

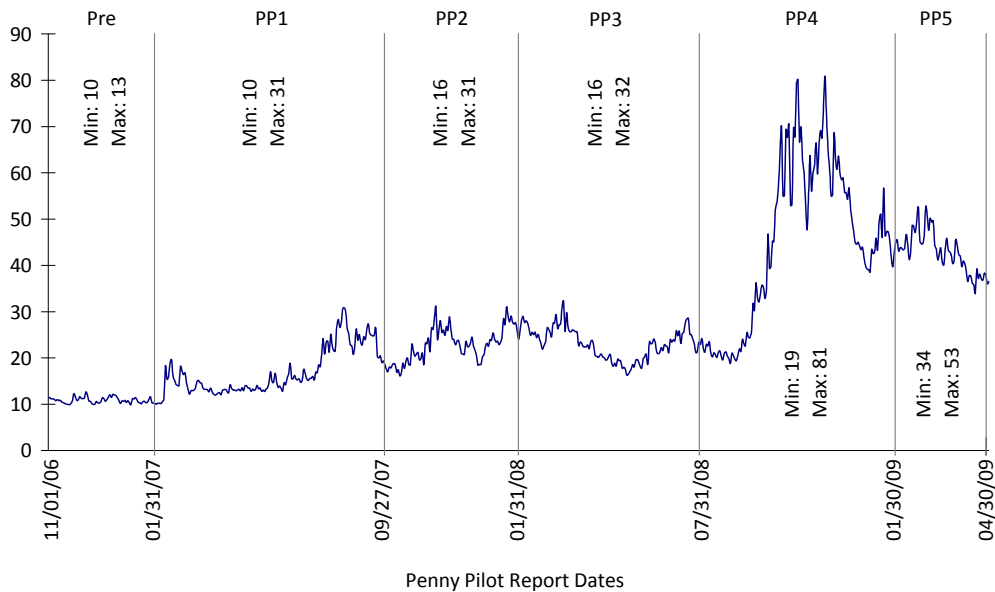
NASDAQ OMX PHLX  
Options Penny Pilot Expansion Report 5  
May 29, 2009

**Summary**

This is the fifth NASDAQ OMX PHLX report on the Penny Pilot program. The results are consistent with the earlier reports. Compared to before the penny pilot, quoted spreads declined, quote size at the inside declined, and quote traffic increased. The results in this analysis reflect the combined impacts of the penny pilot and increased volatility in financial markets, as reflected in the VIX (Figure 1).

Compared to the previous penny pilot report, in the latest period quoted spreads declined, quote size at the inside increased, and message traffic decreased. These trends are partly caused by the decline in perceived market risk compared to the previous period (Figure 1).

**Figure 1 - CBOE Volatility Index (VIX)**



**General**

This report provides quote information for three time periods:

- Before penny pilot – covering 3 months before a symbol was added to the penny pilot stocks.
- The period of the previous penny pilot extension – August 1, 2008 to January 31, 2009.
- The period of the latest extension – February 1 – April 30, 2009.

Much of the data provided here is aggregated across symbols. We provide four symbol groups: 1) all 63 symbols, 2) 13 original symbols, 3) 22 first expansion symbols, and 4) 28 second expansion symbols. Some symbols ceased trading during the intervals reducing the total number in each group.

We spot-tested and found that the un-weighted, aggregate data provided here provides an accurate representation of trends in spreads and size in the individual symbols. Although weighted averages are more appropriate, they did not significantly change the direction and magnitude of change between the time periods. We provide several disaggregated tables to highlight differences across individual symbols.

### Quoted Spreads – NBBO

Compared to before the penny pilot, the latest period had lower spreads for all penny pilot symbols up to \$20 premiums and 9 months to expiration. The latest period also had significantly lower spreads than the previous penny pilot extension. Table 1 is representative, showing the overall trends in spreads over all months. More details are found in the appendix tables A1-A4, A9, and A11.

