



**BOX**  
BOSTON OPTIONS EXCHANGE

BOX Penny Pilot Report:  
Penny Pilot Report 7



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## 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 include 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 QQQs, 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 QQQs 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.





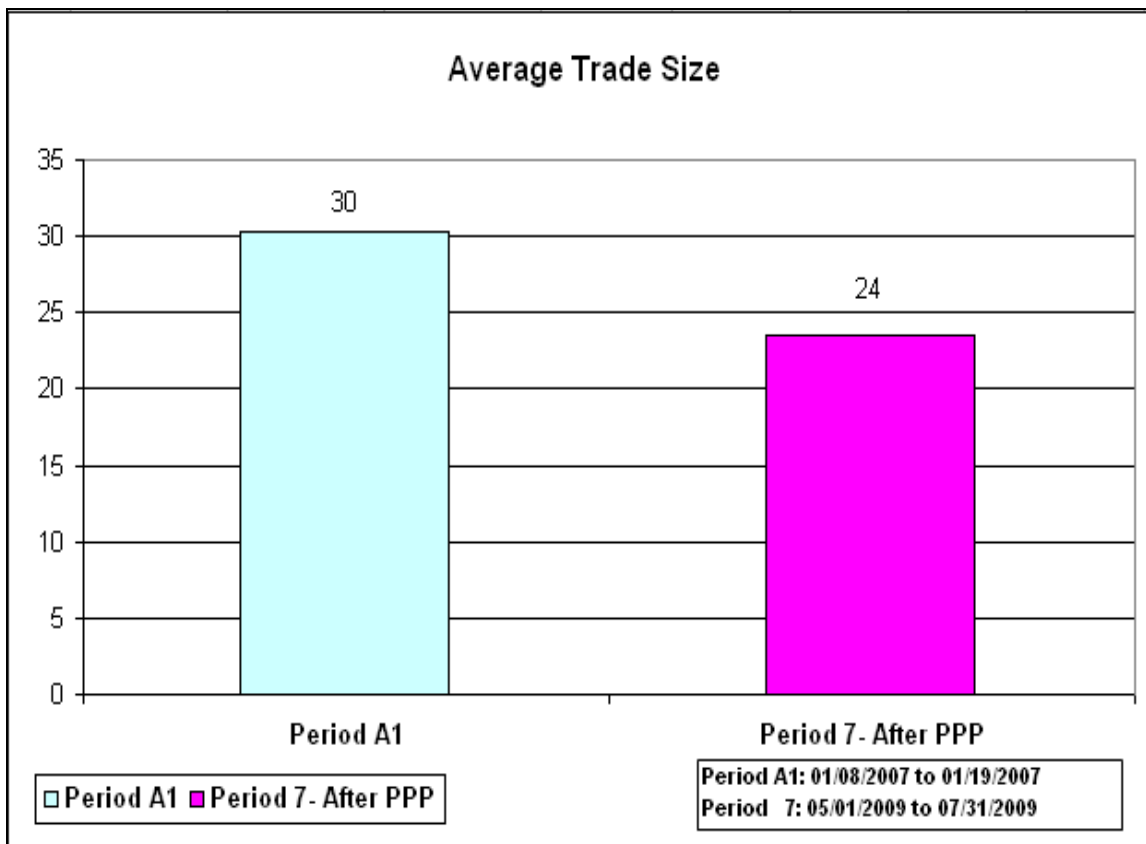
## 1.2 Summary

Market volatility, as measured by the VIX, continued to decline significantly during Period 7. BOXX observed a significant decrease in the Bid/Ask spread as compared to Period 6 (See 2.1 for details). The overall market quality for nearly all premium levels improved dramatically compared to Period 6.

Overall, the average trade size for Period 7 remained identical to that of Period 6 at 24 contracts. During Period 5 the average trade size was 27 contracts.

The average number of contracts at the top of the BOXX Book on the Bid and the Ask improved slightly at most premium levels in Period 7 as compared to that of Period 6. The decline in volatility, approaching year-to-date low levels, contributed to better liquidity at top of the Book. Liquidity providers quoted more tightly in Period 7 than during any of the previous periods year-to-date as overall market risks waned and competition for orders remained high. At the same time liquidity providers slightly improved their quantities at the top of Book, thereby improving the overall market quality for investors. 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.



