# Interim Trading Skills of Institutional Investors

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# Introduction

## Overview

- Examines interim (intra-quarter) trading skills of institutional investors using ANcerno data
- Find strong evidence that investors earn significant abnormal returns on trades within trading quarter
- Interim trading is persistent
- Trading skills documented by previous studies are biased downward since they cannot account for interim trades

# Introduction

## Related Literature

- Stocks that mutual funds purchase earn higher returns than the stocks they sell
  - Chen, Jegadeesh and Wermers (2000), Kacperczyk, Sialm, and Zheng (2005), and more
- Trading performance has since declined or reversed in recent times
  - Duan, Hu, McLean (2009)
- Conflicting results whether institutional traders can predict future stock returns
  - Bennett, Sias, and Starks (2003), Cai and Zheng (2004)

# Introduction

**Claim:** Previous studies have used quarterly trading data as a proxy which cannot adequately capture intraquarter data, limiting this proxy:

1. Quarterly data cannot capture buys and sells of the same stock in between quarters
2. Quarterly holdings cannot identify exact timing and execution of trades

Previous studies assume all trades occur at the end of the quarter, but they can occur at any time. This can limit the researcher in properly assessing superior trading skills

# Data

## Solution:

Use ANcerno!

- Identifies exact date and execution price of each transaction for each stock.
- Gives number of stocks traded
- Commissions
- Buy or Sell
- Distinguishes trades made by different institutions

## Limitation

There is no information on management fees or fund returns

# Data

- Sample period 1999 - 2005
- 840 different institutions in sample period
- 3,816 different funds within those institutions
- Trading activity in sample accounts for 8% of dollar value of trading volume in CRSP
- Of the 3,816 funds:
  - 227 Money Managers
  - 3,589 pension funds

# Data



Panel A: ANcerno Data

| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|
| Total number of funds | 1,846 | 1,699 | 1,733 | 1,717 | 1,600 | 1,545 | 1,241 |
| Total number of institutions | 382 | 376 | 404 | 430 | 405 | 406 | 376 |
| Median number of funds per inst. | 4 | 4 | 4 | 4 | 4 | 3 | 3 |
| Total number of stocks | 6,150 | 5,906 | 5,082 | 4,692 | 4,736 | 4,927 | 4,763 |
| Total number of trades (millions) | 5.64 | 7.56 | 9.05 | 12.32 | 12.35 | 21.43 | 19.10 |
| Total share volume (billion) | 50.69 | 73.44 | 100.99 | 135.04 | 112.30 | 155.92 | 127.40 |
| Total dollar volume ($trillion) | 2.25 | 3.20 | 3.06 | 3.23 | 2.76 | 4.46 | 3.95 |
| Average share volume per trade | 8,988 | 9,714 | 11,159 | 10,961 | 9,093 | 7,276 | 6,669 |
| Median share volume per trade | 1,700 | 1,500 | 1,400 | 1,300 | 1,050 | 700 | 453 |
| Average dollar volume per trade | 398,803 | 423,726 | 337,633 | 262,359 | 223,126 | 208,027 | 206,902 |
| Median dollar volume per trade | 60,030 | 54,970 | 39,200 | 30,300 | 27,297 | 20,568 | 14,232 |

# Data



Panel B: Stock Characteristics

| | Mean | Median | *SD* | Maximum | Minimum |
|---|---|---|---|---|---|
| Market capitalization ($billion) | 2.67 | 2.76 | 0.34 | 3.28 | 2.03 |
| Book-to-market ratio | 0.51 | 0.49 | 0.06 | 0.63 | 0.43 |
| Lagged 12-month return (%) | 4.31 | 2.38 | 19.11 | 57.78 | −24.83 |
| Turnover (%) | 163.42 | 158.39 | 15.84 | 195.98 | 143.13 |
| Idiosyncratic volatility (%) | 47.93 | 49.71 | 11.28 | 65.30 | 31.09 |
| Amihud illiquidity measure ($\times 10^4$) | 0.22 | 0.15 | 0.14 | 0.58 | 0.09 |
| Quoted spread (%) | 0.06 | 0.04 | 0.04 | 0.14 | 0.02 |