**Table 1 :: NBBO Un-weighted Average Spread :: All 63 symbols :: \$**

Option premium	All months				
	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)	Pct Change (2) - (3)
<1	0.084	0.068	0.035	(58.07%)	(48.62%)
1-<3	0.112	0.096	0.050	(55.14%)	(47.97%)
3-<5	0.174	0.160	0.106	(38.94%)	(33.62%)
5-<10	0.204	0.211	0.140	(31.37%)	(33.63%)
10-<20	0.253	0.322	0.208	(17.64%)	(35.23%)
20+	0.307	0.548	0.361	17.53%	(34.11%)

Front month spreads declined most, up to premiums of \$20 (Table 2). Considering the significant increase in volatility between the before and current periods, it is not surprising that spreads for higher prices and longer expirations increased. Spreads in the latest period declined across the board compared to the previous extension; reflecting the decline in market volatility.

**Table 2 :: NBBO Un-weighted Average Spread :: All 63 symbols :: \$**

Option premium	1 month to expiration				
	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)	Pct Change (2) - (3)
<1	0.073	0.033	0.021	(70.77%)	(35.94%)
1-<3	0.104	0.062	0.044	(58.23%)	(29.67%)
3-<5	0.169	0.123	0.100	(41.21%)	(18.96%)
5-<10	0.194	0.168	0.126	(34.83%)	(24.83%)
10-<20	0.228	0.240	0.167	(26.61%)	(30.46%)
20+	0.245	0.312	0.251	2.74%	(19.50%)

Front month average spreads declined for almost all symbols (Table 3 and details in Table A11). Average spreads in this category declined more than 50%. Volume-weighted and un-weighted results were nearly identical.

**Table 3 :: NBBO Average Spread :: One Month to Expiration :: \$**

All 63 symbols		Premium < \$1				
Symbol	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)	Pct Change (2) - (3)	
Un-weighted Average	0.073	0.033	0.021	(70.8%)	(36.2%)	
Weighted Average	0.072	0.030	0.019	(73.1%)	(35.6%)	
Minimum	0.055	0.017	0.014	(83.4%)		
Maximum	0.121	0.084	0.068	9.4%		

QQQQ front month spreads declined for premiums up to \$10. As seen in the aggregate statistics, spreads declined significantly between the latest penny pilot extension and the previous one.

**Table 4 :: NBBO Un-weighted Average Spread :: QQQQ :: \$**

		1 month to expiration				
Option premium	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)	Pct Change (2) - (3)	
<1	0.055	0.018	0.015	(72.31%)	(14.61%)	
1-<3	0.074	0.030	0.022	(69.74%)	(25.42%)	
3-<5	0.119	0.057	0.037	(68.93%)	(35.31%)	
5-<10	0.127	0.148	0.072	(43.70%)	(51.72%)	
10-<20	0.128	0.284	0.134	4.52%	(52.70%)	
20+	0.127	0.478	0.238	87.55%	(50.16%)	

### Quote Size at the Inside – NBBO

Average individual quote size at the NBBO (Table 5 and details in appendix Tables A5 – A8 and A10) declined significantly for the penny pilot options, but during the latest extension the trend reversed and quoted size increased across the board, though still significantly lower (52-91% lower) than the Before period.

**Table 5 :: NBBO Average Quote Size :: ALL 63 symbols :: Contracts**

		All months				
	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)	Pct Change (2) - (3)	
<b>63 symbols</b>	1,767	313	514	(70.94%)	64.08%	
<b>13 symbols</b>	4,041	424	683	(83.11%)	60.97%	
<b>22 symbols</b>	1,323	314	476	(64.05%)	51.45%	
<b>28 symbols</b>	976	257	459	(52.92%)	78.78%	
<b>QQQQ</b>	21,337	1,387	1,740	(91.85%)	25.45%	

### Quote Message Traffic – PHLX

Overall quote traffic in the latest period is 278% higher than before the penny pilot (Table 6 and appendix Table A15, excluding 5 pilot symbols no longer traded). Quote traffic in the latest period was down in most Pilot classes compared to the previous penny pilot extension, though still significantly higher (up to 1975% higher) than the Before period. This reversal, likely the result of lower market volatility, demonstrates the importance of events outside of the penny pilot in determining quote traffic. There

was also significant variation across symbols, with many symbols experiencing much smaller increases in traffic and even a few with declines (Table A11). All four declines occurred where the underlying stock prices fell to low single digit prices (AMD, AIG, GM and FLEX) .

