Not Over Thinking

January Effect

Algorithmic Trading Strategy with Full Code

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STRATEGY & ECONOMIC RATIONALE

Invest in small-cap stocks at the beginning of each January. Stay invested in large-cap stocks for the rest of the year.

BUY	SELL
(see above)	

PARAMETER & VARIABLES

PARAMETER	VALUE
MARKETS TRADED	Equity
FINANCIAL INSTRUMENTS	CFDs, ETFs, funds, futures
REGION	Global
PERIOD OF REBALANCING	Monthly
NO. OF TRADED INSTRUMENTS	1
WEIGHTING	Equal weighting
LOOKBACK PERIODS	N/A
LONG/SHORT	Long only

ALGORITHM

```
from AlgorithmImports import *

class JanuaryEffectInStocks(QCAlgorithm):

    def Initialize(self):
        self.SetStartDate(2000, 1, 1)
        self.SetCash(100000)

        data = self.AddEquity("SPY", Resolution.Daily)
        data.SetLeverage(10)
        self.large_cap = data.Symbol

        data = self.AddEquity("IWM", Resolution.Daily)
        data.SetLeverage(10)
        self.small_cap = data.Symbol

        self.start_price = None
        self.recent_month = -1

    def OnData(self, data):
        if self.recent_month == self.Time.month:
            return
        self.recent_month = self.Time.month

        if self.Securities[self.large_cap].GetLastData() and
self.Securities[self.small_cap].GetLastData():
```

```
            if (self.Time.date() -
self.Securities[self.large_cap].GetLastData().Time.date()).days < 5 and (self.Time.date()
- self.Securities[self.small_cap].GetLastData().Time.date()).days < 5:
                if self.Time.month == 1:
                    if self.Portfolio[self.large_cap].Invested:
                        self.Liquidate(self.large_cap)
                    self.SetHoldings(self.small_cap, 1)
                else:
                    if self.Portfolio[self.small_cap].Invested:
                        self.Liquidate(self.small_cap)
                    self.SetHoldings(self.large_cap, 1)
            else:
                self.Liquidate()
        else:
            self.Liquidate()
```

BACKTESTING PERFORMANCE

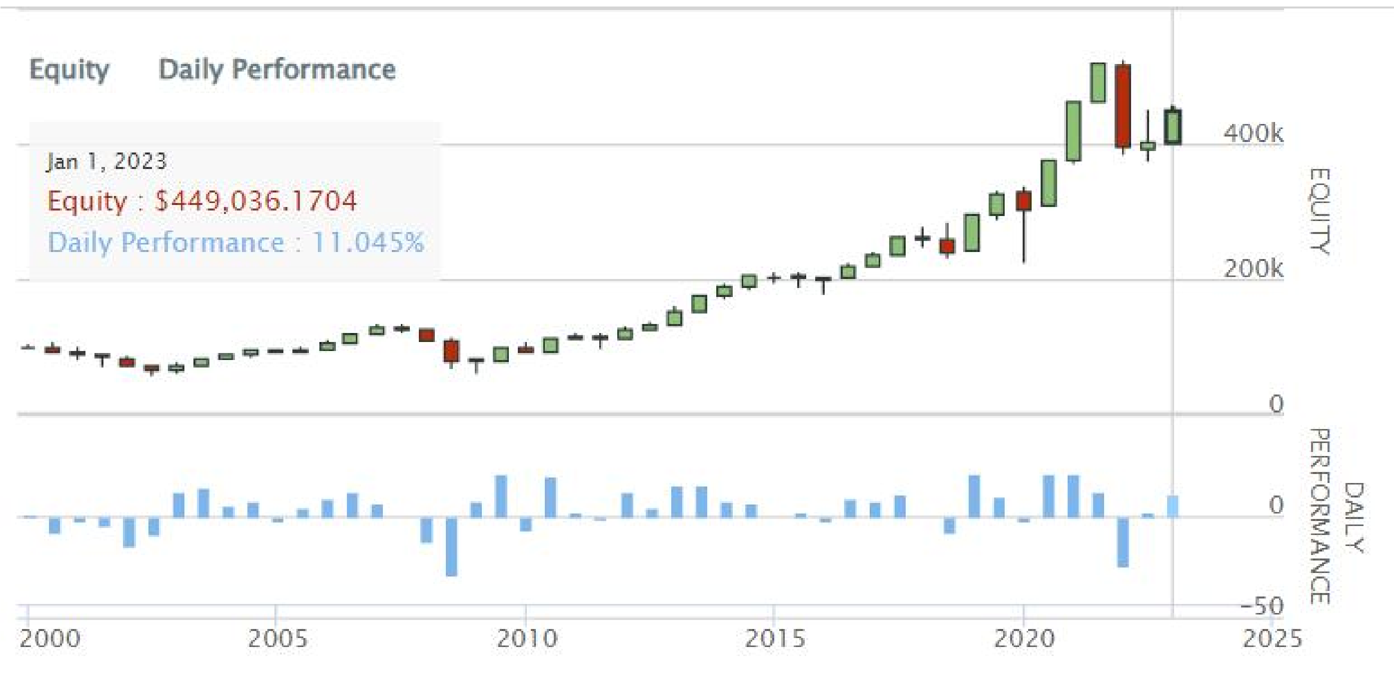

Fig 1. Overall Performance

PSR	0.010%	Sharpe Ratio	0.367
Total Trades	114	Average Win	11.34%
Average Loss	-6.56%	Compounding Annual Return	6.664%
Drawdown	55.700%	Expectancy	0.538
Net Profit	349.036%	Loss Rate	44%
Win Rate	56%	Profit-Loss Ratio	1.73
Alpha	0.003	Beta	0.973
Annual Standard Deviation	0.162	Annual Variance	0.026
Information Ratio	0.042	Tracking Error	0.037
Treynor Ratio	0.061	Total Fees	$741.02
Estimated Strategy Capacity	$1200000000.00	Lowest Capacity Asset	SPY R735QTJ8XC9X
Portfolio Turnover	1.09%		

Fig 2. Performance Metrics

Fig 3. Drawdown