

# Online Appendix for “Government Stock Purchase Undermines Price Informativeness: Evidence from China’s ‘National Team’”

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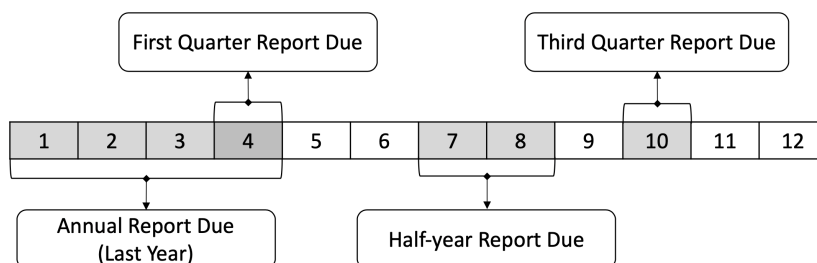
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# A Additional Variable Construction Details, Figures, and Tables

## A.1 Variable Construction

### A.1.1 Disclosure Rules of the Periodic Statements

We update DNT following the releases of quarterly reports. The disclosure rules of the periodic reports in China are presented in Figure A1.



*This figure shows the deadlines for the issuance of quarterly and annual reports in China. Each cell stands for a month. The shaded areas are the releasing periods and the rest are the intervals in between. Annual reports should be released within the first 4 months of the following year, and before the release of the next Q1 report; Half-year reports are required to come out within two months after the first half year ends; Quarterly reports should be released one month after the quarter ends*

**Figure A1:** Disclosure Deadlines for the Periodic Reports

### A.1.2 PIN

Proposed by Easley et al. (1996), PIN measure uses intraday high-frequency data and infers the probability of informed trading of a specific stock from the imbalances of the buy/sell order flows. We obtain 2014.7 - 2016.6 transaction-level data for the Chinese stock markets from Jinshuyuan database.<sup>1</sup> Using the InfoTrad package in R and applying the Lin and Ke (2011) method to correct for the floating point exception (FPE) problem, we

1. <http://www.jinshuyuan.net/>. Jinshuyuan obtains intraday data through API offered by the stock exchanges. We double check the reliability of the intraday data by summing up to obtain daily trading volume (total shares) and compare with the daily trading volume data from the CSMAR dataset.

calculate the PIN measure for each stock in each month (again monthly rolling with a window of one quarter). There are two caveats worth mentioning:

1. The estimation of the PIN measure relies on the daily buy and sell order numbers, which may be distorted by the price limit mechanism in the Chinese stock markets. Once hitting limits, the direction of orders could be mechanically reversed. To see this, suppose the price of stock A hits the upper limit. Then, all buy orders at the upper limit (orders with price above the upper limit are invalid) will be kept in the order book until a valid sell order arrives. The trade initiated then is recorded as a “Sell”. Nevertheless, without the price-limit mechanism, the trade could be a “Buy”. In this sense, the price limits mechanism may cause some distortion on the distribution of “Buy” and “Sell” orders. Furthermore, trading halts once hitting price limits until an order of the other direction arrives. This also changes the total number of orders. To avoid the associated impacts, we exclude all trades that occur at the limit prices.
2. The trading of the National Team might mechanically bias the PIN measure. The orders submitted by the National Team were also recorded in the intra-day trading data and would change the distributions of buy and sell orders. During the crisis period, the order books of many stocks might have depleted all buy orders and only sell orders remained. The National Team submitted buy orders for the intervened stocks. This made the order distribution of the intervened stocks more balanced. Balanced order flows indicate lower probability of informed trading. But the more balanced order flow here is driven by government intervention, instead of changes in informed trading. Thus, we should be careful while interpreting the results concerning the trading effect of government intervention.

### A.1.3 $\lambda$

Inventory cost, asymmetric information, and order processing cost are three major sources of illiquidity. Previous researches estimate the relative importance of the various

costs by running “price impact regressions”. We use the asymmetric-information-driven component as a proxy for information asymmetry. Based on Huang and Stoll (1997), Lin et al. (1995) modified the model to better align with real data. We will briefly introduce the model below. Please refer to Lin et al. (1995) for more details.

Let  $A_t$  and  $B_t$  be the ask and bid price at time  $t$  and  $M_t = \frac{A_t+B_t}{2}$  be the mid price.  $z_t$ , defined as  $P_t - M_t$ , is the effective half-spread. Upon finishing transaction at time  $t$ , the quotes may be affected by the newly disclosed information. Suppose the quotes at  $t + 1$  become  $B_{t+1} = B_t + \lambda z_t$  and  $A_{t+1} = A_t + \lambda z_t$ , where  $\lambda \in [0, 1]$  represents the part of effective spread due to asymmetric information.  $\lambda$  is our major focus and could be estimated from the equation below:

$$\Delta M_{t+1} = M_{t+1} - M_t = \lambda z_t + e_{t+1}$$

where  $e_{t+1}$  is the error term. We estimate the daily  $\lambda$  for each stock using the intra-day transaction-level data, then compute the monthly average.

## A.2 Additional Figures

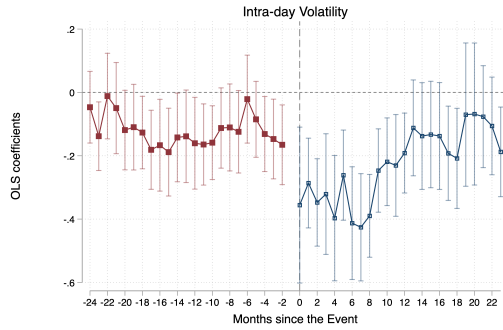
**Figure A1:** Cumulative Stock Market Index Returns (2012-2018)

This figure depicts the cumulative returns of the Shanghai Stock Exchange (SSE) 50 index (the solid gray line) and CSI300 index (the dashed black line) from 2012 to 2018. We set the first trading day in 2012 (January 4, 2012) as the computation base and then compute the cumulative returns of the indices relative to the index level on January 4, 2012.

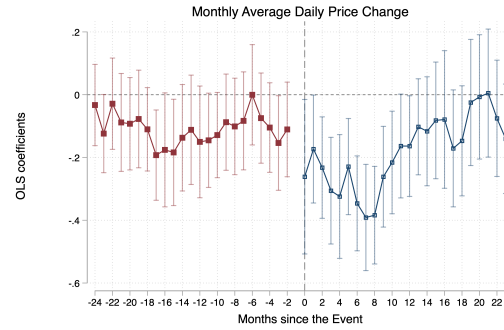


**Figure A2:** Parallel Trend Tests for Model (1)

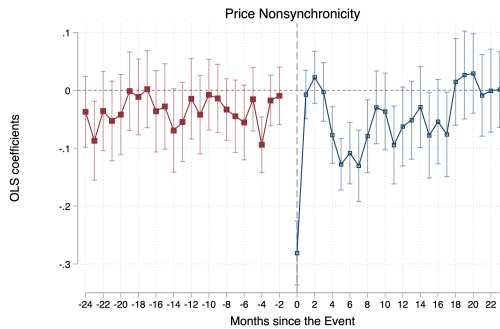
This figure depicts the parallel trend tests for model (1) on volatility (a and b) and price informativeness (c and d). In panels (a) and (c), we use the whole sample while in panels (b) and (d), we use the PSM sample instead. We adopt the parallel trend test for dynamic DID. For each intervened stock, we mark the month when it shows up in the National Team portfolio for the first time as the event month and define pre- and post-event periods accordingly. The month right before the event month is set as the base period and we then perform regression analyses to obtain the estimated coefficients (the dots in the figures below) for each period. Control variables are the monthly return (MRET), lagged monthly return (LMRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), percentages of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHUD). In the price informativeness analysis, we also control for the  $\beta$  coefficients estimated from the market model regressions. Firm fixed effects and year-month fixed effects are included in all models. Standard errors are double clustered by firm and year-month. The highest value and lowest value connected by the vertical stick through each dot constitute the boundaries of the 95% confidence interval for each coefficient.



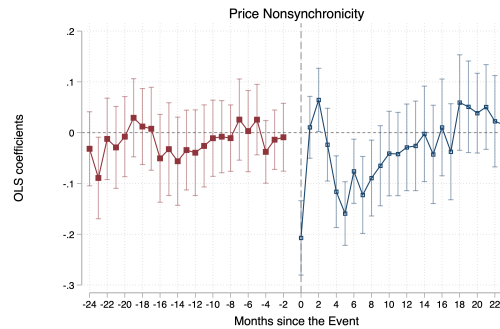
(a) Volatility: Whole Sample



(b) Volatility: PSM Sample



(c) Price Nonsynchronicity: Whole Sample



(d) Price Nonsynchronicity: PSM Sample

## A.3 Additional Tables

**Table A1:** Summary Statistics on National Team Holdings

### Panel A. Holdings on Index Constituents

This table presents the numbers of index constituents invested by the National Team and the corresponding value as a percentage of National Team total portfolio value from 2015Q3 to 2018Q1. Shanghai Stock Exchange (SSE) 50 Index consists of the 50 largest and most liquid A-share stocks listed on Shanghai Stock Exchange. This index aims to reflect the overall performance of the most influential leading Shanghai stocks. CSI300 Index, the most widely acknowledged Chinese stock index, consists of the 300 largest and most liquid A-share stocks. This index aims to reflect the overall performance of China A-share market.