**Table 6 :: Average Daily Outbound PHLX Quotes :: Thousands**

	Symbol	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)	Pct Change (2) - (3)
<b>All</b>		42,052.3	176,187.8	149,205.1	254.81%	<b>(15.31%)</b>
<b>Minimum</b>		25.7	72.7	39.7	54.46%	<b>(45.36%)</b>
<b>Maximum</b>		5,124.0	22,411.8	17,052.7	232.80%	<b>(23.91%)</b>
<b>Minimum growth</b>	<b>AIG</b>	798.4	765.1	62.3	<b>(92.20%)</b>	<b>(91.86%)</b>
<b>Maximum growth</b>	<b>XLF</b>	89.9	2,136.1	1,865.3	1975.87%	<b>(12.68%)</b>

## NBBO Average Spreads By expiration date and premium

**Table A1 :: NBBO Un-weighted Average Spread :: All 63 symbols :: \$**

Option premium	1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
<1	0.073	0.033	0.021	(70.77%)	0.074	0.037	0.023	(68.60%)	0.085	0.059	0.037	(56.98%)	0.143	0.189	0.075	(47.78%)	0.084	0.068	0.035	(58.07%)
1-<3	0.104	0.062	0.044	(58.23%)	0.099	0.060	0.035	(64.94%)	0.108	0.080	0.048	(55.54%)	0.190	0.235	0.097	(48.82%)	0.112	0.096	0.050	(55.14%)
3-<5	0.169	0.123	0.100	(41.21%)	0.161	0.121	0.087	(45.76%)	0.166	0.140	0.099	(40.03%)	0.268	0.321	0.169	(36.84%)	0.174	0.160	0.106	(38.94%)
5-<10	0.194	0.168	0.126	(34.83%)	0.188	0.164	0.113	(39.94%)	0.189	0.178	0.122	(35.38%)	0.311	0.400	0.219	(29.58%)	0.204	0.211	0.140	(31.37%)
10-<20	0.228	0.240	0.167	(26.61%)	0.230	0.243	0.161	(30.13%)	0.228	0.261	0.161	(29.63%)	0.380	0.577	0.310	(18.44%)	0.253	0.322	0.208	(17.64%)
20+	0.245	0.312	0.251	2.74%		0.351	0.249			0.446	0.244		0.440	0.930	0.491	11.58%	0.307	0.548	0.361	17.53%

**Table A2 :: NBBO Un-weighted Average Spread :: Original 13 symbols :: \$**

Option premium	1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
<1	0.066	0.030	0.021	(68.69%)	0.063	0.030	0.022	(65.18%)	0.069	0.043	0.032	(53.72%)	0.084	0.139	0.074	(12.01%)	0.069	0.044	0.033	(52.97%)
1-<3	0.090	0.059	0.043	(52.74%)	0.083	0.051	0.035	(57.72%)	0.084	0.063	0.045	(47.01%)	0.105	0.185	0.100	(4.86%)	0.088	0.069	0.049	(44.11%)
3-<5	0.143	0.122	0.099	(30.92%)	0.134	0.117	0.085	(36.28%)	0.132	0.121	0.095	(28.40%)	0.154	0.253	0.165	7.13%	0.138	0.136	0.107	(22.91%)
5-<10	0.144	0.178	0.129	(10.58%)	0.135	0.163	0.118	(12.35%)	0.136	0.166	0.128	(5.71%)	0.173	0.317	0.226	30.48%	0.154	0.187	0.152	(1.30%)
10-<20		0.252	0.166			0.248	0.181			0.260	0.180			0.613	0.351			0.327	0.230	
20+		0.220	0.213			0.272	0.199			0.371	0.232			0.848	0.519			0.468	0.366	

