

Box 9

UNDERSTANDING FINANCIAL MARKET LIQUIDITY

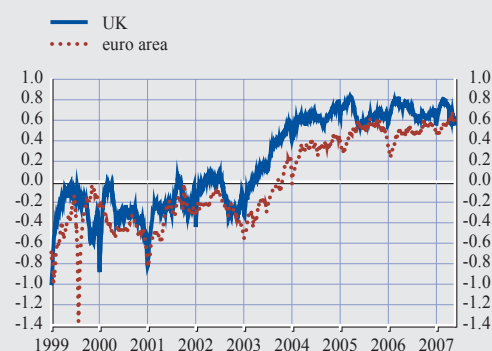
Market intelligence indicates that financial market participants have rarely seen liquidity in global financial market as abundant as since 2003 and that an almost insatiable appetite has existed among investors for some time for privately issued assets, especially risky credit products. The term “liquidity” is, however, frequently used loosely and it is often difficult to disentangle precisely what concept is meant in this respect. It is useful to recall that economic theory offers at least two different concepts of liquidity.¹ One of them can be called monetary liquidity and it pertains to the quantity of liquid assets in the economy, which is in turn related to the level of interest rates. A second concept is market liquidity, which is generally seen as a measure of the ability of market participants to undertake securities transactions without triggering large changes in their prices. These two concepts are quite distinct from one another and although there can be relationships between them they are rather complex and by no means direct. From a financial stability perspective, it is important to identify the sources of financial market liquidity because if there are risks associated with the durability of the factors driving it, this could leave asset prices vulnerable to abrupt changes in market liquidity. Focusing on the second concept, this box introduces an indicator designed to gauge patterns in euro area market liquidity, it assesses some of the explanations commonly offered for perceptions of abundant market liquidity and it draws some financial stability conclusions.

Seen as a measure of the ability of market participants to undertake securities transactions without triggering large changes in their prices, symptoms of abundant market liquidity have been plentiful across a host of global financial markets for some time. Since mid-2003 bid-ask spreads have fallen and transactions volumes have surged. A composite metric designed to capture key elements of patterns in financial market liquidity can be constructed by combining such information across several markets – covering foreign exchange, equity, fixed income and credit – across three separate dimensions of market liquidity including tightness, depth and resiliency as well as estimates of liquidity premiums.² Tightness, that is the magnitude of risk premiums required by market-makers for holding inventories of securities, is usually gauged by the width of bid-ask spreads. Depth and resiliency, that is the degree to which trading impacts on asset prices, can be gauged using ratios of price movements to transactions in the relevant markets. Finally, liquidity risk premiums, that is the compensation required by investors for the risk that attempts to exit positions could be challenged by uncertain market conditions in the future, can be measured using various spreads between securities which are known to have varying degrees of liquidity. For euro area financial markets, a composite indicator constructed from several measures designed to capture these different aspects of

1 Several other concepts exist including, for instance, balance sheet liquidity – that is the amount of liquid assets on the balance sheets of non-financial institutions.

2 For further details on the construction of this indicator see Bank of England (2007), *Financial Stability Report*, April 2007.

Chart B9.1 Financial market liquidity indicator for the euro area and the UK



Sources: ECB, Bank of England, Bloomberg, JP Morgan Chase & Co., Moody's KMV and ECB calculations.
 Note: The composite indicators are unweighted averages of individual liquidity measures, normalised on the period 1999-2004 (UK) and 1999-2006 (euro area). The data shown are exponentially smoothed.

market liquidity suggests that after mid-2003 there was a sharp and lasting rise in financial market liquidity (see Chart B9.1).³ Notably, patterns in the composite indicator for the euro area have been very similar to the patterns seen in a similar indicator constructed for the UK financial markets especially from mid-2003 onwards. This would tend to suggest that reports of abundant market liquidity have been referring to a global rather than a local phenomenon.

As to the sources of greater financial market liquidity and risk-taking activity, several, not necessarily mutually exclusive hypotheses, have been put forward. Some of them have centred on monetary liquidity. In this vein, although there has been some moderation over

the past few years in the rates of growth of measures of global monetary liquidity, it has been suggested that more rapid growth in monetary aggregates than nominal economic growth for some time may have bid asset prices upwards, a view supported by research undertaken at the ECB.⁴ According to this viewpoint, monetary liquidity at the global level may be important,⁵ as some of this excess monetary liquidity has also seeped across borders via carry trades, whereby money is borrowed in one (low interest rate) currency and invested in another. In addition, international capital flows have increased substantially on account of wide global financial imbalances. Excess savings relative to investment in some emerging market and oil-exporting economies has led to the accumulation of very large reserves of foreign currency-denominated assets. A large part of these reserves has been deployed to purchase substantial amounts of assets in mature economy financial markets.⁶ While the relationship between monetary liquidity and financial market liquidity is complex and by no means direct, reserve accumulation by Asian central banks and oil producing countries has undoubtedly raised the number of, and the degree of diversity among, participants in mature economy financial markets.

