



The Mistakes Investors Make

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Do You Think You Are ...

- Below average in your driving ability?
- Below average in your sense of humour?
- Below average in your ability to get along with others?



Overconfidence

- 90% of people claim to have above-average
 - Driving skill
 - Ability to get along with others
 - Humour
- Implication: investors will trade too much
 - Why doesn't learning solve it? Self-attribution bias
- Hard to test: individual investor trading accounts are confidential



Prof. Terrance Odean

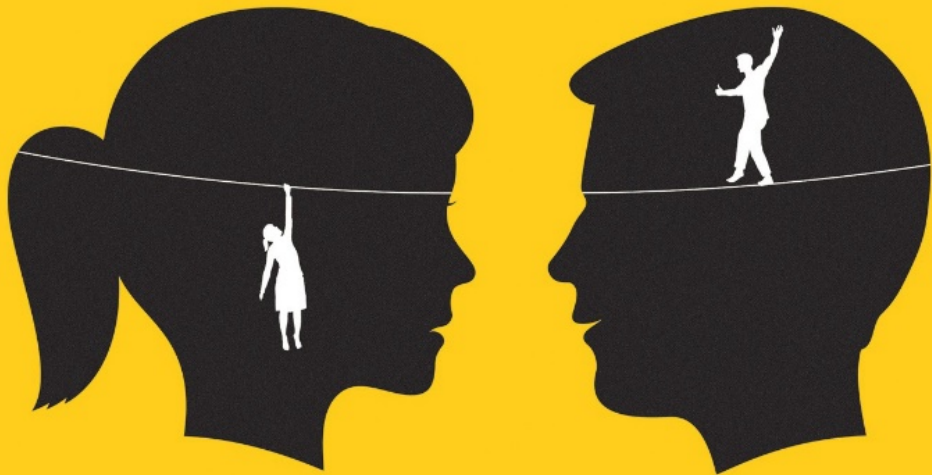




The Perils of Overconfidence

- Study of individual investors¹
 - Stocks sold subsequently outperform stocks bought by 0.23%/month
 - Before costs
- Study aggregating individual investors²
 - Market earned 17.9%/year
 - Households earned 18.4% gross
 - Households earned 16.7% net
 - Frequent traders earned 11.4% net
 - Average investor holds 4 stocks

1. Odean (1999)
2. Barber and Odean (2000)





Exacerbating Overconfidence: Gender

- Psychological studies showing men are more overconfident than women
- Men trade 45% more
- Trading reduces men's returns by 2.65%/year, women's by 1.72% (difference of 0.92%)
 - Stocks men buy underperform those they sell by 0.2%/month, vs. 0.17%/month for women. Not significantly different
 - So men's worse performance is due to too many trades
- Single men trade 67% more, lowering performance by 1.44%

1. Odean (1999)
2. Barber and Odean (2000)



Exacerbating Overconfidence: Control

- Illusion of control



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- Ameritrade advert: "I don't want to just beat the market. I want to wrestle its scrawny little body to the ground and make it beg for mercy"





Exacerbating Overconfidence: Control

- Illusion of control
- Ameritrade advert: "I don't want to just beat the market. I want to wrestle its scrawny little body to the ground and make it beg for mercy"
- Switching from phone to online trading¹
 - Preceded by good performance: beat market by 2%/year
 - Trade more
 - Trade more speculatively
 - Trade worse: underperform market by 3%/year

1. Barber and Odean (2002)



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1. Barber and Odean (2002)



Attention

- EMH: investors will search over every possible stock when deciding what to buy
 - But bounded rationality: can only consider a few
- Hypothesis: will buy attention-grabbing stocks
 - In the news, high trading volume, extreme one-day returns
 - No such prediction for sales
- Individual investors are net buyers of attention-grabbing stocks, which subsequently underperform
 - Not true for professional investors (can short, already have screens, e.g. industry focus)



Attention From Within

- Rank effect: investors are more likely to sell the extreme losers and extreme winners from their portfolio¹
- When an investor sells
 - 31% chance of selling the best-performing stock
 - 26% chance of selling the worst-performing stock
 - A stock in the middle only has an 11% probability of being sold
- True for mutual funds also
- Buying worst-ranked stocks (in mutual fund portfolios) earns 1.36%/month; buying best-ranked stocks earns 0.19%/month