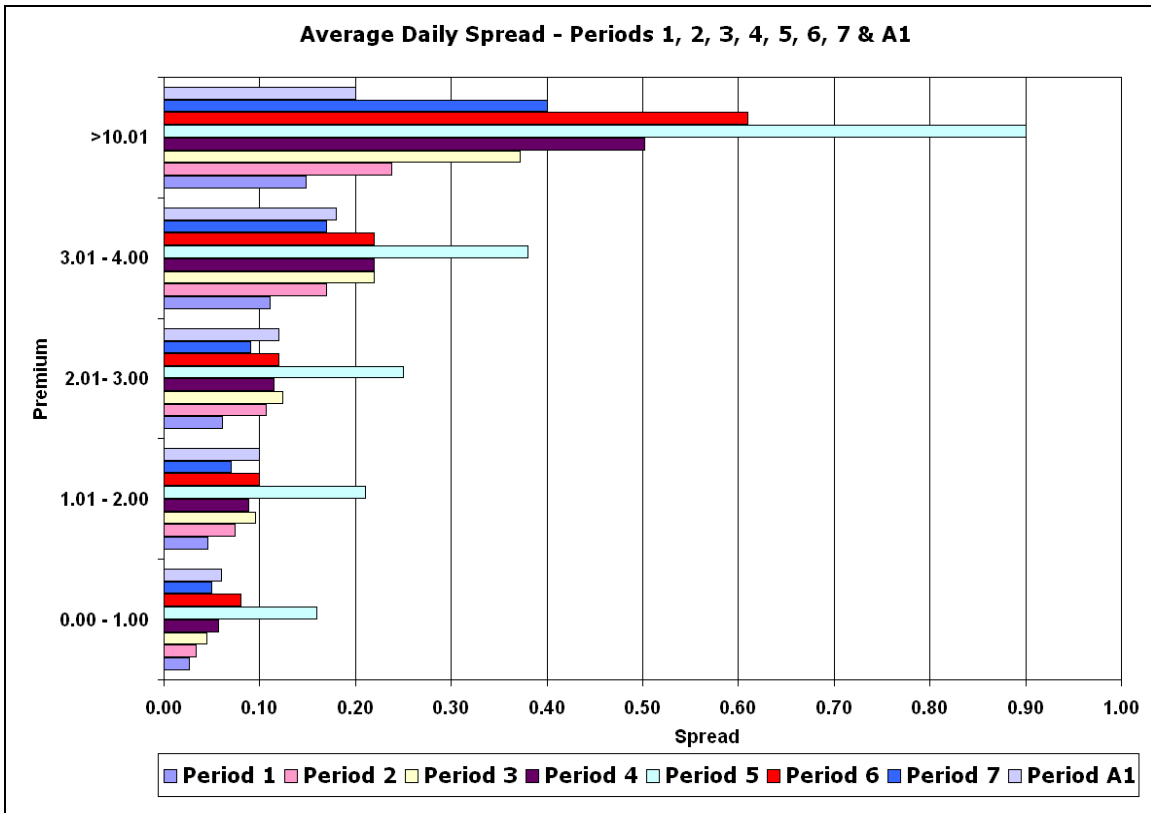




## Chapter 2- Quality of Markets

### 2.1 Best Bid/Ask Spread

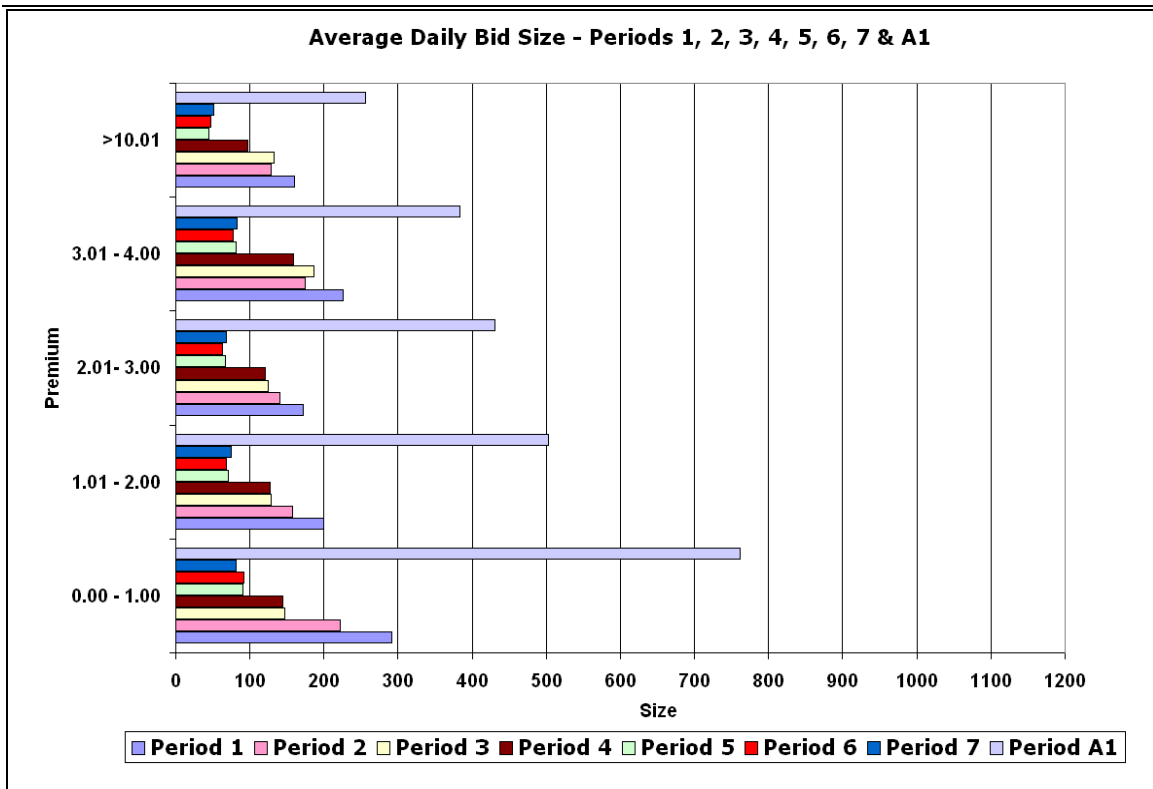
The average Bid/Ask spread narrowed considerably in Period 7 versus Period 6, likely due to the dramatic reduction in volatility in the overall markets. Decreases in the Bid/Ask spread are directly correlated to decreases in volatility. It is important to note that the Bid/Ask spread was narrower across nearly all premium levels and compared favorably to Periods 2, 3 and 4. It is reasonable to assume that the competition at all price levels increased as the volatility collapsed.



