# Daily Momentum and New Investors in an Emerging Stock Market 

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## Price Momentum and Behavioral Finance

Medium-term price momentum over 3-12 months horizon (JegadeeshTitman '93) and long-term reversals over 2-5 years

- Are pronounced phenomena in the US and other major stock markets
- Had precipitated the development of behavioral finance theories (e.g., Barberis-Shleifer-Vishny '98; Daniel-Hirshleifer-Subrahmanyam '98; Hong-Stein '99)

Theories highlight investors' cognitive biases, including overconfidence, over-extrapolation, limited attention, and so on

## No Momentum in China

The Chinese stock market is widely regarded as speculative, and investors feature strong cognitive biases (Song-Xiong '18; Allen et al. '20; Hu-PanWang '21)

- Over 200\% annual turnover rate
- Institutions are still under-developed (IO less than 10\%)
- Trading dominated by inexperienced retail investors
- Large inflows of new investors in this relatively new market


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However, medium-term price momentum is absent from China

- e.g., Chui-Titman-Wei '10; Du et al. '22
- Instead, robust reversal effects at the horizons from 1, 3, 6, 12 months to five years (Liu-Stambaugh-Yuan '19)

The lack of medium momentum in China challenges those classic behavioral finance theories

## Our Paper

- Uncovers a significant momentum effect in daily returns
- Momentum persists for one to two days before it reverses
- Stronger during bullish markets


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- Examines the trading dynamics of various investor groups
- Using account-level transaction data from the Shenzhen Stock Exchange (SZSE) in 2005-2019
- Can track all trading activities of an individual or institution
- Evidence suggests new investors' trading behavior and interaction with other investor groups lead to daily momentum
- More reactive to daily market gyrations
- Heightened representation of noise traders
- The Chinese market features regular influxes of new, inexperienced investors


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- Evidence suggests new investors' trading behavior and interaction with other investor groups lead to daily momentum
- More reactive to daily market gyrations
- Heightened representation of noise traders
- The Chinese market features regular influxes of new, inexperienced investors
- Daily price momentum also appears in many emerging markets
- Which tend to be populated by inexperienced retail investors


## Related Literature

- The momentum effect in asset returns
- Jegadeesh-Titman '93, Rouwenhorst '98, Griffin-Ji-Martin '03, and Asness-Moskowitz-Pedersen '13
- Our paper uncovers daily momentum effect in China and other emerging markets and attributes it to trading behaviors of new investors
- Retail investors
- US: Barber-Odean '13 for a review
- Chinese markets: An-Lou-Shi '22, Jones et al. '21, Liao-PengZhu '21, Chen et al. '19, Liu et al. '22
- Indian markets: Balasubramaniam et al. '23, Anagol -Balasubramaniam-Ramadorai '21, Campbell-Ramadorai-Ranish '19
- Taiwan markets: Barber et al. '14, Lee-Lin-Liu '99
- Our paper: heterogeneity in retail investors with a focus on new investors


## Related Literature

- Investment experience/inexperience
- Greenwood-Nagel '09: younger fund managers as trend chasers and perform poorly during the tech bubble
- Barber et al. '22, Welch '22: inexperienced Robinhood users during 2018-20
- Our paper: a systematic analysis of new and experienced investors in a long sample period, including both booms and nonbooms
- Noise trading (Kyle, 1985; Black, 1986)
- Empirical: e.g., Lee-Shleifer-Thaler '91, Neal-Wheatley '98, Nagel '05, Kumar-Lee '06, Baber-Odean-Zhu '09
- Our paper: new investors' trading as a sharp measure of noise trading


## Price Momentum in China (Monthly)

- Fama-Macbeth regression on past returns and stock characteristics

|  | Ret $_{m+1}$ | Ret $_{m+1 \rightarrow m+3}$ | Ret $_{m+1 \rightarrow m+6}$ |
| :--- | :---: | :---: | :---: |
| Ret $_{m}$ | -0.026 | -0.014 | 0.003 |
|  | $(-2.68)$ | $(-0.72)$ | $(0.09)$ |
| Ret $_{m-11 \rightarrow m-1}$ | -0.000 | -0.002 | -0.008 |
| Ln_cap | $(-0.10)$ | $(-0.13)$ | $(-0.25)$ |
|  | -0.003 | -0.009 | -0.017 |
| Abn_turnover | $(-1.76)$ | $(-1.87)$ | $(-2.04)$ |
|  | -0.011 | -0.015 | -0.018 |
| BM | $(-3.70)$ | $(-2.94)$ | $(-2.14)$ |
|  | 0.008 | 0.019 | 0.037 |
| Vol | $(2.65)$ | $(2.17)$ | $(2.05)$ |
|  | 0.108 | -0.395 | -1.148 |
| Max | $(0.86)$ | $(-1.61)$ | $(-3.26)$ |
|  | -0.095 | -0.11 | -0.089 |
| Illiq | $(-3.90)$ | $(-3.15)$ | $(-1.16)$ |
|  | 0.398 | 1.772 | 2.279 |
| N | $(1.44)$ | $(2.69)$ | $(2.05)$ |
| $R^{2}$ | 280700 | 280700 | 280700 |

