

Behavioral Finance



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19.10.2017



EVROPSKÁ UNIE
Evropské strukturální a investiční fondy
Operační program Výzkum, vývoj a vzdělávání

**MS
MT**
MINISTERSTVO ŠKOLSTVÍ,
MLÁDEŽE A TĚLOVÝCHOVY

MARKET ANOMALIES II



- Equity premium puzzle
- Volatility puzzle
- Cross-section of average returns
 - ✦ one group of stocks earns higher average returns than another
 - ✦ anomalies – since they cannot be justified by intuitive CAPM

$$E(R_i) = R_f + \beta_i(E(R_m) - R_f)$$

- Size premium
- Long-term reversals
- Predictive power of scaled-price ratios
- Momentum

The size premium



- **Fama and French (1992):**
 - Yearly data: 1963 to 1990, NYSE, AMEX, and NASDAQ
 - Grouping stocks into deciles based on their market capitalization and then measure the average return of each decile over the next year
 - the average return of the smallest stock decile is 0.74% per month higher than the average return of the largest stock decile.
 - CAPM: smallest decile do have higher betas, but the difference in risk is not enough to explain the difference in average returns

Long-term reversals



- **De Bondt and Thaler (1985):**
 - a “winner” portfolio of the 35 stocks with the best prior record and a “loser” portfolio of the 35 worst performers
 - over the whole sample period (1926-82), the average annual return of the loser portfolio is higher than the average return of the winner portfolio by almost 8% per year.

Predictive power of scaled-price ratios



- Analyses focused on predictive power of i.e. book-to-market (B/M), earnings-to-price (E/P) ratio, etc
- Fama and French's (1992):
 - average return of the highest-B/M-ratio decile, containing so called “value” stocks, is 1.53% per month higher than the average return on the lowest-B/M-ratio decile, “growth” or “glamour” stocks
 - a difference much higher than can be explained through differences in beta between the two portfolios

Momentum



- **Jegadeesh and Titman (1993):**
 - decile of biggest prior winners outperforms the decile of biggest prior losers by an average of 10% on an annual basis (1963-1989)
- **De Bondt and Thaler's (1985)**
 - the length of the prior ranking period is crucial
 - Tax loss selling and seasonal effect

Stock returns following corporate announcements (event studies)



- Event studies of earnings announcements
- Event studies of dividend initiations and omissions
- Event studies of stock repurchases
- Event studies of primary and secondary offerings

Belief based models



- Reading in Barberis and Thaler (2003):
 - pages 1090-1095
 - What are the models discussed?

INVESTOR BEHAVIOR



- Number of individual investors increased significantly
 - Drop of costs of entering the stock market
 - Contribution retirement savings plan
- ⇒ importance of research focused on explaining certain actions of individuals related to financial markets

INVESTOR BEHAVIOR



- Insufficient diversification
- Naive diversification
- Excessive trading
- The selling decision
- The buying decision

1. Insufficient diversification



- Investors diversify much less than recommended
- “Home bias”
 - French and Poterba (1991) - investors in the USA, Japan and the UK allocate 94%, 98%, and 82% of their overall equity investment, respectively, to domestic equities

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 - Driscoll et al. (1995): people consider their own company stock less risky than a diversified index

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- Is there some other interpretation?

1. Insufficient diversification



- Simple behavioral explanation of home bias: ambiguity and familiarity
 - Is there some other interpretation?
 - Coval and Moskowitz (1999): evidence of U.S. mutual fund managers' tendency to hold stocks of companies, with headquarters located close to their funds' headquarters
- => **Information benefit and lower costs for research** (note: previously mentioned papers did not reveal obvious information-based explanation)

2. Naive diversification



- 1/n diversification heuristic
- Benartzi and Thaler (2001):
 - options: Stock fund and bond fund
 - Stock fund and balanced fund (50 % stocks, 50 % bonds)
 - Bond fund and balanced fund