# Data

- Additionally, complement data with:
  - CRSP
  - Compustat
  - TAQ

# Database Integrity



## No Survivorship Bias

1. ANcerno says so
2. Not all sample firms are present by the end of the sample
3. Authors collected data year by year

# Database Integrity



## No Selection Bias

1. ANcerno clients may be different than the average institution
   - no names of institutions given
   - ANcerno provided offers with some names
   - Compare changes in quarterly holdings between ANcerno and 13F
2. Authors find that characteristics of stock holdings of ANcerno does not differ from average 13F
3. ANcerno may not represent random selection of firm holdings and trades
   - Nature of ANcerno should not give this incentive of firms to misreport

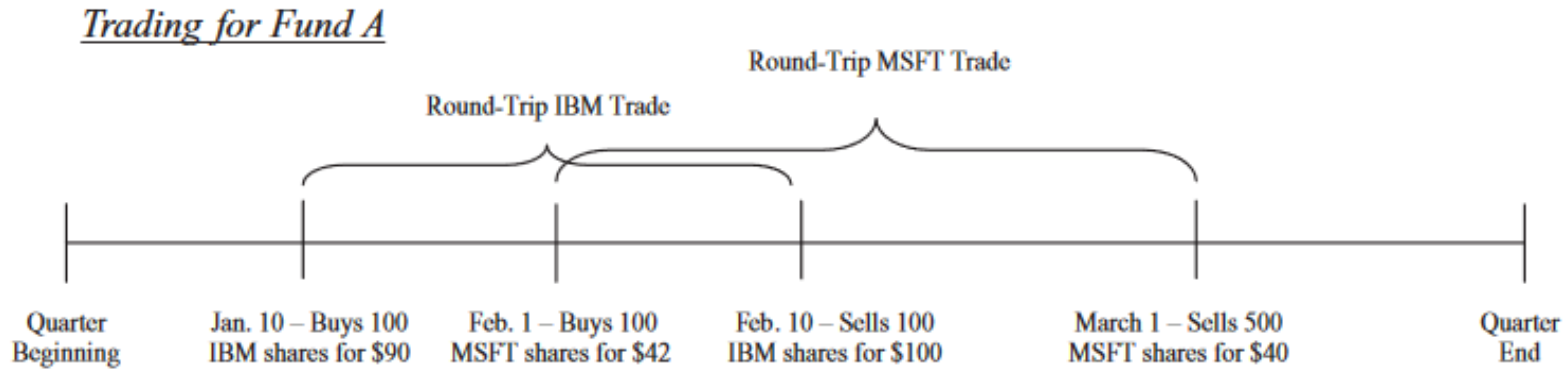
# Methodology

## Intraquarter Round-trip trades

1. Select all trades in a quarter where firm buys and sells particular stock
2. Calculate Holding Period return
3. Subtract DGTW return to get abnormal return
4. Compute average principal-weighted raw and abnormal return, with and without commissions, of all round-trip trades for each fund during each quarter

# Methodology






## Example

- IBM holding period return is $11.1\% = (\$100 - \$90)/\$90)$
- MSFT is $-4.76\% = (\$40 - \$42)/\$42)$
- Take principle-weighted raw average where:
  - IBM has $.6818 = (\$9000/\$13200)$ and MSFT $0.3182 = (\$4200/\$13200)$
  - Total return then is 6.06%