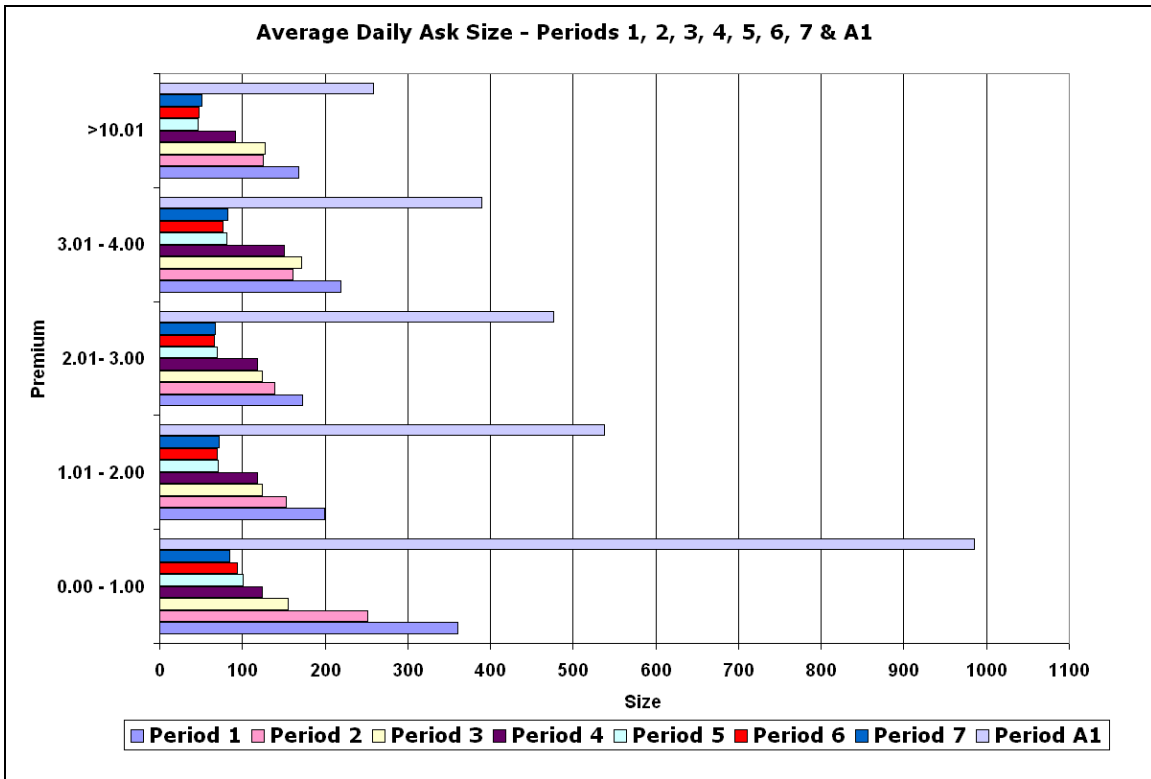


## 2.2 Bid/Ask Size

The Bid/Ask size for most premium levels improved slightly levels during Period 7 when compared to that of Period 6 despite the narrowing of spreads. 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 lower volatility levels.





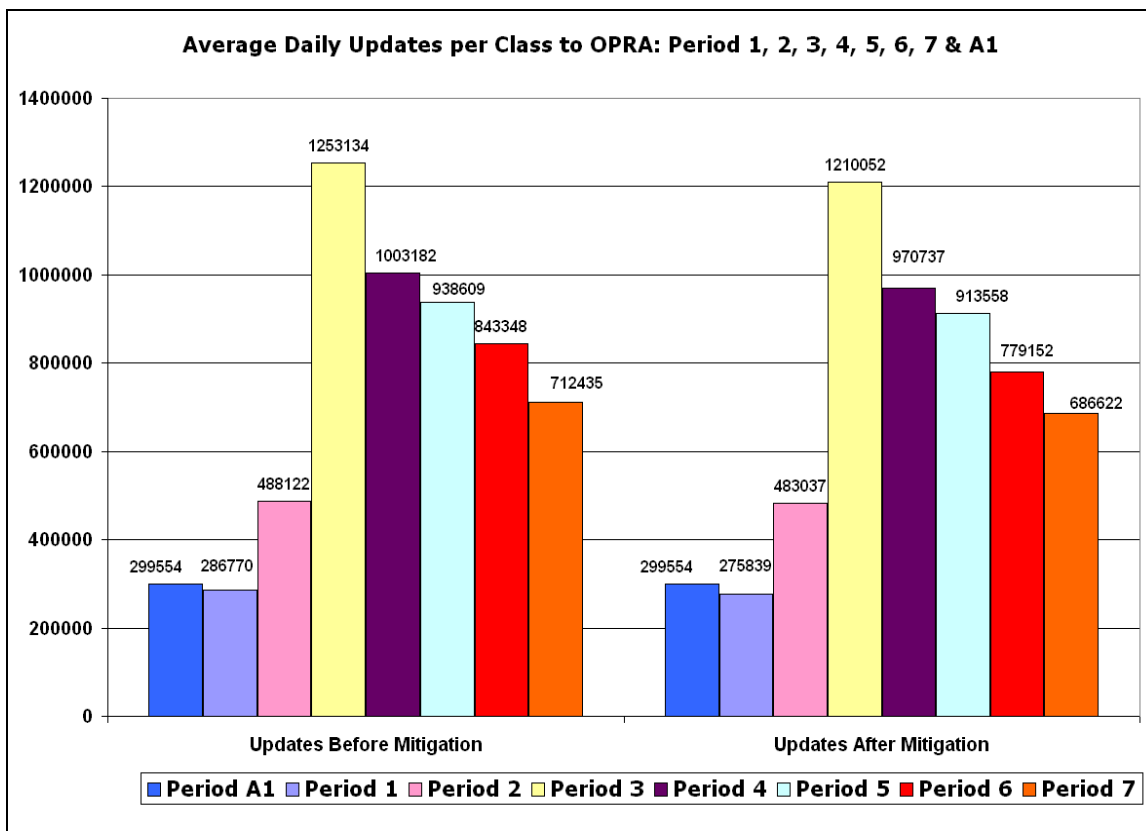




## Chapter 3- Capacity

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

Due to a minor technical change during Period 6, quote mitigation increased from approximately 2% in Period 5 to approximately 7% in Period 6. During Period 7 BOX mitigation rates returned to their historical averages of approximately 2-3% of quotes sent to OPRA.





## Chapter 4- Trading Activity

### BOX Average Daily Volume

BOX volume declined during Period 7 from Period 6 as did overall OCC volume.

