

Dividend Capture

An aspiring trader is seeking your help to backtest her dividend capture strategy,

“I intend to buy a lot (100 shares) of a dividend-paying stock at the close of its cum-dividend date. At the same time, I enter a good-till-cancel bracket order (one-cancels-the-other order), a sell limit order for all shares at entry price less the dividend amount, and a sell stop order for all shares at entry price less 1.5 times the dividend amount.

I worked out the results for **3M Company (MMM)** since 2020. For this initial investigation,

- I have assumed zero bid-ask spreads, zero transaction costs and adequate market liquidity.
- I have assumed that the low price of a day has occurred before the high price of that day, to be conservative
- I have not discounted dividends, effectively assumed zero short term interest rates.
- Note that “profit per share” includes the captured dividend

You can assume the same at the moment.

Can you automate the process for me and send me the backtest results for **American Express Company (AXP)**?

I have shared with you dividend and past market price information of MMM and AXP in our shared folder.

- Note that “Adj Close” are closing prices adjusted for dividends. Those are not the actual closing prices.
- Note that the summary statistics are based on the rounded profit (to 1¢) for each trade.

When you are done, please upload your fully-run code.ipynb for AXP and the exported code.html of the same. Thank you!”

	ex-div date	div	breakeven	entry date	entry price	exit date	exit price	holding period	profit per share
0	2020-02-13	1.47	162.330003	2020-02-12	163.800003	2020-02-13	161.595003	1	-0.74
1	2020-05-21	1.47	148.209993	2020-05-20	149.679993	2020-05-21	147.474993	1	-0.74
2	2020-08-21	1.47	161.500001	2020-08-20	162.970001	2020-08-21	160.765001	1	-0.74
3	2020-11-19	1.47	169.929994	2020-11-18	171.399994	2020-11-19	170.570007	1	0.64
4	2021-02-11	1.48	179.600002	2021-02-10	181.080002	2021-02-11	178.860002	1	-0.74
5	2021-05-20	1.48	201.120006	2021-05-19	202.600006	2021-05-20	201.120006	1	0.00
6	2021-08-20	1.48	193.880001	2021-08-19	195.360001	2021-08-20	194.339996	1	0.46
7	2021-11-18	1.48	181.859996	2021-11-17	183.339996	2021-11-18	182.110001	1	0.25
8	2022-02-17	1.49	154.140005	2022-02-16	155.630005	2022-02-17	150.850006	1	-3.29
9	2022-05-19	1.49	147.439993	2022-05-18	148.929993	2022-05-19	146.199997	1	-1.24
10	2022-08-19	1.49	145.189993	2022-08-18	146.679993	2022-08-19	144.444993	1	-0.75

MMM

number of trades = 11 number of profitable trades = 3 (27.27%)

total profit = -6.89 average profit per trade = -0.63 average trading days per trade = 1.00