**Table A3 :: NBBO Un-weighted Average Spread :: First expansion 22 symbols :: \$**

Option premium	1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
<1	0.072	0.036	0.023	(68.50%)	0.071	0.041	0.025	(64.38%)	0.081	0.072	0.045	(44.63%)	0.142	0.205	0.087	(38.42%)	0.079	0.068	0.042	(47.10%)
1-<3	0.102	0.067	0.043	(58.08%)	0.097	0.067	0.035	(63.58%)	0.108	0.094	0.056	(48.31%)	0.199	0.239	0.109	(45.15%)	0.109	0.094	0.056	(48.76%)
3-<5	0.167	0.123	0.100	(40.11%)	0.158	0.122	0.088	(44.27%)	0.165	0.151	0.107	(35.11%)	0.278	0.314	0.181	(34.90%)	0.172	0.152	0.112	(34.89%)
5-<10	0.194	0.163	0.126	(35.01%)	0.188	0.160	0.112	(40.06%)	0.191	0.187	0.128	(32.90%)	0.321	0.379	0.228	(28.97%)	0.198	0.194	0.143	(28.15%)
10-<20	0.227	0.229	0.172	(24.21%)	0.224	0.226	0.155	(30.73%)	0.234	0.254	0.166	(28.87%)	0.408	0.544	0.310	(23.88%)	0.246	0.289	0.206	(16.21%)
20+		0.335	0.309			0.356	0.267			0.438	0.260			0.853	0.516			0.491	0.379	

**Table A4 :: NBBO Un-weighted Average Spread :: Second expansion 28 symbols :: \$**

Option premium	1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
<1	0.078	0.034	0.021	(73.57%)	0.078	0.037	0.022	(72.32%)	0.096	0.056	0.031	(67.99%)	0.173	0.201	0.063	(63.71%)	0.094	0.082	0.030	(68.56%)
1-<3	0.113	0.060	0.045	(60.25%)	0.105	0.057	0.034	(67.50%)	0.121	0.076	0.043	(64.61%)	0.225	0.258	0.085	(62.38%)	0.125	0.112	0.045	(64.28%)
3-<5	0.184	0.124	0.099	(45.92%)	0.169	0.121	0.087	(48.54%)	0.182	0.139	0.094	(48.33%)	0.314	0.363	0.159	(49.26%)	0.194	0.180	0.101	(47.91%)
5-<10	0.217	0.170	0.125	(42.54%)	0.206	0.167	0.110	(46.46%)	0.213	0.176	0.113	(47.00%)	0.369	0.461	0.206	(44.15%)	0.233	0.239	0.131	(43.69%)
10-<20	0.271	0.261	0.163	(39.80%)	0.270	0.256	0.156	(42.41%)	0.267	0.268	0.144	(45.93%)	0.452	0.589	0.287	(36.48%)	0.303	0.348	0.199	(34.56%)
20+	0.312	0.338	0.214	(31.30%)	0.345	0.346	0.250	(27.50%)		0.457	0.233			0.965	0.450			0.596	0.339	

## NBBO Average Inside Quote Size By expiration date

**Table A5 :: NBBO Average Quote Size :: ALL 63 symbols :: Contracts**

1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
1,680	212	396	(76.4%)	2,073	312	488	(76.5%)	2,025	349	565	(72.1%)	785	208	420	(46.6%)	1,767	313	514	(70.9%)

**Table A6 :: NBBO Average Quote Size :: Original 13 symbols :: Contracts**

1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
4,020	297	544	(86.5%)	4,619	407	641	(86.1%)	4,598	480	744	(83.8%)	2,075	299	548	(73.6%)	4,041	424	683	(83.1%)

**Table A7 :: NBBO Average Quote Size :: First expansion 22 symbols :: Contracts**

1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
1,128	205	358	(68.2%)	1,463	301	456	(68.8%)	1,454	351	527	(63.7%)	501	199	391	(21.9%)	1,323	314	476	(64.0%)

**Table A8 :: NBBO Average Quote Size :: Second expansion 28 symbols :: Contracts**

1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
950	172	354	(62.7%)	1,285	270	437	(66.0%)	1,190	277	505	(57.5%)	364	167	378	3.8%	976	257	459	(52.9%)

