2 Presentations today:

Momentum Trading
Cryptocurrency Trading

Chaster Johnson
StockTeamUp.com
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Chaster Johnson Bio

Chaster Johnson is an Investor and Entrepreneur. Chaster spent a decade as an Aerospace Manager in which he helped build the production lines for Jet Wings and the quality systems for jet engine turbine discs. After building the first full-scale 3D printing facility for Aerospace Parts, he changed course and worked as a Data Scientist investing in blockchain technologies for Hedge Funds. Today he is the founder of StockTeamUp.com, a social media platform for long-term investors. He has a four year old son named Landon with his partner Kristin.
MOMENTUM TRADING

Strength and Price Trends
Objective

Describe the Academic Research in Momentum Investing. Expose the group to this research.

Show my personal momentum analysis and its relation to value investing

Describe and show tools, projects, and strategies used during my Hedge Fund life to expose group to disciplined investing processes.

I ENCOURAGE YOU TO DO YOUR OWN RESEARCH
I KNOW WHAT I KNOW,
I KNOW WHAT I KNOW I DON’T KNOW,
BUT I DON’T KNOW WHAT I DON’T KNOW
Background

Momentum is a real phenomenon in the markets. It has been shown in countless Academic studies that there is a measurable, statistically significant bias towards momentum in the markets.

The cause for momentum is up for debate, but its likely due to the incompleteness of information investors have, the emotional desire to not miss out of gains, and the bias markets have toward winning stocks.
A Taste of the Research

Figure 1. Return Surface for PAST(2,12) and Log(BV/MV) Portfolios
Returns to Buying Winners and Selling Losers

Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency

Narasimhan Jegadeesh; Sheridan Titman


Stable URL:
http://links.jstor.org/sici?sici=0022-1082%28199303%2948%3A1%3C65%3ARTBWAS%3E2.0.CO%3B2-Y
Returns to Buying Winners and Selling Losers

Table IX
Quarterly Earnings Announcement Date Returns
The stocks are ranked in ascending order on the basis of 6-month lagged returns. The stocks in the lowest past return decile are called the losers group and the stocks in the highest past return decile is called the winners group. The differences between the 3-day returns (returns on days -2 to 0) around quarterly earnings announcements for stocks in the winners group and the losers group are reported (\( r_{i-2} - r_{i} \)). \( t \) is the month after the ranking date. The sample period is January 1960 to December 1989.

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IX. Conclusions
Trading strategies that buy past winners and sell past losers realize significant abnormal returns over the 1965 to 1989 period. For example, the strategy we examine in most detail, which selects stocks based on their past 6-month returns and holds them for 6 months, realizes a compounded excess return of 12.01% per year on average. Additional evidence indicates that the profitability of the relative strength strategies are not due to their systematic risk. The results of our tests also indicate that the relative strength profits cannot be attributed to lead-lag effects that result from delayed stock price reactions to common factors. The evidence is, however, consistent with delayed price reactions to firm-specific information.

The returns of the zero-cost winners minus losers portfolio were examined in each of the 36 months following the portfolio formation date. With the exception of the first month, this portfolio realizes positive returns in each of the 12 months after the formation date. However, the longer-term performances of these past winners and losers reveal that half of their excess returns in the year following the portfolio formation date dissipate within the following 2 years.

The returns of the stocks in the winners and losers portfolios around their earnings announcements in the 36 months following the formation period were also examined and a similar pattern was found. Specifically, stocks in the winners portfolio realize significantly higher returns than the stocks in the losers portfolio around the quarterly earnings announcements that are made in the first few months following the formation date. However, the announcement date returns in the 8 to 20 months following the formation date are significantly higher for the stocks in the losers portfolio than for the stocks in the winners portfolio.
The Interaction of Value and Momentum Strategies

Clifford S. Asness

Value and momentum strategies both have demonstrated power to predict the cross-section of stock returns, but are these strategies related? Measures of momentum and value are negatively correlated across stocks, yet each is positively related to the cross-section of average stock returns. We examine whether the marginal power of value or momentum differs depending upon the level of the other variable. Value strategies work, in general, but are strongest among low-momentum (loser) stocks and weakest among high-momentum (winner) stocks. The momentum strategy works, in general, but is particularly strong among low-value (expensive) stocks. These results hold despite finding comparable spreads in value measures among stocks with different levels of momentum and comparable spreads in the momentum measure among stocks with different levels of value. Any explanation for why value and momentum work must explain this interaction.
The Interaction of Value and Momentum Strategies

Two empirical results are of particular interest. First, value is generally a good strategy but it is weak among firms with strong momentum. Second, momentum is generally a good strategy, particularly among firms with low value. In general, spread in PAST(2,12)\(^n\) is negatively correlated. Thus, pursuing a value strategy entails, to some extent, buying firms with poor momentum. Equivalently, buying firms with good momentum entails, to some extent, pursuing a poor-value strategy. In most cases, holding momentum constant leads to a more effective value strategy. That is, the value strategy works best when not forced to short the effective momentum strategy. Similarly, holding value constant leads to a generally superior momentum strategy. In itself, this finding is interesting but not surprising. The interrelation, however, goes deeper.