Quarter	SSE50		CSI300	
	Number of stocks	%Portfolio value	Number of stocks	%Portfolio value
2015Q3	50	43.23%	281	74.37%
2015Q4	49	47.33%	276	78.31%
2016Q1	50	50.33%	275	80.50%
2016Q2	49	49.33%	267	79.45%
2016Q3	49	49.38%	266	79.83%
2016Q4	48	47.87%	245	77.05%
2017Q1	49	49.04%	242	77.33%
2017Q2	49	48.12%	243	80.03%
2017Q3	47	49.96%	232	81.53%
2017Q4	47	51.82%	238	84.30%
2018Q1	50	43.23%	236	85.22%

### Panel B. Holdings Classified by Size

We sort stocks into quintiles based on an ascending order of market capitalization and count the number of intervened stocks in each quintile. The market capitalization is the product of trading volume weighted average close prices and the number of shares outstanding.

Quarter	Market Cap.				
	0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
2015Q3	276	202	192	290	439
2015Q4	245	183	167	269	438
2016Q1	226	172	167	256	437
2016Q2	190	171	175	249	429
2016Q3	169	165	172	242	439
2016Q4	139	146	170	236	445
2017Q1	120	146	162	252	464
2017Q2	92	150	166	276	484
2017Q3	56	149	178	267	482
2017Q4	59	152	173	267	477
2018Q1	64	149	175	261	471

## Panel C. Holdings Classified by ROE

For each quarter, we classify stocks into two parts depending on whether their return on equity (ROE) is positive. For the positive-ROE stocks, we sort the stocks into quintiles based on an ascending order of ROE. We then count the number of intervened stocks in each group.

Quarter	Negative ROE	Positive ROE				
		0%-20%	20%-40%	40%-60%	60%-80%	80%-100%
2015Q3	184	224	233	241	261	254
2015Q4	126	284	261	271	240	119
2016Q1	206	213	209	196	218	214
2016Q2	131	242	221	229	222	167
2016Q3	109	232	219	227	223	175
2016Q4	67	263	237	263	197	108
2017Q1	145	210	189	197	198	205
2017Q2	94	231	223	218	208	195
2017Q3	75	231	221	209	189	208
2017Q4	65	242	237	195	205	185
2018Q1	142	198	194	168	189	225

## Panel D. Subsequent Returns of Intervened and Unintervened Stocks

This panel presents the average monthly returns of the intervened and uninvolved stocks. We divide stocks into two groups each quarter based on their intervention status: intervened and uninvolved. We then compute the equal-weighted average monthly returns or the market-model adjusted return for each group of stocks in the following quarter. The "Diff." columns present the return differences between the uninvolved and the intervened stocks. \*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively.

Year-Month	Raw Return			Market Model Adjusted Return		
	Uninvolved	Intervened	Diff.	Uninvolved	Intervened	Diff.
2015-10	25.52%	22.58%	2.94%***	4.22%	2.45%	1.78%***
2015-11	14.08%	10.09%	3.99%***	3.20%	0.34%	2.87%***
2015-12	9.64%	6.48%	3.16%***	1.92%	0.37%	1.55%***
2016-01	-31.41%	-29.46%	-1.95%***	0.94%	1.46%	-0.52%
2016-02	-0.72%	-1.36%	0.64%	2.23%	1.57%	0.66%
2016-03	20.03%	18.32%	1.71%***	0.48%	-0.25%	0.74%*
2016-04	0.44%	-1.11%	1.56%***	2.52%	0.55%	1.98%***
2016-05	-3.16%	-1.56%	-1.60%***	-2.59%	-1.05%	-1.54%***
2016-06	5.41%	4.82%	0.60%	0.95%	0.56%	0.39%
2016-07	-0.32%	0.97%	-1.29%***	-0.69%	0.58%	-1.27%***
2016-08	5.10%	4.60%	0.50%	-0.47%	-0.66%	0.20%
2016-09	-0.14%	-0.39%	0.25%	1.77%	1.43%	0.34%
2016-10	3.71%	3.73%	-0.02%	-0.08%	-0.09%	0.01%
2016-11	2.46%	2.72%	-0.25%	-1.90%	-1.47%	-0.42%
2016-12	-3.20%	-3.78%	0.58%	3.03%	2.16%	0.87%**
2017-01	-2.76%	-0.73%	-2.03%***	-2.02%	-0.20%	-1.83%***
2017-02	3.87%	4.48%	-0.61%*	0.09%	0.95%	-0.86%***
2017-03	-2.80%	-1.37%	-1.43%***	-1.92%	-0.80%	-1.13%***
2017-04	-6.65%	-5.26%	-1.39%***	-2.97%	-1.58%	-1.39%***
2017-05	-8.76%	-6.89%	-1.87%***	-4.90%	-3.48%	-1.41%***
2017-06	4.09%	4.36%	-0.27%	-1.03%	-0.63%	-0.40%



**Table A2: Patterns of the NT Intervention**

This table presents the logit regression analysis on the patterns of the NT intervention. Columns 1-4 focus on the initial intervention period of 2015Q3 and compare between intervened stocks and unintervened stocks. Columns 5-6 (7-8) instead focus on the subsequent rebalancings of the NT portfolio and compare between stocks with increased (decreased) and unchanged NT holdings. 1{Intervened} equals 1 for intervened stocks and 0 otherwise. 1{INC} (1{DEC}) equals 1 if NT increases (decreases) its holding in the stock, and 0 otherwise. L.X indicates the one period lag of variable X. QRET is the quarterly return. EXMLOSS is the absolute value of the sharpest cumulative loss in 5 consecutive trading days within the quarter. If the lowest cumulative return of a stock in 5 consecutive trading days within the quarter is positive (i.e., no loss), then EXMLOSS = 0. DLIMIT is the percentage of trading days touching the lower daily price limit within the quarter. Ln(Trading Volume) and Turnover are the quarterly average log daily RMB trading volume and average turnover, respectively. AMIHU is the Amihud illiquidity measure. 1{STATE\_CONTROLLED} (1{REG\_CONNECTED}) indicates whether the stock is state-owned (has regulatory connection). INSTHOLD and TOP10 are the ratios of shares held by institutions and top 10 shareholders, respectively. SHARECONCEN is the sum of squares of shares greater than 5% and ln(SHNO) is the log of shareholder number. ln(ASSET), BMR, ROE, and REVGROWTH are total asset (log), book market ratio, return on equity, and revenue growth rate, respectively.