## Price Momentum in China (Weekly \& Daily)

| Panel B: Weekly returns |  |  |  |
| :--- | :---: | :---: | :---: |
|  | $\operatorname{Ret}_{w+1}$ | $\operatorname{Ret}_{w+1 \rightarrow w+2}$ | $\operatorname{Ret}_{w+1 \rightarrow w+3}$ |
| Ret $_{w}$ | -0.092 | -0.114 | -0.123 |
|  | $(-19.00)$ | $(-17.20)$ | $(-14.95)$ |
| Ret $_{w-3 \rightarrow w-1}$ | -0.028 | -0.042 | -0.050 |
|  | $(-9.88)$ | $(-10.09)$ | $(-9.27)$ |
| Controls | Yes | Yes | Yes |
| $N$ | 1444919 | 1444919 | 1444919 |
| $R^{2}$ | 0.162 | 0.183 | 0.184 |

Panel C: Daily returns

|  | $\operatorname{Ret}_{d+1}$ | $\operatorname{Ret}_{d+2 \rightarrow d+6}$ | $\operatorname{Ret}_{d+2 \rightarrow d+11}$ |
| :--- | :---: | :---: | :---: |
| Ret $_{d}$ | 0.02708 | -0.12812 | -0.14193 |
|  | $(7.54)$ | $(-21.09)$ | $(-17.54)$ |
| Ret $_{d-5 \rightarrow d-1}$ | -0.02764 | -0.06886 | -0.08803 |
|  | $(-24.92)$ | $(-20.76)$ | $(-17.20)$ |
| Ret $_{d-21 \rightarrow d-6}$ | -0.00903 | -0.03257 | -0.04928 |
|  | $(-17.73)$ | $(-15.04)$ | $(-13.56)$ |
| Controls | Yes | Yes | Yes |
| $N$ | 589629 | 5896299 | 5896299 |
| $R^{2}$ | 0.132 | 0.166 | 0.185 |

## Daily Momentum: Portfolio Sort

| Value-weight |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | I: Holding horizon |  |  |  |  |  |  |
| J:Sorting horizon | 1d | 2d | 3d | $4 d$ | $5 d$ | 10 d |  |
|  | 0.0037 | 0.0030 | 0.0031 | 0.0031 | 0.0014 | 0.0019 |  |
|  | $(9.47)$ | $(5.75)$ | $(5.08)$ | $(4.60)$ | $(2.00)$ | $(2.52)$ |  |
| 2d | 0.0017 | 0.0009 | 0.0008 | -0.0005 | -0.0022 | -0.0011 |  |
|  | $(5.27)$ | $(1.90)$ | $(1.33)$ | $(-0.83)$ | $(-3.13)$ | $(-1.24)$ |  |
| 3d | 0.0012 | 0.0005 | -0.0007 | -0.0022 | -0.0036 | -0.0021 |  |
|  | $(4.17)$ | $(1.14)$ | $(-1.21)$ | $(-3.16)$ | $(-4.52)$ | $(-2.05)$ |  |
| 5d | -0.0002 | -0.0018 | -0.0030 | -0.0039 | -0.0047 | -0.0034 |  |
|  | $(-0.63)$ | $(-4.24)$ | $(-5.05)$ | $(-5.26)$ | $(-5.43)$ | $(-2.79)$ |  |
| 10d | 0.0001 | -0.0007 | -0.0013 | -0.0018 | -0.0023 | -0.0015 |  |
|  | $(0.37)$ | $(-1.81)$ | $(-2.16)$ | $(-2.44)$ | $(-2.52)$ | $(-0.92)$ |  |

