



CME Group Equity Quarterly Roll Analyzer

Guide to getting started

August 2017



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Each quarter during the roll period, **CME Group's Equity Quarterly Roll Analyzer** is populated with the current futures calendar spread market information to help you track the progress of the roll market.

To access the tool, visit cmegroup.com/rollpace and complete the registration form. The home screen default view shows Volume Weighted Average Price (VWAP) and average implied financing rate for E-mini index futures for broad market indexes each day.

Tabs across the top allow you to toggle between similar views for E-mini S&P Select Sector Futures and Nikkei 225 futures.

PDF

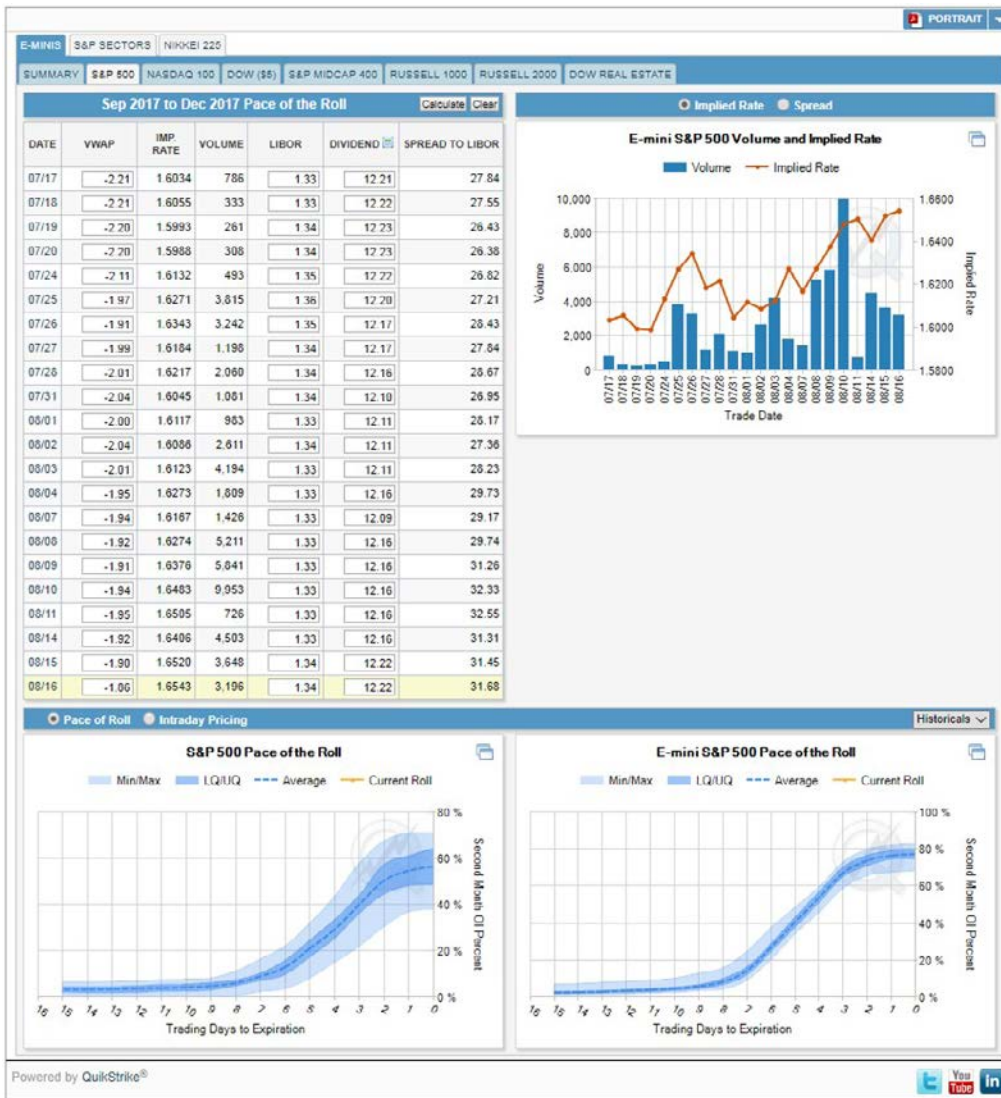
E-MINIS
S&P SECTORS
NIKKEI 225

SUMMARY
S&P 500
NASDAQ 100
DOW (\$5)
S&P MIDCAP 400
RUSSELL 1000
RUSSELL 2000
DOW REAL ESTATE

DATE	E-MINI S&P 500		E-MINI NASDAQ 100		E-MINI DOW		E-MINI S&P MIDCAP 400		E-MINI RUSSELL 1000		E-MINI RUSSELL 2000		DOW REAL ESTATE	
	VWAP	IMP. FIN.	VWAP	IMP. FIN.	VWAP	IMP. FIN.	VWAP	IMP. FIN.	VWAP	IMP. FIN.	VWAP	IMP. FIN.	VWAP	IMP. FIN.
07/17	-2.21	1.60	0.00	0.00	-42.57	1.66	0.00	0.00	N/A	N/A	0.00	0.00	N/A	N/A
07/18	-2.21	1.61	6.43	1.53	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	N/A	N/A
07/19	-2.20	1.60	6.90	1.55	-44.00	1.63	0.00	0.00	N/A	N/A	0.00	0.00	N/A	N/A
07/20	-2.20	1.60	0.00	0.00	-44.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/24	-2.11	1.61	6.58	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/25	-1.97	1.63	7.05	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/26	-1.91	1.63	6.89	1.53	-42.89	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/27	-1.99	1.62	6.79	1.54	-42.43	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/28	-2.01	1.62	6.70	1.55	-43.71	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/31	-2.04	1.60	6.44	1.53	-42.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/01	-2.00	1.61	6.79	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/02	-2.04	1.61	6.71	1.55	-42.00	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/03	-2.01	1.61	6.73	1.55	-41.57	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/04	-1.95	1.63	6.98	1.57	-43.06	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/07	-1.94	1.62	6.80	1.55	-40.17	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/08	-1.92	1.63	6.95	1.55	-39.63	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/09	-1.91	1.64	7.04	1.57	-41.00	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/10	-1.94	1.65	7.44	1.62	-39.48	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/11	-1.95	1.65	7.61	1.64	-42.