

Another look at Breadth of Ownership and Stock Returns

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Issue

Breadth of Ownership \approx Number of owners

Empirical question:

Do changes in breadth have implications for stock returns?

The Talk

- Why should it? – theoretical considerations.
- Does it? – results for Norway
- Implications of results.

Theory, Miller [1977] result

Why should changes in breadth have implication for stock returns?

Model: Miller [1977]

Two components

- Heterogenous expectations (differences of opinion)
- Constraints on short sales.

Result:

- Stocks with binding short sales constraints are overpriced.

Stated differently

- Stock prices increase when size of market decreases (when short sales constraints are binding).

Intuition

- Pessimists: Stock over-valued, sell (short).
- Optimists: Stock undervalued, buy.

Unrestricted price reflects view of both types.
Add short sales restrictions.

- Pessimists can not sell (enough).
- Price reflects the view of optimists.
- Price is higher with short sales constraints.

Note

- All stocks with binding short sales constraints will be overpriced.
- Other stocks will be correctly priced.
- Stock prices are too high on average.

Theory, developing Miller intuition

The Miller [1977] intuition has a winners curse problem.

Development: Diamond and Verrecchia [1987].

- Investors take into account that they know pessimists are not in the market.
- Bid down prices such that they are on average correct.
- Prices do not necessarily reflect actual information when it is realized.

Asymmetric response.

- Good news incorporated immediately.
- Bad news can be delayed, but then lead to large falls (crashes) when it is revealed. [Hong and Stein, 2003]

Empirical implications

Stocks with many “pessimists” overpriced, but will eventually be correctly priced.

→ The more “pessimists”, the lower future returns.

Test:

- Is there a (crosssectional) link between a measure of pessimism and (subsequent) asset returns?

Implement: Need a measure of “degree of pessimism”

Breadth of ownership

Chen et al. [2002] suggest *breadth of ownership* as measure of “pessimism”

When more gets pessimistic about a stock, they want to sell(short).

When an owner can't short, can at least reduce holdings to zero.

→ The numbers of owners is inversely related to the degree of pessimism.

→ *New information* hit the market → *changes* in breadth.

Testable implication

Decrease in number of owners \implies Lower returns.

Breadth of ownership, US results

Results of Chen et al. [2002]:

Quarterly data on mutual funds holdings.

- CHS: Δ BREADTH – Change in number of mutual funds long in a stock.

Find: Low Δ Breadth predict low return next quarter.

- Limited to data on mutual funds. Open to alternative interpretation: Mutual funds are better informed.
- Quarterly observations: Is this the relevant horizon?

Added questions asked in this paper

Are mutual funds special?

Horizon

Is information long term?

How quickly is information revealed by trading reflected in prices?

Why can we answer these questions?

Data for Norway:

- Complete ownership structure for all firms at the Oslo Stock Exchange.
- Monthly observations, 1989–2003.
- Every owner has a sector code, let us distinguish:
 - Mutual fund owners
 - Financial owners
 - Personal (individual) owners
 - Nonfinancial (industrial) owners
 - Foreign owners

Note: Such complete lists of owners never public information, but much is known in the market.

Mutual funds

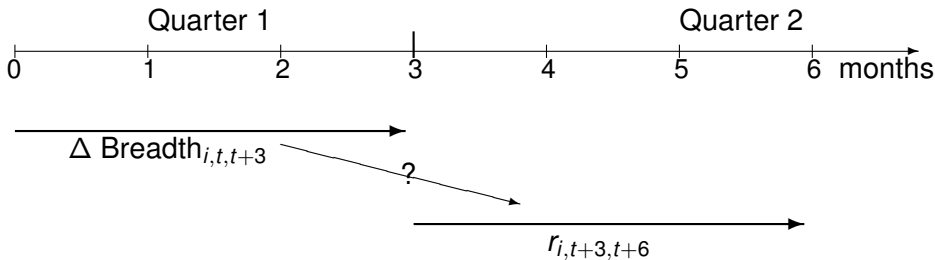
Theory no special role for mutual funds.

As likely to be pessimistic as any other owner.

Two competing hypotheses:

- Mutual funds representative:
 - Increase in pessimism.
 - → Decrease in mutual fund owners
 - → Decrease among other owners
 - \implies Increase in ownership concentration
- Mutual funds better informed
 - Increase in pessimism.
 - → Decrease in breadth of mutual funds
 - → other owners will not decrease as much.
 - \implies Less increase in ownership concentration.

Does changes in breadth predict next quarter's returns?



Quarterly returns, breadth portfolios

	CHS: Δ BREADTH	Δ No Individual Owners	Δ Herfindahl Index
P1 (low)	3.33	5.68	3.79
P2	4.44	4.97	6.17
⋮			
P9	5.65	6.30	4.73
P10 (high)	6.05	2.30	3.28
P1-P10	-2.716	3.384	0.509
pvalue	[0.09]	[0.02]	[0.69]

Next quarter's returns

- Mutual fund measure of breadth
Decrease in breadth → low returns.
– confirm US results
- Individual owners measure
Increase in breadth → low returns.
– opposite to US mutual funds results
- No strong results on concentration.
- Adjusting for asset pricing models: Results not that strong, but the reversed role of individual owners still significant.