1. Hartzmark (2015)



I: Incorporating Irrelevant Information



1. The Purchase Price

- Disposition Effect: tendency to sell winners and retain losers
 - Potentially due to “realisation utility”
 - Both individual investors¹ and mutual funds²
- Costs
 - Momentum: recent winners typically outperform recent losers
 - Tax
 - Investor return would be 4.4% higher if sold loser rather than winner
- Rank Effect also shows importance of purchase price

1. Odean (1998)
2. Frazzini (2006)



1. The Original Purchase Price

- Rolled Disposition Effect¹:
 - Buy M&S for £10
 - Sell for £15 and buy Vodafone
 - Reluctant to sell Vodafone if it falls below £10, not £15
- Applies to losses too
 - Buy M&S for £10
 - Sell for £8 and buy Vodafone
 - Reluctant to sell Vodafone unless it crosses £10
 - Willing to sell M&S for a loss since “account” hasn’t closed
 - Disposition effect weaker on “reinvestment” than “liquidation” days
 - Stocks sold on reinvestment days outperform stocks sold on liquidation days *and* stocks retained on reinvestment days

1. Frydman, Hartzmark, and Solomon (2018)



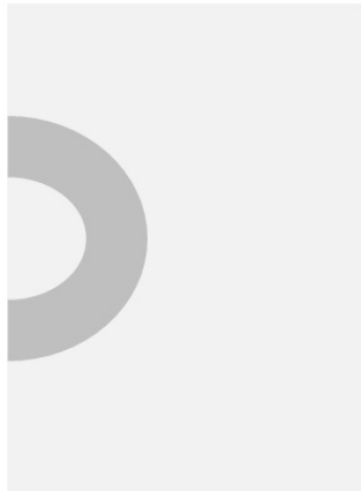
2. Unrelated Past Events

- People judge crimes to be less severe after hearing about egregious crimes¹
- Male students rate female students to be less attractive after viewing videos of beautiful actresses²

1. Pepitone and DiNubile (1976)
2. Kenrick and Gutierrez (1980)

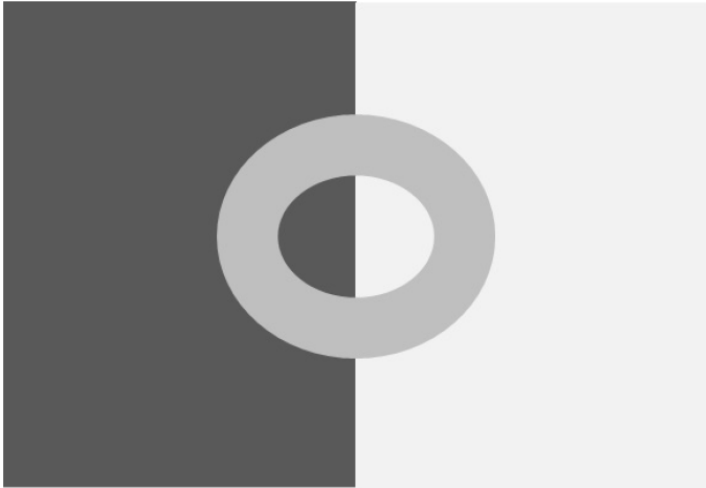


Contrast Effects



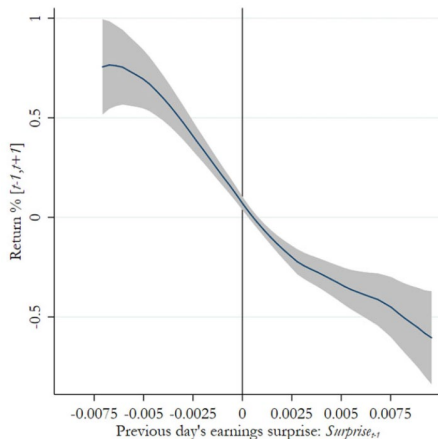


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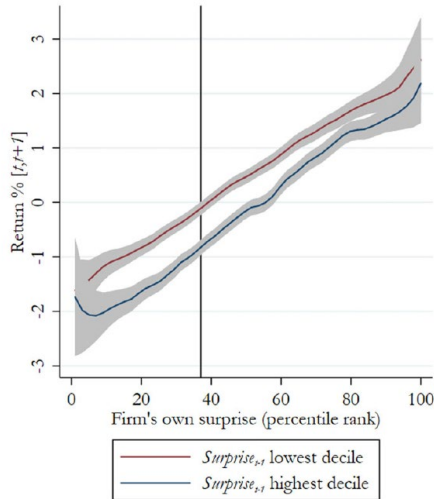




