

BOX Penny Pilot Report: Penny Pilot Report 4



# **Table of Contents**

Chapter 1- Overview and Summary		
1.1 1.2	Purpose and Scope Summary	
Chapter 2- Quality of Markets		
2.1	Best Bid/Ask Spread	7
2.2	Bid/Ask Size	8
Chapter 3- Capacity		
	BOX Quotes to OPRA All Classes	9
Chapter 4- Trading Activity		
	BOX Average Daily Volume in Penny Pilot Classes	10



### **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.



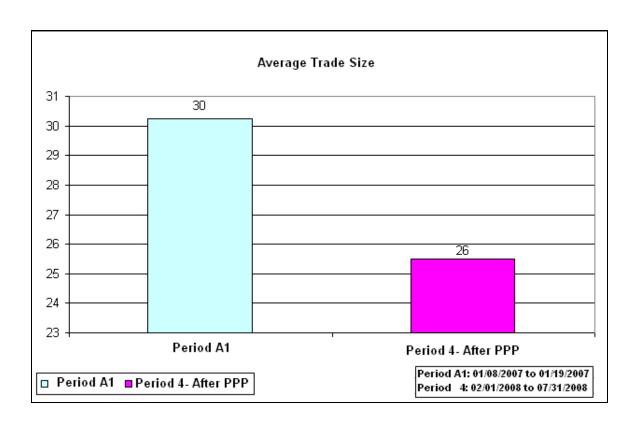
#### 1.2 Summary

Market volatility remained very high during Period 4 of the Penny Pilot Program. However, market quality did not continue to deteriorate as it had between Periods 2 and 3, perhaps because market participants had become used to the higher levels of volatility. In any case, BOX observed only the slightest increase in the Bid/Ask spread between Periods 3 and 4 (excepting in the lightly trading premium tranche above \$10 which is arguably irrelevant most of the time). See 2.1 for details.



The average trade size on BOX actually rose slightly between Periods 3 and 4 (from 23 to 26), though this is probably statistically insignificant.

The average number of contracts at the top of the BOX Book on the bid and the offer was largely stable from Period 3 to 4 (see 2.2) a confirmation that continued volatility did not cause further deterioration of the market. Furthermore, the average remained comfortably above the average BOX trade size, an indication that customers were finding the required liquidity.

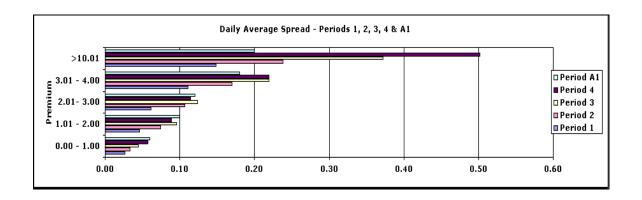




# **Chapter 2- Quality of Markets**

## 2.1 Best Bid/Ask Spread

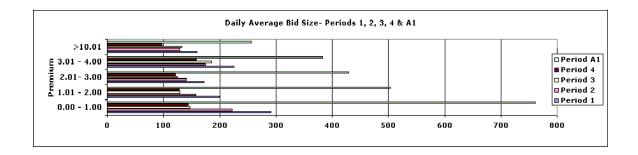
The average Bid/Ask spread was largely stable between Periods 3 and 4 and roughly comparable to the control period before the Penny Pilot (with the exception of the lightly traded tranche above \$10). It is reasonable to assume the spreads were still narrower during this volatile period than they would have been had the Penny Pilot not been in effect.

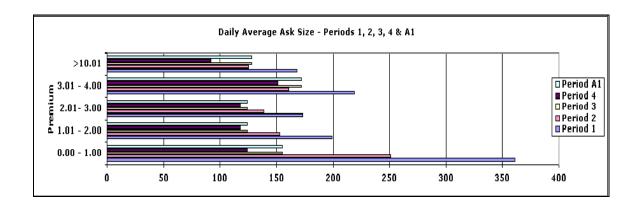




#### 2.2 Bid/Ask Size

The Bid/Ask size for all premium levels (excepting the above \$10 tranche) was essentially unchanged between Period 3 and 4.



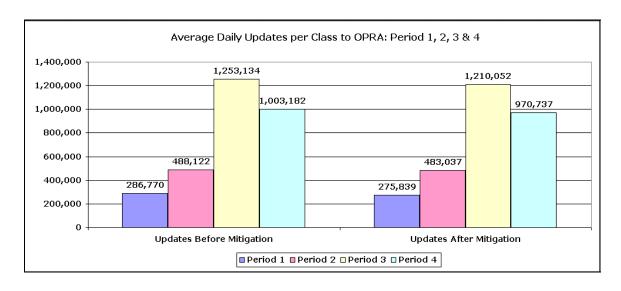




# **Chapter 3- Capacity**

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

While traffic decreased somewhat between Periods 3 and 4, BOX continued to mitigate below 3% of quotes sent to OPRA.





# **Chapter 4- Trading Activity**

# **BOX Average Daily Volume**

BOX volume dropped during Period 4 from Period 3 though generally in-line with the overall decrease in OCC volumes.