		Initial Intervention: 2015Q3				Subsequent Rebalancing: 2015Q4 - 2017Q2			
		Logit: 1{Intervened}				Logit: 1{INC}		Logit: 1{DEC}	
		1	2	3	4	5	6	7	8
Return	QRET	-1.654*** (-4.14)	-0.951** (-2.40)	-1.634*** (-4.08)	-0.878** (-2.22)	-1.220** (-2.31)	-1.177** (-2.15)	2.262*** (5.65)	2.085*** (4.89)
	L.QRET					0.059 (0.19)	0.106 (0.34)	0.885*** (3.70)	0.784*** (3.21)
	EXMLOSS	-2.315** (-2.50)	-1.207 (-1.25)	-2.327** (-2.51)	-1.129 (-1.17)	3.585*** (4.48)	3.566*** (4.37)	1.429* (1.79)	1.372* (1.74)
Price Limits	DLIMIT	-7.398*** (-6.07)	-4.308*** (-2.76)	-7.332*** (-6.01)	-4.392*** (-2.84)	-9.364** (-2.56)	-8.149** (-2.17)	-9.995*** (-3.62)	-11.910*** (-4.00)
	Quarterly Average Daily Price Change		-14.696 (-0.97)		-9.507 (-0.64)		-16.039 (-1.52)		22.533** (2.51)
Volatility	Log Standard Deviation of Daily Return	2.230*** (3.30)		2.346*** (3.57)		-0.466* (-1.80)		0.566** (2.54)	
	Ln(TradingVolume)	0.005 (0.03)	0.249 (1.60)						
Volume	Turnover			-1.304 (-0.55)	1.439 (0.62)	13.493*** (3.45)	13.854*** (3.42)	-5.745 (-1.36)	-6.486 (-1.47)
	AMIHU	-0.002 (-0.62)	-0.005 (-1.22)	-0.002 (-0.55)	-0.006 (-1.39)	0.035 (0.94)	0.028 (0.75)	-0.067* (-1.74)	-0.056 (-1.42)
Liquidity	1{State Controlled}	-0.067 (-0.54)	-0.011 (-0.09)	-0.066 (-0.53)	-0.024 (-0.19)	-0.105 (-0.71)	-0.111 (-0.75)	-0.012 (-0.09)	-0.006 (-0.05)
	L.INSTHOLD	0.000 (0.12)	-0.000 (-0.00)	-0.001 (-0.20)	0.001 (0.27)	0.008* (1.94)	0.008*** (1.99)	-0.000 (-0.13)	-0.001 (-0.28)
	L.TOP10	0.008 (1.20)	0.014** (2.13)	0.009 (1.35)	0.010 (1.57)	-0.011 (-1.53)	-0.011 (-1.50)	0.007 (1.10)	0.007 (1.02)
	L.SHARECONCEN	2.228*** (2.69)	2.116*** (2.59)	2.229*** (2.69)	2.131*** (2.59)	0.512 (0.71)	0.477 (0.66)	-0.507 (-0.74)	-0.458 (-0.67)
	L.Ln(SHNO)	0.641*** (5.80)	0.583*** (5.41)	0.649*** (5.95)	0.613*** (5.73)	-0.245** (-2.05)	-0.255** (-2.13)	-0.190* (-1.82)	-0.176* (-1.69)
Regulator Connection	1{STATE_CONTROLLED}	-0.078 (-0.64)	-0.092 (-0.76)	-0.079 (-0.64)	-0.088 (-0.73)	0.029 (0.21)	0.024 (0.17)	0.026 (0.22)	0.030 (0.25)
	L.ln(ASSET)	0.150 (0.99)	-0.003 (-0.02)	0.143 (1.23)	0.161 (1.39)	0.742*** (5.29)	0.747*** (5.30)	0.451*** (3.66)	0.447*** (3.63)
Balance Sheet Related	L.BMR	0.400 (0.60)	0.843 (1.28)	0.417 (0.78)	0.174 (0.33)	-1.416*** (-2.65)	-1.428*** (-2.65)	-0.119 (-0.26)	-0.090 (-0.20)
	L.ROE	0.033** (2.05)	0.029* (1.77)	0.034** (2.07)	0.031* (1.85)	0.027 (1.03)	0.027 (1.01)	0.015 (0.66)	0.018 (0.82)
	L.REVGROWTH	-0.003** (-2.10)	-0.003** (-2.14)	-0.003** (-2.13)	-0.002** (-2.04)	0.001 (0.66)	0.001 (0.66)	-0.001 (-0.83)	-0.001 (-0.83)
Constant	-3.644 (-1.21)	-10.121*** (-4.49)	-3.107 (-1.14)	-9.243*** (-4.28)	-17.714*** (-6.34)	-15.405*** (-5.99)	-7.170*** (-2.96)	-10.183*** (-4.45)	
Year-Quarter FE					✓	✓	✓	✓	
No. of obs	1651	1651	1651	1651	3566	3566	3880	3880	
Pseudo R <sup>2</sup>	0.117	0.112	0.117	0.112	0.084	0.083	0.078	0.078	

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T-statistics reported in the parentheses below estimated parameters. Standard errors clustered at the firm level.

**Table A3: Price Informativeness - Sub-sample Analysis**

This table further explores the National Team intervention trading effect on price informativeness. The dependent variable is price nonsynchronicity measure,  $\log((1 - R^2)/R^2)$ . We obtain  $R^2$  from monthly rolling market model regression with a window of three months. In columns 1-2, we focus on stocks with prediction error above median. The prediction error is the absolute value of the residual, obtained from a logit regression using the status of being intervened as the dependent variable, and observed characteristics such as return, lagged return, ROE, volatility, turnover, etc as predictors (see column 6 in Table A2 for a complete list of predicting variables). In columns 3-4, we focus on the sub-sample with institutional ownership below median. Columns 5-6 exclude stocks with potential intervention information leakage in 2015Q3 (see Online Appendix C for a detailed discussion on the intervention information leakage). We present the results for model (2) in odd columns and those for model (3) in even columns. Control variables are monthly return (MRET), lagged monthly return (L.MRET), the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10), institutional investors (INSTHOLD), and Amihud ratio (AMIHU). Also included are the  $\beta$  coefficients estimated from the market model regressions. The estimated results for control variables are unreported for ease of presentation. Firm and year-month fixed effects are included in all models. At the bottom of the tables, we present the p-values of the Wald tests on whether the coefficients are equal to the coefficients in Table 6.

	Price Nonsynchronicity: $\log((1 - R^2)/R^2)$					
	Prediction Error > Median		INSTHOLD < Median		Excluding Information Leakage	
	1	2	3	4	5	6
INIT $\times$ NT	0.055 (0.73)		-0.015 (-0.21)		0.053 (0.89)	
REMAIN $\times$ NT	-0.010 (-0.35)		-0.040 (-1.43)		0.065** (2.48)	
DNT		0.068** (2.24)		0.045 (1.38)		0.072*** (3.13)
DNT $\times$ UN		-0.118*** (-6.26)		-0.106*** (-3.36)		-0.114*** (-4.69)
Controls	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓
No. of firms	1051	1051	1472	1472	1759	1759
No. of obs	38341	38341	38435	38435	64005	64005
Adjusted $R^2$	0.691	0.692	0.691	0.692	0.571	0.687
Pr[Coef(INIT*NT) = Coef(INIT $\times$ NT) - Table 3]	0.316		0.376		0.620	
Pr[Coef(DNT) = Coef(DNT) - Table 3]		0.819		0.498		0.293
Pr[Coef(DNT*UN) = Coef(DNT $\times$ UN) - Table 3]		0.023		0.719		0.180

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. Tstatistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

**Table A4: Analysis on NT Trading Intensity**

This table presents the analysis on NT trading ratio. In panel A, we present the summary statistics for NT\_TRADE, the shares traded by the NT as a percentage of total shares traded. These statistics measure the intensity of NT trading. In panel B, similar to model (2) in the paper, we separate the post intervention period into two parts: 2015Q3 (INIT) and 2015Q4 - 2017Q2 (REMAIN). We then interact the two dummies with NT\_TRADE and include the two interaction terms as the main independent variables. These two measures, especially the  $INIT \times NT\_TRADE$ , capture how the intensity of NT trading affects the market. The dependent variables in columns 1-2, 3-4 are intra-day volatility (%) and price nonsynchronicity, respectively. In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log ( $\ln(SHNO)$ ), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset ( $\ln(ASSET)$ ), percentages of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHU). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the market model regressions. The estimated results for control variables are unreported for ease of presentation. Firm and year-month fixed effects included in all models.

**Panel A. Summary Statistics**

NT_TRADE	Mean	Median	P1	P99	s.d.
2015Q3	2.31%	1.41%	0.05%	10.11%	2.53%
2015Q3-2017Q2	0.23%	0.00%	-4.66%	7.66%	7.20%

**Panel B. The Impacts of NT Trading Intensity on Volatility and Price Informativeness**

	Intra-day Volatility (%)		Price Nonsynchronicity: $\log((1 - R^2)/R^2)$	
	1	2	3	4
INIT $\times$ NT_TRADE	-6.855*** (-3.05)	-5.716** (-2.13)	0.238 (0.12)	1.055 (0.49)
REMAIN $\times$ NT_TRADE	-0.522 (-0.70)	-0.683 (-0.82)	-1.296** (-2.09)	-1.133* (-1.69)
Year-Month FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
No. of firms	2107	1303	2107	1303
No. of obs	76875	52041	76875	52041
Adjusted $R^2$	0.832	0.832	0.687	0.681

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

## **B Robustness Checks**

### **B.1 Allowing for Controls with Time Trends**

There are concerns that our findings are primarily due to differences in pre-existing trends between the two groups of stocks, rather than the intervention. To address this, we include in the model the interaction terms of the control variables and a POST dummy that indicates whether a month is after July 2015. The control variables capture the dimensions along which the intervened and unintervened groups differ significantly. Including the interaction terms of controls and the POST dummy controls for the changes in the outcome variables caused by the endogenous pattern of NT’s selective intervention. We also try a stricter version in which we interact all control variables with the year-month fixed effects to control for time-varying endogenous patterns more flexibly. As shown in Table B1, our findings remain robust.

### **B.2 Excluding Systematically Important Industries**

Some news reports claimed that the NT intervention over-weighted systemically important industries such as banks, insurance, energy sector, etc. We compare the numbers of intervened stocks and unintervened stocks in systematically important industries. These include the finance industry, oil-related industries, mining (coal and metal), gas, electricity, heat supplies, and the real estate industry. We find that the NT did not invest disproportionately more in these industries. Furthermore, as shown in Table B2, our results remain robust with the systematically important industries excluded.

### **B.3 Controlling for Past National Team Percentage Holdings**

The Chinese government openly stated that the main goal of the NT is to stabilize the markets, which is evidenced by the wide-ranging NT portfolio and the patterns of portfolio adjustment. However, a related concern is that the NT investment might also be partially driven by profit-making incentives. One alternative hypothesis is that the NT tried to boost its own investment profitability by loading more onto stocks within its portfolio. If so, the estimated impacts of intervention differ depending on the NT’s previous level of ownership. To address this, we include the one-quarter lagged NT percentage holding as a control, and the findings remain robust (See Table B3). This demonstrates that prior NT ownership is not the primary driver of our empirical findings.

