

The World of High Frequency Trading

The Six Primary Strategies

Liquidity Providing

Rebate Trading

Provide liquidity in stocks by posting bids and offers in order to collect ECN rebates without requiring capital gains

Characteristics:

- Most prevalent in higher volume, lower volatility stocks
- Tolerates small trading losses

Example:

- Post bid to buy shares, upon execution immediately post offer on the inside market to sell position thus capturing rebate from ECN with or without capital gain

Trading the Tape

Filter Trading

Monitor for stocks that show significant changes in movement and/or volume

Characteristics:

- Constant monitoring of thousands of stocks for mechanical signs of announcements, rumors, news items
- Identifies stocks that meet a threshold level of variance in the rate of change of price action and/or volume and buys/sells accordingly

Examples:

- News story causes spike in price and large jump in volume, algorithm rapidly buys
- Algorithm recognizes a major uptick in the pace of the bid being hit and shorts stock until pace declines

Statistical Trading

Statistical Arbitrage

Exploit pricing differentials between correlated securities and markets

Characteristics:

- Often uses multiple exchanges and various asset classes
- Defines maximum range of variance and takes counter trade when that range is exceeded

Examples:

- Derivative prices and the underlying asset (call option and the stock)
- Exchange-traded funds against the holdings
- Highly correlated stocks (Pepsi and Coca-Cola)
- Companies and their input resources (Gold miners and gold commodity)

Market Making

Regulatory exemption to reduce spreads by creating a more liquid market

Characteristics:

- Profit earned from the spread between the bid and offer as well as ECN rebates for providing liquidity

Examples:

- Designated market makers (DMMS) with obligation to maintain an orderly market by providing a required amount of liquidity in specific stocks
- Supplemental Liquidity Providers obligated to maintain the national best bid or offer 5% of the trading day

Momentum Trading

Identify temporary supply-demand imbalances and trade with short-term momentum as equilibrium is restored

Characteristics:

- Can overlap with filter trading style
- Typically very rapid entry and exit of stock attempting to extract small capital gains

Examples:

- Detect large buying interest creating imbalance, buy shares and hold until price is reached where selling pressure creates equilibrium and price action stalls

Technical Trading

Discover technical setups based on pre-defined recurring patterns in stocks prices

Characteristics:

- Selects stocks that fit particular technical patterns that have been shown to create favorable risk-to-reward opportunities
- Entries and exits are precisely defined price points based on rules of technical analysis

Examples:

- Track stocks crossing 5-day moving average and buy or sell on cross and close position after pre-defined profit objective is met