



FTS Margin and Short Sales

Stocks are first issued in a “Primary Market,” for example through an IPO (initial public offering). Once issued, they are traded in “Secondary Markets.” These include organized exchanges such as the New York Stock Exchange (NYSE) and over-the-counter (OTC) markets. In any of these markets, buyers and sellers negotiate a price through a process called *price discovery* and then trade at the negotiated price. For example, on the NASD, price discovery is initiated by dealers who post bids and offers. On the NYSE, price discovery is initiated by investors, but orders above a certain size are matched by a specialist who can also trade on their personal account. Other markets, referred to as third and fourth markets, trade exchange listed securities and are pure order driven markets, where price discovery is initiated by investors and all matching of buyers and sellers is via an electronic network.

Common to these markets are various order types. The two most popular are **market orders**, and **limit orders**. Market orders are “buy” or “sell” orders for a specified quantity at the best currently available prices (the highest current bid and the lowest current ask). In a **limit order** traders specify both the price and quantity they want to trade. A buy order is executed if the ask drops to the price, and a sell order is executed if the bid rises to the price. A variation known as a **stop order** lets traders lock in their profits or limit losses on existing positions.

Two other important institutional details are known as **short sales** and **buying on margin**. Short sales allow traders to sell securities they do not currently own. To sell short, a trader is required to borrow the securities from a broker and then sell the borrowed security; when they cover their short position, the shares have to be returned. When buying on margin a trader borrows money from a broker to buy the stock. Interest is charged on the loan, and has to be repaid when the stock is sold. If the value of the stock falls sufficiently, the broker can make a margin call, which requires the trader to either deposit more money into the account or to sell the stock.

The FTS Real Time Client allows you to implement these orders using real world institutional details. Limit and stop orders are monitored by the system in real time and all positions are marked-to-market daily; the marking to market can trigger off automatic cash transfers to cover margin calls.

A note on netting: We net short and long positions. So if you bought 10 shares of a stock and then short sold 5, you would be left with 5 shares of the stock, the short sale would netted against your long position.

Margin Purchase

Suppose we start over with \$1m in cash and buy 100 shares of a stock on margin where the stock price *ask* price is 77.79 and the last price is 77.45. Margin requirements are calculated relative to the last traded price. Here, we started with \$1m in cash. There is a 50% margin. 100 shares at 77.79 would cost \$7,779. The last traded price was \$77.45, 100 shares at \$77.45 are worth \$7,745. The “broker” lends us 50% of this value, which is \$3,872.50. This is the margin ‘loan.’ The actual cost was \$7,779 and \$3,872.50 was borrowed, so we had to pay the difference, \$3,906.50 from our cash. The position value is \$3,872.50; this is calculated relative to the last traded price; at that price, the 100 shares are worth \$7,745 but we owe half of that (the margin loan). So the position value is only \$3,872.50. The cash balance is \$ 996,093.5 before transaction costs (FTS currently imposes a \$9.95 transaction cost for stock trades). Another variable is the margin ‘deposit.’ If the stock lost value, you would have to put up more cash as collateral, and this would be shown as the deposit.

Short Sales

We again start with \$1m in cash and short sell 100 shares of a stock. The bid price is 33.62 and the last price is 33.91.

The short sales account details are as follows. The shares were sold short at \$33.62 per share. So the proceeds from the sale were \$3,362. Short sale regulations require that these proceeds be held by the broker (shown above as ‘cash held’). In addition, the short sales margin is 50%, so you have to put up an additional 50% of the amount, which is \$1,681, shown as the ‘Deposit’. The position value is \$1,652. This is calculated relative to the last traded price, which was \$33.91. If the short sale was covered (the shares bought back) at this price, you would have to pay \$3,391 to buy back the shares. But you would get back the ‘cash held’ and the ‘deposit’ so the net amount would be $-3,391 + \$3,362.50 + \$1,681 = \$1,652$, which is shown as the position value.

Finally, the cash account: it started at \$1m, the deposit of \$1,681 was subtracted, and the transaction of \$9.95 cost was paid, resulting in the cash balance of \$998,309.06.