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/14	-1.92	1.64	7.42	1.60	-42.33	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/15	-1.90	1.65	7.52	1.60	-44.18	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/16	-1.86	1.65	7.47	1.59	-42.33	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Navigation within each grouping – E-minis, S&P Sectors, Nikkei 225 – allow you to drill down into product-specific pages. Click to toggle between pages within the sub-navigation. To return to the summary page, simply click on the Summary tab again.



Each product-specific page is divided into four quadrants.

The top-left quadrant presents a numerical summary for VWAP, implied financing rate, roll volume, the LIBOR benchmark assumption, forward dividend point assumption and the implied financing rate as a spread to LIBOR.

The top-right quadrant shows the implied financing rate and roll volume over the coverage period. You can toggle between the implied financing rate and the rate spread vs LIBOR.

The bottom two quadrants show the pace of the roll for both the standard-sized contract (on the left, if it exists) and the E-mini contract (on the right). The solid red line represents the current percentage Open Interest in the deferred month as of a particular date. The solid black line represents the historical average of the same quantity over the last three years at the same point in the roll period. The blue shade covers the middle 75% range of the data from the last three years.

The dropdown box immediately above the E-mini Pace of the Roll chart allows you to display to the roll charts from prior periods. Likewise, the buttons on the left allow you to toggle between roll charts and some intra-day pricing data.

In the top right corner of each chart, there is a maximize/minimize icon for switching the chart between full screen width and default width.

Intra-day Data

If you toggle to intra-day data, the VWAP and roll volume by the hour is shown in the bottom left quadrant, while the volume by price appears in the bottom right quadrant. To select a different date, click on the row in the top left quadrant, or the volume bar in the chart in the top right quadrant. The hourly data are limited to each hour beginning at 8:00 a.m. CT.

