

# CBOT<sup>®</sup> LIQUIDITY DATA BANK (LDB<sup>®</sup>)

## The Chicago Board of Trade's enhanced volume data service

by Mark Haraburda

Volume data is valuable market information but can it be made even more useful? Before I discuss that question, let's first describe normal volume data as we understand it and use it today. Volume data has a variety of applications related to market analysis, including:

1. A barometer for measuring a quantity of transactions. In many cases this can help identify liquidity as well as assist with comparing one financial instrument to another based on the quantity of volume.
2. A signal to confirm price movements or as a predictor of developing price movements.
3. An indicator to help identify support and resistance price levels which may be achieved by analyzing significant volume gathering or lack thereof at these price levels.
4. And finally, an identifier or confirmation of 'value' or lack of 'value.'

Value can be judged by the comparative amount of volume at one price level versus another. In other words, value can be simply defined as price levels or a range of prices which attract more volume versus other prices, be it intra-day, daily, weekly, monthly, etc. As market activity builds over a day, week, month, etc. certain price levels attract more volume than others. Those prices that comparatively lack volume can be seen as rejecting a price movement - the opposite is true for those prices which accept a price movement. Over a subjective time period value areas may be confirmed by greater volume at certain prices levels versus less volume at other



Figure 1. End-of-day volume totals for each trader group in 10 year US-Treasury futures

price levels. Of course, value areas change and continue to develop; nevertheless they provide an important tool to understanding and evaluating market activity.

### Enhanced volume data

The Chicago Board of Trade (CBOT<sup>®</sup>) has developed and made available an enhanced version of volume data named 'Liquidity Data Bank' ("LDB"<sup>®</sup>). LDB enhances normal volume data by not only reporting the total volume transacted but also reporting the quantity of volume transacted by different customer types (see Figure 1).

LDB goes further by breaking volume within each customer type into buy volume versus sell volume. This allows the user to assess gross volume activity within each customer type and also evaluate which customer types are net long versus net short. LDB data is available daily, intra-day and at each price level traded.

LDB is a large set of data and is open to a variety of types of analysis and interpretations - the CBOT is simply a provider of this information. Ultimately, it is the individual trader or firm which must research and interpret this information and draw their →

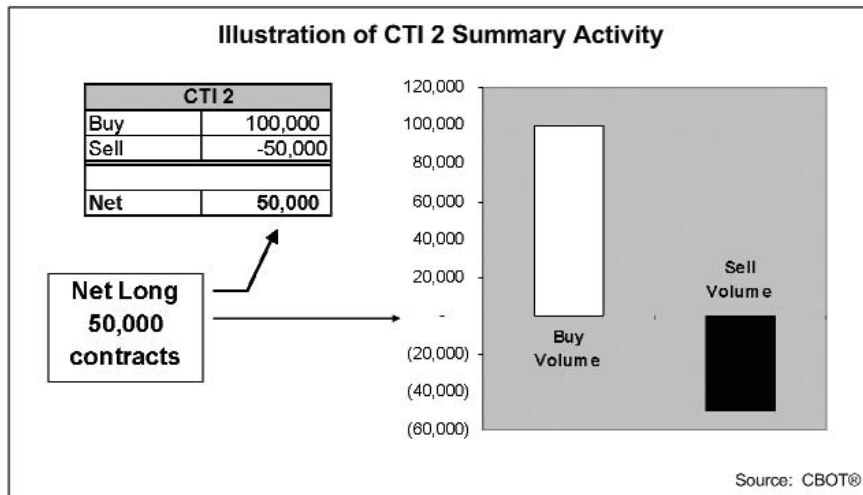


Figure 2.

own conclusions.

**About LDB data**

LDB® or Customer Type Indicator (CTI) data (see Figure 2) provides detailed information on the number of buy and sell transactions for four different customer types. The key is buy and sell. Not only does LDB data tell you how many contracts one customer type bought, it also tells you how many contracts that same customer type sold. The net sum of these two numbers will tell you whether or not this customer type is a net buyer (net long) or net sell-

er (net short). LDB data is provided in a macro view, meaning cumulative data for all traded prices, as well as in a micro view - detailed data for each individual traded price. Timestamps are also provided to supply a time series for the data. Finally, the data is made available intra-day, currently every 30 minutes, and end-of-day. The CBOT is currently planning to make the data available more frequently.

**Customer Type Indicator (CTI) codes**

Customer types are formally referred to

as Customer Type Indicator codes or CTI codes. The Commodity Futures Trading Commission (CFTC) defines four CTI codes: CTI 1, CTI 2, CTI 3 and CTI 4. The complete definition of each CTI code is listed in Table 1.