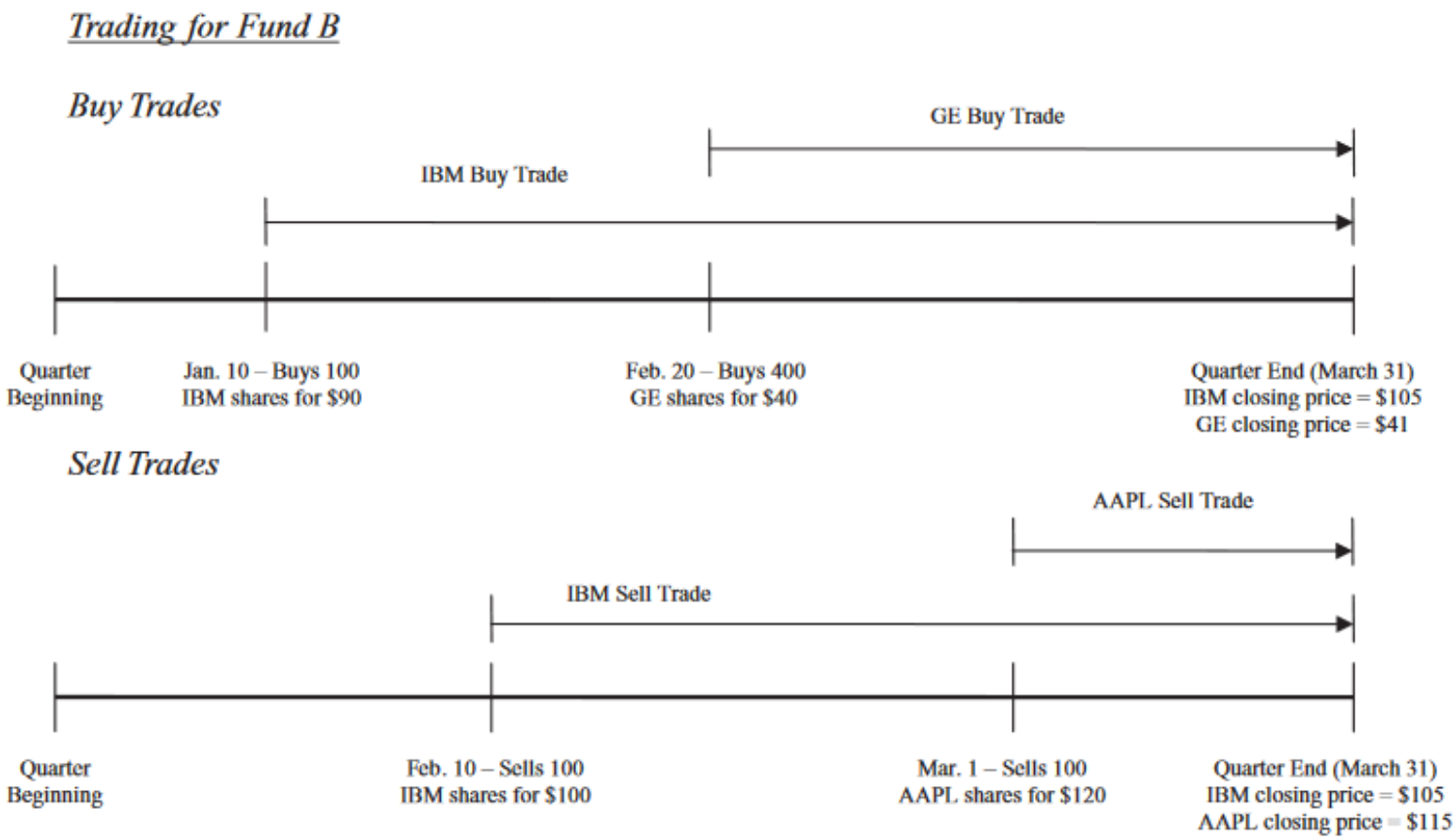
# Methodology

## All Trades

1. For each fund separate all trades within the quarter into buys and sells
2. Track performance of each trade until the end of the quarter
3. Subtract DGTW Benchmark return over same period
4. Compute equal and principle weighted abnormal return for buys and sells separately
5. Calculate difference in return before and after commission

# Methodology





# Methodology

## Example

- Buy trades have holding period return of 16.67% and 2.5% for IBM and GE
- Sell trades have 5.0% and $-4.17\%$ for IBM and AAPL
- Assume DGTW is 0, and we have EW return of: $(9.59\% - 0.42\%) = 9.17\%$

