be transmitted through the entire intermediation chain, eventually affecting investors in the marketplace.[3]

Most obviously, the interbank market is crucially affected by monetary policy decisions. These are reflected in LIBOR fluctuations that influence the flow of funds among major intermediaries and determine the value of their proprietary portfolio of assets and agreements as well as the borrowing ability of dealers. As a result, these intermediaries may have to rebalance their own portfolios and modify their risk exposure and degree of leverage to meet regulatory requirements and remain solvent (see e.g. Adrian and Shin, 2010b). At the same time, intermediaries pass on to their institutional or individual clients these new terms of funds' exchange by modifying their lending standards as well as their margin requirements or call rates. This, in turn, may cause major shifts in the composition of these clients' portfolios and the trading conditions for the corresponding financial assets.[4] In sum, a shift in the quantity of available funds and the price of liquidity at the macro-level can be spread along the intermediation chain, reaching investors and traders by altering their funding conditions and investment decisions.

In addition to macro-liquidity, micro-liquidity is widely considered as an important source of market frictions that can have first-order effects on investment decisions and asset prices (see Amihud and Mendelson, 1980, 1986a, 1986b). Most importantly, micro-liquidity can be regarded as a risk factor leading to substantial risk premia in the cross-section of stock returns (Pastor and Stambaugh, 2003; Acharya and Pedersen, 2005). Motivated by this evidence, we argue that macro-liquidity shocks, to the extent that they affect liquidity conditions in the stock market, may also have a differential impact on the cross-section of liquidity-sorted portfolios' returns. Stocks with different microstructure characteristics, and hence different exposure to micro-liquidity risk, may be differently affected by a common macro-liquidity shock.

A number of recent studies for the US find that expansionary macro-liquidity shocks improve micro-liquidity conditions, especially during periods of financial distress (see e.g. Chordia et al., 2005;

[3] Adrian and Shin (2010a) provide a detailed description of the long intermediation chain characterizing a modern financial system and the transmission of liquidity shocks across its links. See also Garcia (1989) for an account of the monetary policy tools for liquidity provision to financial intermediaries.

[4] See Brunnermeier and Pedersen (2009) for a model of the interaction between the availability of funds for traders and microstructure liquidity. Fortune (2000) explains the mechanics of margin lending and demonstrates the close relationship between the broker call money rate and the Fed Funds rate.