

CBOT MARKET PROFILE



Steve Dickey explains the development and application of Market Profile, the CBOT's proprietary tool for displaying trading activity.

CBOT Market Profile® was developed in 1982 by Peter Steidlmayer, a Chicago Board of Trade member and Mike Boyle, a vice-president of technology at the exchange. The CBOT was looking for ways to give off-floor traders a better idea of intra-day volume developments in the CBOT traded markets. Back in 1982, the first run of clearing house volume-at-price data was not available until five hours after the market closed. Traders that traded away from the pit could not monitor activity within the market. Consequently, it was felt that Market Profile could be implemented as a more real-time proxy for volume data and give off-floor traders extra information to help their trading. Steidlmayer and Boyle's intention was to have Market Profile reflect the properties of the bell curve, or a normal distribution, especially its first standard deviation. This is the vertical bell curve display that is known today as CBOT Market Profile®.

Market Profile is a vertical bell curve graphic that captures and demonstrates the developing market dynamics of price and volume over time. It organizes seemingly chaotic price movement and provides the trader with a means to determine where and how buyers and sellers are interacting within the market. Market Profile can identify prices that are acceptable and unacceptable to the buyers and sellers.

The function of the market is to facilitate trade. To accomplish this, the market probes high prices to attract sellers and low prices to attract buyers. An imbalance of buyers will drive prices higher until sellers are attracted to the higher prices. The sellers enter the market, compete, and move prices lower. This imbalance of sellers drives prices lower until buyers are again attracted to lower prices. Buyers enter and compete, moving prices higher again. The result of this rotation process is the discovery of prices that are acceptable to both the buyers and the sellers. Market Profile organizes this ebb and flow of buying and selling by price and time to create profiles of market activity. The typical bell curve profile is seen in Figure 1.

A vertical price scale is used which runs from the low price up to the high price. 30 minute time increments (time brackets)

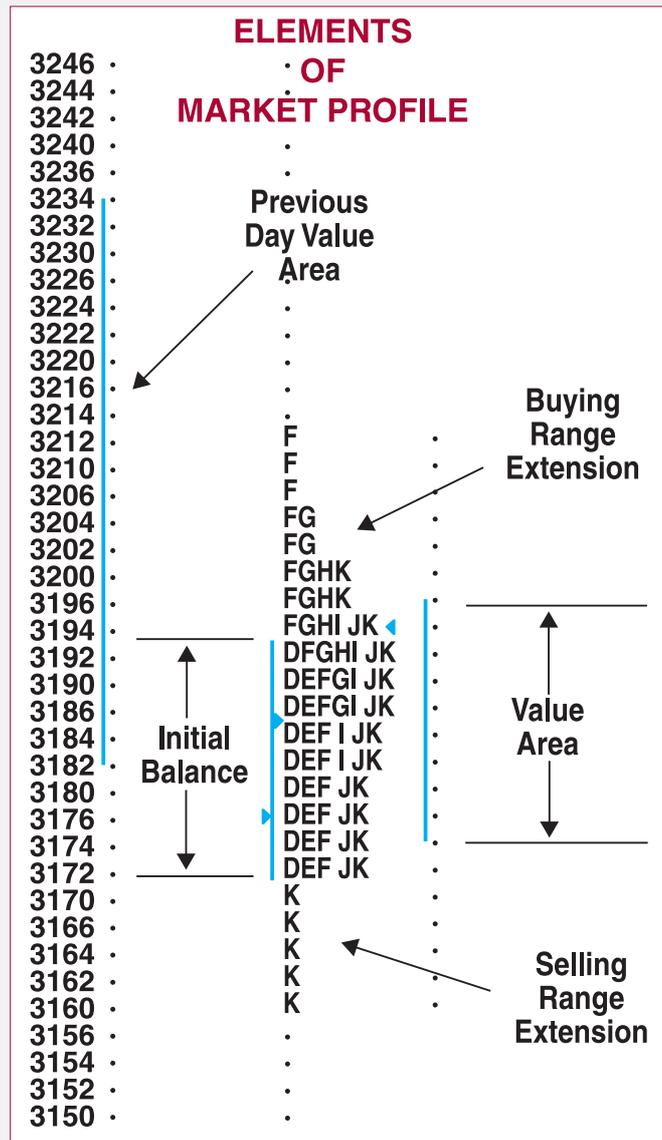


Figure 1.