Conclude: US breadth results really about mutual funds.

The Horizon Issue

Two questions

How long term is information?

(Maybe all information is impounded in prices the first month)

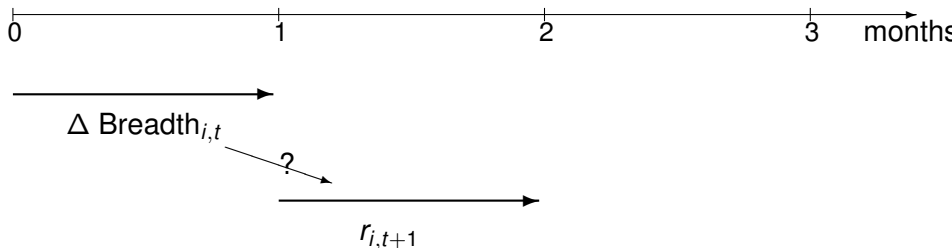
Are prices adjusting to trades immediately?

(Within the month) (Microstructure effects)

Is information really long term?

If information is revealed over the next month

Should see monthly breadth changes predict next months returns.



No support for effects over this monthly horizon.

Implication: Information relatively long lived, revealed only over quarterly horizons.

Immediate effects of trading?

May some of the information reflected in trading decisions be revealed immediately?

Negative information:

Pessimists are trying to sell, can not do enough (want negative positions)

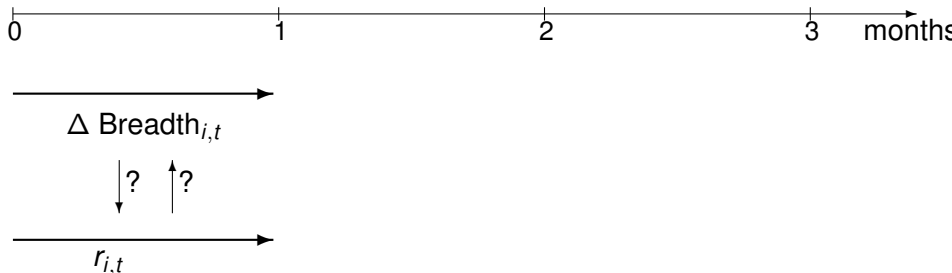
Increase in number of price-insensitive sellers

→ Decrease in price.

Are prices changing within the same month that breadth changes?

Looking for immediate information revelation

How we investigate



With monthly observations, can not judge causality within month.
Are trades leading returns, or vice versa?

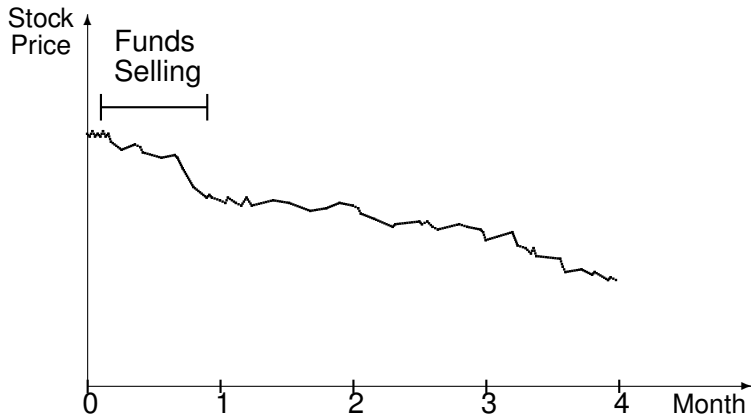
Same month returns

	CHS: Δ BREADTH	Δ No Individual Owners
P1 (low)	0.68	3.85
P2	0.69	1.98
\vdots	\vdots	
P9	1.73	2.06
P10 (high)	3.17	1.48
P1-P10	-2.483	2.373
pvalue	[0.00]	[0.00]

Mutual funds selling – price falls same month

Individual owners selling – price increases same month

Summarizing results, price development



Conclusion

The US breadth results of [Chen et al., 2002].

- Interpreted as support for [Miller, 1977]

Our broader breadth measures suggest:

- Rather: The cross-sectional effect linked to mutual fund trading, not breadth per se.

Horizon

- Some long term information, only revealed on quarterly horizons, not monthly.
- Data consistent with microstructure effects: some information revealed immediately through trading.

Suggestions for the future

Two important questions:

What is special about mutual funds?

Can we say something about causality?

- Need microstructure data/tools:
Is it the different types of trades which is causing price changes, or is it the other way around?

- Joseph Chen, Harrison Hong, and Jeremy C Stein. Breadth of ownership and stock returns. *Journal of Financial Economics*, 66: 171–205, 2002.
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- Harrison Hong and Jeremy C Stein. Differences of opinion, short-sales constraints, and market crashes. *Review of Financial Studies*, 16(2):487–525, Summer 2003.
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