## Daily Momentum: Excluding Limit-Hitting Days

|  | I: Holding horizon |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1d | 2d | 3d | 4d | 5d | 10d |
| $\mathrm{J}:$ Sorting horizon 1d | $\begin{aligned} & 0.0021 \\ & (7.06) \end{aligned}$ | $\begin{aligned} & 0.0007 \\ & (1.98) \end{aligned}$ | $\begin{aligned} & 0.0004 \\ & (0.94) \end{aligned}$ | $\begin{aligned} & 0.0001 \\ & (0.32) \end{aligned}$ | $\begin{gathered} -0.0015 \\ (-3.07) \end{gathered}$ | $\begin{gathered} -0.0010 \\ (-1.77) \end{gathered}$ |
| 2d | $\begin{aligned} & 0.0003 \\ & (1.24) \end{aligned}$ | $\begin{gathered} -0.0011 \\ (-2.85) \end{gathered}$ | $\begin{gathered} -0.0015 \\ (-3.40) \end{gathered}$ | $\begin{gathered} -0.0029 \\ (-5.57) \end{gathered}$ | $\begin{gathered} -0.0044 \\ (-7.65) \end{gathered}$ | $\begin{gathered} -0.0032 \\ (-4.38) \end{gathered}$ |
| 3d | $\begin{gathered} -0.0001 \\ (-0.67) \end{gathered}$ | $\begin{gathered} -0.0014 \\ (-4.08) \end{gathered}$ | $\begin{gathered} -0.0029 \\ (-6.29) \end{gathered}$ | $\begin{gathered} -0.0044 \\ (-7.91) \end{gathered}$ | $\begin{gathered} -0.0055 \\ (-8.90) \end{gathered}$ | $\begin{gathered} -0.0038 \\ (-4.41) \end{gathered}$ |
| 5d | $\begin{gathered} -0.0012 \\ (-5.98) \end{gathered}$ | $\begin{gathered} -0.0031 \\ (-8.76) \end{gathered}$ | $\begin{gathered} -0.0045 \\ (-9.25) \end{gathered}$ | $\begin{gathered} -0.0054 \\ (-9.12) \end{gathered}$ | $\begin{gathered} -0.0060 \\ (-8.75) \end{gathered}$ | $\begin{gathered} -0.0043 \\ (-3.94) \end{gathered}$ |
| 10d | $\begin{gathered} -0.0006 \\ (-3.31) \end{gathered}$ | $\begin{gathered} -0.0017 \\ (-4.49) \end{gathered}$ | $\begin{gathered} -0.0022 \\ (-4.02) \end{gathered}$ | $\begin{gathered} -0.0026 \\ (-3.79) \end{gathered}$ | $\begin{gathered} -0.0029 \\ (-3.46) \end{gathered}$ | $\begin{gathered} -0.0009 \\ (-0.62) \end{gathered}$ |

- Daily price limits: $+/-10 \%$ per day for normal stocks
- The economic magnitude reduced by about $40 \%$, but still highly significant


## Data Description

- Account-level transaction data from the Shenzhen Stock Exchange
- Each individual account is identified by a unique ID
- 2005 to 2019
- 3 retail investor groups
- New investors (New): accounts less than 3 months and with a balance value less than 3 million RMB (around 0.5 m USD)
- Experienced investors (Exp): accounts older than 3 months and with a balance value less than 3 million RMB
- Large investors (L): accounts with a balance larger than 3 million
- 2 institutional investor groups
- Mutual funds (MF)
- Other institutions (OI)


## Fraction of New Investors



## Characteristics of New Investors

Panel A: Age and Gender

|  | Age |  | Male Ratio |  |
| :---: | ---: | ---: | ---: | :---: |
| Year | New | Retail | New | Retail |
| 2005 | 36.26 | 44.28 | 0.57 | 0.55 |
| 2006 | 36.18 | 44.89 | 0.52 | 0.54 |
| 2007 | 34.82 | 42.29 | 0.53 | 0.54 |
| 2008 | 33.82 | 42.31 | 0.61 | 0.54 |
| 2009 | 34.37 | 42.25 | 0.55 | 0.54 |
| 2010 | 33.48 | 42.35 | 0.54 | 0.54 |
| 2011 | 32.86 | 42.70 | 0.57 | 0.55 |
| 2012 | 35.27 | 43.38 | 0.57 | 0.55 |
| 2013 | 36.88 | 44.12 | 0.57 | 0.55 |
| 2014 | 36.31 | 44.57 | 0.57 | 0.55 |
| 2015 | 33.46 | 42.71 | 0.59 | 0.56 |
| 2016 | 33.45 | 42.05 | 0.56 | 0.56 |
| 2017 | 34.53 | 42.07 | 0.56 | 0.56 |
| 2018 | 35.31 | 42.39 | 0.56 | 0.56 |
| 2019 | 36.50 | 42.79 | 0.57 | 0.56 |