are represented by a specific letter in the alphabet. For instance 8 am to 8:30 am is represented with an upper case "A". "B" represents 8:30 am to 9:00 am, "C" is 9 am to 9:30 am and so on. When the market trades at a certain price in the 8 am to 8:30 am time bracket an "A" is placed in the graphic at the appropriate price level. This continues until 9 am and then "Bs" are placed next to the price traded and then so on throughout the trading day. As the trading day continues a profile of the market develops.

Market Profile quickly gives the trader a view of how the market is developing, what prices are being accepted by the market (value area) and what prices are being rejected (extremes). The value area is the price range traded in the day where the majority of traders felt the price was in a fair value

area to trade. It is more strictly defined as the price range where approximately 70% of total trading volume occurred - the first standard deviation. The extremes, the high and low of the day, are where few people were able to make a trade. As the Market Profile bell curve evolves, its shape varies according to the degree of balance and imbalance between buyers and sellers. These varied shapes or structures are categorized as Non-Trend, Normal, Normal Variation, Trend and Neutral profiles. Each structure is based off of the first hour's price range known as the Initial Balance. Another condition that describes structure is Range Extension. This is when the price traded moves above or below the initial balance range. (See Figure 1)

As the Market Profile develops throughout the trading day a

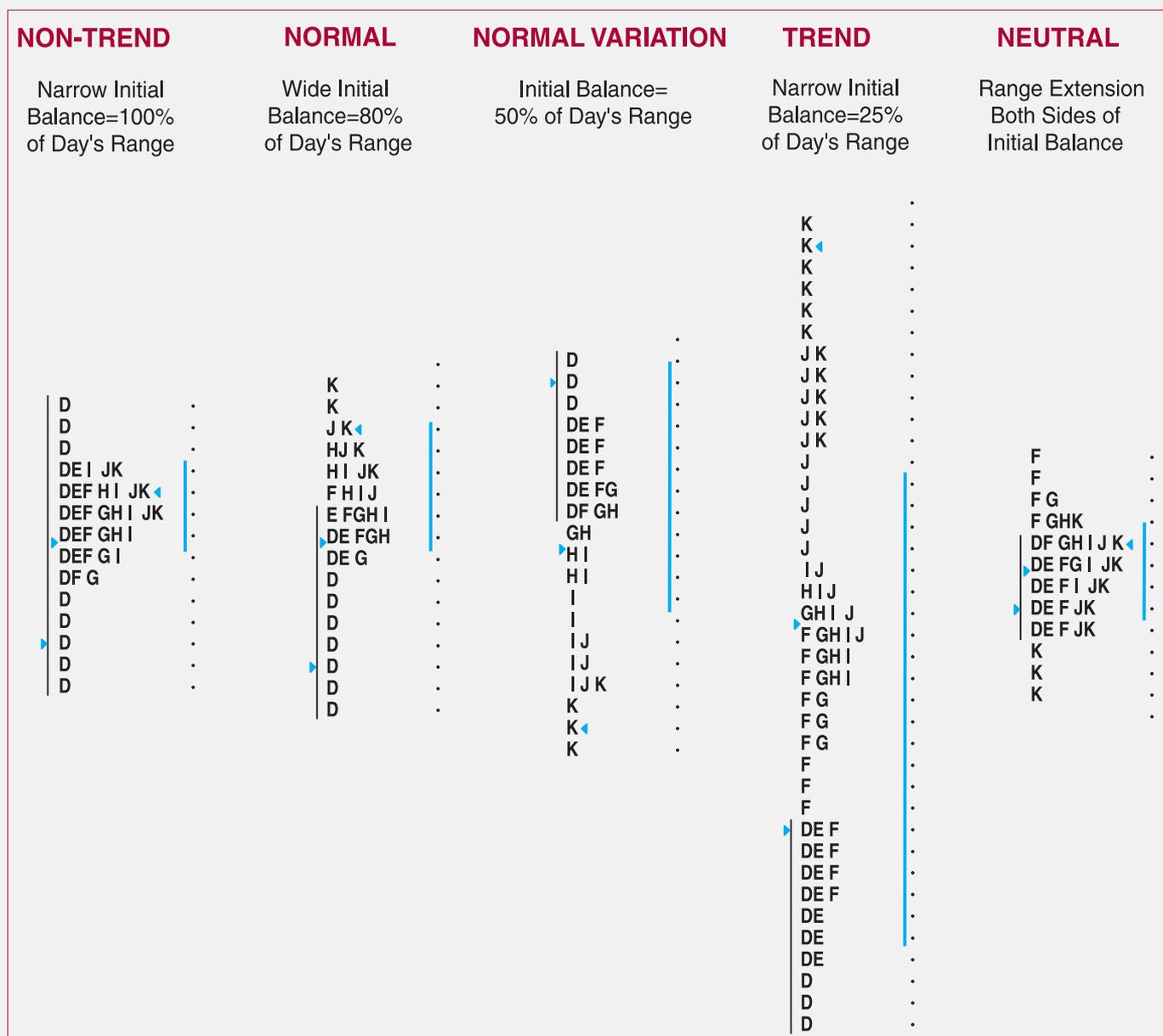


Figure 2.

Figure 3.

Figure 4.

Figure 5.

Figure 6.

Market Profile Structures:

Non-Trend Day

This structure has a small initial balance that contains the entire day's price range. A non-trend day typically occurs when the market is resting or stagnating. (Figure 2)

Normal Day

The normal day has a wide initial balance price range that equals approximately 80% of the day's total range. This is the most common pattern. (Figure 3)

Normal Variation

This structure's initial balance equals approximately 50% of the days total price range. Normal variation days have initial balance range extension in one direction or the other. (Figure 4)

Trend Day