# Empirical Results - Round Trip Trades



## Hypothesis

If funds possess trading skill, their abnormal round-trip trading performance will be positive

# Empirical Results - Round Trip Trades



## Table 2

Panel A: Performance of Round-Trip Trades

| | All | Pension Funds | Money Manager Funds |
|---|---|---|---|
| Raw return | 2.99 | 3.07 | 2.00 |
| | (4.79) | (4.70) | (4.23) |
| Raw return (after commissions) | 2.71 | 2.79 | 1.69 |
| | (4.30) | (4.24) | (3.64) |
| DGTW adj. return | 2.09 | 2.17 | 1.17 |
| | (3.81) | (3.84) | (2.28) |
| DGTW adj. return (after commissions) | 1.80 | 1.88 | 0.87 |
| | (3.27) | (3.32) | (1.71) |
| % of intra-quarter round-trip trades | 22.89 | 18.30 | 33.65 |

# Empirical Results - Round Trip Trades Persistence



## Table 2

Panel B: Performance Persistence of Round-Trip Trades

| Current Quarter DGTW adj. Return Quintiles | Quarters | | | | |
|---|---|---|---|---|---|
| | Q+0 | Q+1 | Q+2 | Q+3 | Q+4 |
| q1 | −13.16 | −2.67 | −2.54 | −2.05 | −1.82 |
| | (−20.11) | (−4.79) | (−3.63) | (−2.75) | (−2.00) |
| q2 | −2.98 | −0.20 | −0.23 | −0.32 | −0.21 |
| | (−8.77) | (−0.38) | (−0.46) | (−0.50) | (−0.34) |
| q3 | 0.94 | 1.28 | 1.40 | 1.29 | 1.32 |
| | (2.31) | (2.43) | (2.36) | (2.48) | (2.19) |
| q4 | 5.48 | 3.74 | 3.51 | 2.96 | 3.02 |
| | (9.00) | (5.02) | (4.33) | (3.89) | (4.66) |
| q5 | 20.15 | 6.85 | 6.89 | 6.10 | 6.09 |
| | (12.60) | (7.91) | (8.13) | (9.24) | (6.47) |
| q5–q1 | 33.31 | 9.53 | 9.43 | 8.15 | 7.91 |
| | (17.08) | (11.37) | (11.99) | (10.23) | (7.10) |

# Concerns

- Mechanical Factors from rebalancing
- Behavioral Bias - selling winners to quickly, holding losers too long

## Solution

Look at all trades measured from earlier

# Empirical Results - All Trades

## Hypothesis

If funds have trading skills, then the stocks a fund buys will outperform the stocks it sells

- Some trades might be due to fund flows and rebalancing
- Will bias against study of finding evidence of trading skill

# Empirical Analysis - All Trades



## Table 3

| | All | Pension Funds | Money Manager Funds |
|---|---|---|---|
| Panel A: Equal-Weighted DGTW Adjusted Return | | | |
| Buy | 0.67 | 0.68 | 0.50 |
| | (4.04) | (3.96) | (4.38) |
| Sell | −0.06 | −0.06 | −0.13 |
| | (−0.43) | (−0.40) | (−1.06) |
| Buy−Sell | 0.74 | 0.74 | 0.63 |
| | (7.73) | (7.51) | (6.28) |
| Buy−Sell (after commissions) | 0.34 | 0.34 | 0.27 |
| | (3.26) | (3.16) | (2.87) |

# Empirical Analysis - All Trades



## Table 3

| Panel B: Principal-Weighted DGTW Adjusted Return | | | |
|---|---|---|---|
| Buy | 0.54 | 0.55 | 0.45 |
| | (3.57) | (3.48) | (4.22) |
| Sell | −0.03 | −0.01 | −0.26 |
| | (−0.18) | (−0.08) | (−1.73) |
| Buy−Sell | 0.57 | 0.56 | 0.72 |
| | (5.73) | (5.52) | (4.75) |
| Buy−Sell (after commissions) | 0.27 | 0.26 | 0.40 |
| | (2.67) | (2.52) | (2.74) |