Panel B: Daily turnover

|  | New | Exp | L | MF | OI |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Turnover | $18.12 \%$ | $8.03 \%$ | $3.26 \%$ | $1.98 \%$ | $1.66 \%$ |

## Composition of Trading Volume



## New Investor as a Sharp Measure of Noise Trading

(1) The arrival of new investors negatively predicts market returns
> time-series reg

## New Investor as a Sharp Measure of Noise Trading

(1) The arrival of new investors negatively predicts market returns
(2) The net purchase by new investors negatively predicts individual stock returns

- For stock $i$ and month $m$,

$$
\begin{equation*}
\operatorname{Return}_{i, m+1}=\operatorname{Netbuy}_{i, m}^{G}+X_{i, m}+\epsilon_{i, m} . \tag{1}
\end{equation*}
$$

- Netbuy equals the net purchase minus sales by a group of investors over month $m$, scaled by market cap


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- Netbuy equals the net purchase minus sales by a group of investors over month $m$, scaled by market cap
- Investor group G: New, Exp, L, MF, and OI
- $X$ represents a set of stock characteristics, including size, turnover, BM, past month return, past year return, volatility, max, and illiquidity


## New Investors as Noise Traders

|  | $\operatorname{Ret}_{m+1}$ |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Netbuy (New) $)_{m}$ | -0.00347 <br> $(-5.80)$ |  |  |  |  |
| Netbuy $(\text { Exp })_{m}$ |  | -0.00032 |  |  |  |
| Netbuy $(\text { L })_{m}$ |  | $(-10.75)$ | 0.00038 |  |  |
| Netbuy $(\text { MF })_{m}$ |  |  | $(6.85)$ | 0.00021 |  |
| Netbuy $(\text { OI })_{m}$ |  |  |  | $(4.58)$ | 0.00018 |
|  |  |  |  |  | $(6.04)$ |
| N |  |  |  |  | 108303 |
| $R^{2}$ | 108303 | 108303 | 108303 | 108303 | 0.11 |

A one SD increase in Netbuy(New) is associated with a $1.73 \%$ decrease in the return next month

## New Investors as Noise Traders

|  | $\operatorname{Ret}_{m+1}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Netbuy (New) ${ }_{\text {m }}$ | $\begin{gathered} -0.00347 \\ (-5.80) \end{gathered}$ |  |  |  |  |
| Netbuy (Exp $)_{m}$ |  | $\begin{gathered} -0.00032 \\ (-10.75) \end{gathered}$ |  |  |  |
| Netbuy (L) m |  |  | $\begin{gathered} 0.00038 \\ (6.85) \end{gathered}$ |  |  |
| Netbuy (MF) ${ }_{\text {m }}$ |  |  |  | $\begin{gathered} 0.00021 \\ (4.58) \end{gathered}$ |  |
| $N e t b u y(O I) m$ |  |  |  |  | $\begin{gathered} 0.00018 \\ (6.04) \end{gathered}$ |
| N | 108303 | 108303 | 108303 | 108303 | 108303 |
| $R^{2}$ | 0.12 | 0.12 | 0.12 | 0.11 | 0.11 |

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- the number for $\operatorname{Netbuy(Exp)~is~} 0.96 \%$


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| :---: | :---: | :---: | :---: | :---: | :---: |
| $N e t b u y(N e w)_{m}$ | $\begin{gathered} -0.00347 \\ (-5.80) \end{gathered}$ |  |  |  |  |
| Netbuy (Exp) ${ }_{m}$ |  | $\begin{gathered} -0.00032 \\ (-10.75) \end{gathered}$ |  |  |  |
| Netbuy (L) m |  |  | $\begin{gathered} 0.00038 \\ (6.85) \end{gathered}$ |  |  |
| Netbuy (MF) ${ }_{m}$ |  |  |  | $\begin{gathered} 0.00021 \\ (4.58) \end{gathered}$ |  |
| Netbuy (OI) m |  |  |  |  | $\begin{gathered} 0.00018 \\ (6.04) \end{gathered}$ |
| N | 108303 | 108303 | 108303 | 108303 | 108303 |
| $R^{2}$ | 0.12 | 0.12 | 0.12 | 0.11 | 0.11 |

A one SD increase in Netbuy (New) is associated with a $1.73 \%$ decrease in the return next month

- the number for $\operatorname{Netbuy(Exp)~is~} 0.96 \%$
- for $L, M F$, and $O I$, associted with $0.63 \%, 0.46 \%$, and $0.31 \%$ increases in returns, respectively