## B.4 Excluding the Buy-and-Hold Effect

Another possible explanation for our findings is the buy-and-hold effect. We address this issue by investigating the differential impacts driven by different NT members. CSF actively adjusted its portfolio, whereas HJ traded infrequently. If buy-and-hold effect is the major driver of our findings, the estimated effects for the HJ portfolio should be stronger. If, instead, the intervention disclosure effect is the real reason, the estimated effect for the CSF portfolio should be stronger because it provides a clearer view of the government's intentions. Investors might react more strongly to the CSF portfolio disclosure. Comparing the differential performance of stocks intervened only by CSF and only by HJ, we find that the estimated coefficients for CSF are larger and more significant (See Table B4). We find no evidence of a mechanical buy-and-hold effect.

## B.5 Excluding the impact of Securities Firm Net Sale Ban

In response to the 2015 Chinese stock market crash, the Chinese government also temporarily banned the net sale of the securities firms' proprietary trading. Because equity investment in securities firms' proprietary trading is small (about 160 billion), this policy is unlikely to have an impact on our main findings. Our results remain robust upon excluding listed firms with positive security firm holdings (See Table B5).

## B.6 Other Robustness Checks and Placebo Tests

- **Alternative Measures:**

We use alternative measures for the main dependent variables to check for robustness. As a proxy for volatility, we use inter-day volatility (the log standard deviation of daily return). In terms of price informativeness, we use Fama-French three-factor and five-factor models to estimate  $R^2$ . The results are consistent with our baseline findings (See Table B6).

- **Firm  $\times$  Year Fixed Effects:**

We also try including firm  $\times$  year fixed effects to absorb time-varying firm-level characteristics. Our results remain robust (See Table B7).

- **Sample Periods:**

Our results remain robust for longer (2012.7 - 2018.6) or shorter (2014.7 - 2016.6) samples (See Table B8).

- **Placebo Tests:**

We present two placebo tests to show that the results are not driven by chance. First, for each month, we randomize the status of being intervened among all stocks using the distribution statistics in real data and re-estimate model (1) with the placebo NT variable instead. Similarly, we create a placebo DNT variable and randomize the status of having unchanged NT holding (UN). We then re-estimate model (3) with the placebo variables.

Second, we randomize the intervention periods among the intervened stocks. For each intervened stock, we obtain the number of intervened periods and randomly select the same number of periods across all observations of this stock. The time-randomized placebo variables are then used to re-estimate models (1) and (3). Figure B1 presents the distributions of the estimated coefficients from the placebo tests. Our findings are unlikely to be the result of chance.

**Table B1: More Flexible Forms of Controls**

This table presents the results of including more flexible versions of control variables to better control for the endogenous selection pattern of NT intervention. Panel A includes the interactions of controls with a POST dummy that equals one for months after July 2015 (itself included), and panel B includes the interaction terms of controls with year-month dummies. In columns 1-6 and 7-12, dependent variables are volatility and price informativeness, respectively. Columns 1-3 and 7-9 use the whole sample while the rest columns use the PSM sample instead. In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHUD). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the pricing model regressions. Control variables are unreported for ease of presentation. Firm and year-month fixed effects are included in all models. At the bottom of the table, we present the p-values of the Wald tests on whether the sum of the coefficients equals 0.

**Panel A. Controls  $\times$  POST**

	Intra-day Volatility (%)						Price Nonsynchronicity: $\log((1 - R^2)/R^2)$					
	All			PSM			All			PSM		
	1	2	3	4	5	6	7	8	9	10	11	12
INIT $\times$ NT	-0.231*** (-4.08)			-0.156*** (-2.74)			-0.002 (-0.03)			-0.000 (-0.00)		
REMAIN $\times$ NT	-0.065** (-2.18)			-0.080** (-2.63)			-0.003 (-0.15)			-0.009 (-0.43)		
DNT		0.065* (1.80)	0.061 (1.64)		0.069* (2.00)	0.066* (1.85)		0.057** (2.57)	0.054** (2.43)		0.062** (2.64)	0.057** (2.39)
DNT $\times$ UN		-0.133*** (-4.26)			-0.166*** (-4.98)			-0.095*** (-5.19)			-0.105*** (-5.39)	
DINC $\times$ UN			-0.214*** (-6.23)			-0.222*** (-6.11)			-0.128*** (-6.42)			-0.144*** (-6.51)
DUN $\times$ UN			-0.099** (-2.11)			-0.149*** (-3.31)			-0.075*** (-3.11)			-0.082*** (-3.16)
DDEC $\times$ UN			-0.051 (-0.95)			-0.074 (-1.44)			-0.099*** (-3.03)			-0.096** (-2.54)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Controls $\times$ POST	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	2107	2107	2107	1303	1303	1303	2107	2107	2107	1303	1303	1303
No. of obs	76875	76875	76875	52041	52041	52041	76875	76875	76875	52041	52041	52041
Adjusted $R^2$	0.834	0.834	0.834	0.834	0.834	0.834	0.690	0.690	0.690	0.684	0.684	0.684
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.019			0.003			0.090			0.071	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.000			0.003			0.001
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.256			0.025			0.393			0.340
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.833			0.886			0.216			0.344

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

**Panel B.** Controls  $\times$  i.Year-Month

	Intra-day Volatility (%)						Price Nonsynchronicity: $\log((1 - R^2)/R^2)$					
	All			PSM			All			PSM		
	1	2	3	4	5	6	7	8	9	10	11	12
INIT $\times$ NT	-0.121*** (-3.02)			-0.100** (-2.52)			-0.038 (-1.00)			-0.026 (-0.49)		
REMAIN $\times$ NT	-0.043 (-1.31)			-0.051 (-1.55)			-0.010 (-0.42)			-0.013 (-0.48)		
DNT		0.065* (1.98)	0.061* (1.80)		0.062* (1.86)	0.057 (1.68)		0.052* (1.98)	0.049* (1.85)		0.056* (1.95)	0.052* (1.75)
DNT $\times$ UN		-0.112*** (-4.32)			-0.128*** (-4.24)			-0.077*** (-3.43)			-0.087*** (-3.31)	
DINC $\times$ UN			-0.182*** (-6.19)			-0.188*** (-5.55)			-0.116*** (-4.65)			-0.125*** (-4.27)
DUN $\times$ UN			-0.080** (-2.13)			-0.105** (-2.64)			-0.056* (-1.88)			-0.067* (-1.97)
DDEC $\times$ UN			-0.047 (-1.00)			-0.040 (-0.80)			-0.065* (-1.75)			-0.067 (-1.53)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Controls $\times$ i.Year-Month	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	2107	2107	2107	1303	1303	1303	2107	2107	2107	1303	1303	1303
No. of obs	76875	76875	76875	52041	52041	52041	76875	76875	76875	52041	52041	52041
Adjusted $R^2$	0.856	0.856	0.856	0.856	0.856	0.856	0.712	0.712	0.712	0.707	0.708	0.708
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.149			0.056			0.307			0.274	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.002			0.001			0.012			0.019
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.586			0.205			0.800			0.634
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.783			0.750			0.670			0.748

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.



**Table B2: Excluding Systematically Important Industries**

This table deals with the concerns on the National Team’s potential over-weighting in systematically important industries. In panel A, we present the numbers of intervened and uninvolved stocks in the systematically important industries. Panel B presents the regression results with the systematically important industries excluded. The dependent variables in columns 1-3, 4-6 are intra-day volatility (%) and price nonsynchronicity, respectively. In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHUD). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the market model regressions. The estimated results for control variables are unreported for ease of presentation. Firm and year-month fixed effects are included in all models. At the bottom of the table, we present the p-values of the Wald tests on whether the sum of the coefficients equals 0.

**Panel A. Number of Intervened and Uninvolved Stocks in Systematically Important Industries**

Industry	No. of Intervened Firms	No. of Uninvolved Firms
Insurance	1	1
Finance		
Capital market services	6	8
Other financial firms	5	4
Metal mining	16	12
Coal mining	20	6
Gas supply	11	6
Electricity & heat supplies	35	29
Oil supply and refinement	13	8
Real estate	69	68

Banks are already excluded from our sample after the data cleaning and the exclusion of CSI300 index stocks.

**Panel B. Excluding the Systematically Important Industries**

	Intra-day Volatility (%)			Price Nonsynchronicity: $\log((1 - R^2)/R^2)$		
	(1)	(2)	(3)	(4)	(5)	(6)
INIT $\times$ NT	-0.202*** (-3.49)			-0.009 (-0.14)		
REMAIN $\times$ NT	-0.097** (-2.55)			-0.005 (-0.24)		
DNT		0.035 (0.76)	0.029 (0.61)		0.065*** (2.69)	0.061** (2.53)
DNT $\times$ UN		-0.128*** (-3.31)			-0.102*** (-4.55)	
DINC $\times$ UN			-0.210*** (-4.48)			-0.152*** (-6.00)
DUN $\times$ UN			-0.087 (-1.64)			-0.074** (-2.64)
DDEC $\times$ UN			-0.050 (-0.94)			-0.086** (-2.37)
Controls	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓
No. of firms	1871	1871	1871	1871	1871	1871
No. of obs	67213	67213	67213	67213	67213	67213
Adjusted $R^2$	0.832	0.832	0.832	0.694	0.694	0.694
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.017			0.123	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.000
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.148			0.645
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.696			0.509

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

**Table B3:** Controlling for Past National Team Percentage Holdings

This table presents robustness checks by including the one-quarter lagged National Team percentage holding as an extra control variable. The dependent variables in columns 1-6, 7-12 are intra-day volatility (%) and price nonsynchronicity, respectively. Columns 1-3 and 7-9 use the whole sample while the remainder of the columns uses the PSM sample instead. In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHU). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), the percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the market model regressions. The estimated results for control variables are unreported for ease of presentation. Firm and year-month fixed effects are included in all models. At the bottom of the table, we present the p-values of the Wald tests on whether the sum of the coefficients equals 0.

