

BOX Penny Pilot Report: Penny Pilot Report 8



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**BOX Average Daily Volume in Penny Pilot Classes....... 11** 



## **Chapter 1 - Summary**

#### 1.1 Purpose and Scope

Beginning on January 26, 2007, all six options exchanges, including BOX, commenced participation in the Penny Pilot Program which included the following thirteen (13) options: Ishares Russell 2000 (IWM); NASDAQ-100 Index Tracking Stock (QQQQ); SemiConductor Holders Trust (SMH); General Electric Company (GE); Advanced Micro Devices, Inc. (AMD); Microsoft Corporation (MSFT); Intel Corporation (INTC); Caterpillar, Inc. (CAT); Whole Foods Market, Inc. (WFMI); Texas Instruments, Inc. (TXN); Flextronics International Ltd. (FLEX); Sun Microsystems, Inc. (SUNW); and Agilent Technologies, Inc. (A).

On September 28, 2007, the Pilot was expanded to included the following additional twenty-two (22) classes: SPDRs (SPY); Apple, Inc. (AAPL); Altria Group Inc. (MO); Dendreon Corp. (DNDN); Amgen Inc. (AMGN); Yahoo! Inc. (YHOO); QUALCOMM Inc. (QCOM); General Motors Corporation (GM); Energy Select Sector (XLE); DIAMONDS Trust, Series 1 (DIA); Oil Services HOLDRs (OIH); NYSE Euronext, Inc. (NYX); Cisco Systems, Inc. (CSCO); Financial Select Sector SPDR (XLF); AT&T Inc. (T); Citigroup Inc. (C); Amazon.com Inc. (AMZN); Motorola Inc. (MOT); Research in Motion Ltd. (RIMM); Freeport-McMoRan Copper & Gold Inc. (FCX); ConocoPhillips (COP); and Bristol-Myers Squibb Co. (BMY).

On March 28, 2008, the Pilot was expanded to include the following additional twenty-eight (28) classes: Goldman Sachs Group Inc. (GS); Countrywide Financial Corp (CFC); Bank of America Corp (BAC); iShares MSCI Emerging Markets Index Fund (EEM); Merrill Lynch & Co Inc (MER); Companhia Vale do Rio Doce (RIO); EMC Corp (EMC); Exxon Mobil Corp (XOM); Wal-Mart Stores Inc (WMT); Home Depot Inc (HD); Valero Energy Corp (VLO); Alcoa Inc (AA); Dell Inc (DELL); Sandisk Corp (SNDK)



(related symbol CEU); Pfizer Inc (PFE); eBay Inc (EBAY); Halliburton Co Hldg Co (HAL); Lehman Brothers Hldgs Inc (LEH); JPMorgan Chase & Co (JPM); Washington Mutual Inc (WM); Ford Motor Company (F); Target Corporation (TGT); American International Group Inc (AIG); Newmont Mining Corp (NEM); Verizon Communications (VZ) (related symbol VRF); Mini NASDAQ-100 Index (MNX); Starbucks Corp (SBUX); and Bear Stearns Inc (BSC).

The minimum price variation for all classes included in the Penny Pilot Program, except for the QQQQs, is \$0.01 for all quotations in option series that are quoted at less than \$3 per contract and \$0.05 for all quotations in option series that are quoted at \$3 per contract or greater. The QQQQs are quoted in \$0.01 increments for all options series.

For purposes of this report, the duration of Period One spans from January 26, 2007 – April 26, 2007. The duration of Period Two spans from May 1, 2007 – September 27, 2007. The dates for the additional data periods are: Additional Period 1 (A1) spans from January 8, 2007 – January 19, 2007 and Additional Period 2 (A2) spans from April 9, 2007 – April 19, 2007. The duration of Period Three spans from September 28 2007 – January 31, 2008. The duration of Period Four spans from February 1, 2008 – July 31, 2008. The duration of Period Five spans from August 1, 2008 – January 31, 2009. The duration of Period Six spans from February 1, 2009 – April 30, 2009. The duration of Period Seven spans from May 1, 2009 – July 31, 2009. The duration of Period Eight spans from August 1, 2009 – October 31, 2009.