NBBO Average Spread and Quote Activity  
 QQQQ  
 By expiration date and premium

Table A9 :: NBBO Un-weighted Average Spread :: QQQQ :: \$

Option premium	1 month to expiration				2 months to expiration				3-9 months to expiration				10+ months to expiration				All months			
	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
<1	0.055	0.018	0.015	(72.31%)	0.055	0.020	0.017	(69.76%)	0.061	0.042	0.033	(46.39%)	0.083	0.138	0.068	(18.26%)	0.062	0.039	0.031	(49.11%)
1-<3	0.074	0.030	0.022	(69.74%)	0.067	0.025	0.021	(68.25%)	0.071	0.057	0.042	(41.57%)	0.097	0.131	0.088	(9.65%)	0.075	0.056	0.043	(42.51%)
3-<5	0.119	0.057	0.037	(68.93%)	0.116	0.044	0.039	(66.38%)	0.117	0.079	0.063	(46.06%)	0.139	0.139	0.105	(24.26%)	0.121	0.081	0.066	(46.00%)
5-<10	0.127	0.148	0.072	(43.70%)	0.119	0.104	0.067	(43.94%)	0.123	0.146	0.118	(4.47%)	0.158	0.205	0.230	45.92%	0.131	0.150	0.129	(1.53%)
10-<20	0.128	0.284	0.134	4.52%	0.121	0.248	0.148	22.15%	0.127	0.355	0.237	86.90%	0.181	0.714	0.590	227.04%	0.142	0.395	0.299	110.79%
20+	0.127	0.478	0.238	87.55%	0.120	0.526	0.276	129.94%	0.131	0.591	0.309	135.91%	0.211	0.886	0.818	287.86%	0.166	0.632	0.443	166.39%

Table A10 :: NBBO Average Quote Size :: QQQQ :: Contracts

(1) Before	1 month to expiration			2 months to expiration			3-9 months to expiration			10+ months to expiration			All months		
	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)	(1) Before	(2) Aug08 Jan09	(3) Feb09 Apr09	Pct Change (1) - (3)
23,157	1,083	1,425	(93.85%)	26,864	1,215	1,436	(94.65%)	23,546	1,550	1,962	(91.67%)	9,992	121	1,427	(85.72%)
												21,337	1,387	1,740	(91.85%)

## NBBO Quoted Spread by Symbol Before and After Penny Pilot

**Table A11a :: NBBO Average Spread :: One Month to Expiration :: \$**

Symbol	Premium < \$1			
	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)
A	0.075	0.045	0.019	(74.4%)
AA	0.080	0.031	0.018	(77.3%)
AAPL	0.059	0.030	0.016	(73.1%)
AIG	0.078	0.037	0.045	(42.2%)
AMD	0.060	0.031	0.034	(42.8%)
AMGN	0.071	0.046	0.019	(72.9%)
AMZN	0.066	0.035	0.020	(69.6%)
BAC	0.065	0.022	0.015	(76.5%)
BMJ	0.073	0.028	0.016	(77.6%)
BSC	0.105			
C	0.069	0.020	0.016	(76.8%)
CAT	0.072	0.032	0.018	(75.0%)
CFC	0.076			
COP	0.067	0.036	0.017	(75.5%)
CSCO	0.060	0.022	0.015	(74.5%)
DELL	0.065	0.020	0.018	(73.1%)
DIA	0.085	0.043	0.028	(66.9%)
DNDN	0.062	0.084	0.068	9.4%
EBAY	0.065	0.022	0.019	(70.8%)
EEM	0.121	0.052	0.020	(83.4%)
EMC	0.064	0.031	0.019	(69.4%)
F	0.065	0.030	0.037	(42.8%)
FCX	0.090	0.037	0.018	(80.5%)
FLEX	0.073	0.039	0.033	(54.3%)
GE	0.062	0.023	0.016	(75.0%)
GM	0.071	0.031	0.026	(62.9%)
GS	0.106	0.072	0.035	(66.9%)
HAL	0.078	0.029	0.017	(78.2%)
HD	0.071	0.024	0.018	(74.6%)
INTC	0.058	0.019	0.016	(72.4%)
IWM	0.068	0.029	0.020	(70.1%)
JPM	0.077	0.029	0.017	(78.3%)
LEH	0.084	0.031		
MER	0.083	0.052		
MNX		0.076		
MO	0.065	0.031	0.021	(67.5%)
MOT	0.067	0.029	0.024	(63.3%)
MSFT	0.060	0.017	0.014	(76.7%)
NEM	0.080	0.033	0.018	(77.2%)
NYX	0.088	0.037	0.023	(73.5%)
OIH	0.076	0.069	0.040	(47.5%)
PFE	0.064	0.023	0.016	(74.6%)
QCOM	0.069	0.032	0.015	(78.0%)
QQQQ	0.055	0.018	0.015	(72.3%)
RIMM	0.073	0.030	0.016	(77.8%)
RIO	0.083	0.028	0.015	(81.4%)
SBUX	0.068	0.026	0.020	(71.2%)
SMH	0.067	0.032	0.019	(71.6%)
SNDK	0.073	0.050	0.025	(66.1%)
SPY	0.076	0.034	0.024	(69.0%)
SUNW	0.074	0.029		
T	0.066	0.028	0.016	(75.5%)
TGT	0.079	0.029	0.017	(79.1%)
TXN	0.064	0.026	0.019	(70.4%)
VLO	0.077	0.027	0.015	(80.9%)
VZ	0.074	0.029	0.017	(77.7%)
WFMI	0.073	0.052	0.025	(65.8%)
WM	0.074	0.029		
WMT	0.071	0.026	0.015	(79.1%)
XLE	0.080	0.046	0.025	(68.8%)
XLF	0.083	0.021	0.017	(79.1%)
XOM	0.072	0.034	0.016	(77.8%)
YHOO	0.061	0.027	0.015	(74.9%)
Un-weighted Average	0.073	0.033	0.021	(70.8%)
Weighted Average	0.072	0.030	0.019	(73.1%)
Minimum	0.055	0.017	0.014	(83.4%)
Maximum	0.121	0.084	0.068	9.4%

