HERDING BEHAVIOR AND MEAN REVERSAL

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INTRODUCTION

- Herd instinct is a mentality characterized by a lack of individual decision-making or thoughtfulness, causing people to think and act in the same way as the majority of those around them. In finance, a herd instinct relates to instances in which individuals gravitate to the same or similar investments based almost solely on the fact that many others are investing in those stocks. The fear of regret of missing out on a good investment is often a driving force behind herd instinct.
- Also known as herding, such investor behavior can often cause large unsubstantiated rallies or selloffs based on seemingly little fundamental evidence to justify either.

HERDING IS NATURAL

- Humans naturally want to belong to a community, a group of people with shared cultured and socioeconomic norms.
- Investors can sometimes be induced into following the herd, whether it is buying at the top of a market rally or going over the cliff in a market crash.

HERDING BEHAVIOUR AND FINANCIAL MARKETS

- The herding instincts make investors apply for IPOs without even looking at company fundamentals.
- Herding behaviour is irrational and driven by emotions showing greed in the bubbles and fear in the crashes.
- When stock markets display volatility, give more than expected returns than fundamentals, it raises a concern over the efficiency of the market and reflects herd behaviour.

TYPES OF HERDING

- One way of classification is herding can be divided into intentional herding and spurious herding.
  - **Intentional Herding** - In this type of herding investors imitate the actions of other's.
  - **Spurious Herding** -In this case investor groups face similar information sets and decision problems which leads them to take similar decisions.
- Another classification of herding behaviour as suggested by Devenow and Welch (1996, p. 604) rational and the non-rational herding.
  - **Rational Herding** – It focuses on external environment, assuming that decisions become misleading because of incentive issues or information difficulties.
  - **Non-Rational Herding –** It focuses on investor psychology and assumes that investors behave like imitators, ignoring all rational analysis and following others blindly.

STRATEGIES TO AVOID HERD MENTALITY

- **Think before you follow**
- **Form your own opinion**
- **Spend Time to Take Decisions**
- **Be Aware of Ways in Which Stress Affects Your Decision Making**
- **Be Willing to Stand Out**

MEAN REVERSION

- Mean reversion theory defines that prices move back to average values. This average can be historical moving average, growth of the economy or industry return.
- This theory has led to many investing strategies involving the purchase or sale of stocks or other securities whose recent performances have greatly differed from their historical averages.
- **REGRESSION TOWARD THE MEAN**
  - In statistics, regression toward the mean is a phenomenon in which a variable which is on extreme on its first measurement, will go closer to the mean on second measurement and if it is extreme on its second measurement, it will move closer to mean on its first.

MEAN REVERSION TRADING

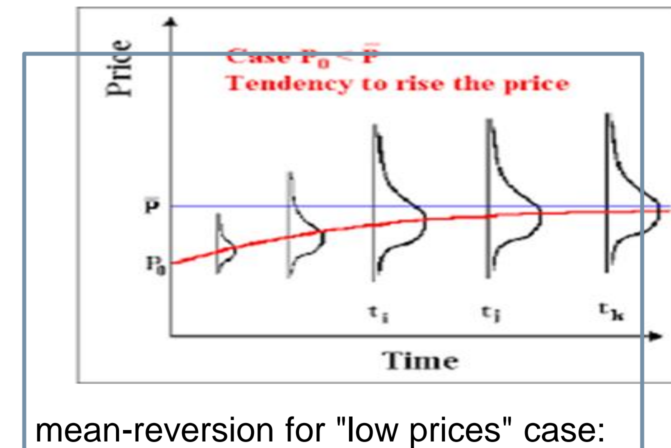
- Mean reversion trading tries to benefit the investor by capitalizing on extreme changes for prices of a security, based on the assumption that prices will revert to mean. The phrase reversion to the mean refers to a statistical concept that high and low prices are temporary and a price will tend to go back to its average over time. Mean reversion suggest investors to follow these steps to trade in stock market:
  - Investor can identify an average price over some past period.
  - Then identify the high-low range.
  - One can buy when prices are on a lower side and sell when prices go on a higher side.

MODEL OF MEAN REVERSAL

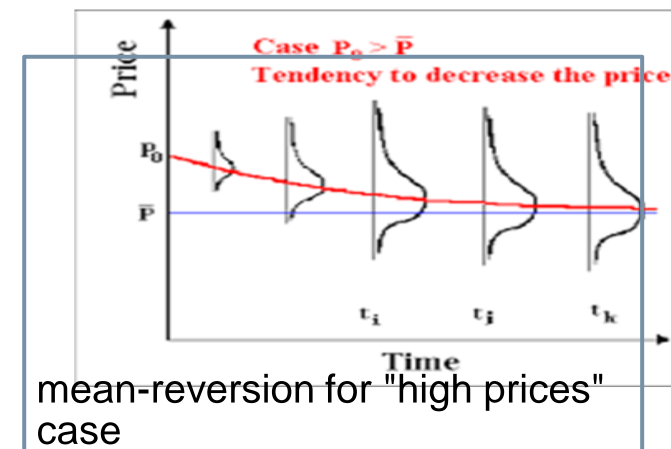
- A continuous mean-reverting time series can be represented by an Ornstein-Uhlenbeck stochastic differential equation:

  $$dxt=\theta(\mu-xt)dt+\sigma dWt$$

  Where θθ is the rate of reversion to the mean, μμ is the mean value of the process, σσ is the variance of the process and WtWt is a Wiener Process or Brownian Motion.



mean-reversion for "low prices" case:



mean-reversion for "high prices" case

Thank You

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  NEUROFINANCE

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