Product Examples for Daily Price (Trading) Limits

This topic contains product examples for daily price limits; products traded at CME Group can be restricted by rule to trade only within a certain price range on a given trading day. In some circumstances, these price limits change by rule within the trading day, possibly multiple times. The allowable price range is generally defined by taking the settlement price of the product and adding/subtracting a value to that price to determine the maximum/minimum allowable prices for the day’s trading of that product. Knowledge of the rules governing the products traded at CME Group is central to understanding this concept. Contact the GCC for additional information.

Price limits categories include:

- Fixed Range with a Fixed Settlement Price
- Fixed Range with a Moving Settlement Price
- Flexible Range with a Moving Settlement Price
- Unlimited/Unrestricted

Price limits are periodically reviewed by CME Group, and can change either on a fixed schedule (i.e., Equity Price Limits) or after review by the Exchange and approval by CFTC (i.e., grain price limits).

Fixed Range with a Fixed Settlement Price

Products in this category have the following characteristics:

1. The daily settlement price of the product is '0' by rule.
2. The price limit is fixed, thus creating an allowable trading range that does not change day-to-day.

**Crude Oil TAS (Trade at Settlement) Fixed Range with a Fixed Settlement Price Example**

Trading at settlement is available for spot (except on the last trading day), 2nd, 3rd and 7th months and subject to the existing TAS rules. Trading in all TAS products will cease daily at 2:30 PM Eastern Time. The TAS products will trade off of a “Base Price” of 0 to create a differential (plus or minus 10 ticks) versus settlement in the underlying product on a 1 to 1 basis. A trade done at the Base Price of 0 will correspond to a “traditional” TAS trade which will clear exactly at the final settlement price of the day.

Since the range will not change day-to-day, orders may only be entered at a minimum allowable price of -10, and a maximum allowable price of 10. Orders entered outside this range will be rejected. Furthermore, the product will never trade outside of -10 and 10.

Fixed Range with a Moving Settlement Price

Products in this category have the following characteristics:

1. The daily settlement price is determined by a process governed by a rule, and will change day-to-day.
2. The price limit is fixed, thus creating an allowable trading range that moves day-to-day.
3. In limit up or limit down situations, rules may expand the price limit on subsequent trading days, but never within the same trading day.

Products that trade in this category include CME Livestock, Dairy, Forestry, and CBOT Grains.

**December Corn Fixed Range with a Moving Settlement Price Example**

Assume:

- Price limit = $0.40 per bushel expandable to $0.60 when the market closes at limit bid or limit offer
- Dec. Corn is NOT the current month contract on or after the second business day preceding the first day of the delivery month (There shall be no price limits on the current month contract on or after the second business day preceding the first day of the delivery month.)
- ZCZ2 (December 2012 Corn) settled the previous day at a price of 6320, or $6.32 a bushel

For today’s trading, the minimum allowable price will be 6.32-0.40 = $5.92 a bushel, and the maximum allowable price will be 6.32+0.40 = $6.72 a bushel. There shall be no trading below $5.92 (5920) or above $6.72 (6720). Orders good for today’s trading session only cannot be entered outside this trading range (GTO and GTD orders can be entered outside the range). Once settlement is determined at the conclusion of trading today, the new settlement price can be used to calculate the allowable trading range for the next trading day.

If Corn is Limit Bid or Limit Offer at the conclusion of trading (meaning there is at least one bid order at the maximum allowable price, or one offer order at the minimum allowable price, unfilled at the conclusion of trading), rules will expand the price limit to $0.60 on the next trading day. This expansion of limits shall never occur intraday.

Flexible Range with a Moving Settlement Price

This type of price limit is called a “Circuit Breaker”. Products in this category have the following characteristics:

1. The daily settlement price is determined by a process governed by a rule, and will change day to day.
2. The price limits are expandable intraday, either by a fixed schedule or by trading at limit prices (see the specific product rules for more information).
3. The price limits can also contract within a trading day on a fixed schedule (see the specific product rules for more information).
4. The price limits will not change day to day and will reset to smaller values at the start of the next trading day.
5. The price limits may be reviewed and changed on a fixed schedule, i.e. quarterly.

Products that trade in this category include CME/CBOT Equity futures, NYMEX Crude complex, and NYMEX Natural Gas.

<table>
<thead>
<tr>
<th>mini DJIA Flexible Range Moving Settlement Price Example</th>
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<tbody>
<tr>
<td><strong>CBOT Rulebook states:</strong></td>
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<tr>
<td><strong>27102.D. Daily Price Limits</strong></td>
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<tr>
<td>Daily price limits and trading halts of the CBOT DJIA Index ($5 Multiplier) futures contract shall be coordinated with trading halts of the underlying stocks listed for trading in the securities markets.</td>
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**Price Limits:** For each calendar quarter, there shall be three successive price limits: Level 1, Level 2, and Level 3. The limit thresholds that define Levels 1, 2, and 3 shall be calculated at the beginning of the pertinent calendar quarter, using the average daily closing value of the DJIA for the calendar month prior to the beginning of such calendar quarter. The Level 1 limit threshold shall equal 10% of such average daily closing value, the Level 2 limit threshold shall equal 20% of such average daily closing value, and the Level 3 limit threshold shall equal 30% of such average daily closing value. Each limit threshold shall be rounded to the nearest fifty DJIA index points. These three limit thresholds, so computed, shall remain in effect throughout the pertinent calendar quarter, until the next calculation. These limit thresholds shall be used to calculate price limits for each trading session within the pertinent calendar quarter, as follows:

- Level 1 shall equal the settlement price of the preceding regular trading session minus the Level 1 limit threshold.
- Level 2 shall equal the settlement price of the preceding regular trading session minus the Level 2 limit threshold.
- Level 3 shall equal the settlement price of the preceding regular trading session minus the Level 3 limit threshold.