## How Investors React to Daily Past Returns

For stock $i$ and day $d$, we run a Fama-Macbeth regression,

$$
\operatorname{Netbuy}_{i, d+1}^{G}=\operatorname{Ret}_{i, d}+\operatorname{Ret}_{i, d-5 \rightarrow d-1}+\operatorname{Ret}_{i, d-21 \rightarrow d-6}+X_{i, d}+\epsilon_{i, d}
$$

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$$

|  | New | Exp | $L$ | MF | OI |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Ret ${ }_{d}$ | 2.71965 | -1.73815 | -14.0692 | 11.56274 |
|  | $(10.03)$ | $(-1.39)$ | $(-23.94)$ | -0.29133 <br> $(20.03)$ | $(-0.52)$ |
| $\operatorname{Ret}_{d-5 \rightarrow d-1}$ | 0.11478 | -5.69894 | 0.23111 | 3.51895 | 0.99036 |
|  | $(2.67)$ | $(-16.02)$ | $(1.74)$ | $(16.67)$ | $(8.57)$ |
| $\operatorname{Ret}_{d-21 \rightarrow d-6}$ | -0.00569 | -0.80944 | -0.27761 | 0.86031 | 0.06882 |
|  | $(-0.45)$ | $(-6.71)$ | $(-5.72)$ | $(10.85)$ | $(1.36)$ |
| N | 2402764 | 2402764 | 2402764 | 2402764 | 2402764 |
| $R^{2}$ | 0.079 | 0.064 | 0.063 | 0.052 | 0.037 |

## Explain Daily Momentum

For stock $i$ and day $d$, we run a Fama-Macbeth regression,

$$
\begin{equation*}
\operatorname{Ret}_{i, d+1}=\operatorname{Ret}_{i, d}+\operatorname{Netbuy}_{i, d+1}^{G} \times \operatorname{Ret}_{i, d}+\operatorname{Netbuy}_{i, d+1}^{G}+X_{i, d}+\epsilon_{i, d} \tag{3}
\end{equation*}
$$

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For stock $i$ and day $d$, we run a Fama-Macbeth regression,

$$
\begin{equation*}
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\end{equation*}
$$

|  | New |  |  | Exp |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\operatorname{Ret}_{d+1}$ | $\operatorname{Ret}_{d+2 \rightarrow d+6}$ | $\operatorname{Ret}_{d+2 \rightarrow d+11}$ | $\operatorname{Ret}_{d+1}$ | $\operatorname{Ret}_{d+2 \rightarrow d+6}$ | $\operatorname{Ret}_{d+2 \rightarrow d+11}$ |
| $\operatorname{Ret}_{d}$ | $\begin{gathered} 0.02760 \\ (6.05) \end{gathered}$ | $\begin{gathered} -0.03760 \\ (-6.10) \end{gathered}$ | $\begin{gathered} -0.00023 \\ (-0.03) \end{gathered}$ | $\begin{gathered} 0.03274 \\ (6.77) \end{gathered}$ | $\begin{gathered} -0.05185 \\ (-8.49) \end{gathered}$ | $\begin{gathered} -0.02265 \\ (-2.89) \end{gathered}$ |
| Netbuy $_{\text {d }}{ }^{\text {d }}$ | $\begin{gathered} -0.00718 \\ (-12.57) \end{gathered}$ | $\begin{gathered} -0.00226 \\ (-8.20) \end{gathered}$ | $\begin{gathered} -0.00272 \\ (-7.81) \end{gathered}$ | $\begin{gathered} -0.00248 \\ (-43.67) \end{gathered}$ | $\begin{gathered} -0.00067 \\ (-14.60) \end{gathered}$ | $\begin{aligned} & -0.00083 \\ & (-14.53) \end{aligned}$ |
| $\operatorname{Ret}_{d} *$ Netbuy $_{\text {d }}{ }^{\text {a }}$ | $\begin{aligned} & 0.13504 \\ & (17.35) \end{aligned}$ | $\begin{gathered} -0.03950 \\ (-5.51) \end{gathered}$ | $\begin{gathered} -0.07682 \\ (-8.36) \end{gathered}$ | $\begin{aligned} & 0.01028 \\ & (17.87) \end{aligned}$ | $\begin{gathered} -0.00451 \\ (-6.04) \end{gathered}$ | $\begin{gathered} -0.00556 \\ (-5.95) \end{gathered}$ |
| Control N $R^{2}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \\ 0.102 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ $0.108$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ |
| $R^{2}$ | 0.126 | 0.102 | 0.108 | 0.252 | 0.105 | 0.111 |

