Price Limit

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Do Stocks in the Tehran market that hit upper price limits typically exhibit high returns and volumes ?

1 Return

1.1 Depended Variables

Close to Open return is calculated using the closing price at the event day and the open price on the next day.

Open to Close return is calculated using the open price and closing price on the next day.

Forward return is day 1,2, 3, 4, 5 and so on returns from the event day.

1.2 Control Variables

Upper hit and **Lower hit** are dummy variables that indicates upper and lower limit touched at time t.

Upper and **Lower** are dummy variables that indicates maximum or minimum trading price is above and lower than half of daily limit.

Middle is dummy variable that indicates maximum and minimum trading price is lower than half of daily limit.

Limit Change is dummy variable that indicated changing in price limit at time t.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	closetoopen	opentoclose	ret_1	ret_2	ret_2to5	ret_4to50	ret_50to100	ret_100to300
upperhit	2.193***	-1.349***	7.881***	7.136***	9.782***	44.74***	18.30*	5717.6***
	(8.93)	(-20.92)	(11.33)	(9.49)	(11.01)	(10.33)	(2.24)	(4.55)
upper	-0.669**	-0.908***	6.851***	3.434***	6.190***	13.51***	-2.997	1834.5
	(-3.13)	(-17.62)	(10.04)	(5.54)	(12.35)	(4.32)	(-0.45)	(1.46)
middle	-7.938***	-0.458***	6.874***	4.080*	6.602***	230.3*	984.0***	-0.109
	(-13.64)	(-8.11)	(3.82)	(2.28)	(10.28)	(2.50)	(4.28)	(-0.00)
lower	-2.092***	-0.143***	2.468***	0.767	8.004***	20.01***	-2.700	2628.4**
	(-12.75)	(-3.77)	(4.54)	(1.24)	(10.52)	(5.42)	(-0.39)	(3.09)
lowerhit	-3.868***	0.720***	0.950	-3.835***	7.336***	28.87***	-3.442	8961.1***
	(-13.23)	(8.47)	(1.16)	(-4.92)	(12.03)	(5.12)	(-0.24)	(6.28)
limitchange	-0.652	-0.0403	10.79	18.53**	0.547	7.320	-46.82*	14490.4***
	(-1.65)	(-0.76)	(1.61)	(2.60)	(0.28)	(0.68)	(-2.09)	(4.94)
marketratio	205.1***	6.408***	-36.69	-9.466	122.6**	-5102.1*	-23637.5***	-167099.5***
	(13.35)	(3.33)	(-0.63)	(-0.15)	(2.79)	(-2.20)	(-4.17)	(-7.09)
_cons	-1.747***	0.478***	-4.753***	-2.136***	-6.876***	13.11	86.97***	-2662.1*
	(-6.47)	(7.32)	(-9.34)	(-3.97)	(-9.80)	(1.59)	(4.43)	(-2.05)
N	148060	141284	148102	147837	146865	134000	129240	96970

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1: OLS regression, Clustered by calendar date

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	closetoopen	opentoclose	ret_1	ret_2	ret_2to5	ret_4to50	ret_50to100	ret_100to300
upperhit	2.193***	-1.349***	7.881***	7.136***	9.782***	44.74***	18.30	5717.6
	(3.77)	(-31.81)	(4.12)	(9.70)	(4.50)	(4.25)	(0.73)	(1.03)
upper	-0.669	-0.908***	6.851**	3.434***	6.190*	13.51*	-2.997	1834.5
	(-0.59)	(-25.21)	(2.68)	(4.98)	(2.55)	(2.49)	(-0.16)	(1.02)
middle	-7.938***	-0.458***	6.874*	4.080*	6.602**	230.3	984.0	-0.109
	(-6.51)	(-10.52)	(2.51)	(2.21)	(3.06)	(1.06)	(1.01)	(-0.00)
lower	-2.092*	-0.143***	2.468	0.767	8.004***	20.01*	-2.700	2628.4
	(-2.46)	(-5.24)	(1.42)	(0.96)	(4.06)	(2.33)	(-0.13)	(1.02)
lowerhit	-3.868***	0.720***	0.950	-3.835***	7.336**	28.87*	-3.442	8961.1
	(-4.84)	(23.60)	(0.37)	(-4.97)	(3.00)	(2.35)	(-0.07)	(1.02)
limitchange	-0.652	-0.0403	10.79	18.53*	0.547	7.320	-46.82	14490.4
	(-1.24)	(-1.37)	(1.61)	(2.48)	(0.32)	(0.31)	(-0.55)	(1.00)
marketratio	205.1***	6.408*	-36.69	-9.466	122.6	-5102.1	-23637.5	-167099.5
	(4.92)	(2.37)	(-0.59)	(-0.14)	(1.49)	(-0.92)	(-0.97)	(-0.98)
_cons	-1.747*	0.478***	-4.753*	-2.136**	-6.876**	13.11	86.97	-2662.1
	(-2.38)	(12.26)	(-2.25)	(-3.18)	(-3.11)	(0.71)	(1.13)	(-0.96)
N	148060	141284	148102	147837	146865	134000	129240	96970