	Intra-day Volatility (%)						Price Nonsynchronicity: $\log((1 - R^2)/R^2)$					
	All			PSM			All			PSM		
	1	2	3	4	5	6	7	8	9	10	11	12
INIT $\times$ NT	-0.233*** (-4.13)			-0.167*** (-2.77)			-0.007 (-0.10)			0.011 (0.15)		
REMAIN $\times$ NT	-0.114*** (-3.46)			-0.115*** (-3.49)			0.015 (0.66)			0.005 (0.22)		
DNT		0.037 (0.95)	0.032 (0.79)		0.056 (1.58)	0.052 (1.43)		0.083*** (3.65)	0.081*** (3.57)		0.085*** (3.39)	0.081*** (3.24)
DNT $\times$ UN		-0.137*** (-4.38)			-0.166*** (-4.91)			-0.106*** (-5.62)			-0.117*** (-5.61)	
DINC $\times$ UN			-0.202*** (-6.08)			-0.208*** (-5.71)				-0.131*** (-6.06)		-0.147*** (-5.97)
DUN $\times$ UN			-0.103** (-2.22)			-0.151*** (-3.35)				-0.092*** (-3.76)		-0.100*** (-3.75)
DDEC $\times$ UN			-0.095* (-1.85)			-0.114** (-2.31)				-0.107*** (-3.31)		-0.102*** (-2.78)
L.NT_SP	-0.004 (-0.94)	-0.009** (-2.04)	-0.009** (-2.03)	-0.001 (-0.23)	-0.007 (-1.38)	-0.007 (-1.38)	-0.003 (-0.65)	-0.004 (-0.80)	-0.004 (-0.79)	-0.003 (-0.73)	-0.005 (-0.99)	-0.005 (-0.99)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	2092	2092	2092	1302	1302	1302	2092	2092	2092	1302	1302	1302
No. of obs	70643	70643	70643	47887	47887	47887	70643	70643	70643	47887	47887	47887
Adjusted $R^2$	0.839	0.839	0.839	0.839	0.839	0.839	0.700	0.701	0.701	0.694	0.694	0.694
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.003			0.002			0.318			0.220	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.000			0.053			0.024
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.056			0.014			0.671			0.509
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.231			0.247			0.469			0.607

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

**Table B4: CSF and HJ Holdings**

This table presents the results on the differential performances of CSF-only and HJ-only stocks, as compared to the unintervened stocks. CSF-only (HJ-only) stocks include those that are intervened by CSF (HJ) but not by any other NT members. The dependent variables in columns 1- 6 and 7- 12 are intra-day volatility and price nonsynchronicity, respectively. Columns 1-3 and 7-9 present the results for CSF intervention while columns 4-6 and 10-12 focus on HJ intervention instead. In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), percentages of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHUD). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the market model regressions. The estimated results for control variables are unreported for ease of presentation. Firm and year-month fixed effects are included in all models. At the bottom of the table, we present the p-values of the Wald tests on whether the sum of the coefficients equals 0.

	Monthly Average Daily Price Change (%)						Price Nonsynchronicity: $\log((1 - R^2)/R^2)$					
	NT=CSF			NT=HJ			NT=CSF			NT=HJ		
	1	2	3	4	5	6	7	8	9	10	11	12
INIT $\times$ NT	-0.146*			-0.235***			0.009			-0.005		
	(-1.84)			(-3.14)			(0.23)			(-0.06)		
REMAIN $\times$ NT	-0.345***			-0.043			-0.083**			0.058**		
	(-7.64)			(-1.10)			(-2.24)			(2.43)		
DNT		0.036	0.033		0.080	0.074		0.112***	0.114***		-0.032	-0.034
		(0.88)	(0.80)		(1.02)	(0.94)		(3.25)	(3.32)		(-0.97)	(-1.02)
DNT $\times$ UN		-0.359***			-0.129			-0.231***			0.070*	
		(-8.04)			(-1.54)			(-4.45)			(1.99)	
DINC $\times$ UN			-0.453***			-0.240***			-0.224***			0.031
			(-7.48)			(-2.95)			(-4.06)			(0.92)
DUN $\times$ UN			-0.283***			-0.062			-0.245***			0.092**
			(-4.86)			(-0.66)			(-4.07)			(2.59)
DDEC $\times$ UN			-0.215			-0.115			-0.350*			-0.146
			(-1.27)			(-0.77)			(-1.98)			(-1.64)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	49368	49368	49368	60669	60669	60669	49368	49368	49368	60669	60669	60669
No. of obs	1372	1372	1372	1652	1652	1652	1372	1372	1372	1652	1652	1652
Adjusted $R^2$	0.833	0.833	0.833	0.830	0.829	0.830	0.686	0.686	0.686	0.688	0.688	0.688
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.000			0.252			0.005			0.114	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.004			0.017			0.912
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.770			0.015			0.032
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.304			0.817			0.192			0.073

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

**Table B5:** Excluding the Impacts of Securities Firm Proprietary Trading Net Sale Ban

This table excludes observations affected by the securities firms' proprietary trading net sale ban. We gather a list of firms with positive securities firm holdings at the end of June 2015. The observations of these stocks from July 2015 to November 2015 are then excluded, as the net sale ban was in effect until November 2015. The dependent variables in columns 1-3, 4-6 are intra-day volatility (%) and price nonsynchronicity, respectively. In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHUD). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the market model regressions. The estimated results for control variables are unreported for ease of presentation. Firm and year-month fixed effects are included in all models. At the bottom of the table, we present the p-values of the Wald tests on whether the sum of the coefficients equals 0.

	Intra-day Volatility (%)			Price Nonsynchronicity: $\log((1 - R^2)/R^2)$		
	1	2	3	4	5	6
INIT $\times$ NT	-0.235*** (-2.79)			0.003 (0.04)		
REMAIN $\times$ NT	-0.127*** (-3.51)			0.002 (0.09)		
DNT		0.002 (0.04)	-0.004 (-0.09)		0.063*** (2.93)	0.061*** (2.80)
DNT $\times$ UN		-0.128*** (-3.84)			-0.095*** (-4.88)	
DINC $\times$ UN			-0.202*** (-5.46)			-0.132*** (-5.99)
DUN $\times$ UN			-0.088* (-1.85)			-0.073*** (-2.87)
DDEC $\times$ UN			-0.096* (-1.83)			-0.100*** (-3.09)
Controls	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓
No. of firms	2107	2107	2107	2107	2107	2107
No. of obs	74934	74934	74934	74934	74934	74934
Adjusted $R^2$	0.823	0.822	0.823	0.682	0.682	0.682
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.001			0.158	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.003
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.015			0.633
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.060			0.255

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

**Table B6: Alternative Measures**

This table examines the impacts of the National Team holding using alternative measures for volatility and price informativeness. Panel A uses the whole sample while panel B uses the PSM sample instead. Panel C presents the event-based volatility tests using the inter-day volatility measure. Inter-day volatility (columns 1-3) is the log standard deviation of daily return. In columns 4–12, we use alternative methods or models to estimate price nonsynchronicity. Columns 4-6 use adjusted  $R^2$  instead of  $R^2$ . In columns 7-12, we use Fama-French 3-factor and 5-factor models, instead of the market model, to estimate  $R^2$ . In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHU). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the pricing model regressions. The estimated results for control variables are unreported for ease of presentation. Firm and year-month fixed effects are included in all models. At the bottom of the table, we present the p-values of the Wald tests on whether the sum of the coefficients equals 0.