Past Earnings Announcements



All Surprises Are Affected





Exploiting the Effect

- Buy firms scheduled to announce today if yesterday's surprise was low
- Sell firms scheduled to announce today if yesterday's surprise was high
- Earns 15%/year – even when focusing on large firms only



3. Base Prices

- A blender costs £50. It would cost £5 at a store 5 miles away. Would you go to that store to save £45?
- A TV costs £1,000. It would cost £955 at a store 5 miles away. Would you go to that store to save £45?
- Most people answer Yes to the first question and No to the second, even though base price is irrelevant
 - What matters is *absolute*, not *relative* savings



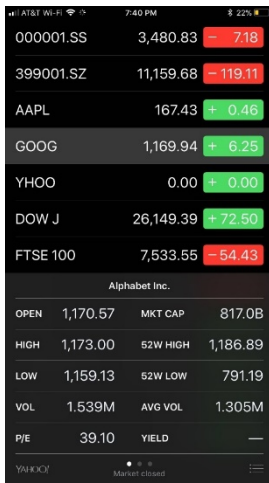
II: Ignoring Relevant Information



1. Base Prices

- For investments, what matters is relative (%) changes
- Stock A fell from £50 to £5, Stock B fell from £1,000 to £955
 - Invest £1,000 in stock A: worth £100 now, a loss of £900
 - Invest £1,000 in stock B: worth £955 now, a loss of £45
- TV, blender: you only buy one item. Shares: you buy as many of them as your investment allows
- % changes are relevant, but investors focus on absolute changes

Android, iPhone, E-Trade Apps



Watch Lists		
Device Watch List		
Symbol	Last	Change \$
AAPL	167.43	0.46
GE	16.17	0.22
BAC	32.00	0.12
C	78.48	-0.14

View All Watch Lists

Watch List News

BRIEF-Scotiabank To Acquire Citibank's Consumer And Small And Medium Enterprise Operations In Colombia
Jan 31 2018 17:22:08 EDT | Reuters

C

UPDATE 2-Julius Baer sees net money slow



SQUAWK
001 **BOX** 100

THE PRIVATE EQUITY LANDSCAPE

S&P FUT (Jun) **-3.2**

S&P FV **2.8**

S&P CLOSE **2,047.6**

Cap Bear 3X (TZA) 43.33 ▲ 0.39 | iPath S&P VIX (VXX) 15.82 ▲ 0.24 | Direxi

MGT Capital Invest (MGT) 2.82 ▲ 0.20 | MGT Capital Invest (MGT) 2.81 ▲ (



8:10
EASTERN



Ignoring the Stock Price

- Investors ignore the base stock price
- E.g. stock A costs £10, stock B costs £20
 - Market thinks a new CEO adds £1 of value, regardless of base price
 - Price of A rises by 10%, price of B rises by 5%
- Results
 - Low-price stocks are more volatile, and more sensitive to market (higher beta)
 - Survives controls for size. Link between size and volatility falls when controlling for price
 - Volatility rises after stock splits, falls after reverse splits
 - Volume (as a % of shares outstanding) falls after stock splits, suggesting investors naively trade a fixed number of shares
 - Stronger returns to earnings surprises
 - Survives controlling for the surprise



2. Last Years' Financials

- Borders bookstore: most of sales in Q4
 - 63 earnings announcements from 1995-2010; 14 largest were in Q4
- Market should anticipate high earnings in Q4
 - But average Q4 announcement return of 2.27%; -3.4% for Q1-3
- Buy (sell) companies with high (low) earnings seasonality: 0.34%/month (4%/year)
 - Returns concentrated around earnings announcements
- Analysts correct for 93% of the seasonal shift in earnings, but miss 7%
- Recency effect: overweight recent earnings when forecasting upcoming earnings



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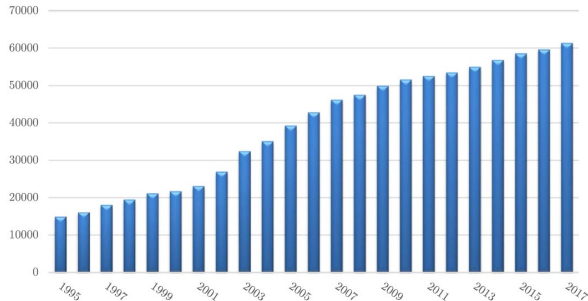
- Higher returns in months where company is predicted to
 - Pay a cash dividend¹
 - Pay a stock dividend or conduct a stock split²