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: OLS regression, Clustered by calendar Stocks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	closetoopen	opentoclose	ret_1	ret_2	ret_2to5	ret_4to50	ret_50to100	ret_100to300
upperhit	5.206***	-1.323***	4.997**	5.362***	6.267***	-57.87	-347.4	727.8
	(16.72)	(-31.40)	(2.69)	(3.69)	(4.82)	(-0.66)	(-0.93)	(1.18)
upper	2.171***	-0.876***	3.401**	2.756***	2.968**	-21.51	-131.8	228.7
	(9.78)	(-24.82)	(3.02)	(3.59)	(3.13)	(-0.63)	(-0.91)	(1.17)
middle	-3.397***	-0.411***	3.781*	3.285*	3.377***	162.9	724.9	-8066.2
	(-5.78)	(-10.48)	(2.33)	(2.36)	(3.37)	(1.04)	(1.01)	(-1.00)
lower	0.838***	-0.125***	-0.657	-0.444	4.363***	-30.64	-167.0	600.5
	(4.35)	(-4.72)	(-0.83)	(-0.62)	(6.23)	(-0.74)	(-0.94)	(1.09)
lowerhit	0.0743	0.725***	-2.407	-5.384***	4.236**	-71.54	-386.1	3936.1
	(0.24)	(22.84)	(-1.15)	(-3.43)	(3.03)	(-0.74)	(-0.94)	(1.04)
limitchange	1.585***	-0.0147	8.246	15.93**	-2.882	-146.2	-634.6	4006.0
	(5.68)	(-0.48)	(1.48)	(2.63)	(-1.70)	(-0.96)	(-0.97)	(1.00)
marketratio	68.36	-2.600	28.75	66.11	503.3	-3292.9	-13425.6	102642.4
	(1.48)	(-0.30)	(0.20)	(0.41)	(1.09)	(-0.70)	(-0.72)	(1.17)
_cons	-5.885***	0.463***	-0.697	-0.536	-3.067	111.5	440.7	2902.8**
	(-23.72)	(12.22)	(-0.53)	(-0.67)	(-1.92)	(1.88)	(1.74)	(2.91)
N	148060	141284	148102	147837	146865	134000	129240	96970

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Fixed Effect regression on stocks

2 Volume

2.1 Depended Variables

Turn$_{k,t}$ Stock k's turnover on date t is defined as the amount traded in Rial divided by the market capitalization of the free float.

$$\text{Turn}_{k,t} = \frac{\text{Volume(Rial)}_{k,t}}{\text{MarketCap(FreeFloat)}_{k,t}} \tag{1}$$

Relative turnover is defined as the ratio of the turnover of stock k on date t to the average turnover of stock k during our sample period.

$$\text{RelTurn}_{k,t} = \frac{\text{Turn}_{k,t}}{AVG(\text{Turn}_{k,t})} \tag{2}$$

	(1)	(2)	(3)
	lnvolume	turn	relturn
upperhit	1.228***	0.0209***	1.024***
	(18.88)	(3.42)	(29.26)
upper	0.547***	0.00707**	0.357***
	(10.65)	(2.90)	(14.48)
middle	-0.832***	-0.000354	-0.209***
	(-13.63)	(-0.07)	(-6.98)
lower	-0.565***	0.00190	-0.197***
	(-14.53)	(0.29)	(-8.63)
lowerhit	0.0944	0.00632**	0.407***
	(1.31)	(3.09)	(9.68)
limitchange	-0.0481	0.0326	0.0964*
	(-0.54)	(1.06)	(2.21)
marketratio	96.71***	-0.569***	9.106***
	(55.55)	(-10.71)	(3.77)
_cons	13.33***	0.00723	0.611***
	(170.42)	(1.24)	(17.85)
N	148354	148355	148355

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: OLS regression, Clustered by calendar date

	(1)	(2)	(3)
	lnvolume	turn	relturn
upperhit	1.499***	0.0162***	1.095***
	(34.00)	(14.51)	(37.76)
upper	0.730***	0.00588***	0.385***
	(24.37)	(6.61)	(19.86)
middle	-0.493***	-0.000592	-0.210***
	(-15.53)	(-0.23)	(-7.51)
lower	-0.147***	-0.000821	-0.163***
	(-6.90)	(-0.34)	(-7.50)
lowerhit	0.606***	0.00196	0.485***
	(15.50)	(0.59)	(14.05)
limitchange	-0.137***	0.0361	0.115**
	(-4.50)	(1.05)	(3.20)
marketratio	-68.97***	-0.00956	-46.96*
	(-3.74)	(-0.04)	(-2.03)
_cons	13.20***	0.00955***	0.658***
	(281.68)	(3.34)	(14.79)
N	148354	148355	148355

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Fixed Effect regression on stocks