**Panel A. Whole Sample**

	Inter-day Volatility			Market Model - $AR^2$ Based			Three Factor Model			Five Factor Model		
	1	2	3	4	5	6	7	8	9	10	11	12
INIT $\times$ NT	-0.027 (-0.99)			0.024 (0.33)			0.089 (1.05)			0.064 (0.80)		
REMAIN $\times$ NT	-0.035*** (-3.67)			0.014 (0.56)			0.013 (0.56)			0.008 (0.37)		
DNT		-0.008 (-0.72)	-0.007 (-0.65)		0.071*** (2.98)	0.069*** (2.88)		0.081*** (2.88)	0.080*** (2.84)		0.068** (2.55)	0.067** (2.49)
DNT $\times$ UN		-0.039*** (-4.17)			-0.103*** (-4.83)			-0.115*** (-5.20)			-0.095*** (-4.41)	
DINC $\times$ UN			-0.029*** (-3.16)			-0.135*** (-5.91)			-0.146*** (-5.95)			-0.132*** (-5.16)
DUN $\times$ UN			-0.044*** (-3.78)			-0.084*** (-2.96)			-0.103*** (-3.70)			-0.079*** (-2.97)
DDEC $\times$ UN			-0.059*** (-4.04)			-0.115*** (-3.14)			-0.105*** (-2.83)			-0.083** (-2.28)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107	2107
No. of obs	76875	76875	76875	76875	76875	76875	76875	76875	76875	76875	76875	76875
Adjusted $R^2$	0.707	0.707	0.707	0.660	0.661	0.661	0.661	0.661	0.661	0.648	0.648	0.648
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.000				0.192		0.174			0.274	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.001			0.011			0.017			0.017
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.594			0.411			0.645
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.251			0.510			0.661

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

Panel B. PSM Sample

	Inter-day Volatility			Market Model - $AR^2$ Based			Three Factor Model			Five Factor Model		
	1	2	3	4	5	6	7	8	9	10	11	12
INIT $\times$ NT	-0.019 (-0.79)			0.020 (0.25)			0.090 (1.03)			0.081 (0.95)		
REMAIN $\times$ NT	-0.029*** (-2.98)			0.004 (0.16)			-0.004 (-0.15)			-0.012 (-0.49)		
DNT		0.000 (0.00)	0.001 (0.08)		0.072*** (2.69)	0.067** (2.46)		0.086*** (3.03)	0.084*** (2.94)		0.069** (2.52)	0.067** (2.42)
DNT $\times$ UN		-0.043*** (-4.26)			-0.113*** (-4.80)			-0.132*** (-5.57)			-0.114*** (-5.03)	
DINC $\times$ UN			-0.036*** (-3.67)			-0.153*** (-5.89)			-0.161*** (-5.82)			-0.145*** (-5.25)
DUN $\times$ UN			-0.047*** (-3.70)			-0.089*** (-2.85)			-0.121*** (-4.14)			-0.102*** (-3.69)
DDEC $\times$ UN			-0.054*** (-3.37)			-0.109** (-2.56)			-0.114*** (-2.76)			-0.094** (-2.32)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	1303	1303	1303	1303	1303	1303	1303	1303	1303	1303	1303	1303
No. of obs	52041	52041	52041	52041	52041	52041	52041	52041	52041	52041	52041	52041
Adjusted $R^2$	0.709	0.709	0.709	0.655	0.656	0.656	0.662	0.662	0.663	0.650	0.650	0.651
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.000			0.133			0.074			0.087	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.002			0.003			0.009			0.009
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.478			0.193			0.216
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.004			0.359			0.479			0.524

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

**Panel C.** Event-based Test on Inter-day Volatility

This panel presents the event-study outcomes on the disclosure effect of NT intervention. For each quarterly report announcement, we compute the inter-day volatility using the log standard deviation of daily return for a short window both before and after the announcement date as the dependent variable. [-j,j] represents a  $j$  trading day window around the announcement date. DNT equals 1 for stocks disclosed to be included in the NT portfolio, and 0 otherwise. POSTAN equals 1 for post-announcement observations and 0 otherwise. We also define a dummy INTV for stocks ever intervened by the NT and it equals 0 for stocks never intervened by the NT, and 1 otherwise. The AFTER dummy equals 1 for 2015Q3 and all periods thereafter, and 0 otherwise. Control variables include standardized unexpected earnings (SUE), share concentration (SHARECONCEN), log number of shareholders (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHUD). The estimated results for control variables are unreported for ease of presentation. Firm, announcement date, and accounting period fixed effects are included in all models. We use the whole sample in columns 1-4 and the PSM sample in columns 5-8.

	Inter-day Volatility							
	1 [-3,3]	2 [-5,5]	3 [-10,10]	4 [-20,20]	5 [-3,3]	6 [-5,5]	7 [-10,10]	8 [-20,20]
DNT × POSTAN	-0.020 (-0.27)	-0.053 (-0.84)	-0.071* (-1.74)	-0.043 (-1.51)	-0.033 (-0.41)	-0.039 (-0.53)	-0.088* (-1.90)	-0.064** (-2.03)
DNT	-0.083* (-1.77)	-0.046 (-1.08)	-0.006 (-0.21)	-0.033 (-1.32)	-0.040 (-0.82)	-0.034 (-0.71)	0.023 (0.65)	-0.010 (-0.34)
POSTAN	0.027 (0.17)	0.095 (1.18)	0.137** (2.45)	0.170*** (3.41)	0.030 (0.17)	0.096 (1.09)	0.120** (2.14)	0.149*** (3.06)
INTV × POSTAN	0.025 (0.49)	0.034 (0.93)	0.001 (0.04)	-0.023 (-1.05)	0.023 (0.39)	0.036 (0.95)	0.014 (0.53)	-0.004 (-0.18)
AFTER × POSTAN	0.002 (0.01)	-0.167 (-1.47)	-0.241*** (-3.34)	-0.308*** (-5.15)	0.016 (0.09)	-0.185 (-1.56)	-0.239*** (-3.27)	-0.300*** (-5.15)
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Announcement Date FE	✓	✓	✓	✓	✓	✓	✓	✓
Accounting Period FE	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	2029	2030	2031	2031	1271	1271	1271	1271
No. of obs	41588	41976	42619	43924	28891	29156	29602	30516
Adjusted $R^2$	0.318	0.516	0.609	0.667	0.324	0.522	0.611	0.666

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and announcement date.

**Table B7: Firm  $\times$  Year Fixed Effects**

This table provides robustness checks by using alternative combinations of fixed effects and clustering levels. The dependent variables in panels A and B are intra-day volatility (%) and price nonsynchronicity, respectively. Columns 1-3 use the whole sample while the remaining columns use the PSM sample. In all columns, we control for both firm  $\times$  year and year-month fixed effects, and simultaneously double cluster standard errors at the firm and year-month level. In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHUD). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the market model regressions. The estimated results for control variables are unreported for ease of presentation. At the bottom of the table, we present the p-values of the Wald tests on whether the sum of the coefficients equals 0.

**Panel A.**

	Intra-day Volatility (%)					
	Whole Sample			PSM Sample		
	1	2	3	4	5	6
INIT $\times$ NT	-0.208*** (-3.65)			-0.149*** (-2.71)		
REMAIN $\times$ NT	-0.166*** (-4.05)			-0.170*** (-4.68)		
DNT		-0.002 (-0.05)	-0.000 (-0.00)		0.014 (0.34)	0.014 (0.34)
DNT $\times$ UN		-0.138*** (-3.24)			-0.183*** (-3.87)	
DINC $\times$ UN			-0.175*** (-3.85)			-0.203*** (-4.09)
DUN $\times$ UN			-0.101 (-1.56)			-0.187*** (-3.04)
DDEC $\times$ UN			-0.065 (-0.95)			-0.114* (-1.74)
Controls	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓
Firm $\times$ Year FE	✓	✓	✓	✓	✓	✓
No. of firms	2107	2107	2107	1303	1303	1303
No. of obs	76748	76748	76748	51976	51976	51976
Adjusted $R^2$	0.860	0.859	0.859	0.861	0.861	0.861
Pr[Coeff(DNT)+Coeff(DNT $\times$ UN) = 0]		0.011			0.005	
Pr[Coeff(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.002			0.002
Pr[Coeff(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.154			0.015
Pr[Coeff(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.410			0.215

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

**Panel B.**

	Price Nonsynchronicity: $\log((1 - R^2)/R^2)$					
	Whole Sample			PSM Sample		
	1	2	3	4	5	6
INIT $\times$ NT	-0.028 (-0.43)			-0.031 (-0.45)		
REMAIN $\times$ NT	-0.019 (-0.57)			-0.043 (-1.16)		
DNT		0.017 (0.70)	0.016 (0.68)		-0.004 (-0.16)	0.016 (0.68)
DNT $\times$ UN		-0.134*** (-5.78)			-0.140*** (-5.20)	
DINC $\times$ UN			-0.154*** (-5.61)			-0.154*** (-5.61)
DUN $\times$ UN			-0.105*** (-3.31)			-0.105*** (-3.31)
DDEC $\times$ UN			-0.116*** (-3.36)			-0.116*** (-3.36)
Controls	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓
Firm $\times$ Year FE	✓	✓	✓	✓	✓	✓
No. of firms	2107	2107	2107	1303	1303	2107
No. of obs	76748	76748	76748	51976	51976	76748
Adjusted $R^2$	0.756	0.756	0.756	0.750	0.751	0.756
Pr[Coeff(DNT)+Coeff(DNT $\times$ UN) = 0]		0.000			0.000	
Pr[Coeff(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.000
Pr[Coeff(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.018			0.018
Pr[Coeff(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.013			0.013

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.