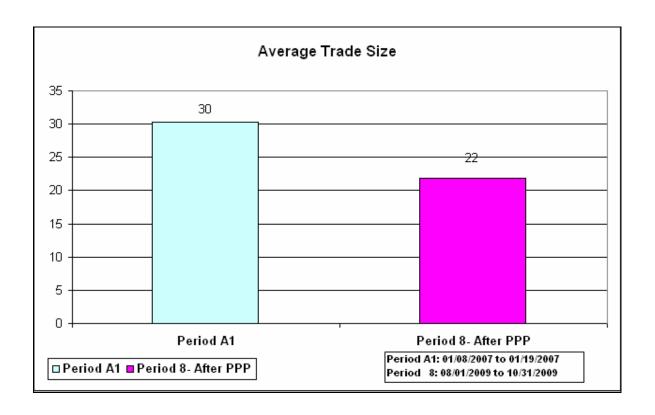


#### 1.2 Summary

Market volatility, as measured by the VIX, continued to trend at lower historical levels during Period 8 despite several spikes in volatility during the 3 months covered by Period 8. BOX observed a marginal increase in the Bid/Ask spread as compared to Period 7 (See 2.1 for details). The overall market quality compared favorably to all prior periods, especially so at premium levels of \$ 3.00 and below. Overall, the average trade size for Period 8 of 22 contracts remained close to that of preceding Periods 6 and 7, where the average size was 24 contracts.

The average number of contracts at the top of the BOX Book on the Bid and the Ask improved slightly across all premium levels in Period 8 as compared to that of Period 7. The decline in volatility, approaching historically low levels, contributed to better liquidity at top of the Book. Liquidity providers continued to quote tightly in Period 8, despite an overall increase as compared to Period 7 attributed to intermittent volatility spikes. However, data from Period 8 continues to show narrower Bid/Ask spreads when compared to periods overlapping the financial crisis in the 3<sup>rd</sup> and 4<sup>th</sup> quarter of 2008. The quantity at the top of the Book remained sufficient to satisfy the average trade size, as had been the case for all prior periods.



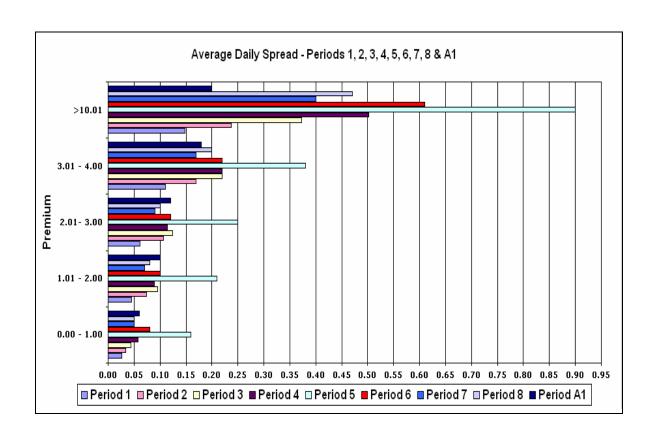




## **Chapter 2 - Quality of Markets**

## 2.1 Best Bid/Ask Spread

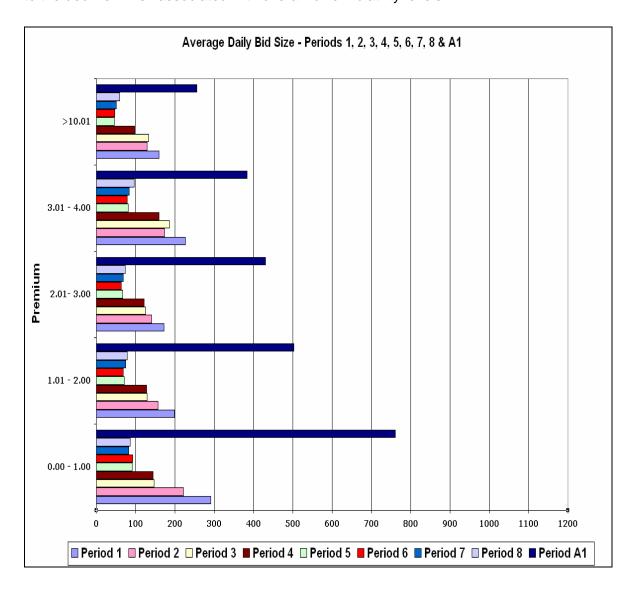
The average Bid/Ask spread increased marginally in Period 8 versus Period 7, likely due to the previous discussed spikes in volatility. Increases and decreases in the Bid/Ask spread are directly correlated to volatility in the overall markets. It is important to note that the Bid/Ask spread has continued to decrease across all pennydenominated strikes as compared to Period A1 prior to the initiation of the Penny Pilot Program. It is reasonable to presume that quoting and trading in pennies has improved the overall quality of the markets and that the retail customer has benefited from the Pilot.