# Empirical Analysis - All Trades



## Table 4

| Current Quarter Performance Quintiles | | Quarters | | | | |
|---|---|---|---|---|---|---|
| | | Q+0 | Q+1 | Q+2 | Q+3 | Q+4 |
| q1 | Buy | −3.88 | 0.15 | 0.13 | 0.21 | 0.11 |
| | | (−14.12) | (0.95) | (0.63) | (1.23) | (0.57) |
| | Sell | 4.79 | 0.48 | 0.38 | 0.44 | 0.27 |
| | | (10.70) | (2.38) | (1.81) | (2.48) | (1.26) |
| | Buy–Sell | −8.67 | −0.33 | −0.24 | −0.23 | −0.16 |
| | | *(−15.11)* | *(−1.49)* | *(−1.38)* | *(−1.14)* | *(−0.66)* |
| q2 | Buy | −0.78 | 0.36 | 0.29 | 0.21 | 0.30 |
| | | (−8.16) | (3.73) | (2.73) | (1.36) | (2.35) |
| | Sell | 1.05 | 0.05 | −0.08 | −0.01 | 0.11 |
| | | (6.98) | (0.33) | (−0.61) | (−0.07) | (0.64) |
| | Buy–Sell | −1.84 | 0.31 | 0.37 | 0.22 | 0.18 |
| | | *(−11.59)* | *(2.50)* | *(3.01)* | *(1.75)* | *(1.12)* |
| q3 | Buy | 0.37 | 0.36 | 0.50 | 0.46 | 0.36 |
| | | (3.60) | (2.63) | (4.04) | (2.54) | (3.93) |
| | Sell | −0.25 | −0.14 | −0.15 | 0.02 | −0.16 |
| | | (−2.45) | (−1.11) | (−1.08) | (0.10) | (−1.06) |
| | Buy–Sell | 0.62 | 0.50 | 0.65 | 0.44 | 0.52 |
| | | *(10.06)* | *(5.04)* | *(4.97)* | *(3.76)* | *(3.69)* |
| q4 | Buy | 1.72 | 0.59 | 0.54 | 0.64 | 0.59 |
| | | (12.58) | (3.44) | (3.38) | (3.82) | (3.73) |
| | Sell | −1.41 | −0.15 | −0.17 | −0.30 | −0.36 |
| | | (−14.18) | (−0.70) | (−0.86) | (−1.40) | (−2.64) |
| | Buy–Sell | 3.13 | 0.74 | 0.70 | 0.93 | 0.96 |
| | | *(20.29)* | *(5.18)* | *(4.82)* | *(6.42)* | *(7.41)* |
| q5 | Buy | 5.29 | 1.13 | 0.96 | 1.13 | 0.63 |
| | | (10.35) | (3.55) | (3.45) | (3.44) | (2.56) |
| | Sell | −4.31 | −0.44 | −0.20 | −0.20 | −0.46 |
| | | (−15.80) | (−2.18) | (−0.95) | (−0.88) | (−2.61) |
| | Buy–Sell | 9.60 | 1.56 | 1.16 | 1.33 | 1.10 |
| | | *(16.19)* | *(5.69)* | *(5.73)* | *(6.40)* | *(6.12)* |

# Empirical Analysis - All Trades



## Table 4

| | | | | | | |
|---|---|---|---|---|---|---|
| q5–q1 | Buy | 9.17 | 0.97 | 0.82 | 0.91 | 0.52 |
| | | (15.21) | (3.74) | (4.18) | (2.87) | (2.49) |
| | Sell | −9.11 | −0.92 | −0.58 | −0.64 | −0.74 |
| | | (−16.02) | (−4.86) | (−3.19) | (−3.53) | (−3.39) |
| | Buy−Sell | 18.27 | 1.89 | 1.41 | 1.56 | 1.26 |
| | | (*16.26*) | (*5.16*) | (*5.55*) | (*5.47*) | (*5.19*) |

# Implied Quarterly Trades

Results support hypothesis that institutions possess significant interim trading skill

## Question

What if we ignore round-trip trades and timing of interim trades within the quarter?