**Price Limits During Regular Trading Hours:** The following price limits and trading halts shall apply to open outcry and electronic trading, in the primary contract expiration month only, during the Exchange’s regular trading hours. For purposes of this rule, “regular trading hours” are defined for CBOT DJIA Index ($5 Multiplier) futures to begin with the time of the open for open outcry trading in DJIA futures, and to end with the later of the time of the close of open outcry trading, or the conclusion of any daytime electronic trading session that is part of the same trading day.

   (a) Level 1:

   When the primary futures contract is limit offered at the Level 1 Price Limit, a 10-minute period shall commence. If the primary futures contract is not limit offered at the end of the 10-minute period, trading will continue with the next applicable Price Limit in effect. If the primary futures contract is limit offered at the end of the 10-minute period, trading shall terminate for a period of two minutes, after which time the market shall reopen. The next applicable Price Limit shall apply to such reopening.

   (b) Level 2:

   When the primary futures contract is limit offered at the Level 2 Price Limit, a 10-minute period shall commence. If the primary futures contract is not limit offered at the end of the 10-minute period, trading will continue with the next applicable Price Limit in effect. If the primary futures contract is limit offered at the end of the 10-minute period, trading shall terminate for a period of two minutes, after which time the market shall reopen. The next applicable Price Limit shall apply to such reopening.

   (c) Level 3:

   The Level 3 price limit shall be in effect during all regular trading hours. In the event that trades on the electronic trading platform occur through the price limits described above, any such trades may be busted by the Exchange.

**Trading Halts:** If there is an NYSE Rule 80B trading halt declared in the primary securities market, trading shall be halted. Once trading in the primary securities market resumes after an NYSE Rule 80B trading halt, trading on the CBOT DJIA (DJIA) Index ($5 Multiplier) futures contract shall resume.

If an NYSE Rule 80B trading halt becomes inapplicable, the corresponding Price Limit shall likewise become inapplicable. E.g., if an NYSE Rule 80B trading halt, triggered by a 10% or a 20% decline in the Dow Jones Industrial Average, has been declared in the primary securities market, and trading in the primary securities market has recommenced, then the 10.0% or 20.0% Price Limits shall become inapplicable, respectively. E.g., when the NYSE Rule 80B 10.0% price limit provisions are suspended after 2:30 p.m. Eastern time, then the 10.0% Price Limit shall become inapplicable. Trading on the CBOT DJIA (DJIA) Index ($5 Multiplier) futures contract shall continue and the next applicable Price Limit shall apply.

**Opening Time:** If either a trading halt was in effect or the primary futures contract was locked at a limit at the close of trading, then the opening time of trading on CME GLOBEX® shall be delayed until 6:00 p.m. During Electronic Trading Hours (ETH), there shall be no trading of CBOT DJIA Index ($5 Multiplier) futures at a price more than the 5.0% Price Limit above or below the Reference RTH Price. If the market is limit bid or limit offered (15) minutes prior to the opening of the RTH, and remains limit bid or limit offered five (5) minutes prior to the opening of the RTH, there shall be a trading halt in effect until the commencement of Regular Trading hours (RTH). During the trading halt, the Exchange shall provide an indicative opening price for the reopening of trading on CME GLOBEX, if applicable, pursuant to Rule 573. Once RTH commences, the next applicable trading limit shall be in effect. The 5.0% Price Limit shall be calculated as one-half of the Level 1 or 10% price limit rounded down to the nearest integral multiple of 10 index points.

Given the above, we the following scenario shows the YM (mini Dow futures) contract using the calculated values for Q2 2012.

Price limit values for the Dow Jones futures contracts from Q2 2012:
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>5% (ETH)</td>
<td>650</td>
</tr>
<tr>
<td>10% (Level 1)</td>
<td>1300</td>
</tr>
<tr>
<td>20% (Level 2)</td>
<td>2600</td>
</tr>
<tr>
<td>30% (Level 3)</td>
<td>3900</td>
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</tbody>
</table>

Settlement price for the YM contract is 12526 from the previous day. Trading hours for this product are from 15:30 to 16:30, and then from 17:00 to 15:15 (all times Military USA Central Time). Electronic trading hours encompass trading from 15:30 to 8:30.

Trading begins at 15:30, and trading from 15:30 to 8:30 is defined as ETH. The product can only trade within the ETH limits during this timeframe. The minimum allowable price will be 12526 – 650 = 11876, and the maximum allowable price will be 12526 + 650 = 13176. There shall be no trading above 13156 or below 11876 before 8:30. Orders good for today’s trading session only cannot be entered outside this trading range (GTC and GTD orders can be entered outside the range). If the market is limit bid or limit offer 15 minutes prior to the opening of the RTH (8:30) and remains limit bid or limit offer 5 minutes prior to the opening of RTH, rules described above will cause a trading halt. We will not cover these circumstances for the rest of the example.

At 8:30, ETH ends and RTH begins, and the corresponding limits expand from the 5% restrictions as follows:

1. The maximum allowable price is removed, and trading above settlement is unrestricted.
2. The minimum allowable price is recalculated to 12526 – 1300 = 11226.

At 13:30, assuming no limit expansion as a result of limit offer in the contract, the minimum allowable price is again recalculated using the level 2 value. The minimum allowable price is therefore 12526 – 2600 = 9926. The maximum allowable price remains unrestricted.

**Unlimited/Unrestricted**

There are no price limits for this category.