Accounting Anomalies, Risk and Return

Strategy- 01

Title

“Do Anomalous Returns Predicted by Accounting Numbers Reflect Normal Returns for Risk or Abnormal Returns?”

Introduction

The purpose of this research article is to examine the association between normal returns for risky or abnormal returns and anomalous returns anticipated by accounting numbers. The capacity of the accounting anomaly variables, such as accruals, asset growth, and investment, to anticipate future profits, growth, and returns will be examined in this article. The research will investigate whether accounting figures reflect sensible pricing and will present evidence to support its findings.

Research Objective

1. To examine the relationship between accounting anomaly variables and expected returns.
2. To assess whether the accounting numbers inform about normal returns for risk or abnormal returns.
3. To evaluate the extent to which accounting numbers forecast forward earnings, growth, and returns.
4. To determine whether observed "anomalous" returns associated with accounting numbers are consistent with rational pricing.

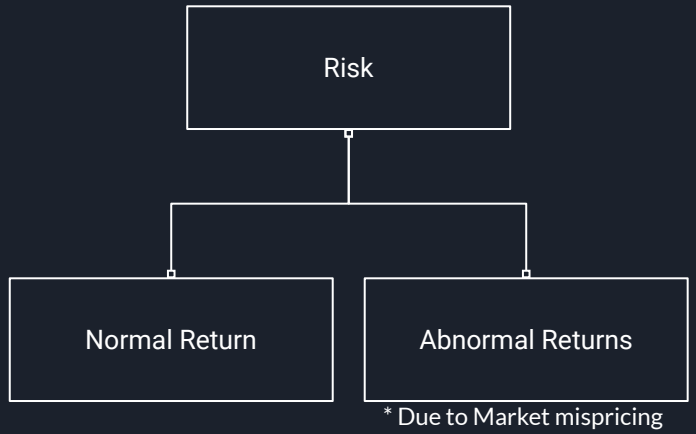
Methodology

A model will be used in the study to compare anticipated returns to anticipated profits and earnings growth. The study will evaluate the association between accounting anomaly variables and future profits, growth, and returns using empirical data. To ascertain the direction of the link between accounting figures and anticipated returns, statistical analysis will also be used in the study.

Expected Outcomes:

The research is anticipated to offer a methodology for assessing how accounting statistics and anticipated returns relate to one another. The empirical findings are anticipated to demonstrate that a number of accounting anomaly factors predict future earnings and growth in the same way as they predict future returns. The study will also discuss how observed "anomalous" returns linked to accounting numbers and rational pricing are consistent.

About the model



$$E\left(\frac{P_{t+1}+d_{t+1}-P_t}{P_t}\right)=E(R_{t+1})=\frac{E(Earnings_{t+1})}{P_t}+E\left(\frac{P_{t+1}-B_{t+1}-(P_t-B_t)}{P_t}\right)$$

E() : Expected rate of return
B : Book value of common entity
Earnings: available to common equity

Conclusions

The goal of the research study is to present a thorough investigation of the connection between accounting figures and anticipated returns. The research will add to the body of knowledge on asset pricing and offer useful recommendations for investors who want to anticipate returns using accounting data. The study's findings will contribute to the current discussion of whether normal returns for risk are reflected in accounting figures or aberrant returns.

Problem with the Data in the Indian Context and two research already done in the Indian Context.

Short Term Reversal

Strategy- 02

Title

“Analysis of Short-Term Reversal Trading Strategy in Different Stock Markets and Market Conditions”

Introduction

This study intends to evaluate the short-term reversal trading strategy's performance across several stock markets and market environments. This common trading technique, which entails purchasing stocks whose prices have recently dropped significantly and selling them when their prices have recently increased significantly, will be examined in terms of its profitability, risk, and market effectiveness.

Research Objective

1. To evaluate the performance of the short-term reversal trading strategy in different stock markets.
2. To analyze the impact of different market conditions on the short-term reversal trading strategy's profitability and risk.
3. To consider the effect of transaction costs, market liquidity, and other factors on the performance of the short-term reversal trading strategy.
4. To provide insights into the effectiveness of the short-term reversal trading strategy and its potential as a trading strategy for investors.

Methodology

The short-term reversal trading method will be back tested using historical data, and its performance in various stock markets and market environments will be assessed. To assess the strategy's profitability and risk, statistical analysis will be used in the study. The success of the approach will also be examined, along with the effects of transaction costs, market liquidity, and other potential influences.

Expected Outcomes:

The success of the short-term reversal trading method in various stock markets and market situations will be thoroughly examined in the study report. The study will add to the body of knowledge on trading tactics and offer useful advice for investors interested in short-term reversal trading. The study's findings will contribute to the current discussion on the short-term reversal trading strategy's efficacy and potential for financial success.