## Explain Daily Momentum

|  | Large |  |  | MF |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\operatorname{Ret}_{d+1}$ | $\operatorname{Ret}_{d+2 \rightarrow d+6}$ | $\operatorname{Ret}_{d+2 \rightarrow d+11}$ | $\operatorname{Ret}_{d+1}$ | $\operatorname{Ret}_{d+2 \rightarrow d+6}$ | $\operatorname{Ret}_{d+2 \rightarrow d+11}$ |
| $\operatorname{Ret}_{d}$ | $\begin{aligned} & 0.05646 \\ & (13.16) \end{aligned}$ | $\begin{gathered} -0.04544 \\ (-7.69) \end{gathered}$ | $\begin{gathered} -0.01384 \\ (-1.70) \end{gathered}$ | $\begin{gathered} 0.02165 \\ (5.19) \end{gathered}$ | $\begin{gathered} -0.06135 \\ (-10.48) \end{gathered}$ | $\begin{gathered} -0.03481 \\ (-4.49) \end{gathered}$ |
| Netbuy $_{\text {d }}{ }^{\text {d }}$ | $\begin{aligned} & 0.00168 \\ & (36.23) \end{aligned}$ | $\begin{aligned} & 0.00049 \\ & (10.99) \end{aligned}$ | $\begin{gathered} 0.00064 \\ (9.57) \end{gathered}$ | $\begin{aligned} & 0.00257 \\ & (26.18) \end{aligned}$ | $\begin{gathered} 0.00082 \\ (9.03) \end{gathered}$ | $\begin{gathered} 0.00114 \\ (7.20) \end{gathered}$ |
| $\operatorname{Ret}_{d} * \operatorname{Netbuy}_{d+1}$ | $\begin{gathered} -0.00670 \\ (-9.62) \end{gathered}$ | $\begin{gathered} 0.00479 \\ (3.24) \end{gathered}$ | $\begin{gathered} 0.00717 \\ (4.50) \end{gathered}$ | $\begin{gathered} -0.00949 \\ (-9.22) \end{gathered}$ | $\begin{gathered} 0.01253 \\ (7.27) \end{gathered}$ | $\begin{gathered} 0.01896 \\ (8.11) \end{gathered}$ |
| Control $\mathrm{N}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ | $\begin{gathered} \text { Yes } \\ 2402764 \end{gathered}$ |
| $R^{2}$ | 0.153 | 0.103 | 0.100 | 0.142 | 0.102 | 0.108 |

## Who Drives Daily Momentum

- A horse-race regression with all groups' Netbuy
- Ol is omitted


## Who Drives Daily Momentum

- A horse-race regression with all groups' Netbuy
- Ol is omitted
- New investors' netbuy exhibits strongest effect
- L and MF counterbalance these price effects

|  | $\operatorname{Ret}_{d+1}$ | $\operatorname{Ret}_{d+2 \rightarrow d+6}$ | $\operatorname{Ret}_{d+2 \rightarrow d+11}$ |
| :--- | :---: | :---: | :---: |
| $\operatorname{Ret}_{d}$ | -0.00489 | -0.04531 | -0.01049 |
|  | $(-0.99)$ | $(-6.85)$ | $(-1.31)$ |
| $\operatorname{Ret}_{d} *$ Netbuy $(\text { New })_{d+1}$ | 0.16582 | -0.01698 | -0.04744 |
|  | $(17.50)$ | $(-2.52)$ | $(-5.31)$ |
| $\operatorname{Ret}_{d} *$ Netbuy $(\text { Exp })_{d+1}$ | 0.00446 | -0.00465 | -0.00474 |
|  | $(5.17)$ | $(-3.20)$ | $(-2.59)$ |
| $\operatorname{Ret}_{d} *$ Netbuy $(\text { Large })_{d+1}$ | -0.00215 | 0.00046 | 0.00082 |
|  | $(-2.35)$ | $(0.27)$ | $(0.43)$ |
| $\operatorname{Ret}_{d} *$ Netbuy $(M F)_{d+1}$ | -0.00095 | 0.00807 | 0.01239 |
|  | $(-0.86)$ | $(3.66)$ | $(4.43)$ |
| Control $^{\mathrm{N}}$ | Yes | Yes | Yes |
| $R^{2}$ | 2402764 | 2402764 | 2402764 |
|  | 0.301 | 0.128 | 0.132 |

## Up vs Down Market

New investors pay more attention during bullish market, thus daily momentum effect should be stronger