# Implied Quarterly Trades - Method



1. For each fund and each stock, aggregate all trades in quarter
2. Calculate cumulative net trading position as of the quarter-end
3. Calculate DGTW equal and principle weighted returns for buys and sells, get abnormal returns
4. Compute difference between abnormal returns buys and sells

Implicitly assumes all trades occur at the closing price on the last day of the quarter

# Implied Quarterly Trades - Results



| Panel A: Implied Quarterly Trading Performance | | | |
|---|---|---|---|
| | All | Pension Funds | Money Manager Funds |
| Equal-weighted DGTW adj. Return | | | |
| Buy | −0.05 | −0.06 | 0.20 |
| | (−0.14) | (−0.17) | (0.70) |
| Sell | 0.28 | 0.28 | 0.27 |
| | (0.79) | (0.79) | (0.73) |
| Buy−Sell | −0.33 | −0.34 | −0.08 |
| | (−2.14) | (−2.20) | (−0.38) |
| Principal-weighted DGTW adj. Return | | | |
| Buy | −0.05 | −0.05 | −0.10 |
| | (−0.17) | (−0.15) | (−0.84) |
| Sell | 0.19 | 0.20 | 0.10 |
| | (0.78) | (0.81) | (0.74) |
| Buy−Sell | −0.24 | −0.24 | −0.20 |
| | (−1.70) | (−1.66) | (−1.21) |

| Panel B: Persistence of Implied Quarterly Trading Performance | | | | | |
|---|---|---|---|---|---|
| Performance | Quarters | | | | |
| Quintiles | Q+0 | Q+1 | Q+2 | Q+3 | Q+4 |
| q1 (low) | | | | | |
| Buy | −7.23 | −0.03 | 0.04 | 0.01 | −0.03 |
| | (−10.74) | (−0.07) | (0.07) | (0.02) | (−0.08) |
| Sell | 7.02 | 0.45 | 0.21 | −0.01 | 0.42 |
| | (11.76) | (1.17) | (0.53) | (−0.04) | (0.99) |
| Buy−Sell | *−14.24* | *−0.48* | *−0.18* | *0.03* | *−0.46* |
| | (−15.37) | (−1.71) | (−0.61) | (0.07) | (−1.19) |

# Implied Quarterly Trades - Persistence



**Table V**—*Continued*

Panel B: Persistence of Implied Quarterly Trading Performance

| Performance Quintiles | Quarters | | | | |
|---|---|---|---|---|---|
| | Q+0 | Q+1 | Q+2 | Q+3 | Q+4 |
| q2 | | | | | |
| Buy | −2.25 | −0.17 | −0.40 | 0.04 | 0.16 |
| | (−7.75) | (−0.50) | (−1.00) | (0.10) | (0.42) |
| Sell | 1.94 | −0.04 | 0.02 | 0.35 | 0.15 |
| | (7.56) | (−0.11) | (0.09) | (1.02) | (0.48) |
| Buy−Sell | −4.19 | −0.13 | −0.43 | −0.03 | 0.01 |
| | (−15.72) | (−0.66) | (−1.63) | (−1.33) | (0.03) |
| q3 | | | | | |
| Buy | −0.08 | −0.07 | 0.11 | 0.11 | −0.09 |
| | (−0.32) | (−0.23) | (0.47) | (0.35) | (−0.28) |
| Sell | 0.12 | 0.19 | 0.31 | 0.19 | 0.25 |
| | (0.52) | (0.84) | (1.22) | (0.82) | (0.79) |
| Buy−Sell | −0.20 | −0.25 | −0.20 | −0.08 | −0.34 |
| | (−1.90) | (−1.48) | (−0.99) | (−0.35) | (−1.72) |
| q4 | | | | | |
| Buy | 1.97 | −0.03 | 0.05 | 0.07 | 0.11 |
| | (6.45) | (−0.13) | (0.20) | (0.22) | (0.33) |
| Sell | −1.90 | 0.11 | 0.33 | 0.23 | 0.29 |
| | (−7.05) | (0.54) | (1.60) | (0.81) | (1.18) |
| Buy−Sell | 3.87 | −0.14 | −0.28 | −0.16 | −0.17 |
| | (12.94) | (−0.81) | (−1.18) | (−0.69) | (−0.74) |
| q5 (high) | | | | | |
| Buy | 7.33 | 0.04 | 0.37 | 0.04 | 0.16 |
| | (10.79) | (0.11) | (0.88) | (0.13) | (0.35) |
| Sell | −6.21 | 0.03 | 0.19 | 0.43 | −0.13 |
| | (−13.06) | (0.08) | (0.47) | (1.38) | (−0.37) |
| Buy−Sell | 13.54 | 0.01 | 0.18 | −0.38 | 0.29 |
| | (15.77) | (0.04) | (0.47) | (−1.49) | (0.95) |