The trend day has a small initial balance representing less than 25% of the entire day's range. This profile shows domination by either buyers or sellers with long range extension in one direction. The trend day will close within 5 to 10% of its daily high or low price. (Figure 5)

Neutral Day

This profile is not characterized by its initial balance but by a range extension in both directions and a close near the center of the day's range. This structure demonstrates lack of buyer and seller conviction. (Figure 6)

certain profile characteristic forms. These characteristics or structures can give traders clues as to the buyers and sellers' behaviour for the day.

Market Profile not only provides information on the balance or imbalance of current market conditions but allows each trader to initiate positions at an individual comfort level. An aggressive trader may initiate a position on the opening and use Market Profile to monitor the trade. A more conservative trader may wait until a range extension has occurred before deciding when or where to enter the market. Market Profile is not a trading system but rather an application tool that is used to support a trader's decision making. It can be applied to all markets traded on the CBOT from FX to commodities although most traders do not use Market Profile in isolation, but rather in conjunction with other indicators and techniques. Furthermore, Market Profile is not just confined to intra-day trading but can be applied to short and long-term analysis. Whereas conventional charting analysis is typically derived from specific price points, Market Profile is a representation of the market as a whole and better characterizes the

actions of buyers and sellers.

Market movement is not the result of prices moving randomly; rather, it is the collective activity of market participants. Market Profile organizes this activity into a visual structure that defines value and allows the trader to take advantage of opportunities where price is away from value. The majority of users of Market Profile are institutional traders in the US although the number of European users has mushroomed in the last few years. This may be because of the growth of electronic trading arcades and the emergence of the tool in technical analysis training courses. Market Profile is available from CQG, eSignal, Reuters and FutureSource.

“MARKET PROFILE QUICKLY GIVES THE TRADER A VIEW OF HOW THE MARKET IS DEVELOPING, WHAT PRICES ARE BEING ACCEPTED BY THE MARKET AND WHAT PRICES ARE BEING REJECTED.”

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