- Days with market returns above ("Market Up") and below the median ("Market Down")

| Dependent Variable: | $\operatorname{Ret}_{d+1}$ |  |  | Netbuy $(\text { New })_{d+1}$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Market Up | Market Down |  | Market Up | Market Down |
| Ret $_{d}$ | 0.06957 | 0.03112 |  | 3.64145 | 1.79886 |
|  | $(12.64)$ | $(6.63)$ |  | $(7.03)$ | $(12.41)$ |
| Ret $_{d-5 \rightarrow d-1}$ | -0.01816 | -0.00742 |  | 0.24206 | -0.01236 |
|  | $(-13.46)$ | $(-5.29)$ |  | $(2.79)$ | $(-0.47)$ |
| Ret $_{d-21 \rightarrow d-6}$ | -0.00154 | 0.00065 |  | 0.03811 | -0.04945 |
|  | $(-1.98)$ | $(0.89)$ |  | $(1.44)$ | $(-4.70)$ |
| Control |  |  |  |  |  |
| N | 1363327 | 1419546 |  | 1170077 | 1232687 |
| $R^{2}$ | 0.083 | 0.085 |  | 0.089 | 0.069 |

## Daily Momentum: International Evidence

- Out of 21 emerging markets in our sample, 14 of them exhibit significantly positive value-weighted daily momentum patterns

|  | Brazil | Chile | China | Czech | Egypt | Greece | India |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VW | -0.0016 | 0.0031 | 0.0013 | 0.0156 | 0.0079 | 0.0029 | -0.0001 |
|  | (-5.86) | (12.70) | (6.64) | (10.40) | (18.14) | (6.44) | (-0.11) |
| EW | -0.0058 | 0.0042 | 0.0011 | 0.0282 | 0.0087 | 0.0002 | -0.0048 |
|  | (-23.47) | (17.54) | (5.74) | (16.14) | (19.63) | (0.28) | (-5.51) |
|  | Indonesia | Israel | Malaysia | Mexico | Pakistan | Philippines | Poland |
| VW | -0.0084 | 0.0060 | -0.0050 | 0.0043 | 0.0029 | -0.0049 | -0.0016 |
|  | (-9.61) | (16.09) | (-20.72) | (8.43) | (6.27) | (-11.82) | (-5.72) |
| EW | -0.0167 | 0.0065 | -0.0144 | 0.0047 | -0.0055 | -0.0122 | -0.0096 |
|  | (-17.12) | (16.36) | (-24.82) | (8.96) | (-9.29) | (-32.34) | (-21.60) |
|  | SaudiArabia | SouthAfr | SouthKor | Taiwan | Thailand | Turkey | Vietnam |
| VW | 0.0016 | 0.0014 | 0.0033 | 0.0018 | -0.0009 | 0.0018 | 0.0032 |
|  | (6.56) | (4.06) | (10.69) | (6.76) | (-2.73) | (4.47) | (4.93) |
| EW | 0.0013 | -0.0082 | 0.0025 | 0.0032 | -0.0056 | 0.0007 | -0.0043 |
|  | (7.06) | (-14.71) | (8.23) | (11.03) | (-12.20) | (1.77) | (-5.84) |

## Daily Momentum: International Evidence

- For developed markets, most markets appear to exhibit daily reversal

|  | Austria | Australia | Belgium | Canada | Denmark | Finland | France |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VW | 0.0020 | -0.0034 | -0.0019 | -0.0159 | -0.0005 | -0.0027 | -0.0005 |
|  | (5.96) | (-15.40) | (-11.49) | (-18.96) | (-2.32) | (-12.22) | (-3.60) |
| EW | -0.0001 | -0.0211 | -0.0042 | -0.0610 | -0.0070 | -0.0089 | -0.0032 |
|  | (-0.36) | (-46.39) | (-22.87) | (-38.97) | (-21.24) | (-37.73) | (-17.01) |
|  | Germany | HongKong | Italy | Japan | Netherlands | NewZealand | Norway |
| VW | -0.0010 | -0.0001 | -0.0003 | -0.0017 | 0.0005 | -0.0013 | -0.0024 |
|  | (-5.49) | (-0.29) | (-2.00) | (-11.38) | (2.76) | (-6.04) | (-10.68) |
| EW | $-0.0067$ | $-0.0052$ | -0.0031 | $-0.0041$ | $-0.0017$ | -0.0060 | -0.0070 |
|  | $(-18.01)$ | $(-15.40)$ | (-20.89) | $(-30.72)$ | $(-9.03)$ | (-26.27) | (-23.36) |
|  | Portugal | Singapore | Spain | Sweden | Switzerland | UK | USA |
| VW | -0.0021 | -0.0069 | 0.0002 | -0.0018 | -0.0007 | 0.0020 | -0.0015 |
|  | (-3.00) | (-21.54) | (1.36) | (-8.86) | (-5.04) | (11.07) | (-7.76) |
| EW | -0.0048 | -0.0219 | -0.0020 | -0.0096 | -0.0049 | 0.0059 | -0.0189 |
|  | (-7.99) | (-24.67) | (-12.02) | (-29.41) | (-35.93) | (16.31) | (-30.64) |

