

## Chapter 2     **Liquidity and the Crisis of 2007-09**

Liquidity is one of the most important and complex concepts in finance. We described liquidity in Chapter 2 as a measure of the ease with which an asset can be turned into a means of payment. We also showed how assets range across the liquidity spectrum, from very liquid (cash) to very illiquid (houses and art).

Defined in this way, liquid assets save us time because they are easy to sell (core principle 1). Liquid assets reduce risk (core principle 2) because we are confident that they can be converted to cash when needed. Finally, liquid assets are typically traded in open markets that determine their prices in an open, transparent way (core principle 3). For the purposes of these modules, we'll call this use of the term liquidity as *market liquidity*.

The concept of liquidity also can be used in other senses. An important example is the ease with which a firm or a financial institution can borrow to buy securities or make loans. Bankers call this *funding liquidity* because they borrow the funds needed to hold the securities or loans.

Funding liquidity is a critical element of an effective financial system. Banks and other financial institutions that trade securities like stocks and bonds need to fund these securities, even if they are held only briefly. If banks find it difficult to borrow – that is, if funding liquidity dries up – then they will be unable to hold an inventory of securities for trading. Banks also rely on funding liquidity from large investors and other financial institutions in order to make loans with longer maturity.

Now, it is easy to see that while they are different, *market liquidity* and *funding liquidity* are closely related. The reason is that financial institutions make markets. That is, they stand ready to buy and sell stocks, bonds, and the like, usually holding inventories of the specific financial instruments in which they are making markets. Doing this means having funding that is usually obtained by borrowing. You can see that if there is no funding liquidity, then market makers would be less able to hold the inventories they need, so it will become more difficult to buy and sell. When there is no funding liquidity, market liquidity suffers.

Conversely, if market liquidity for some financial instruments declines, their prices will fall, because investors prefer liquid instruments and are willing to pay a premium to get them. When the prices of these instruments fall sufficiently, concerns about the safety of the financial institutions that hold them arise, reducing their ability to obtain funding. As a result, market liquidity is required for funding liquidity, and vice versa.

Market liquidity and funding liquidity played critical roles in the early stages of the 2007-09 financial crisis. In the years prior to 2007, many financial institutions had learned to rely on short-term borrowing to hold long-term financial instruments. People running those institutions believed that funding would remain readily

available – that there would always be funding liquidity. They also believed that, in a pinch, they would be able to easily sell the securities and loans that they held – that is, they expected that there would always be market liquidity. They were wrong on both counts.

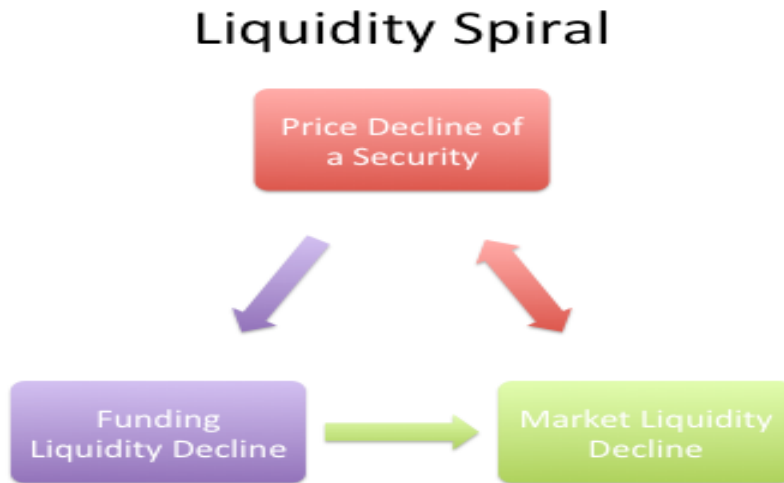
When, in the summer of 2007, investors began to doubt the value of selected securities (see the Chapter 7 module: Subprime Mortgages), market liquidity for these instruments disappeared and many financial institutions – mostly large banks – that held these instruments were exposed to large potential losses. This, in turn, led the investors who had made short-term loans to these institutions to become nervous about the safety of the borrowers, so their funding liquidity dried up, too.

These large banks faced a double whammy: they found it difficult to convert their securities and loans into means of payment precisely at a time when it became more difficult to borrow. Market liquidity and funding liquidity *both* disappeared. This double “liquidity shock” compelled them to try to increase cash holdings that they might otherwise have lent to others. The shocks spurred an increase in demand for liquid financial instruments, just as loan supply evaporated. The effect was to advance a vicious spiral of falling liquidity and securities prices (see Figure 1).

The disappearance of liquidity was both a result of the financial disruptions and a mechanism for deepening them. The liquidity shock was so large that it soon became a system-wide “liquidity crisis” in many countries. The financial system as a whole was unable to provide sufficient market or funding liquidity to quell the heightened demand of financial institutions. Some firms faced with a shortfall of liquidity simply failed. To survive, others were forced to find healthier partners or to obtain help from governments.

One lesson from the financial crisis will not be quickly forgotten: liquidity is a highly valuable resource that can disappear when it is most needed, so it should not be taken for granted. Even large and seemingly wealthy firms can fail if liquidity evaporates.

Figure 1. Market and Funding Liquidity in a Financial Crisis



Note: In this chart, a decline of the price of a security makes it more costly for a financial institution to make a market in that security, resulting in a decline of market liquidity. Declining market liquidity makes the security less attractive to investors, further reducing its price. If the price falls sufficiently, concern about the safety of market makers makes it more costly for them to borrow: their funding liquidity declines. The decline in funding liquidity diminishes market making, thereby dampening market liquidity further and advancing the liquidity spiral.