**Table B8: Other Sample Periods**

This table presents the results on different sample periods: 2012.7 - 2018.6 (Panel A) and 2014.7 - 2016.6 (Panel B). Dependent variables in columns 1-6, 7-12 are intra-day volatility and price nonsynchronicity, respectively. Intra-day volatility is measured as the monthly average daily price change (%). Columns 1-3 and 7-9 use the whole sample while 4-6 and 10-12 use the PSM sample instead. In the volatility analysis, control variables are the monthly return (MRET), lagged monthly return (L.MRET), share concentration (SHARECONCEN), number of shareholders in log (ln(SHNO)), revenue growth rate (REVGROWTH), return on equity (ROE), book-to-market ratio (BMR), log total asset (ln(ASSET)), ratios of shares held by top 10 shareholders (TOP10) and institutional investors (INSTHOLD), and Amihud ratio (AMIHU). In the price informativeness analysis, we also control for the largest loss in 5 consecutive trading days within the month (EXMLOSS), percentage of trading days triggering the price limits within the month (PLIMIT), and the  $\beta$  coefficients estimated from the market model regressions. The estimated results for control variables are unreported for ease of presentation. Firm and year-month fixed effects are included in all models. At the bottom of the table, we present the p-values of the Wald tests on whether the sum of the coefficients equals 0.

**Panel A. 2012.7 - 2018.6**

	2012.7-2018.6											
	Intra-day Volatility (%)						Price Nonsynchronicity: $\log((1 - R^2)/R^2)$					
	All		PSM		All		PSM		All		PSM	
	1	2	3	4	5	6	7	8	9	10	11	12
INIT $\times$ NT	-0.248*** (-4.20)			-0.171*** (-3.00)			0.007 (0.10)			0.010 (0.14)		
REMAIN $\times$ NT	-0.088** (-2.64)			-0.079** (-2.45)			-0.010 (-0.52)			-0.012 (-0.57)		
DNT		0.021 (0.52)	0.015 (0.35)		0.047 (1.28)	0.040 (1.05)		0.052*** (2.72)	0.051** (2.59)		0.061*** (2.78)	0.056** (2.50)
DNT $\times$ UN		-0.105*** (-3.38)			-0.137*** (-4.20)			-0.097*** (-4.94)			-0.105*** (-4.92)	
DINC $\times$ UN			-0.204*** (-6.23)			-0.211*** (-5.87)			-0.140*** (-6.38)			-0.158*** (-6.35)
DUN $\times$ UN			-0.070 (-1.64)			-0.114*** (-2.79)			-0.085*** (-3.65)			-0.087*** (-3.44)
DDEC $\times$ UN			-0.046 (-0.84)			-0.057 (-1.08)			-0.072** (-2.29)			-0.065* (-1.82)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	2107	2107	2107	1303	1303	1303	2107	2107	2107	1303	1303	1303
No. of obs	104515	104515	104515	70308	70308	70308	104515	104515	104515	70308	70308	70308
Adjusted $R^2$	0.809	0.809	0.809	0.808	0.808	0.808	0.662	0.662	0.662	0.653	0.654	0.654
Pr[Coef(DNT)+Coef(DNT $\times$ UN) = 0]		0.000			0.008			0.030			0.056	
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.000			0.000			0.000			0.000
Pr[Coef(DINC $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.119			0.038			0.131			0.207
Pr[Coef(DUN $\times$ UN) + Coef(DNT $\times$ UN) = 0]			0.571			0.762			0.518			0.797

\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

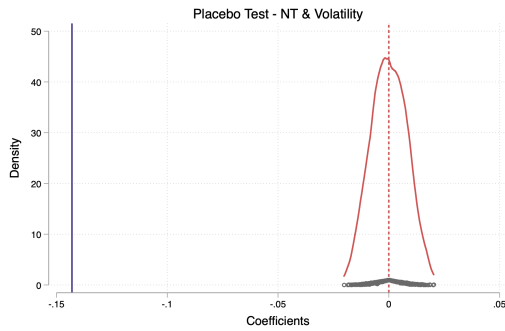
Panel B. 2014.7-2016.6

	2014.7-2016.6											
	Intra-day Volatility (%)				Price Nonsynchronicity: $\log((1 - R^2)/R^2)$							
	All		PSM		All		PSM		All		PSM	
	1	2	3	4	5	6	7	8	9	10	11	12
INIT × NT	-0.112*** (-4.84)			-0.064** (-2.42)			-0.034 (-0.66)			-0.029 (-0.50)		
REMAIN × NT	-0.211*** (-4.78)			-0.193*** (-4.60)			-0.083*** (-2.90)			-0.097*** (-3.07)		
DNT		-0.084 (-1.53)	-0.086 (-1.57)		-0.050 (-1.02)	-0.051 (-1.06)		-0.005 (-0.19)	-0.008 (-0.28)		-0.006 (-0.18)	-0.010 (-0.32)
DNT × UN		-0.104*** (-3.06)			-0.126*** (-3.38)			-0.120*** (-4.77)			-0.134*** (-4.95)	
DINC × UN			-0.112*** (-3.14)			-0.128*** (-3.18)			-0.131*** (-4.87)			-0.144*** (-4.80)
DUN × UN			-0.069 (-1.43)			-0.112** (-2.57)			-0.084** (-2.16)			-0.096** (-2.38)
DDEC × UN			-0.110 (-1.42)			-0.137* (-1.74)			-0.086 (-1.68)			-0.116** (-2.22)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No. of firms	2041	2041	2041	1286	1286	1286	2041	2041	2041	1286	1286	1286
No. of obs	37336	37336	37336	25564	25564	25564	37336	37336	37336	25564	25564	25564
Adjusted $R^2$	0.892	0.892	0.892	0.895	0.895	0.895	0.757	0.758	0.758	0.752	0.753	0.753
Pr[Coef(DNT)+Coef(DNT × UN) = 0]		0.000			0.000			0.000			0.000	
Pr[Coef(DINC × UN) + Coef(DNT × UN) = 0]			0.000			0.000			0.000			0.000
Pr[Coef(DINC × UN) + Coef(DNT × UN) = 0]			0.001			0.000			0.023			0.011
Pr[Coef(DUN × UN) + Coef(DNT × UN) = 0]			0.018			0.031			0.087			0.031

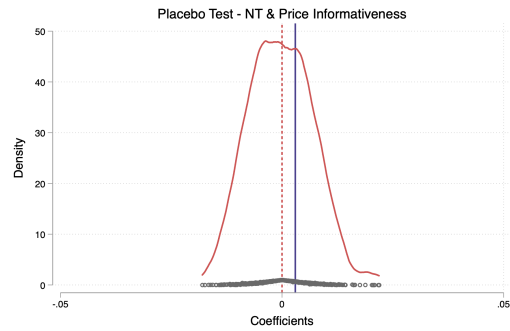
\*, \*\*, \*\*\* stands for significance at 10%, 5%, 1% level, respectively. T statistics reported in the parentheses below estimated parameters. Standard errors are double clustered by firm and year-month.

## Figure B1: Placebo Tests

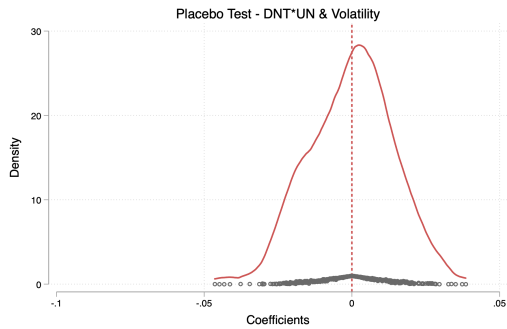
This figure presents the distributions of estimated coefficients from placebo tests. In panels (a) - (d), we randomize the status of being intervened among all stocks. Based on the randomized intervened stocks, we further randomly choose a group of stocks with unchanged NT holdings. We then re-estimate model (1) (panels (a) - (b)) and model (3) (panels (c) - (d)). This process is repeated for 500 times and we plot the estimated coefficients for NT and  $DNT \times UN$  below. The standard errors are double clustered by firm and year-month. The red curves stand for the kernel density of the estimated coefficients while the scatter plot with grey circles stands for the distribution of p-values. The blue vertical line represents the estimated coefficient value in the baseline regression while the grey horizontal line stands for the level of 0.1. The blue line is omitted in panels (c) and (g) as the baseline coefficient lies far out of the range of the simulated coefficients in the placebo tests. In panels (e) - (h), we then randomize the intervention periods within an intervened stock and repeat the above process.