2. Naive diversification



- 1/n diversification heuristic
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 - options: Stock fund and bond fund
 - Stock fund and balanced fund (50 % stocks, 50 % bonds)
 - Bond fund and balanced fund
 - Allocation 50:50 a popular one in all 3 cases
 - Average allocation to stocks in the three conditions was 54%, 73% and 35%, respectively

3. Excessive trading



- Studies of individuals and institutions point out that both groups tend to trade more than can be justified by rational models
- [Barber and Odean \(2000\):](#)
 - ✦ trading activity from 1991 to 1996 in sample of accounts at a national discount brokerage firm
 - ✦ Outcomes: average return of investors well below the return of standard benchmarks

3. Excessive trading: Barber and Odean (2000)



Trading Is Hazardous to Your Wealth

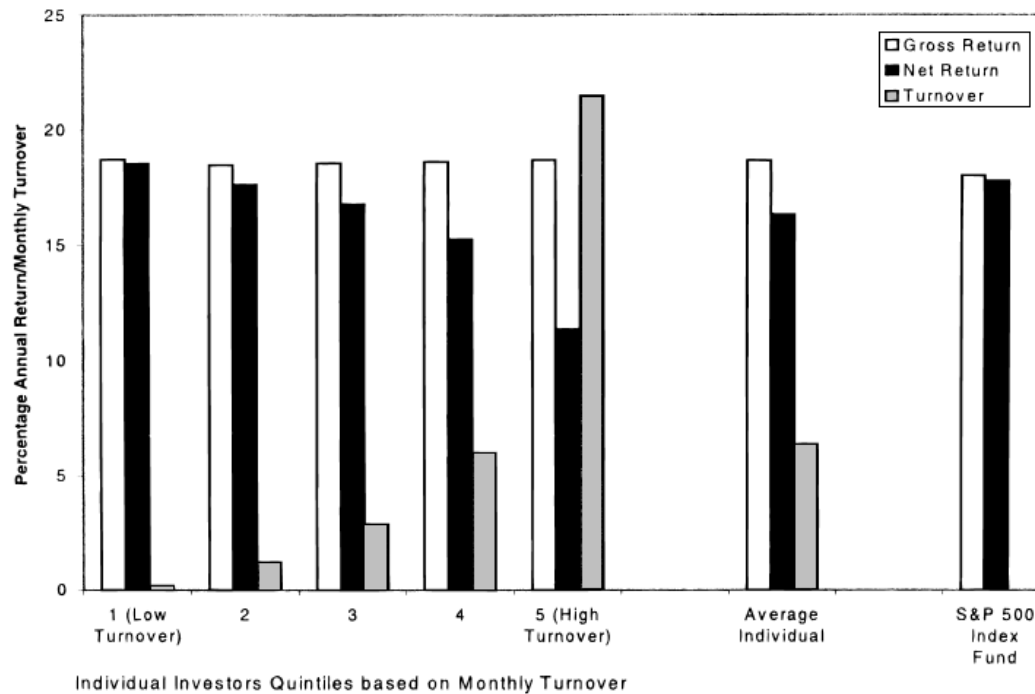


Figure 1. Monthly turnover and annual performance of individual investors. The white bar (black bar) represents the gross (net) annualized geometric mean return for February 1991 through January 1997 for individual investor quintiles based on monthly turnover, the average individual investor, and the S&P 500. The net return on the S&P 500 Index Fund is that earned by the Vanguard Index 500. The gray bar represents the monthly turnover.

3. Excessive trading



Odean (1999)

- trading reduces returns due to poor security selection
- average gross return of stocks that investors buy, over the year after they buy them, is lower than the average gross return of stocks that they sell, over the year after they sell them.