Another view sees higher market liquidity as being closely linked with greater investor confidence and, as such, an appropriate response to lower macroeconomic volatility, with more stable GDP and low inflation reducing investor uncertainty, boosting confidence and

3 The financial market liquidity indicator combines eight individual liquidity measures. Three of them cover bid-ask spreads: (1) on the EUR/USD, EUR/JPY and EUR/GBP exchange rates; (2) on the 50 individual stocks which form the Dow Jones EURO STOXX 50 index and; (3) on EONIA one month and 3 month swap rates. Three others are return-to-turnover ratios calculated for: (4) the 50 individual stocks which make up the Dow Jones EURO STOXX 50 index; (5) euro bond markets and; (6) the equity options market. The last two components which measure the liquidity premium are gauged by: (7) spreads on euro area high-yield corporate bonds which are adjusted to take account of the credit risk implied in these spreads by expected default frequencies (EDFs) and; (8) euro area spreads between interbank deposit and repo interest rates. The composite indicator is a simple average of all the liquidity measures normalised on the period 1999-2006. Principal component analysis reveals that about half of the variance of these individual indicators can be accounted for by movements in the first principal component. In other words, there appears to be an important common factor, most likely the degree of financial market liquidity, driving movements in these series.

4 A structural interpretation of the association between asset prices and monetary aggregates is given in L. Christiano, C. Ilut, R. Motto and M. Rostagno (2007), "Monetary Policy and Stock Market Boom Bust Cycles", paper presented at the ECB Conference on "Money in the 21st Century", November 2006.

5 For a discussion of global liquidity, see R. Ruffer and L. Stracca (2006) "What is global liquidity and does it matter?", *ECB Working Paper*, No 696.

6 See B. S. Bernanke (2005), "The Global Saving Glut and the U.S. Current Account Deficit", Homer Jones Lecture, April.

attracting a greater number of buyers and sellers willing to trade in the markets. Consistent with this viewpoint, indicators of investors' risk preferences have pointed to much greater risk appetite in recent years.⁷ This may reflect perceptions that greater macroeconomic stability will prove persistent which, if correct, should support higher asset valuations.

A key factor for financial market liquidity has been the remarkable structural changes which have been taking place in financial markets. These have included the liberalisation of international capital flows, the securitisation of loans and the development of new financial products (e.g. credit derivatives). At the same time, the emergence and growing presence of highly active participants, such as investment funds and hedge funds in particular, in financial markets has probably significantly enhanced market liquidity. This is because these developments have increased the number and diversity of market participants in financial markets and, generally speaking, the greater the degree of heterogeneity of investors in a market, the higher the number of buyers and sellers willing to trade under different market conditions will be. At the same time, there can be feedbacks as an increasing number of buyers and sellers who are willing to trade regardless of the direction of markets may explain why the number and frequency of financial market transactions has been increasing.

All in all, there are several indications that financial market liquidity has been abundant for some time. From a financial stability perspective, there have been positive dimensions to this: large global banks have seen a swelling of trading revenues, fees and commissions and new investment products, mostly credit derivatives, together with the entrance of new, less risk-averse, market players have significantly enhanced the possibilities for risk redistribution within the financial system. In financial markets, a larger number of highly active market participants seems to have had a stabilising influence on market dynamics as the probability of finding participants in such markets with opposing views is higher (i.e. there is a better distribution of opinions about market perspectives). In this vein, reactions to events which, in the past, could have triggered broader and more disorderly asset price adjustments have been relatively calm. The effects of several recent financial market shocks – including the credit market turbulence of May 2005, large declines in mature equity markets in May and June 2006, the failure of Amaranth Advisers and a coup in Thailand in September 2006, plus the turmoil of late February and early-March 2007 – all proved remarkably contained, short-lived and self-correcting. However, there are uncertainties and potential risks because the durability of financial market liquidity has not been tested by a large and unexpected disturbance at a less favourable stage of the credit cycle, especially in an environment of retrenching investor risk appetite. If history is any guide, when investor confidence is shaken, demand for the most liquid assets rises while attempts, often simultaneous, to adjust portfolio compositions results in the values of risky assets falling. This is mainly because investors begin to doubt that they will have the ability to execute transactions involving risky assets easily without suffering large losses. The probability of such a scenario materialising largely depends on financial market liquidity proving durable under different circumstances. In this vein, there are uncertainties about the extent to which the recent improvement in financial market liquidity will prove to be lasting. For instance, if buoyant market liquidity ultimately proves to have been largely due to greater risk appetite, then it could suddenly and unexpectedly fade away if risk appetite was to diminish abruptly.

⁷ See the Special Feature in this issue of the Financial Stability Review entitled "Measuring investors' risk appetite".