

Hybrid trading models in the context of preferred stocks

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Abstract

This scientific article investigates the application of hybrid trading models in the context of preferred stocks. The study aims to compare the performance of two portfolios: 1) the typical buy and hold dividend strategy and 2) a hybrid ex-dividend date strategy consisting of fundamental and technical elements.

The research presents a dataset comprising historical prices, dividend information and relevant technical indicators for preferred stocks. In addition to that a comparative analysis is conducted between the hybrid model and the conventional investment strategy, evaluating their performance in terms of yield. The findings highlight the potential benefits of the hybrid trading models in terms of profitability enhancement and risk management.

In conclusion, this research contributes to the evolving field of financial modeling by introducing and validating a hybrid trading approach tailored to preferred stocks. The results underscore the importance of integrating advanced analytical techniques in developing effective trading strategies, ultimately paving the way for more informed and profitable investment decisions in the realm of preferred stocks.

Keywords: hybrid trading; fundamental analysis; technical analysis; fixed income markets; preferred stocks

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INTRODUCTION

Predicting the price movements of the markets has been the main goal for investors and researchers for a long time. Many experts claim that although it is not possible to fully forecast the prices of the stock markets, it is possible to examine and estimate the probabilities of the market movements for a certain period of time.

In addition to this, advances in computer technology as well as the rapid development of applied statistics and mathematics have led to increasingly sophisticated

methods of forecasting market prices, providing the opportunity to almost anyone to take part in the financial markets. As (*Lynch P. 1994*) claims even an amateur who devotes a small amount of study to companies in an industry he/she knows something about can outperform 95% of the paid experts who manage mutual funds.

Two of the main methods for forecasting the prices of financial assets were born, which are still used today - Fundamental and Technical analysis(*Almeida L., Vieira El. 2023*). With both having advantages and drawbacks many of the investors nowadays prefer using combination of them which is also known as hybrid analysis.

Hybrid trading refers to a combination of different trading strategies, techniques or algorithms that traders and financial institutions use to execute their trades in the financial markets. These patterns aim to use the strengths of different trading approaches to achieve more consistent and potentially profitable results. The term "hybrid" suggests that these models mix different methodologies rather than relying on just one approach.

They are complex systems that combine multiple trading strategies and techniques, with a strong focus on yield, risk management, adaptability, data analysis and automation. These models aim to improve trading performance by taking advantage of the strengths of different approaches while minimizing their weaknesses(*Chavarnakul Th., Enke D. 2009*). They play a significant role in modern financial markets, especially in high-frequency trading and quantitative finance.

This research embarks on an exploration of hybrid trading model tailored specifically to preferred stocks, with the aim of unlocking new avenues for investors seeking optimal risk-adjusted returns. The integration of historical market data, fundamental analysis, and technical analysis forms the backbone of our approach, providing a holistic view of the preferred stock landscape.

Preferred stocks, as part of the Fixed income securities, often regarded as hybrid instruments themselves, occupy a distinctive position in the capital structure, ranking between common stocks and bonds. Claimed to have played a central role in mitigating the recent financial crisis from 2008 (*Kallberg J., H. Crocker L., Villupuram S. 2013*), they offer investors the allure of consistent dividends, preferential treatment in the event of liquidation and at the same time retaining some the upside potential and providing systematically lower beta coefficients than the common stocks (*Brabenec T, Poborsky Fr., Saßmannshausen S. P. 2020*). However, the nuanced nature of preferred stocks demands a more nuanced approach to trading and portfolio management. Conventional financial models, though valuable, may fall short in capturing the intricate dynamics inherent in these securities, necessitating the exploration of hybrid models that synergistically leverage diverse analytical tools.

In the subsequent sections of this article, we detail the methodology employed in constructing our hybrid model, present empirical findings comparing its performance with

traditional strategies, and discuss the broader implications for investors and financial institutions. Through this exploration, we endeavor to contribute to the evolving discourse on financial modeling and provide actionable insights for market participants navigating the complexities of preferred stock investments in contemporary financial markets.

METHODOLOGY

In the current study, a hybrid model of trading in preferred shares of the US stock exchange will be examined.