## Market Up\&Down and Daily Momentum in International Markets

Among the 18 markets that exhibit daily momentum, 17 markets have stronger momentum effects during the bullish periods

|  | Austria | Chile | China | Czech | Egypt | Greece |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Up | 0.0021 | 0.0038 | 0.0018 | 0.0149 | 0.0091 | 0.0038 |
|  | (4.6) | (10.79) | (5.92) | (6.29) | (15.6) | (5.26) |
| Down | 0.0019 | 0.0023 | 0.0008 | 0.0164 | 0.0066 | 0.0021 |
|  | (4.24) | (7.82) | (3.28) | (9.02) | (11.75) | (3.9) |
| Up-Down | $+$ | + | $+$ | (9.02) | + | + |
|  | Israel | Mexico | Netherlands | Pakistan | SaudiArabia | SouthAfrica |
| Up | 0.0073 | 0.0055 | 0.0009 | 0.0041 | 0.0024 | 0.0020 |
|  | (13.1) | (6.69) | (3.46) | (6.41) | (7.31) | (3.86) |
| Down | 0.0047 | 0.0032 | 0.0001 | 0.0016 | 0.0008 | 0.0007 |
|  | (10.38) | (5.36) + | (0.54) | (2.65) | (2.31) | (1.81) |
| Up-Down | + | + | + | + | + | + |
|  | SouthKorea | Spain | Taiwan | Turkey | UK | Vietnam |
| Up | 0.0046 | 0.0005 | 0.0021 | 0.0035 | 0.0020 | 0.0046 |
|  | (10.01) | (2.06) | (5.73) | (5.4) | (7.93) | (4.67) |
| Down | 0.0020 | 0.0000 | 0.0015 | 0.0001 | 0.0019 | 0.0019 |
|  | (5.31) + | (-0.22) | (4.01) + | (0.24) | (7.64) + | (2.47) |
| Up-Down | + | + | + | + | + | + |

## Conclusion

- We uncover daily momentum in the Chinese stock market
- Stronger during bullish markets
- New investors serve as a particularly reliable measure of market sentiment and noise trading
- The trading of new investors is directly related to daily momentum
- Daily price momentum is also observed in other emerging markets


## Appendix

- Time-series Regressions
- back

|  | $M_{1} t_{\_} r e t_{m+1}$ | Mkt_ret $_{m+3}$ | Mkt_ret $_{m+6}$ | Mkt_ret $_{m+12}$ |
| :--- | :---: | :---: | :---: | :---: |
| Frac_ni | -0.5289 | -2.39608 | -6.6792 | -15.80738 |
|  | $(-1.48)$ | $(-2.20)$ | $(-2.70)$ | $(-2.82)$ |
| Mkt_vol | 0.03633 | 0.35082 | 0.73012 | 1.77305 |
|  | $(0.87)$ | $(2.48)$ | $(3.02)$ | $(4.04)$ |
| Mkt_turnover | -0.00008 | -0.00058 | -0.00121 | -0.00144 |
|  | $(-0.42)$ | $(-1.22)$ | $(-1.33)$ | $(-0.85)$ |
| Mkt_BM | 0.04942 | 0.19951 | 0.22204 | 0.30962 |
|  | $(0.86)$ | $(1.19)$ | $(0.770$ | $(0.69)$ |
| Mkt_ret $_{m}$ | 0.14782 | 0.43617 | 0.85764 | 1.02343 |
|  | $(2.3)$ | $(2.49)$ | $(3.01)$ | $(2.52)$ |
| Mkt_ret $t_{m-12}$ | 0.03414 | 0.10962 | 0.21454 | 0.37635 |
|  | $(1.25)$ | $(1.44)$ | $(1.43)$ | $(1.65)$ |
| Constant | -0.01968 | -0.15201 | -0.12471 | -0.15404 |
|  | $(-0.50)$ | $(-1.33)$ | $(-0.54)$ | $(-0.38)$ |
| N | 180 | 180 | 180 | 180 |
| $R^{2}$ | 0.048 | 0.151 | 0.272 | 0.393 |