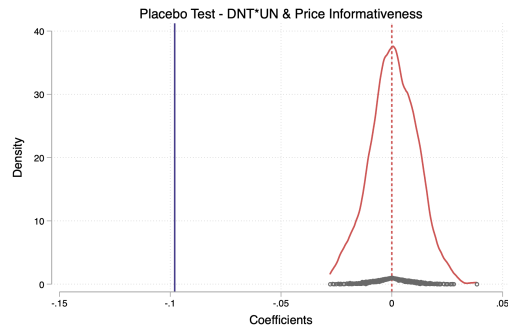
(a) Volatility



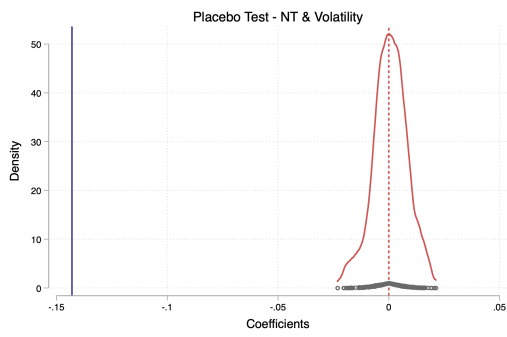
(b) Price Informativeness



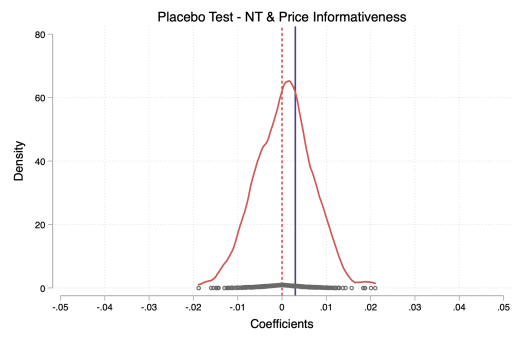
(c) Volatility



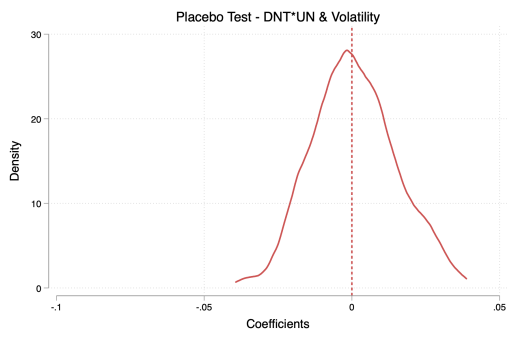
(d) Price Informativeness



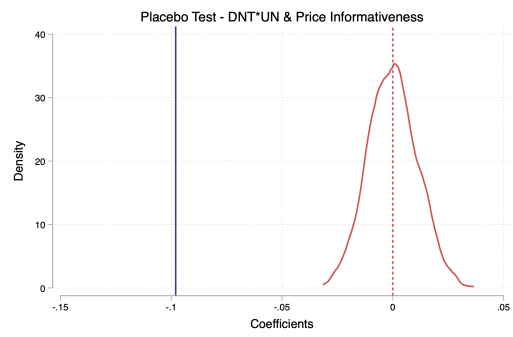
(e) Volatility



(f) Price Informativeness



(g) Volatility



(h) Price Informativeness

## C Intervention Information Leakage during 2015Q3

Though the National Team endeavored to hide its traces while intervening massively in the market in 2015Q3, there were still some crevices where intervention information may leak out. These include three ways to know a small portion of the intervention portfolio (92 stocks) with 100% precision, and one way to know more intervened stocks (about 300 stocks) with 80% precision:

- **Three ways with 100% precision:**

1. **The Top Mover Lists on July 6, 2015:**

On the first intervention day (July 6, 2015), the China Securities Finance Corporation (CSF hereafter) left its footprints on the top mover lists (called 龙虎榜, long-hu-bang, in Chinese).<sup>2</sup> It dumped a large amount of money into the stock markets, sending some of the intervened stocks to the top mover lists on that day. The Chinese stock exchanges reported the top five securities business offices with the highest buying and selling volumes for the most active stocks, and the name of CSF appeared on the list of 30 firms. Though it was soon codified as “Institution-Only”, the market already knew the list of these 30 firms and we can be sure that these stocks were intervened. Most of the 30 stocks are blue chips.

2. **Firm Announcements:**

If new shareholders acquire more than 5% of the company’s stocks, the company must make public announcements within three trading days. The National Team was aware of this as well, and they worked around it by dividing their holdings across multiple accounts. Thus, urgent announcements due to the NT holdings exceeding the 5% limit were rare. However, firms with stock issuance plans or stock buybacks are also required to list their top ten shareholders in the announcements, which adds another source of intervention information leakage.

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2. The two Chinese stock exchanges disclose their daily top mover lists after the trading hours end. The lists include: (i) Top 3 stocks with daily return deviation from the benchmark index return exceeding 7% (top 5 for Shenzhen Stock Exchange); (ii) Top 3 stocks with daily turnover exceeding 20% (top 5 for Shenzhen Stock Exchange); (iii) Top 3 stocks with daily amplitude scaled by daily minimum price exceeding 15% (top 5 for Shenzhen Stock Exchange); (iv) All stocks with the absolute value of cumulative return deviations in 3 consecutive trading days exceeding 20%; (v) All stocks with the daily average turnover in the recent 3 trading days exceeding 30 times of the average daily turnover in the previous 5 trading days. The lists report the date, stock code, stock name, trading volume in both shares and RMB. For each stock, the list also reports the top 5 securities business offices with the highest selling and buying volumes. Please refer to the following link for 龙虎榜: <http://www.sse.com.cn/disclosure/diclosure/public/>

### 3. Cninfo Platform:

The Cninfo platform (互动易, Hu-Dong-Yi in Chinese) allows investors to contact listed companies directly. Investors could post questions on the platform, and executives from the company (usually the general director secretary) would respond. In 2015Q3, some investors asked, “Has the CSF purchased the stock or not?” Some firms later confirmed that the National Team had intervened.

We obtain a list of 92 stocks from the three sources mentioned above. These stocks were known to have been intervened before the intervention portfolio was made public in October 2015. Aside from this, there is a less rigorous way to infer National Team’s holdings:

- **One way with 80% precision:**

Though the National Team learned to avoid showing up directly on the top mover lists, there is still a way to infer part of its portfolio. The National Team implemented its trading plans through four securities business offices, the names of which were known to the market. These four offices were called “the four guardians” and they were all owned by the CITIC securities, one of China’s leading state-owned securities firms.<sup>3</sup> If any of the four securities business offices appeared on the top mover lists, the market may infer that it was the result of National Team intervention and may thus consider the related stock as intervened. We manually collected all top movers with their top 5 trading securities offices containing any of “the four guardians” during 2015Q3. The final list includes 418 stocks.

This is a less precise way to infer the intervention holdings because the securities business offices may appear on the list as a result of other investors’ transactions through these offices. Among the 418 stocks, about 300 (80%) were intervened by the National Team.

Though we cannot rule out the possibility that some investors had private information about the intervention, the above four sources capture the vast majority of the publicly-observable information leakage prior to the intervention portfolio disclosure.

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3. The names of the four securities business offices are: (i) Securities business office at Beijing headquarter, CITIC securities (中信证券北京总部证券营业部); (ii) Hujialou securities business office, Beijing, CITIC securities (中信证券北京呼家楼证券营业部); (iii) Wangjing securities business office, Beijing, CITIC securities (中信证券北京望京证券营业部); (iv) Securities business office at financial street, Beijing, CITIC securities (中信证券北京金融大街证券营业部).

## D Adjustments to CSF Funds' Stock Holding Reports

Due the different disclosure requirements in interim, annual, and quarterly reports, the 5 CSF mutual funds report the whole stock portfolio in interim and annual reports but only the top 10 most heavily invested stocks in quarterly reports (or if the mutual fund is among the firm's top 10 shareholders). To smooth the unnecessary fluctuations and reduce mistakes in identifying changes in the National Team stock holding, we make the following adjustments to the stock holding report data for mutual funds:

- For the quarterly report data, if a stock is among the top 10 most heavily invested stocks of one of the 5 funds (or some of the 5 funds are among the top 10 shareholders of the stock. For simplicity, we omit this scenario in what follows. But the logic of adjustment is exactly the same.), we leave the part of stock holding reported in top 10 list unchanged. If a stock is not among any of the 5 funds' top 10 list, then we compare the holding records for this stock in the previous period and in the next period. The previous period report and the next period report should be interim and annual reports and we can know the detailed stock holding data. If these 2 periods' stock holding records are exactly the same, then we replace stock holding record for the quarterly report in between with the record for the previous period (or the next period, as they are the same). If the 2 periods' reports are not the same, we leave the stock holding record for the quarter in between to be 0. (This means we leave it to the control group, which would strengthen our regression analysis results.) If a stock is on some of the funds' top 10 list but not on others', then we leave the part reported on top 10 list unchanged and treat the remaining part in the same way as we treat the stocks that is not among any of the 5 funds' top 10 list.
- After we finish step (1), we then adjust the stock holding records in the interim and annual reports. Again, if the stock is among some of the 5 funds' top 10 list and not held by others, then the records will be unchanged. If the stock is not among any of the 5 top 10 lists, and the National Team stock holding records for the previous and next period (quarterly reports) are all missing, then we drop this record in interim or annual report. That is, we simply replace the National Team stock holding for this stock in this period with 0. This strict rule makes our analysis an under-estimate and this can strengthen our results. For stocks on top 10 list of some of the 5 funds and not on the others', we treat them in the same way by splitting it into the top 10 part and the non-top 10 part as in step (1).