For a fundamental indicator, we will be looking at three preferred stocks 30 days before their ex-dividend date as an assumption that the higher dividend yield in comparison to common stock would be an interest to many investors. For the purpose we will pick a small portfolio of three stocks that would be taxable and not taxable taking into consideration the pros and cons about tax-motivation (*Kreidl F. 2020*). On the other hand, preferred stock has another fundamental element, and that is the price at which the issuer undertakes to redeem them – Call price. Most commonly, in preferred shares on the US stock exchange, this call price is \$25, which means that an asset of this type is expected to gravitate around this price in the long term.

As a technical indicator for the hybrid model we will be using a 20 day exponential moving average as a short/medium term trend indicator. We have chosen the 20-day period as it is one of the most commonly used exponential moving averages, which at the same time reflects the trading days in a month.

The first technical subcondition that the strategy must meet is that the closing price of the last bar is greater than the 20-day exponential moving average, which is an indicator of an uptrend, as well as an additional criteria that the closing price of the last bar divided by the 20-day exponential itself should tend toward 1. The point of our second condition is that the closer to 1 this ratio is, the greater the growth potential of the instrument. On the other hand, the greater than 1 this ratio is, the more likely the asset will correct its upward movement in the short term, as many short-term traders are covering their positions.

The second technical subcondition that the strategy must meet is that the closing price of the last bar is lower than the 20-day exponential moving average, which is an indicator of a continuous downtrend, as well as an additional criteria that the closing price of the last bar divided by the 20-day exponential itself should tend toward 0. The point of our second condition is that the closer to 0 this ratio is, the greater the chances are for an upward correction.

The third criteria in the hybrid model we are looking at will be that the closing price of the previous bar is greater than its opening price. This element reflects strength in buyers in price/action analysis and is an important timing indicator for the strategy.

The previously mentioned conditions are considered as our “entry point” and to finish the model we need an “exit point”. The “exit point” of the hybrid model is:

- 1) The closing price of the day before the ex-dividend date (considering the fact that we have entered the trade using first technical subcondition)
- 2) A current price which hits the 20 day moving average price (considering the fact that we have entered the trade using second technical subcondition)

RESULTS

Tab. 1 – Simulation results of the hybrid model for the period 01.10.2018 – 30.06.2023

Symbol	Entry/Exit date	Capital invested in %	P/L of the trade in %	P/L of the trade	Cum. Capital
UBP-H	21.09.2018 - 03.10.2018	100	-2,11	-21,07	978,93
UBP-H	03.10.2018 - 17.10.2018	50	-2,54	-25,40	953,53
BAC-B	03.10.2018 - 17.10.2018	50	-0,89	-8,87	944,66
BAC-B	17.10.2018 - 30.10.2018	100	0,16	1,57	946,23
UBP-H	02.01.2019 - 16.01.2019	100	0,80	7,99	954,22
BAC-B	18.01.2019 - 30.01.2019	100	2,91	29,09	983,31
WFC-R	12.02.2019 - 26.02.2019	100	0,98	9,75	993,06
UBP-H	19.03.2019 - 16.04.2019	100	3,24	32,41	1025,47
BAC-B	24.04.2019 - 29.04.2019	100	0,38	3,75	1029,22
WFC-R	01.05.2019 - 29.05.2019	100	1,43	14,33	1043,54
UBP-H	24.06.2019 - 03.07.2019	100	0,61	6,05	1049,60
UBP-H	03.07.2019 - 17.07.2019	50	0,60	6,02	1055,61
BAC-B	03.07.2019 - 17.07.2019	50	-0,06	-0,56	1055,06
BAC-B	17.07.2019 - 30.07.2019	100	1,08	10,83	1065,88
WFC-R	16.08.2019 - 28.08.2019	100	-1,53	-15,31	1050,57
UBP-H	01.10.2019 - 04.10.2019	100	0,37	3,70	1054,27

