

<Online Appendix Tables>

Table A1

Short selling around stock recommendation changes

Table A1 compares trading volume and informational efficiency around analysts' stock recommendation changes. $Recid_{ijt}$ is the numeric value of the stock recommendations, where strong buy =1, buy =2, hold =3, underperform =3, and sell =4. A negative recommendation change, *Downgrade*, equals one if the stock recommendation $Recid_{ijt}$ is smaller than $Recid_{ijt-1}$, and zero otherwise. Similarly, a positive recommendation change, *Upgrade*, equals one if the stock recommendation $Recid_{ijt}$ is greater than $Recid_{ijt-1}$, and zero otherwise. To have a sample consistent with that of the earnings forecast analysis, I include only stock recommendations issued by analysts who also issue earnings forecasts. I also limit stock recommendations to those that are announced closest to July of year k , since recommendations are even more highly serially correlated than earnings forecasts. I can also examine the impact of recommendations in a common timeframe (Hong and Kubik, 2003). In Panel A, the dependent variable is *PVOL*, which is the 5-day cumulative trading volume [-5, -1] prior to analyst i 's stock recommendation change for firm j in year k . In Panel B, the dependent variable is *PCAR*, which is the 5-day cumulative abnormal return [-5, -1] prior to analyst i 's stock recommendation change for firm j in year k . All other variables follow from the previous tables. HAC standard errors are clustered by firm-analyst and reported in parentheses. ***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

Panel A: Trading volume

Dependent Variable	<i>PVOL</i>			
	<u>Downgrade</u>		<u>Upgrade</u>	
Type of Recommendation	<i>Pre-Reg SHO</i>	<i>During Reg SHO</i>	<i>Pre-Reg SHO</i>	<i>During Reg SHO</i>
	(1)	(2)	(3)	(4)
<i>PILOT</i>	-0.005 (0.015)	0.043** (0.021)	-0.008 (0.017)	-0.007 (0.024)
<i>Exp Trade</i>	0.692*** (0.010)	0.691*** (0.014)	0.708*** (0.010)	0.705*** (0.016)
<i>Spread</i>	0.078 (0.074)	0.072 (0.195)	0.149* (0.082)	-0.150 (0.121)
<i>Experience</i>	-0.009 (0.009)	-0.030** (0.014)	-0.014 (0.010)	-0.007 (0.015)
<i>All Star</i>	-0.046** (0.020)	-0.027 (0.040)	-0.003 (0.025)	-0.112** (0.044)
<i>Coverage</i>	0.015 (0.017)	-0.019 (0.025)	0.029 (0.018)	-0.007 (0.028)
<i>Brokerage Size</i>	-0.000 (0.000)	0.001** (0.000)	-0.000 (0.000)	0.001** (0.000)
<i>Size</i>	0.100*** (0.008)	0.107*** (0.011)	0.081*** (0.009)	0.093*** (0.013)
<i>Market/Book</i>	-0.010** (0.005)	-0.021** (0.009)	-0.002 (0.007)	-0.011 (0.010)
<i>Cashflow Volatility</i>	0.330*** (0.068)	0.499*** (0.099)	0.304*** (0.086)	0.341*** (0.105)

<i>Institutional Holdings</i>	0.063 (0.040)	0.203*** (0.062)	0.024 (0.045)	0.238*** (0.063)
<i>Constant</i>	5.018*** (0.099)	4.977*** (0.174)	4.938*** (0.114)	4.832*** (0.179)
N	3406	2117	3968	2303
R-sq	0.855	0.859	0.861	0.834

Panel B: Price sensitivity

Dependent Variable	<i>PVOL</i>			
	<u>Downgrade</u>		<u>Upgrade</u>	
Type of Recommendation	<i>Pre-Reg SHO</i>	<i>During Reg SHO</i>	<i>Pre-Reg SHO</i>	<i>During Reg SHO</i>
	(1)	(2)	(3)	(4)
<i>PILOT</i>	0.257 (0.259)	0.844** (0.356)	-0.051 (0.243)	-0.271 (0.325)
<i>Experience</i>	0.083 (0.156)	-0.201 (0.215)	-0.200 (0.144)	0.183 (0.193)
<i>All Star</i>	0.430 (0.434)	0.394 (0.631)	0.574 (0.421)	-0.855 (0.585)
<i>Coverage</i>	0.018 (0.276)	0.206 (0.383)	0.151 (0.249)	-0.030 (0.373)
<i>Brokerage Size</i>	-0.001 (0.002)	0.002 (0.004)	0.002 (0.003)	0.001 (0.004)
<i>Size</i>	-1.369** (0.581)	-0.391 (0.750)	0.186 (0.557)	0.448 (0.729)
<i>Market/Book</i>	-0.215*** (0.080)	-0.186 (0.122)	0.034 (0.077)	0.142 (0.109)
<i>Cashflow Volatility</i>	-0.218** (0.096)	0.000 (0.170)	-0.245** (0.103)	-0.117 (0.130)
<i>Institutional Holdings</i>	0.316 (1.100)	-1.842 (1.957)	0.744 (1.187)	-2.039 (1.859)
<i>Constant</i>	2.805** (1.101)	2.441 (1.543)	-0.371 (1.066)	-1.603 (1.533)
N	3406	2117	3968	2303
R-sq	0.016	0.015	0.009	0.012