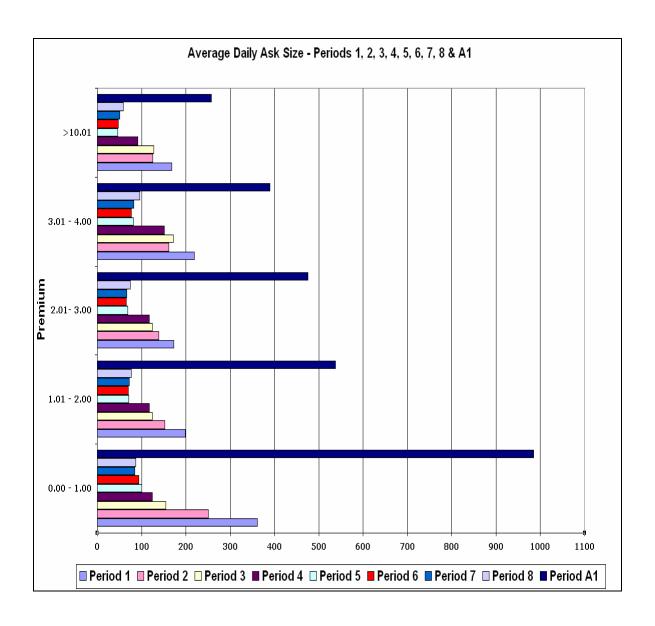


#### 2.2 Bid/Ask Size

The Bid/Ask size for all premium levels increased slightly during Period 8 when compared to that of Period 7. BOX believes that liquidity providers, especially market makers who must maintain two-sided quotes, were able to marginally increase size due to the decline in risk associated with overall lower volatility levels.





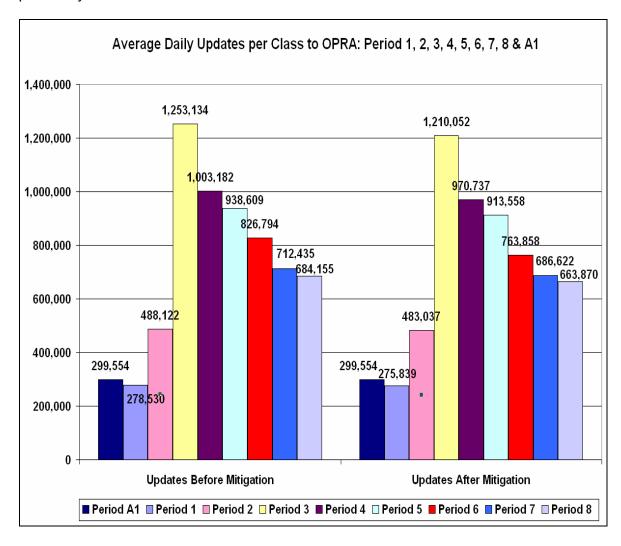




# **Chapter 3 - Capacity**

## **BOX Quotes to OPRA All Classes: Before and After Mitigation**

During Period 8 BOX mitigation rates remained at historical averages of approximately 2-3% of quotes sent to OPRA. It is important to note that the continued expansion of Penny Classes has not lead to increased mitigation rates as was previously feared.





## **Chapter 4 - Trading Activity**

## **BOX Average Daily Volume**

BOX's overall volume declined during Period 8 as compared to Period 7. The decline was reflective of a change in BOX's market model during Period 8 whereby BOX eliminated its "Make or Take" pricing structure. Despite the decrease in overall volume price improvement volume in the BOX Price Improvement Period ("PIP") auction was not negatively impacted and remained steady at an average of 33 contracts, nearly identical to the prior two periods.