# Implied Quarterly Trades - Persistence



| | | | | | |
|---|---|---|---|---|---|
| q5–q1 | | | | | |
| Buy | 14.56 | 0.07 | 0.33 | 0.03 | 0.20 |
| | (14.24) | (0.17) | (0.57) | (0.08) | (0.51) |
| Sell | −13.23 | −0.42 | −0.02 | 0.44 | −0.55 |
| | (−15.96) | (−1.27) | (−0.08) | (1.13) | (−1.37) |
| Buy−Sell | 27.78 | 0.49 | 0.36 | −0.41 | 0.75 |
| | (16.07) | (1.05) | (0.68) | (−1.00) | (1.72) |

# Sources of Interim Trading Skill



Profitable Trading is likely to occur in stocks where public info is limited and arbitrage costs are large

- Limited Public Information
  - Firm size and book to market ratio
  - Growth firms
- Limits to arbitrage
  - idiosyncratic volatility
- Both should be correlated with various measures of illiquidity

# Sources of Interim Trading Skill



Steps:

- Assign decile-rank value to each stock based on NYSE breakpoints
- Highest decile 10, lowest 1
- Turnover, illiquidity, and quoted spread show investors prefer liquid stocks
- However, they appear to also favor high idiosyncratic volatility

# Sources of Trading Skill



Panel A: Stock Characteristics

| | | All | Pension Funds | Money Manager Funds |
|---|---|---|---|---|
| Size Deciles | Buy | 7.98 | 7.99 | 7.82 |
| | Sell | 8.09 | 8.10 | 7.91 |
| Book-to-Market Deciles | Buy | 3.60 | 3.59 | 3.83 |
| | Sell | 3.67 | 3.65 | 3.92 |
| Lagged Return Deciles | Buy | 5.87 | 5.89 | 5.56 |
| | Sell | 6.07 | 6.09 | 5.72 |
| Turnover Deciles | Buy | 7.04 | 7.05 | 6.87 |
| | Sell | 6.97 | 6.98 | 6.83 |
| Idiosyncratic Volatility Deciles | Buy | 5.60 | 5.61 | 5.39 |
| | Sell | 5.43 | 5.44 | 5.31 |
| Illiquidity Deciles | Buy | 2.80 | 2.79 | 2.92 |
| | Sell | 2.72 | 2.71 | 2.87 |
| Quoted Spread Deciles | Buy | 3.46 | 3.45 | 3.65 |
| | Sell | 3.54 | 3.53 | 3.73 |

Panel B: Abnormal Trading Performance by Stock Characteristics

| | Average Decile | Buy | Sell | Buy–Sell |
|---|---|---|---|---|
| Small stocks | 1.88 | 1.17 | 0.35 | 0.82 |
| | | (3.45) | (1.23) | (5.07) |
| Large stocks | 7.83 | 0.35 | −0.24 | 0.59 |
| | | (2.02) | (−1.55) | (5.45) |
| Small–Large | | | | 0.23 |
| | | | | (1.22) |

