

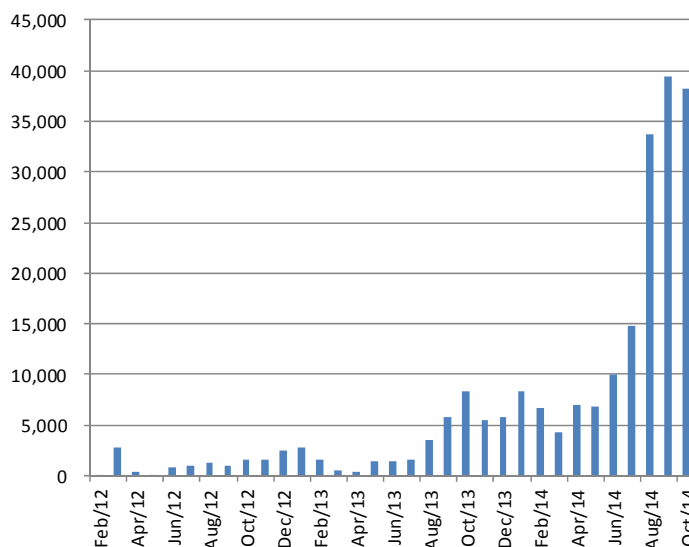
Nikkei 225 in October

As of the end of October, the Nikkei Stock Average (Nikkei 225) stood at 16413.76 up 240.24 points, or 1.49%, from the end of September, which was the highest level for the first time in October 2007 as its end-of-month basis. The index continued to be below the level at the end of September due to an anticipation of global economic recession. On 31st, the Nikkei 225 soared 755 yen because of an announcement on the additional monetary easing of the Bank of Japan (QE2).

This month's Topic : Nikkei volatility index's futures, the time to come for its taking off?

Trades of futures on the Nikkei Stock Average Volatility Index (Nikkei225 VI) listed on the Osaka Exchange have recently significantly increased. After the launch in February 2012, they were not actively traded and monthly trading volumes were around 1000 units even after an Exchange Traded Note (ETN) was listed on the Tokyo Stock Exchange. However, the trading volumes have rapidly increased since July 2014 (Figure 1) and recorded about 40000 units in September and remains large volume in October.

Figure1 : Monthly Volume of Nikkei 225 VI Futures



The reason for the rapid increase is because the size of ETN, remaining total redemption value, like NAVs of ETFs has dynamically expanded. The amount increased to 2880 million Japanese yen (JPY) at the end of July and reached 5000 million JPY temporarily in October. It was 840 million JPY at the end of June.

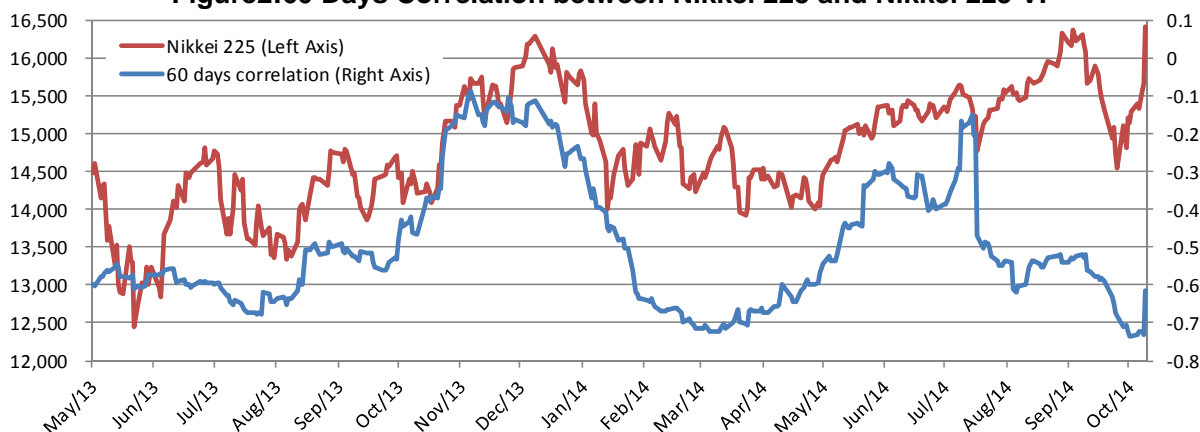
In general, the moves of volatility indexes such as the Nikkei 225 VI were negatively correlated to those of the underlying indexes. For instance, the Nikkei 225 VI surges when the Nikkei 225 plummets, which indicates the Nikkei 225 VI futures should be expected to be a tool to hedge temporary plunges in the Nikkei 225.