UBP-H	04.10.2019 - 25.10.2019	50	0,54	5,38	1059,65
BAC-B	04.10.2019 - 25.10.2019	50	1,01	10,14	1069,79
BAC-B	25.10.2019 - 30.10.2019	100	0,00	0,00	1069,79
WFC-R	30.10.2019 - 26.11.2019	100	1,35	13,55	1083,34
UBP-H	19.12.2019 - 31.12.2019	100	0,87	8,71	1092,05
UBP-H	31.12.2019 - 15.01.2020	50	1,05	10,51	1102,56
BAC-B	31.12.2019 - 15.01.2020	50	0,57	5,65	1108,22
BAC-B	15.01.2020 - 28.01.2020	100	0,69	6,85	1115,07
BAC-B	28.01.2020 - 29.01.2020	50	0,29	2,87	1117,94
WFC-R	29.01.2020 - 29.01.2020	50	-0,12	-1,21	1116,73
WFC-R	29.01.2020 - 26.02.2020	100	-0,21	-2,08	1114,64
UBP-H	20.03.2020 - 26.03.2020	100	8,47	84,65	1199,30
BAC-B	01.04.2020 - 03.04.2020	100	0,24	2,37	1201,67
BAC-B	03.04.2020 - 09.04.2020	50	2,52	25,24	1226,90
UBP-H	03.04.2020 - 09.04.2020	50	12,68	126,80	1353,71
BAC-B	09.04.2020 - 29.04.2020	100	1,58	15,76	1369,47
WFC-R	01.05.2020 - 27.05.2020	100	1,32	13,19	1382,66
UBP-H	19.06.2020 - 01.07.2020	100	-0,73	-7,27	1375,38
UBP-H	01.07.2020 - 15.07.2020	50	-1,08	-10,76	1364,62
BAC-B	01.07.2020 - 15.07.2020	50	0,29	2,94	1367,56
BAC-B	15.07.2020 - 29.07.2020	100	0,99	9,85	1377,41
WFC-R	30.07.2020 - 27.08.2020	100	4,22	42,16	1419,57
UBP-H	29.09.2020 - 30.09.2020	100	-0,20	-2,03	1417,54
UBP-H	30.09.2020 - 14.10.2020	50	0,06	0,61	1418,15
BAC-B	30.09.2020 - 14.10.2020	50	0,57	5,67	1423,82
BAC-B	14.10.2020 - 28.10.2020	100	-0,54	-5,40	1418,42
WFC-R	28.10.2020 - 25.11.2020	100	2,51	25,10	1443,52

UBP-H	17.12.2020 - 30.12.2020	100	0,85	8,51	1452,02
UBP-H	30.12.2020 - 13.01.2021	50	0,06	0,60	1452,63
BAC-B	30.12.2020 - 13.01.2021	50	-1,18	-11,84	1440,79
BAC-B	13.01.2021 - 28.01.2021	100	1,54	15,44	1456,22
WFC-R	27.01.2021 - 24.02.2021	100	-2,02	-20,20	1436,02
UBP-H	18.03.2021 - 30.03.2021	100	1,36	13,60	1449,62
UBP-H	30.03.2021 - 14.04.2021	50	0,65	6,51	1456,13
BAC-B	30.03.2021 - 14.04.2021	50	1,13	11,30	1467,43
BAC-B	14.04.2021 - 28.04.2021	100	1,41	14,13	1481,55
WFC-R	28.04.2021 - 26.05.2021	100	-0,20	-2,03	1479,52
UBP-H	16.06.2021 - 07.07.2021	100	0,04	0,38	1479,90
UBP-H	07.07.2021 - 14.07.2021	50	0,25	2,47	1482,37
BAC-B	07.07.2021 - 14.07.2021	50	-0,24	-2,36	1480,01
BAC-B	14.07.2021 - 28.07.2021	100	-0,80	-8,02	1471,98
WFC-R	02.08.2021 - 27.08.2021	100	-1,79	-17,91	1454,08
UBP-H	22.09.2021 - 23.09.2021	100	1,47	14,75	1468,83
UBP-H	24.09.2021 - 01.10.2021	100	1,24	12,36	1481,19
UBP-H	01.10.2021 - 13.10.2021	50	-0,80	-8,02	1473,18
BAC-B	01.10.2021 - 13.10.2021	50	0,15	1,48	1474,66
BAC-B	13.10.2021 - 28.10.2021	100	0,59	5,92	1480,58
WFC-R	02.11.2021 - 26.11.2021	100	-3,08	-30,79	1449,79
UBP-H	17.12.2021 - 03.01.2022	100	-0,50	-5,01	1444,78
UBP-H	03.01.2022 - 12.01.2022	50	0,16	1,55	1446,33
BAC-B	03.01.2022 - 12.01.2022	50	-0,09	-0,94	1445,39
BAC-B	12.01.2022 - 28.01.2022	100	-1,02	-10,17	1435,22
UBP-H	16.03.2022 - 30.03.2022	100	0,60	5,98	1441,19
UBP-H	30.03.2022 - 12.04.2022	50	-0,38	-3,76	1437,43