Table A2

Short selling and informational efficiency around earnings announcements

Table A2 reports the results of the multivariate tests that show how Reg SHO affected trading activity and informational efficiency of pilot stocks during firm earnings announcement periods. In Panel A, the dependent variable is *PVOL*, which is the 5-day cumulative trading volume [-5, -1] prior to the earnings announcement of firm *j* in quarter *q*. In Panel B, the dependent variable is *PCAR*, which is the 5-day cumulative abnormal return [-5, -1] prior to the earnings announcement of firm *j* in quarter *q*. Earnings surprise, *Surp*, is the difference between analyst *i*'s forecast for firm *j* in quarter *q* and actual earnings for the same firm-quarter, scaled by prior fiscal year ending price. *PILOT* is an indicator variable that equals one if the stock was selected into the pilot program by the SEC, and zero otherwise. All other variables follow from the previous tables. HAC standard errors are clustered by firm and reported in parentheses. ***, **, and * denote significance levels of 1%, 5%, and 10%, respectively.

Panel A: Trading volume

Dependent Variable	<i>PVOL</i>			
	Negative		Positive	
	<i>Pre-Reg SHO</i>	<i>During Reg SHO</i>	<i>Pre-Reg SHO</i>	<i>During Reg SHO</i>
Type of Earnings News	(1)	(2)	(3)	(4)
<i>PILOT</i>	0.004 (0.006)	0.025*** (0.003)	-0.002 (0.004)	0.012*** (0.002)
<i>SURP</i>	-35.689*** (4.113)	-16.300* (9.313)	21.743*** (3.510)	16.282*** (2.594)
<i>Exp. Trade</i>	0.869*** (0.004)	0.886*** (0.003)	0.895*** (0.003)	0.898*** (0.002)
<i>Spread</i>	-0.210*** (0.031)	-0.237*** (0.018)	-0.178*** (0.045)	-0.124** (0.048)
<i>Size</i>	0.254*** (0.020)	0.192*** (0.012)	0.213*** (0.015)	0.241*** (0.011)
<i>Market/Book</i>	0.104*** (0.005)	0.086*** (0.001)	0.072*** (0.008)	0.067*** (0.005)
<i>Cashflow Volatility</i>	0.001 (0.009)	-0.001 (0.002)	0.012*** (0.003)	0.003*** (0.001)
<i>Institutional Holdings</i>	0.378*** (0.057)	0.423*** (0.055)	0.252*** (0.042)	0.251*** (0.018)
<i>Constant</i>	2.288*** (0.011)	2.251*** (0.050)	2.222*** (0.063)	2.222*** (0.026)
N	5052	3973	10168	8598
R-sq	0.924	0.928	0.928	0.931

Panel B: Price sensitivity

Dependent Variable	<u>PCAR</u>			
Type of Earnings News	<u>Negative</u>		<u>Positive</u>	
	<i>Pre-Reg SHO</i>	<i>During Reg SHO</i>	<i>Pre-Reg SHO</i>	<i>During Reg SHO</i>
	(1)	(2)	(3)	(4)
<i>SURP*PILOT</i>	-0.868	1.396**	-0.382	-1.072**
	(1.906)	(0.685)	(0.696)	(0.505)
<i>PILOT</i>	0.000	0.001	0.001*	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)
<i>SURP</i>	3.456**	0.225	1.045***	1.171***
	(1.361)	(0.628)	(0.243)	(0.236)
<i>Size</i>	0.000	0.000	-0.001	0.000
	(0.001)	(0.001)	(0.000)	(0.000)
<i>Market/Book</i>	-0.002***	-0.000	0.000	0.001***
	(0.001)	(0.000)	(0.000)	(0.000)
<i>Cashflow Volatility</i>	0.000	0.001**	0.002	-0.003
	(0.007)	(0.001)	(0.004)	(0.003)
<i>Institutional Holdings</i>	-0.000	0.001	-0.003	-0.001
	(0.003)	(0.005)	(0.002)	(0.002)
<i>Constant</i>	0.002	-0.002	0.005***	-0.000
	(0.004)	(0.008)	(0.002)	(0.004)
N	4947	3912	9962	8415
R-sq	0.004	0.001	0.002	0.001