CTI 1s are locals, meaning individual members trading their own accounts. They are often speculative traders many of whom are either scalpers or day traders. CTI 2s are member firms trading for a house account. CTI 3s are individual members executing trades for the personal account of another individual member. Finally, CTI 4s are non-member customer transactions.

**Applications of LDB data**

LDB data can be used for market analysis in ways similar to normal volume data. If you use normal volume data as a barometer for the level of market activity or liquidity, LDB can build upon this by providing additional details specific to customer types. By understanding customer type volume data you can gain a better feel for who is participating in a market, at what prices and at what times. For instance, with LDB data you can compare the amount of volume activity within one customer type to another or compare one customer type's activity at one price versus another price. You can also look at changes in gross customer type activity, such as percent of overall volume, over a period of time. Correlation studies can also be conducted to compare customer type volume activity to price movements.

**Correlation analysis**

Correlation studies between customer type volume data and price movements can be set up in a variety of ways. You can simply compare the data over the same time period or use one component as a lagging indicator or forward looking predictor. In other words, today's customer type activity may help explain tomorrow's price movements. For example, one customer type may have heavily overextended a position

Liquidity Data Bank (LDB®) Customer Type Indicators (CTI Codes)	
<b>CTI 1</b> <b>Individual Member Proprietary Trading (Locals)</b>	Definition: Transactions initiated and executed by an individual member for his own account, for an account he controls, or for an account in which he has ownership or financial interest.
<b>CTI 2</b> <b>Clearing and Non-Clearing Member Firm Proprietary Trading</b>	Definition: Transactions executed for the proprietary account of a clearing member or non-clearing member firm.
<b>CTI 3</b> <b>Individual Member for Another Individual Member</b>	Definition: Transactions where an individual member or authorized trader executes for the personal account of another individual member, for an account the other individual member controls or for an account in which the other individual member has ownership or financial interest.
<b>CTI 4</b> <b>Non-member Customer Transactions</b>	Definition: Any transaction not meeting the definition of CTI 1, 2 or 3. (These should be non-member customer transactions).

Table 1.

on day one for various reasons; therefore on day two the same customer type had to reverse the position, driving a price movement. Or, the opposite may be found; a correlation between yesterday's price movements and today's customer type activity. With LDB correlation analysis, both price and volume can be used as either the independent or dependent variable. Intra-day analysis should not be ignored either. Whether it is analyzing

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correlation over the same periods or lagging one component, LDB data provides the means to conduct various types of analysis.

#### **Support and resistance**

Calculating support and resistance is another type of market analysis which usually requires evaluating volume data. LDB data can be used for this type of analysis since different types of volume, meaning different customer types, may be seen participating at different frequencies and times, and at different price levels. Moreover, you can analyze

whether each customer type was net long or net short at these price levels and determine the level of significance. The level of significance can be determined by comparing net long and net short amounts for each customer type at different prices - prices which have comparatively greater net long or net short amounts can be viewed as more significant. This information can be compared to previous periods to back-test possible support and resistance behavior around the determined price levels. Further, the conclusions drawn can be used and continued to be evaluated over time. At certain times and prices, various customer types and their activity may help define support and resistance. One possible explanation may be related to one customer type accumulating large positions over a day, week, month, etc. at specific price levels and responding in a manner that helps define support or resistance when these prices are tested.

#### **Value**

Finally, LDB data can be used to help identify value areas. Value areas can be viewed as prices which attract more volume versus others and a marketplace can be seen as accepting these higher volume prices, establishing value, versus rejecting lower volume prices. So volume is a key identifier of value; however by segmenting volume into customer types the information available to identify and analyze value increases. Over time, through analyzing LDB data you may determine patterns of customer type activity in relation to high volume or low volume areas. Determining significant changes in customer type activity within or outside of value areas can help confirm existing value areas or define new developing value areas. And in the end, this information may help create trading opportunities.

#### **Availability of LDB data**

LDB data is available directly from the CBOT or from software firms such as MDB Analytics, Inc. which offers a

product named 'Liquidity Analyzer.' The CBOT provides direct access to LDB data to individuals and firms via its 'Liquidity Data Bank Data Feed.' The feed allows firms to directly develop to the CBOT's LDB data.

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In order to receive the LDB data, the CBOT requires users to sign a LDB License Agreement.

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**For more information on direct LDB access, contact Mark Haraburda mharaburda@cbot.com.**

**Liquidity Analyzer is a front-end display application which allows end-users to display, chart and analyze LDB data.**

**Liquidity Analyzer provides a variety of charting and query features which assist in analyzing LDB data.**

**For more information, please visit their website: [www.liquidityanalyzer.com](http://www.liquidityanalyzer.com)**