**Table A11b :: NBBO Average Spread :: One Month to Expiration :: \$**

Symbol	Premium < \$1			
	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)
EEM	0.121	0.052	0.020	(83.4%)
RIO	0.083	0.028	0.015	(81.4%)
VLO	0.077	0.027	0.015	(80.9%)
FCX	0.090	0.037	0.018	(80.5%)
XLF	0.083	0.021	0.017	(79.1%)
WMT	0.071	0.026	0.015	(79.1%)
TGT	0.079	0.029	0.017	(79.1%)
JPM	0.077	0.029	0.017	(78.3%)
HAL	0.078	0.029	0.017	(78.2%)
QCOM	0.069	0.032	0.015	(78.0%)
RIMM	0.073	0.030	0.016	(77.8%)
XOM	0.072	0.034	0.016	(77.8%)
VZ	0.074	0.029	0.017	(77.7%)
BMJ	0.073	0.028	0.016	(77.6%)
AA	0.080	0.031	0.018	(77.3%)
NEM	0.080	0.033	0.018	(77.2%)
C	0.069	0.020	0.016	(76.8%)
MSFT	0.060	0.017	0.014	(76.7%)
BAC	0.065	0.022	0.015	(76.5%)
T	0.066	0.028	0.016	(75.5%)
COP	0.067	0.036	0.017	(75.5%)
GE	0.062	0.023	0.016	(75.0%)
CAT	0.072	0.032	0.018	(75.0%)
YHOO	0.061	0.027	0.015	(74.9%)
PFE	0.064	0.023	0.016	(74.6%)
HD	0.071	0.024	0.018	(74.6%)
CSCO	0.060	0.022	0.015	(74.5%)
A	0.075	0.045	0.019	(74.4%)
NYX	0.088	0.037	0.023	(73.5%)
DELL	0.065	0.020	0.018	(73.1%)
AAPL	0.059	0.030	0.016	(73.1%)
AMGN	0.071	0.046	0.019	(72.9%)
INTC	0.058	0.019	0.016	(72.4%)
QQQQ	0.055	0.018	0.015	(72.3%)
SMH	0.067	0.032	0.019	(71.6%)
SBUX	0.068	0.026	0.020	(71.2%)
EBAY	0.065	0.022	0.019	(70.8%)
TXN	0.064	0.026	0.019	(70.4%)
IWM	0.068	0.029	0.020	(70.1%)
AMZN	0.066	0.035	0.020	(69.6%)
EMC	0.064	0.031	0.019	(69.4%)
SPY	0.076	0.034	0.024	(69.0%)
XLE	0.080	0.046	0.025	(68.8%)
MO	0.065	0.031	0.021	(67.5%)
GS	0.106	0.072	0.035	(66.9%)
DIA	0.085	0.043	0.028	(66.9%)
SNDK	0.073	0.050	0.025	(66.1%)
WFMI	0.073	0.052	0.025	(65.8%)
MOT	0.067	0.029	0.024	(63.3%)
GM	0.071	0.031	0.026	(62.9%)
FLEX	0.073	0.039	0.033	(54.3%)
OIH	0.076	0.069	0.040	(47.5%)
F	0.065	0.030	0.037	(42.8%)
AMD	0.060	0.031	0.034	(42.8%)
AIG	0.078	0.037	0.045	(42.2%)
DNDN	0.062	0.084	0.068	9.4%
BSC	0.105			
CFC	0.076			
LEH	0.084	0.031		
MER	0.083	0.052		
MNX		0.076		
SUNW	0.074	0.029		
WM	0.074	0.029		
Un-weighted Average	0.073	0.033	0.021	(70.8%)
Weighted Average	0.072	0.030	0.019	(73.1%)
Minimum	0.055	0.017	0.014	(83.4%)
Maximum	0.121	0.084	0.068	9.4%