BAC-B	30.03.2022 - 12.04.2022	50	-0,51	-5,06	1432,38
BAC-B	12.04.2022 - 27.04.2022	100	-0,35	-3,54	1428,84
WFC-R	02.05.2022 - 26.05.2022	100	-0,08	-0,77	1428,07
UBP-H	22.06.2022 - 29.06.2022	100	1,45	14,52	1442,60
BAC-B	01.07.2022 - 06.07.2022	100	0,20	1,97	1444,57
BAC-B	06.07.2022 - 13.07.2022	50	0,47	4,73	1449,30
UBP-H	06.07.2022 - 13.07.2022	50	1,69	16,92	1466,21
BAC-B	13.07.2022 - 28.07.2022	100	-0,31	-3,12	1463,09
WFC-R	04.08.2022 - 29.08.2022	100	-0,73	-7,30	1455,79
UBP-H	29.09.2022 - 10.10.2022	100	2,60	26,02	1481,81
WFC-R	08.11.2022 - 28.11.2022	100	2,19	21,91	1503,72
UBP-H	15.12.2022 - 12.01.2023	100	2,15	21,53	1525,25
WFC-R	02.02.2023 - 24.02.2023	100	-0,35	-3,53	1521,73
UBP-H	27.03.2023 - 30.03.2023	100	2,27	22,75	1544,47
UBP-H	03.04.2023 - 04.04.2023	100	2,44	24,38	1568,85
UBP-H	04.04.2023 - 12.04.2023	50	2,13	21,33	1590,18
BAC-B	04.04.2023 - 12.04.2023	50	0,60	6,02	1596,21
BAC-B	12.04.2023 - 27.04.2023	100	-0,40	-3,97	1592,24
WFC-R	02.05.2023 - 26.05.2023	100	2,54	25,38	1617,62
UBP-H	13.06.2023 - 10.07.2023	100	1,96	19,57	1637,19
UBP-H	10.07.2023 - 12.07.2023	50	0,00	0,00	1637,19
BAC-B	10.07.2023 - 12.07.2023	50	0,24	2,40	1639,59
BAC-B	12.07.2023 - 28.07.2023	100	0,16	1,60	1641,19

Source: Own data

Fig. 1 – Performance statistics of the hybrid model for the period 01.10.2018 – 30.06.2023