1. Hartzmark and Solomon (2013)
2. Bessembinder and Zhang (2014)

3. Last Year's Non-Financials

- Companies' annual reports contain not just financials, but also narrative discussions
 - These have ballooned in length in recent years

Panel A: Length of 10-Ks
(# of Words)

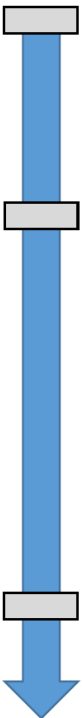




3. Last Year's Non-Financials

- Difficult for investors to digest such long reports, particularly since it's hard to know what's new

Example 1	
2008:	2009:
<p>With respect to COLLEAGUE, the company remains in active dialogue with the FDA about various matters, including the company's remediation plan and reviews of the Company's facilities, processes and quality controls by the company's outside expert pursuant to the requirements of the company's Consent Decree. The outcome of these discussions with the FDA is uncertain and may impact the nature and timing of the company's actions and decisions with respect to the COLLEAGUE pump. The company's estimates of the costs related to these matters are based on the current remediation plan and information currently available. It is possible that additional charges related to COLLEAGUE may be required in future periods, based on new information, changes in estimates, and modifications to the current remediation plan as a result of ongoing dialogue with the FDA.</p>	<p>The company remains in active dialogue with the FDA regarding various matters with respect to the company's COLLEAGUE infusion pumps, including the company's remediation plan and reviews of the company's facilities, processes and quality controls by the company's outside expert pursuant to the requirements of the company's Consent Decree. The outcome of these discussions with the FDA is uncertain and may impact the nature and timing of the company's actions and decisions with respect to the COLLEAGUE pump. The company's estimates of the costs related to these matters are based on the current remediation plan and information currently available. It is possible that substantial additional charges, including significant asset impairments, related to COLLEAGUE may be required in future periods, based on new information, changes in estimates, and modifications to the current remediation plan.</p>



02/23/2010: Baxter filed its 2009 10-K financial report with the SEC
<https://www.sec.gov/Archives/edgar/data/10456/000095012310015380/0000950123-10-015380-index.htm>

04/23/2010: *The New York Times* "F.D.A. Steps Up Oversight of Infusion Pumps"
<http://www.nytimes.com/2010/04/24/business/24pump.html>

"Federal regulators say they are moving to tighten their oversight of medical devices, including one of the most ubiquitous and problematic pieces of medical equipment — automated pumps that intravenously deliver drugs, food and other solutions to patients."

"The biggest makers of infusion pumps include Baxter Healthcare of Deerfield, Ill.; Hospira of Lake Forest, Ill.; and CareFusion of San Diego."

"Dr. Shuren said he expected that the new requirements would initially slow down the rate of the agency's approval for new pumps that manufacturers are seeking to market."

05/04/2010: *The New York Times* "F.D.A. Deal Leads to Recall of Infusion Pumps"
<http://www.nytimes.com/2010/05/04/business/04baxter.html>

"[Baxter International](#) is recalling its Colleague infusion pumps from the American market under an agreement with federal regulators that sought to fix problems like battery failures and software errors."



3. Lazy Prices

- Buy firms that don't change their reports significantly, sell firms that do: earn 7%/year¹
 - Focus on changes in Risk Factors section: 22%/year
- Don't even need to consider content of changes
 - 86% of changes are negative. The 14% positive changers are associated with positive return
 - Class-action lawsuits are mainly existing shareholders claiming companies failed to disclose bad news
 - Short-sellers haven't been successful suing companies for failing to disclose good news
- Remedy: compare report to prior year (just like financials)



III: Incorporating Irrelevant Information and Ignoring Relevant Information



Attention to Prices, Inattention to Total Returns

- Finance 101: total return = price change + dividend
 - But portfolio statements only show price changes
- Trading behavior driven by price changes not total returns¹
 - Disposition effect
 - Rolled disposition effect
 - Rank effect



Attention to Dividends, Inattention to Total Returns

- Finance 101: higher dividends means lower prices
 - “Free dividends fallacy”: investors may not recognise this. Fixate on dividends, as salient
- Investors are less likely to sell stocks that pay more dividends
 - When they do sell, decision is less affected by past price changes
- Analysts over-predict prices of stocks that pay high dividends
- Dividend demand is higher when interest rates are low, so bonds pay less income
 - Buying dividend-paying stocks in times of high demand reduces returns by 2-4%/year