CHAPTER 1

Streaming Data

OVERVIEW

The smallest time unit between changes in the price of any currency pair is called a single *tick*, and a sequence of consecutive ticks is referred to as streaming data. During periods of heavy trading, there may be as many as three hundred ticks in a single minute. Conversely, during periods of low trading (such as in certain minor currency pairs over the weekend), several hours can elapse between individual ticks.

Tick data does not have an open, high, low, or close quote—it simply tells the prevailing price. The OHLC quotes occur only after tick data has been collected and coerced into interval data, such as one minute, one hour, one day, or any other selected duration.

TICK CHART

By definition, interval data is represented along the x-axis as equally spaced time segments. By contrast, tick data almost always distorts the representation of time along the x-axis, although it does remain continuous. Between January 1, 2000 and December 31, 2005, the number of ticks in a single minute in the EURUSD currency pair ranged from zero to three hundred. These variations produce an accordion effect on the x-axis. (See Appendix A for a list of world currency codes.)

In the tick chart of the euro/U.S. dollar currency pair shown in Figure 1.1, a continuous line represents the price, while the time scale at the bottom of the chart fluctuates by the number of ticks per time interval. This is the sole criterion that distinguishes tick charts from other line charts. The chart clearly shows a variation in the number of ticks per minute as time progresses.

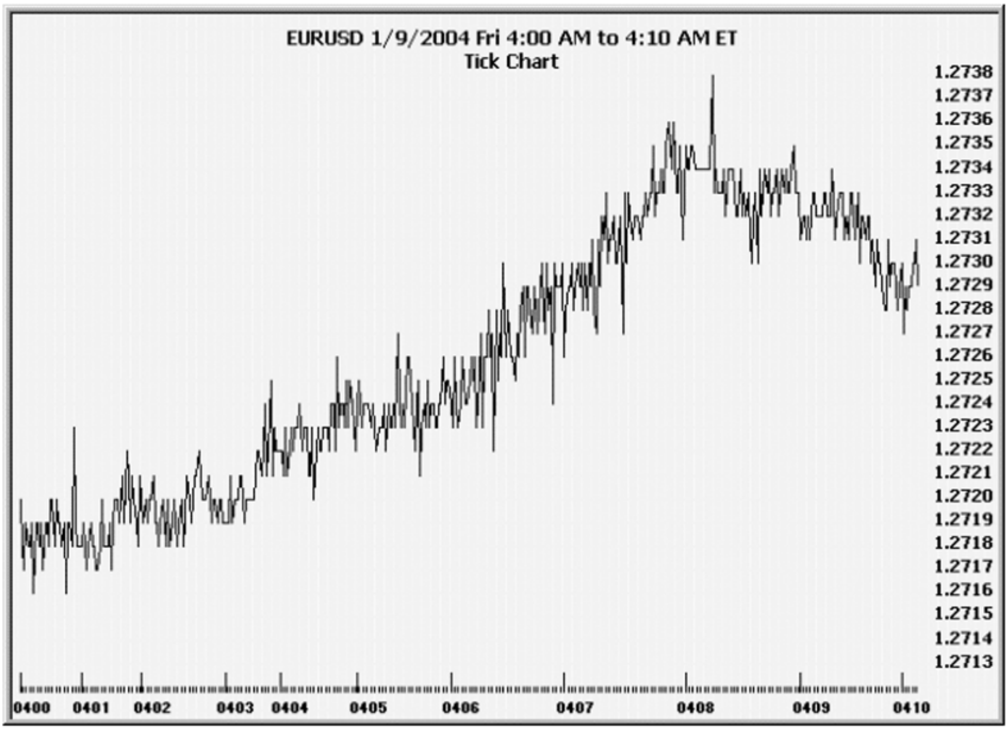

FIGURE 1.1 EURUSD Tick Chart

SPREAD CHART

Nearly all financial vehicles can be plotted as some form of a spread chart based on some unique properties of the underlying instrument. In futures markets, a spread chart usually implies the comparison of a forward expiry month with a distant expiry month in the same commodity. Within spot currency markets, a spread chart is defined specifically as the difference between the bid price and the ask price, which currency dealers use as the transaction cost for a round-turn trade in that currency pair.

The ask price is the price that the trader pays when entering the market in a long position; the bid price is used when the trader enters the market short.

The currency spread chart is plotted as a channel chart in which the upper boundary is the bid price and the lower boundary is the ask price. (See Figure 1.2.)

The importance of the spread chart is that it is the most common method used to display streaming data in online trading platforms. The trader can readily see the buying price (the lower boundary) and the selling price (the upper boundary).

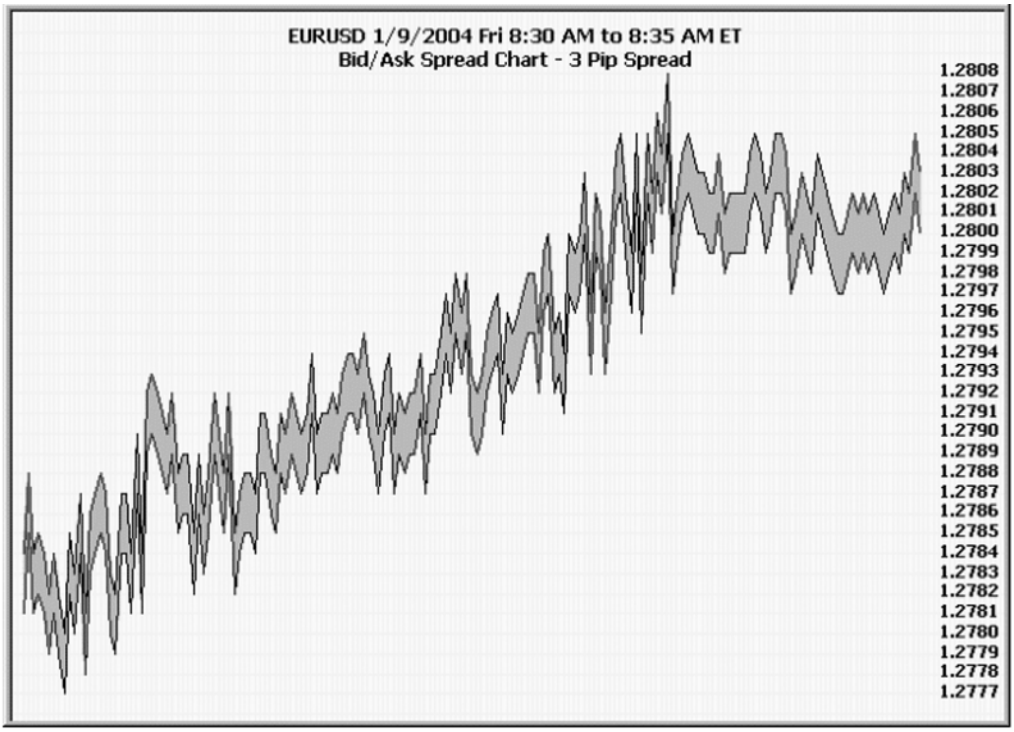

FIGURE 1.2 EURUSD Spread Chart

CONCLUSION

Understanding the nature of spot currency data in its most primitive form (raw streaming tick data) is requisite knowledge for all traders.