(*continued*)

# Sources of Trading Skill



Panel B: Abnormal Trading Performance by Stock Characteristics

| | Average Decile | Buy | Sell | Buy–Sell |
|---|---|---|---|---|
| Growth stocks | 2.75 | 0.43 | −0.15 | 0.58 |
| | | (2.51) | (−0.97) | (5.88) |
| Value Stocks | 8.29 | 1.34 | 0.50 | 0.84 |
| | | (3.56) | (1.50) | (5.02) |
| Growth–Value | | | | −0.26 |
| | | | | (−1.42) |
| Past losers | 2.55 | 0.35 | −0.15 | 0.50 |
| | | (1.68) | (−0.64) | (3.19) |
| Past winners | 8.34 | 0.61 | −0.11 | 0.71 |
| | | (3.55) | (−0.57) | (6.94) |
| Losers–Winners | | | | −0.21 |
| | | | | (−1.09) |
| Low turnover stocks | 2.38 | 0.80 | 0.06 | 0.74 |
| | | (2.56) | (0.19) | (6.93) |
| High turnover stocks | 8.54 | 0.55 | −0.08 | 0.63 |
| | | (2.08) | (−0.35) | (5.01) |
| Low–High | | | | 0.11 |
| | | | | (0.66) |
| Low IVOL stocks | 3.08 | 0.56 | 0.11 | 0.45 |
| | | (2.43) | (0.47) | (5.06) |
| High IVOL stocks | 9.03 | 0.79 | −0.09 | 0.88 |
| | | (2.16) | (−0.24) | (5.58) |
| Low–High | | | | −0.43 |
| | | | | (−2.52) |
| Low illiquidity stocks | 3.16 | 0.35 | −0.15 | 0.49 |
| | | (2.31) | (−1.05) | (4.65) |
| High illiquidity stocks | 9.07 | 1.82 | 0.53 | 1.29 |
| | | (4.92) | (1.83) | (4.26) |
| Low–High | | | | −0.80 |
| | | | | (−2.41) |
| Low quoted spread stocks | 2.62 | 0.36 | −0.21 | 0.56 |
| | | (2.43) | (−1.27) | (5.22) |
| High quoted spread stocks | 8.61 | 1.59 | 0.55 | 1.05 |
| | | (5.39) | (2.14) | (6.10) |
| Low–High | | | | −0.48 |
| | | | | (−2.79) |

# Illiquidity?

## Question

Does compensation for liquidity provision drive interim trading performance? If so, funds with higher interim trading performance should experience lower or negative implicitly trading costs.

## Result

High-skill funds incur higher implicit trading costs - more likely to demand liquidity

# Illiquidity



| Interim Trading Performance Quintiles | Average Interim Trading Performance (%) | Implicit Trading Costs (%) |
|---|---|---|
| Q1 (low) | −8.67 | 0.051 (5.87) |
| Q2 | −1.84 | 0.058 (8.21) |
| Q3 | 0.62 | 0.056 (9.32) |
| Q4 | 3.13 | 0.070 (8.71) |
| Q5 (high) | 9.60 | 0.090 (7.42) |
| Q5–Q1 | 18.27 | 0.039 (3.82) |

# Robustness

- Trading performance and trading horizon does not appear to be correlated
- Using FIFO and LIFO give similar results
- Pre- and Post-bubble (tech) yields similar results
- Some success is determined by institutional-level factors
- Funds with the highest interim trading performance have higher monthly fund alphas

# Conclusion



- Authors seek to sort out the real story of trading skills of institutional investors
- Use interim (intraquarter) data whereas former studies use discrete quarterly
- Show that institutional investors do have above average skill, and it persists
- Using same data but with discrete quarterly measures nullify results
- Illiquidity appears to be important factor, and indicates asymmetric information with arbitrage

## Questions

- How long do winners win? Persistence more than 4 quarters? Where should I put my money in long-run?
- 1999 - 2005 sample too small?