Abstract

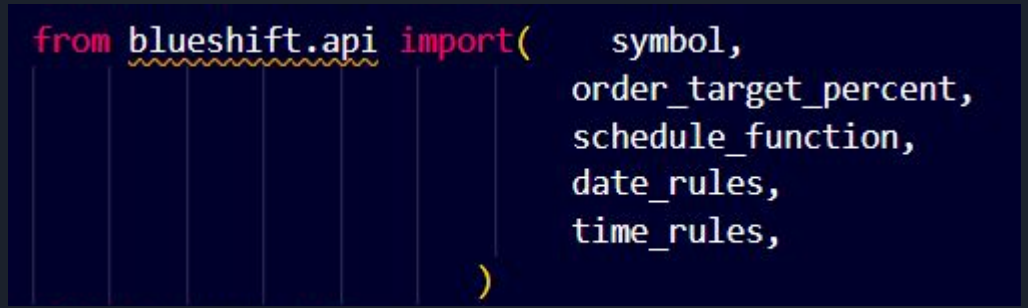
The short-term reversal strategy is a popular trading strategy that seeks to exploit short-term price trends in the stock market. This strategy involves buying stocks that have recently experienced a significant price drop and selling those that have recently experienced a significant price increase, with the expectation that prices will revert to their mean in the short term.

The objective of this research paper is to analyze the performance of the short-term reversal strategy in different stock markets and under different market conditions. The study will use historical data to backtest the strategy and evaluate its profitability, risk, and market efficiency. The analysis will also consider the impact of transaction costs, market liquidity, and other factors that may affect the strategy's performance.

The study will provide insights into the effectiveness of the short-term reversal strategy and its potential as a trading strategy for investors. The research findings will contribute to the academic literature on trading strategies and provide practical implications for investors looking to use short-term reversal as a trading strategy.

Code File- Exporting necessary packages

- Data is extracted through Blueshift platform and its API has been integrated in the code.
- Other required class functions were imported and the following documentation was referred while writing the code: https://blueshift.quantinsti.com/api-docs/



Defining Universe (Stock Portfolio)-NIFTY100

```
def initialize(context):
    """
        A function to define things to do at the start of the strategy
    """

    # universe selection
    context.long_portfolio = [
                              symbol('ACC'),symbol('ADANIENT'),symbol('ADANIGREEN'),symbol('ADANIPORTS'),symbol('ATGL'),symbol('ADANITRANS'),
                              symbol('AMBUJACEM'),symbol('APOLLOHOSP'),symbol('ASIANPAINT'),symbol('DMART'),symbol('AXISBANK'),
                              symbol('BAJFINANCE'),symbol('BAJAJFINSV'),symbol('BAJAJHLDNG'),symbol('BANDHANBNK'),symbol('BANKBARODA'),
                              symbol('BERGEPAINT'),symbol('BEL'),symbol('BPCL'),symbol('BHARTIARTL'),symbol('BIOCON'),symbol('BOSCHLTD'),
                              symbol('BRITANNIA'),symbol('CHOLAFIN'),symbol('CIPLA'),symbol('COALINDIA'),symbol('COLPAL'),symbol('DLF'),
                              symbol('DABUR'),symbol('DIVISLAB'),symbol('DRREDDY'),symbol('EICHERMOT'),symbol('NYKAA'),symbol('GAIL'),
                              symbol('GLAND'),symbol('GODREJCP'),symbol('GRASIM'),symbol('HCLTECH'),symbol('HDFCAMC'),symbol('HDFCBANK'),
                              symbol('HDFCLIFE'),symbol('HAVELLS'),symbol('HEROMOTOCO'),symbol('HINDALCO'),symbol('HAL'),symbol('HINDUNILVR'),
                              symbol('HDFC'),symbol('ICICIBANK'),symbol('ICICIGI'),symbol('ICICIPRULI'),symbol('ITC'),symbol('IOC'),
                              symbol('IRCTC'),symbol('INDUSTOWER'),symbol('INDUSINDBK'),symbol('NAUKRI'),symbol('INFY'),symbol('INDIGO'),
                              symbol('JSWSTEEL'),symbol('KOTAKBANK'),symbol('LTIM'),symbol('LT'),symbol('LICI'),symbol('MARICO'),
                              symbol('MARUTI'),symbol('MPHASIS'),symbol('MUTHOOTFIN'),symbol('NTPC'),symbol('NESTLEIND'),symbol('ONGC'),
                              symbol('PAYTM'),symbol('PIIND'),symbol('PIDILITIND'),symbol('POWERGRID'),symbol('PGHH'),symbol('RELIANCE'),
                              symbol('SBICARD'),symbol('SBILIFE'),symbol('SRF'),symbol('MOTHERSON'),symbol('SHREECEM'),symbol('SIEMENS'),
                              symbol('SBIN'),symbol('SUNPHARMA'),symbol('TCS'),symbol('TATACONSUM'),symbol('TATAMOTORS'),symbol('TATAPOWER'),
                              symbol('TATASTEEL'),symbol('TECHM'),symbol('TITAN'),symbol('TORNTPHARM'),symbol('UPL'),symbol('ULTRACEMCO'),
                              symbol('VEDL'),symbol('WIPRO'),symbol('ZOMATO'),
                             ]
    context.stocks=[]
    # Call rebalance function on the first trading day of each month after 2.5 hours from market open
    schedule_function(rebalance,
                      date_rules.month_start(days_offset = 0),
                      time_rules.market_open(hours = 1, minutes = 5))
```

Rebalancing Portfolio (incase of over budget)

Selecting Top 5 stock and assigning equal amount in each of the 5 individual stocks.