E-MINIS
S&P SECTORS
NIKKEI 225

SUMMARY
S&P 500
NASDAQ 100
DOW (\$)
S&P MIDCAP 400
RUSSELL 1000
RUSSELL 2000
DOW REAL ESTATE

Sep 2017 to Dec 2017 Pace of the Roll
Calculate Clear

 Implied Rate
 Spread

DATE	VWAP	IMP. RATE	VOLUME	LIBOR	DIVIDEND	SPREAD TO LIBOR
07/17	-2.21	1.6034	786	1.33	12.21	27.84
07/18	-2.21	1.6055	333	1.33	12.22	27.55
07/19	-2.20	1.5993	261	1.34	12.23	26.43
07/20	-2.20	1.5988	308	1.34	12.23	26.38
07/24	-2.11	1.6132	493	1.35	12.22	26.82
07/25	-1.97	1.6271	3,815	1.36	12.20	27.21
07/26	-1.91	1.6343	3,242	1.35	12.17	28.43
07/27	-1.99	1.6184	1,198	1.34	12.17	27.84
07/28	-2.01	1.6217	2,060	1.34	12.16	28.67
07/31	-2.04	1.6045	1,081	1.34	12.10	26.95
08/01	-2.00	1.6117	983	1.33	12.11	28.17
08/02	-2.04	1.6086	2,611	1.34	12.11	27.36
08/03	-2.01	1.6123	4,194	1.33	12.11	28.23
08/04	-1.95	1.6273	1,809	1.33	12.16	29.73
08/07	-1.94	1.6167	1,426	1.33	12.09	29.17
08/08	-1.92	1.6274	5,211	1.33	12.16	29.74
08/09	-1.91	1.6376	5,841	1.33	12.16	31.26
08/10	-1.94	1.6483	9,953	1.33	12.16	32.33
08/11	-1.95	1.6505	726	1.33	12.16	32.55
08/14	-1.92	1.6406	4,503	1.33	12.16	31.31
08/15	-1.90	1.6520	3,648	1.34	12.22	31.45
08/16	-1.86	1.6543	3,196	1.34	12.22	31.68

Pace of Roll
 Intraday Pricing
Click on a date in the table above to show hourly data

E-mini S&P 500 Volume and Implied Rate

E-mini S&P 500 Hourly Data for 08/16

E-mini S&P 500 Volume By Price for 08/16


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A Closer Look at the Calculation

The LIBOR assumption in the table is derived by interpolating the LIBOR curve to the exact dates between the index futures expirations¹. This number only serves as a benchmark against which the implied financing rate is judged. To change the assumption, type over the number; once you do so, the box will show a dark yellow background.

To change the dividend assumption, use the +/- button next to the dividend column header. This allows you to increase or decrease the entire column by, for example, 15%.

Finally, to change the VWAP number, type in the (average) price of a spread trade, for example, to convert it to the implied financing rate.

E-MINIS S&P SECTORS NIKKEI 225							
SUMMARY S&P 500 NASDAQ 100 DOW (\$5) S&P MIDCAP 400 RUSSELL 1000 RUSSELL 2000							
Sep 2017 to Dec 2017 Pace of the Roll						Calculate	Clear
DATE	VWAP	IMP. RATE	VOLUME	LIBOR	DIVIDEND 	SPREAD TO LIBOR	
07/17	-2.21	1.6034	786	1.33	12.21	27.84	
07/18	-2.21	1.6055	333	1.33	12.22	27.55	
07/19	-2.20	1.5993	261	1.34	12.23	26.43	
07/20	-2.20	1.5988	308	1.34	12.23	26.38	
07/24	-2.11	1.6132	493	1.35	12.22	26.82	
07/25	-1.97	1.6271	3,815	1.36	12.20	27.21	
07/26	-1.91	1.6343	3,242	1.35	12.17	28.43	
07/27	-1.99	1.6184	1,198	1.34	12.17	27.84	
07/28	-2.01	1.6217	2,060	1.34	12.16	28.67	
07/31	-2.04	1.6045	1,081	1.34	12.10	26.95	
08/01	-2.00	1.6117	983	1.33	12.11	28.17	

To restore the default numbers in the table, hit the clear button at the top right corner of the pace of the daily calculation table.

¹ To be more exact, the period between the two futures expiration is defined as the 3rd business day from the front month index futures expiration to the 3rd business day from the deferred month index futures expiration.

Nikkei 225 Futures

There are two versions of the Nikkei 225 index futures at CME Group, yen- and USD-denominated futures. The former is the natural version, while the latter is the “quanto” version. The implied financing rate is calculated for the yen-denominated version, while the implied correlation is calculated for the USD-denominated version. You might type over the exchange rate and index volatility assumptions.

In the bottom two panels, toggle between the pace of the roll charts and the volume vs. implied financing/correlation charts.



To access the Equity Quarterly Roll Analyzer, visit cmegroup.com/rollpace.

For questions related to the tool or any CME Equity Index products, contact equities@cmegroup.com.



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