## PHLX Average Outbound Quote Traffic

**Table A12a :: Average Daily Outbound PHLX Quotes :: Thousands**

Symbol	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)
A	95.5	462.0	371.9	289.3%
AA	366.6	726.6	499.9	36.4%
AAPL	3,015.1	8,654.6	6,776.1	124.7%
AIG	798.4	765.1	62.3	(92.2%)
AMD	374.2	163.5	128.1	(65.8%)
AMGN	164.7	1,639.2	1,522.0	823.8%
AMZN	604.4	3,277.5	4,577.6	657.4%
BAC	573.1	3,178.0	2,403.4	319.4%
BMJ	80.8	635.4	644.9	698.0%
C	234.7	1,500.5	465.6	98.4%
CAT	508.2	2,741.2	3,872.0	661.9%
COP	418.5	3,082.6	2,414.2	476.9%
CSCO	99.4	1,375.1	1,251.2	1158.2%
DELL	338.8	981.7	665.9	96.6%
DIA	2,300.8	14,471.2	11,560.1	402.4%
DNDN	25.7	113.0	345.9	1244.4%
EBAY	354.5	914.8	1,048.6	195.8%
EEM	722.3	2,183.2	1,593.2	120.6%
EMC	275.0	633.0	675.7	145.7%
F	66.5	112.5	114.6	72.4%
FCX	894.2	2,911.8	3,341.6	273.7%
FLEX	65.0	72.7	39.7	(38.8%)
GE	226.5	1,608.4	1,474.7	551.2%
GM	367.8	480.4	97.9	(73.4%)
GS	5,124.0	6,858.7	9,338.5	82.2%
HAL	607.8	1,473.9	1,459.4	140.1%
HD	328.4	1,462.6	1,457.7	343.9%
INTC	321.3	1,084.7	1,212.0	277.2%
IWM	1,502.5	10,072.1	8,151.2	442.5%
JPM	807.1	4,557.9	6,769.5	738.7%
LEH	957.5	1,871.5		
MER	992.8	1,831.0		
MINX		3,703.4		
MO	147.9	613.2	521.9	252.9%
MOT	33.3	202.0	166.8	401.8%
MSFT	446.4	1,916.1	1,382.5	209.7%
NEM	1,290.8	2,311.6	3,190.1	147.1%
NYX	211.8	1,157.4	1,143.7	440.0%
OIH	847.7	5,803.6	6,211.5	632.8%
PFE	121.8	680.4	718.2	489.6%
QCOM	222.3	2,098.6	2,086.0	838.3%
QQQQ	1,247.2	10,290.2	7,880.3	531.8%
RIMM	2,238.4	6,791.1	3,529.1	57.7%
RIO	752.3	1,498.6	1,486.1	97.5%
SBUX	195.0	644.6	739.6	279.4%
SMH	322.8	1,095.1	1,103.2	241.8%
SNDK	600.2	586.5	877.8	46.2%
SPY	3,284.3	22,411.8	17,052.7	419.2%
SUNW	111.7	207.3		
T	112.4	1,732.4	1,655.3	1373.0%
TGT	752.7	2,150.8	2,885.4	283.3%
TXN	326.5	601.0	732.0	124.2%
VLO	1,241.4	2,416.5	2,419.5	94.9%
VZ	425.1	1,125.3	1,039.0	144.4%
WFMI	411.8	583.9	780.0	89.4%
WMT	524.2	279.2		
WMT	518.7	2,410.7	2,166.3	317.6%
XLE	890.2	14,985.3	9,672.6	986.5%
XLF	89.9	2,136.1	1,865.3	1975.9%
XOM	961.8	3,241.9	2,665.1	177.1%
YHOO	111.7	616.6	899.3	704.8%
All	42,052.3	176,187.8	149,205.1	254.8%
Minimum	25.7	72.7	39.7	54.5%
Maximum	5,124.0	22,411.8	17,052.7	232.8%