Behavioral explanation of excessive trading:

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Behavioral explanation of excessive trading: overconfidence

Barber and Odean (2002a):

- study investors who switch from phone-based to online trading
- Confirm increase in overconfidence, trading volumes and decrease in returns

3. Excessive trading (Odean 1999)

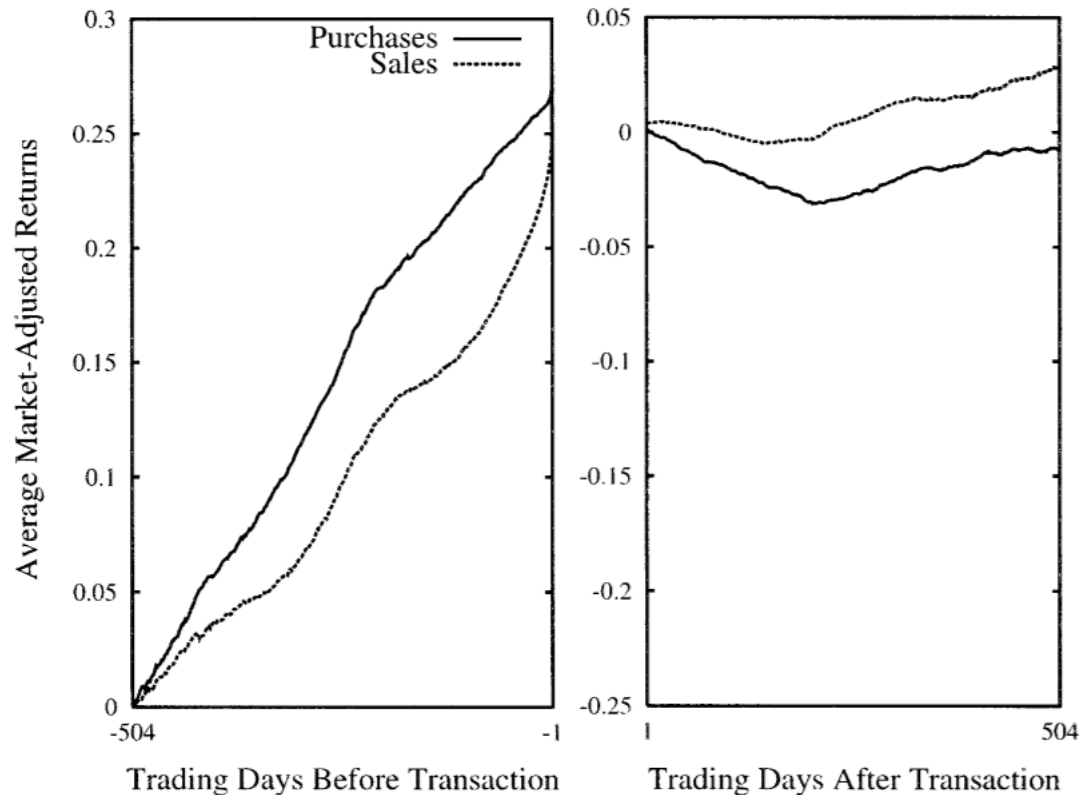


FIGURE 1. AVERAGE RETURNS IN EXCESS OF THE CRSP VALUE-WEIGHTED INDEX FOR ALL SECURITIES BOUGHT AND SOLD
Note: 46,830 bought; 44,265 sold.

4. The selling decision



- Reluctancy of investors to sell assets trading at a loss relative to the purchase price
- =“disposition effect” defined by Shefrin and Statman (1985)
- Behavioral explanation:
 - irrational belief in mean reversion
 - prospect theory – convexity of value function in loss area
 - pushes the investor to wait

5. The buying decision



- Odean (1999):
 - “buys” are evenly split between winners and losers (unlike sells where prior winners prevail)
 - stock purchases are affected by attention effect
 - ✦ **→ usually extreme past performance catches the attention of investor**
- Barber and Odean (2002b):
 - buying decisions are more driven by attention than are selling decisions

Paper for discussion



- [Kristoufek, Vagrman \(2015\)](#): Underpricing, underperformance and overreaction in initial public offerings: Evidence from investor attention using online searches. SpringerPlus. 2015;4(84):1–11

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Thank you for your attention!



Coming next: Trading strategies and practice