Day-wise stock history for 30 days was taken into consideration.

```
def rebalance(context,data):
    """
        A function to rebalance the portfolio, passed on to the call
        of schedule_function above.
    """

    if(context.stocks):
        for sell_stocks in context.stocks:
            order_target_percent(sell_stocks,0)
            # print("Sell", sell_stock)
        context.stocks.clear()

    stock_data = data.history(context.long_portfolio, 'open', 30, "1d")

    stock_data = stock_data.append(stock_data.max(), ignore_index=True)
    diff_stock = (stock_data.iloc[-1] - stock_data.iloc[-2])/stock_data.iloc[-1]
    stock_data = stock_data.append(diff_stock, ignore_index=True)
    stock_data = stock_data.sort_values(by=stock_data.index[-1], axis=1, ascending=False)
    context.stocks = stock_data.columns[:5].tolist()
    # print(context.stocks)
    for buy_stock in context.stocks:
        # print("Buy", buy_stock)
        order_target_percent(buy_stock, 2.0/10)
```

Results

DataSet- NIFTY-100

Off-Set Time: 1hr 5min

Strategy:

- Identifying top 5 stock based on highest daily change.
- Invest in Top 5 stocks equally based on portfolio value.
- Backtested on 3 years data from Jul'18 to Jun'21.

Parameters:

- Returns: 128% (2.28 X)
- Sharpe: 1.12
- Max. Drawdown: 46.48%

Conclusions

The goal of the research paper was to offer a thorough evaluation of the short-term reversal trading strategy's effectiveness across a range of stock markets and market circumstances. The study assessed this well-liked trading technique's profitability, risk, and market effectiveness and offered insights into its potential as a trading strategy for investors. The study's findings advanced the body of knowledge on trading methods and offered useful advice to investors considering short-term reversal as a trading option.

Curve Momentum

Strategy- 03

Title

“A Diversified Curve Momentum Strategy for Commodity Futures”

Introduction

The goal of the research article under consideration is to present a diversified curve momentum approach that works with commodities futures curves. The tactic produces a high Sharpe ratio and an average excess return that is notably positive. Recent years have shown a rise in the strategy's profitability, which is challenging to account for using risk-based justifications. The purpose of the study paper is to examine prospective profit-generating factors and assess how the approach has performed.

Research Objective

1. To introduce the diversified curve momentum strategy for commodity futures and evaluate its profitability.
2. To analyze the potential drivers of the strategy's profitability and evaluate the strategy's performance after controlling for exposure to several well-known risk factors.
3. To evaluate the strategy performance after accounting for transaction costs.

Methodology

Backtesting the diversified curve momentum approach and assessing its performance will be done using historical data. To assess the strategy's profitability and risk, statistical analysis will be used in the study. The study will also examine possible profit-generating elements for the technique and assess its effectiveness after adjusting for exposure to a number of well-known risk factors. After taking into account transaction costs, the research will assess the success of the approach in more detail.

Expected Outcomes:

The success of the diversified curve momentum method in commodities futures will be thoroughly examined in the study paper. The study will add to the body of knowledge on trading methods and offer investors considering the approach with useful implications. The study's findings will contribute to the continuing discussion on the potential drivers of profitability for momentum strategies in commodities futures.

Abstract

Our primary objective is to analyze the performance of the curve momentum C−MOM(12,1) strategy implemented within the futures curve of each commodity market

This strategy uses a measurement period of 12 month(s) and a holding period of 1 month(s)..

The time t curve momentum trading signal related to the ith nearby of the commodity futures market m (SC(m−,Mi)OM,t) is computed as the simple excess return on that nearby over the measurement period.

We denote by Ntm the number of nearbys of the commodity futures market m for which we have price data over the measurement period.

We hold the constructed portfolio for 1 month and compute the realized excess return on the curve momentum strategy (RC(m−M) OM,t+1) implemented in commodity futures market m.4.

We obtain the time-series of curve momentum excess returns for each commodity futures market

Findings

We show that the mean and volatility of the first two nearby excess returns of each commodity futures market are generally similar.

It highlights a strong correlation between the nearby excess returns of each market.

Looking at the diversified curve momentum strategy, we even notice a slight increase in the **mean excess return from 1.76% to 1.87%** and a **decrease in the volatility from 1.38% to 1.35%.**

The average net excess return on the diversified strategy is about 30% lower than the raw average excess return.

Furthermore, it highlights a strong correlation between the nearby excess returns of each market. This conclusion is supported by c**orrelation estimates that are greater than 93%**

Conclusions

The goal of the research article is to present a diversified curve momentum strategy for commodities futures that produces a high Sharpe ratio and an average excess return that is considerably positive. After adjusting for exposure to a number of well-known risk indicators and taking transaction costs into account, the research will examine the potential sources of the strategy's profitability and assess its performance. The study's findings will add to the body of knowledge on trading methods and offer suggestions for investors considering using the approach.