**Table A12b :: Average Daily Outbound PHLX Quotes :: Thousands**

Symbol	(1) Before	(2) Aug08 - Jan09	(3) Feb09 - Apr09	Pct Change (1) - (3)
XLF	89.9	2,136.1	1,865.3	1975.9%
T	112.4	1,732.4	1,655.3	1373.0%
DNDN	25.7	113.0	345.9	1244.4%
CSCO	99.4	1,375.1	1,251.2	1158.2%
XLE	890.2	14,985.3	9,672.6	986.5%
QCOM	222.3	2,098.6	2,086.0	838.3%
AMGN	164.7	1,639.2	1,522.0	823.8%
JPM	807.1	4,557.9	6,769.5	738.7%
YHOO	111.7	616.6	899.3	704.8%
BMJ	80.8	635.4	644.9	698.0%
CAT	508.2	2,741.2	3,872.0	661.9%
AMZN	604.4	3,277.5	4,577.6	657.4%
OIH	847.7	5,803.6	6,211.5	632.8%
GE	226.5	1,608.4	1,474.7	551.2%
QQQQ	1,247.2	10,290.2	7,880.3	531.8%
PFE	121.8	680.4	718.2	489.6%
COP	418.5	3,082.6	2,414.2	476.9%
IWM	1,502.5	10,072.1	8,151.2	442.5%
NYX	211.8	1,157.4	1,143.7	440.0%
SPY	3,284.3	22,411.8	17,052.7	419.2%
DIA	2,300.8	14,471.2	11,560.1	402.4%
MOT	33.3	202.0	166.8	401.8%
HD	328.4	1,462.6	1,457.7	343.9%
BAC	573.1	3,178.0	2,403.4	319.4%
WMT	518.7	2,410.7	2,166.3	317.6%
A	95.5	462.0	371.9	289.3%
TGT	752.7	2,150.8	2,885.4	283.3%
SBUX	195.0	644.6	739.6	279.4%
INTC	321.3	1,084.7	1,212.0	277.2%
FCX	894.2	2,911.8	3,341.6	273.7%
MO	147.9	613.2	521.9	252.9%
SMH	322.8	1,095.1	1,103.2	241.8%
MSFT	446.4	1,916.1	1,382.5	209.7%
EBAY	354.5	914.8	1,048.6	195.8%
XOM	961.8	3,241.9	2,665.1	177.1%
NEM	1,290.8	2,311.6	3,190.1	147.1%
EMC	275.0	633.0	675.7	145.7%
VZ	425.1	1,125.3	1,039.0	144.4%
HAL	607.8	1,473.9	1,459.4	140.1%
AAPL	3,015.1	8,654.6	6,776.1	124.7%
TXN	326.5	601.0	732.0	124.2%
EEM	722.3	2,183.2	1,593.2	120.6%
C	234.7	1,500.5	465.6	98.4%
RIO	752.3	1,498.6	1,486.1	97.5%
DELL	338.8	981.7	665.9	96.6%
VLO	1,241.4	2,416.5	2,419.5	94.9%
WFMI	411.8	583.9	780.0	89.4%
GS	5,124.0	6,858.7	9,338.5	82.2%
F	66.5	112.5	114.6	72.4%
RIMM	2,238.4	6,791.1	3,529.1	57.7%
SNDK	600.2	586.5	877.8	46.2%
AA	366.6	726.6	499.9	36.4%
FLEX	65.0	72.7	39.7	(38.8%)
AMD	374.2	163.5	128.1	(65.8%)
GM	367.8	480.4	97.9	(73.4%)
AIG	798.4	765.1	62.3	(92.2%)
LEH	957.5	1,871.5		
MER	992.8	1,831.0		
MINX		3,703.4		
SUNW	111.7	207.3		
WM	524.2	279.2		
All	42,052.3	176,187.8	149,205.1	254.8%
Minimum	25.7	72.7	39.7	54.5%
Maximum	5,124.0	22,411.8	17,052.7	232.8%