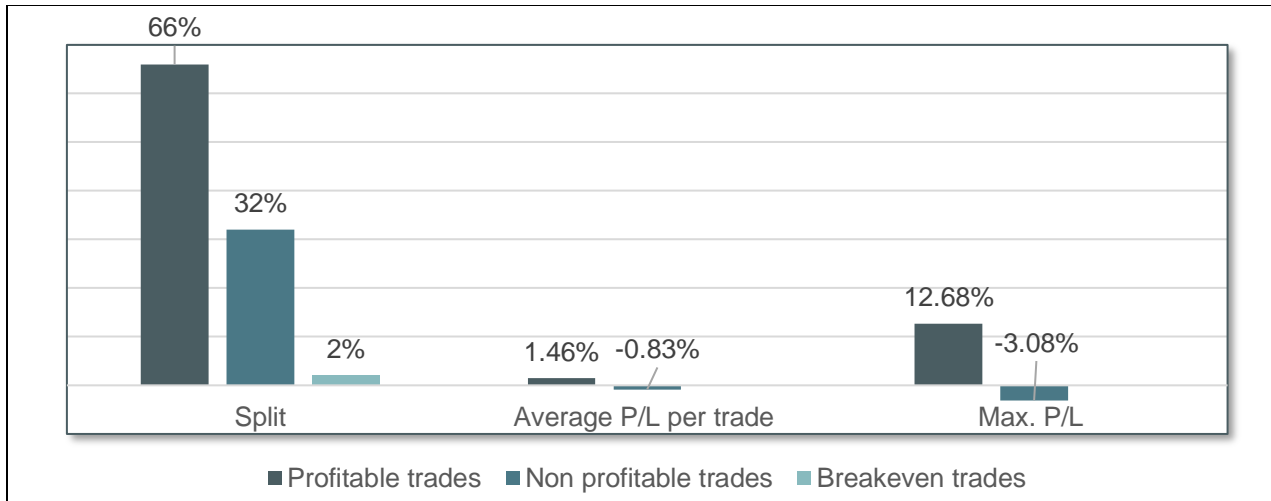
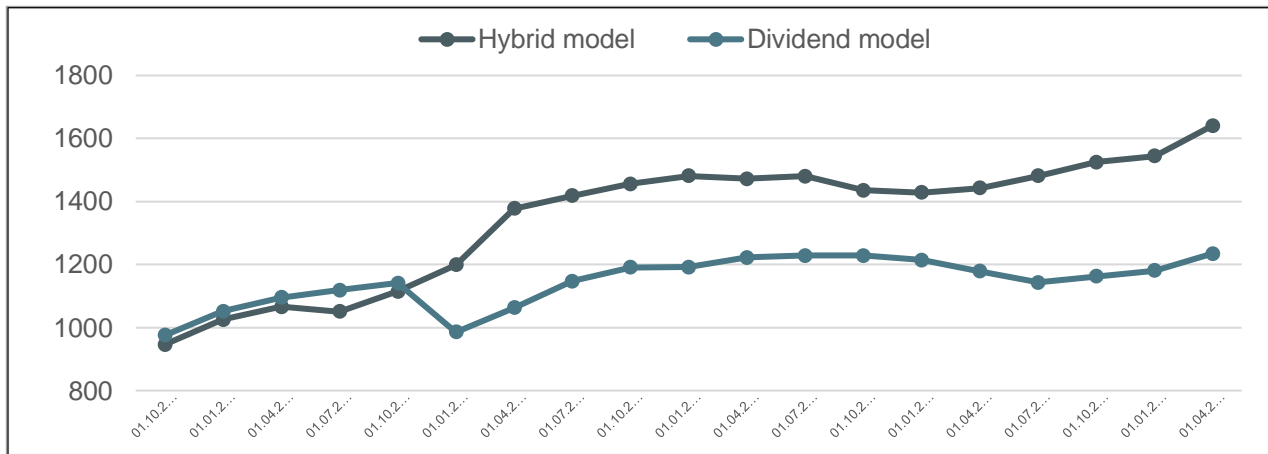


Fig. 2 – Cumulative capital under the Hybrid and Dividend model for the period 01.10.2018 – 30.06.2023



CONCLUSION

In conclusion, the study of hybrid preferred stock trading models provided valuable insights into the dynamic and evolving landscape of financial markets. This research aimed to investigate the effectiveness of a hybrid trading model that combines elements of both quantitative and qualitative analysis in the context of preferred stocks.

The results of the study showed that it is possible to create a hybrid trading model in the preferred shares that gives higher returns than the standard dividend collection investment strategy. The return in the case of the hybrid model is about 62% (taking into account 2% transaction costs) for the studied period, while for the dividend strategy it is about 24%.

On the other hand, the hybrid model also allows for optimization and scaling, as from an optimization point of view, each of the parameters can be improved. From a multiplying one, it should be mentioned that scaling can be vertical and horizontal, as new

preferred shares could be added to the portfolio and thus the free capital could be used, so the same model could be used in other types of debt tools.

In summary, hybrid preferred stock trading models represent a promising approach to improve investment strategies, manage risk and adapt to the evolving dynamics of financial markets. As technology continues to advance and investors become more data savvy, the use of hybrid models is expected to grow. However, investors must exercise caution, perform due diligence and stay informed of regulatory changes to maximize the benefits of these models while minimizing potential pitfalls. This study contributes to a deeper understanding of how hybrid models can be effectively applied in the field of preferred stock trading and initiates further research in this area.

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