The relations of value and momentum to future returns are not simply stronger holding the other variable constant; they are conditional upon each other. Value works, in general, but largely fails for firms with strong momentum. Momentum works, in general, but is particularly strong for expensive firms.
PERSONAL ANALYSIS
Southern Company (SO) Raw Data - Intrinsic Value (X-axis) vs 2 yr Return (Y-Axis)

When utility is 25% below fair market value, 2 year return was 20% to 40%

Fair market value

Intrinsic value = Book_value+ DCF (future earnings, current interest rate)

X-axis = (Current_Price - Intrinsic Value)/current_price
Whirl Pool (WHR) Raw Data - Intrinsic Value (X-axis) vs 2 yr Return (Y-Axis)

- Momentum Up
- Good Value

- Momentum Up
- Knife Catching
- Bad Value

- Fair market value
- CHAOS - CONFUSION
FAIR MARKET VALUE IS SCARY

When overvalued, stock will typically move downward
When undervalued, stock will typically move upward
At Fair Market Value, a stock's price movement standard deviation is the most! This can be in either direction!

At Fair Market Value, you see brownian motion amplified by momentum, or zombies chasing the noise of a helicopter in one direction.
My Strategy in a Financial Institution

Used Visual Basic (really really wanted to use Python or C#)

At full optimization, one analysis took 15 minutes

Technical Indicators:
Simple moving average (SMA),
Exponential Moving Average (TEMA),
Price Rate of Change (PReq),
AROON,
and Relative Strength (RSI)

(and one fundamental indicator specific to crypto)
Step One: Every Combination

For every indicator, take every combination of periods, for example: a 15 day moving average versus a 30 day moving average, up to a 90 day period.

Did this analysis for max return, max sharpe ratio, max sortino ratio
Step Two: K-Means Clustering

Softens extreme one offs
Similar to finding the moment of inertia in mechanical engineering
## Step Three: Find Every Combination

Which optimized indicators work the best together?
Maximized to best earnings, sharpe ratio, and sortino ratio
Took number of transactions into account as dampener

STILL OVER FITTING

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STILL OVER FITTING
Step Four: Train Test

Machine Learning Algorithm
Changed from a “back test”, which are meaningless, to a forward test using “train test”

Machine learning conducts steps 1 thru 3 back in time for each asset, figuring out what model it would have chosen in that time period

It then uses that model for next three months.

It then adapts model from these three month of data, and “mutates” indicators to optimize returns.

ONCE PARAMETERS SET FOR MACHINE LEARNING, WE DO NOT CHANGE DURING TESTING. IF WE DO IT IS OVERFITTING!

To just run backtest: 110 Million Calculations (found all the ways to crash excel)

To run one forward test over five years: 2 Billion Calculations
QUESTIONS?
CRYPTOCURRENCY TRADING

Observations from the field
Objective

- What are cryptocurrencies (basic tutorial)
- Answer Questions about cryptocurrencies, get baseline understanding
- Explain why you should invest in cryptocurrencies
- Explain why you should avoid cryptocurrencies like the plague
- My Analysis of Cryptocurrencies

This is an open discussion, ask a question anytime
What is Cryptocurrency

- Transaction of Value
- Secured through “blockchain” and miners
- What is a blockchain?
- What is mining?
- What are alt-coins?
- Bitcoin competes with Mastercard
- $128 million transaction occurred for less than $1
- Spike in BTC use in struggling countries (like Venezuela)
QUESTIONS?
Why you Should Invest in Cryptocurrencies

- Trustless Network
- No incentive to 51% attack the bitcoin network (other alt-coins are not as lucky)
- Bitcoin competes with Mastercard
- $128 million transaction occurred for less than $1
- Spike in BTC use in struggling countries (like Venezuela)
- Cannot be “shutdown” by governments, unless they shut down the internet
- One of the most secure networks in the world
- Wall Street is on board, the Federal Reserve is impressed with the technology
- Code is open source, changes must be approved by network.
Why you Should Avoid Cryptocurrencies

- Exchanges are the wild west
  - Exchanges go bust
  - Sell walls, pump and dumps, anything goes
  - Exchanges clean out derivative positions (which are hard to do in U.S.)
- BTC has only two places to go in next three years: $80k or ~$0
- Very emotional, most people buy at the high, increasing momentum due to FOMO
- Alt-coins are a trap (except for the ones that are not)
- There is a higher degree of knowledge needed to get into cryptocurrency investing
  - Cryptocurrency Wallets
  - Cryptocurrency Transactions
  - Thin Trading Volumes
NVT and Fees

Standard Deviations from Normalized NVT and Bitcoin Price

- **November 19th, 2018**
  - High NVT, Market Weak
  - Low NVT, Buying Opportunity

- **Bitcoin Peak**
  - Buying Opportunity

- **Buying Opportunity**

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TradersMeetup.net
Fees

https://www.blockchain.com/charts
THANK YOU

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chaster.johnson@stockteamup.com