However, the Nikkei 225 VI has not shown always negative correlation coefficients to the Nikkei 225. Figure 2 describes the moves of Nikkei 225 and 60 days correlations between the Nikkei 225 and its volatility index since May 2013. In the graph, if the line of the correlation reaches the top, it represents no correlations. On the other hands, if it approaches the bottom, that means the greater negative correlations.

It represents they were negatively correlated early this year when the Nikkei 225 declined, and they

became almost no correlations in the middle of the year, then they have been back to negative correlations since August when the Nikkei 225 fell sharply. Therefore, the recovery of the negative correlations could be another reason for the liquidity increases in the futures on the volatility index. It might be possible to mention that demands of the Nikkei 225 VI futures as the hedge tools have expanded.

Figure2:60 Days Correlation between Nikkei 225 and Nikkei 225 VI



How about examples outside Japan? In the US, cycles of the correlation moves between the S&P 500 and its volatility index seem not to be found as the correlation coefficients remained between minus 0.7 and minus 0.9 for the same period. The S&P 500 options used for the calculation of the volatility index have been actively traded with the daily volumes of more than one million units. It would be crucial for the Nikkei 225 options to increase the trades to lead to such “mature” moves of the Nikkei 225 VI futures.

Performance Summary of October 2014

○Nikkei 225 and its derived indices (Data as of end of October)

Name of Index	Index Value	Monthly Return	Avg Return	Volatility	Yealy High	The Date	Yearly Low	The Date
Nikkei 225	16413.76	1.49%	0.06%	1.27%	16413.76	31-Oct	13910.16	14-Apr
Nikkei 225 TR	24125.54	1.49%	0.07%	1.27%	24125.54	31-Oct	20271.52	4-Feb
Nikkei 225 VI (Volatility)	25.22	43.70%	0.21%	5.42%	33.21	4-Feb	14.00	17-Jul
Nikkei 225 VI Futures	43790.62	9.60%	-0.26%	2.42%	97741.36	4-Feb	38902.54	29-Sep
Nikkei 225 Covered Call	14576.50	-0.62%	0.07%	1.10%	14829.72	25-Sep	12348.19	4-Feb
Nikkei 225 Risk Control	16054.12	-1.45%	0.03%	0.74%	16451.97	25-Sep	14898.08	14-Apr
Nikkei 225 Leveraged	11329.31	2.20%	0.13%	2.54%	11364.69	25-Sep	8275.01	14-Apr
Nikkei 225 Inverse	3034.60	-2.25%	-0.06%	1.27%	3651.06	4-Feb	3034.60	31-Oct
Nikkei 225 Double Inverse	4349.79	-5.25%	-0.13%	2.54%	6467.31	4-Feb	4349.79	31-Oct

Name of Index	Index Value	Change	Hist. High	The year	Hist. Low	The year
Nikkei 225 DP	175.15	20.70%	175.15	2014	57.07	2002

○Benchmark and other indices

Name of Index	Index Value	Monthly Return	Avg Return	Volatility	Yealy High	The Date	Yearly Low	The Date
JPX-Nikkei Index 400	12172.62	0.97%	0.06%	1.15%	12246.68	25-Sep	10314.83	14-Apr
Nikkei 300	269.60	0.94%	0.05%	1.15%	271.36	25-Sep	229.49	14-Apr
Nikkei China Related 50	1414.36	-1.26%	0.05%	1.15%	1455.66	25-Sep	1220.64	4-Feb
Nikkei 500 Average	1430.09	1.71%	0.06%	1.13%	1430.09	31-Oct	1191.33	4-Feb
Nikkei Japan 1000	1573.74	0.64%	0.05%	1.16%	1587.64	25-Sep	1335.72	14-Apr
Nikkei JASDAQ Average	2260.24	-2.71%	0.07%	0.83%	2356.25	22-Sep	1890.85	19-May

Note: Avg Return and Volatility are calculated on the daily return for the past 1 year.

"Change" in the Nikkei 225 Dividend Point Index (Nikkei 225 DP) indicates a comparison with the value at the end of October 2013.

Historical High and Low in the dividend index were based on the values in the same month since 1998.

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