



CASE STUDY: Using AI to Generate Income From Options.

In this case study we will show how investors can use options in their portfolio to potentially generate higher levels of income.

October 2023



Private & Confidential



Introduction

In the intricate realm of investments, the quest for strategies that can optimize returns in a low-interest rate environment remains paramount. Options, given their strategic potential, have consistently served as instruments for the well-informed investor. This article focuses on the application of the Harvest Income Strategy within such a context.

The Investment Challenge

Navigating the contemporary low-interest rate environment presents an intricate challenge: optimizing returns without compromising on strategy integrity. While traditional investment avenues remain instrumental, the tilt is increasingly towards more nuanced, data-driven strategies.

The Promise of Options

The Harvest Income Strategy capitalizes on the nuances of options to potentially offer consistent returns, even in challenging market conditions.

Key tenets of the strategy include:

- **Consistent Income Streams:** Through the tactical sale of put options, premiums are secured that, under favorable conditions, crystallize as profits.
- **Tactical Downside Protection:** The strategy affords the opportunity to acquire stocks at predetermined price points, optimizing entry costs.
- **Time Decay Advantage & Strategic Flexibility:** The inherent time decay of options is strategically leveraged for potential profitability. The adaptability of the strategy allows for alignment with individual investor outlooks.

Rationale Behind US Stocks Options

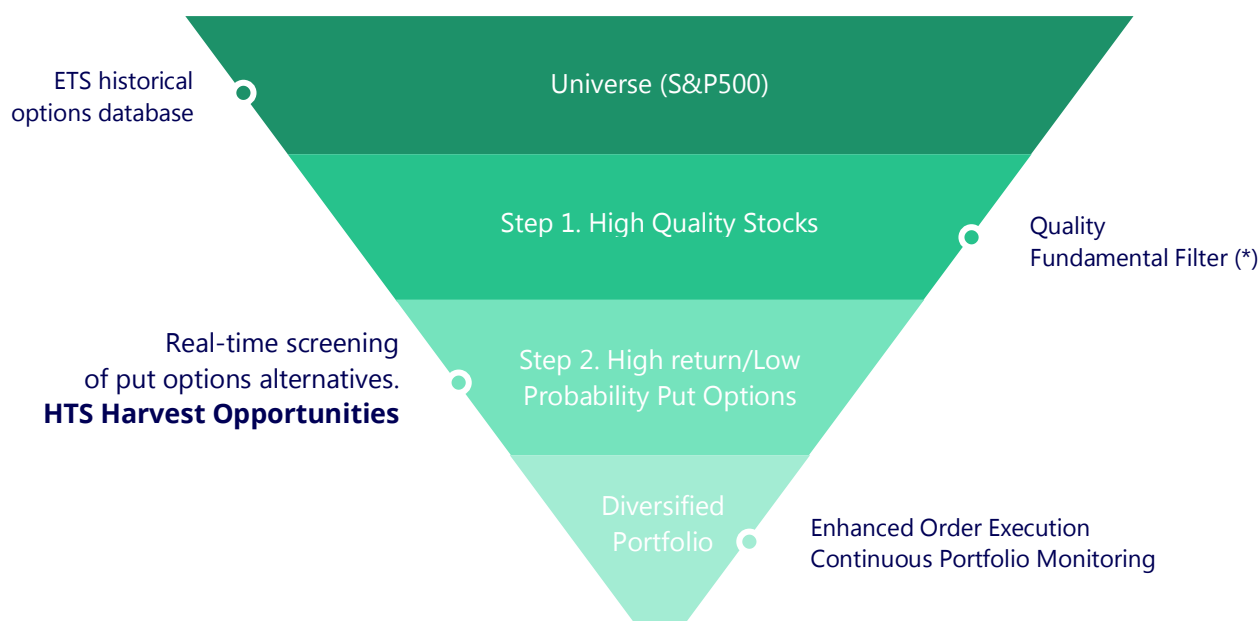
The choice of US stock options in the Harvest Income Strategy is anchored in several factors:

1. The expansive and liquid nature of this asset universe.
2. The myriad investment opportunities they present.
3. Their potential for profit even during market stagnation.
4. The possibility of accruing a portfolio of premium stocks at discounted prices.
5. Their alignment with ETS's strengths in quantitative analytics.

Yet, the multifaceted nature of options, from the intricate dynamics to the vast choices available, necessitates a sophisticated approach, underpinned by robust algorithms, expansive historical data, and computational prowess.

Operationalizing the Harvest Income Strategy

Navigating from the expansive universe of S&P500 stocks to a meticulously curated investment portfolio requires a structured and systematic approach, a journey that ETS has mastered.

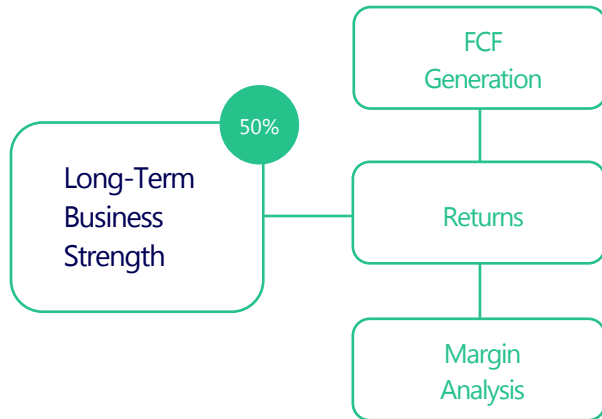


(*) Optional ethical filter

ETS's systematic approach to options further breaks down as:



1. **High-Quality Stocks Selection:** Utilizing its proprietary quality factor, ETS sifts through a myriad of stocks, focusing on those underscored by robust fundamental metrics and enhanced by advanced AI algorithms.



FCF Generation (1/4)

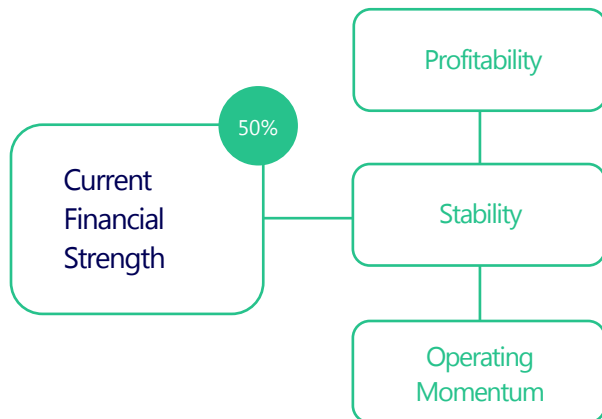
- Long term FCF relative to assets
- Can you generate FCF through a cycle?

Economic Returns (1/2)

- Long term return on assets (50%)
- Long term return on capital (50%)
- Can you generate returns on investments?

Margin Analysis (1/4)

- Long term margin stability (MS)
- Long term margin growth (MG)
- Max (MS, MG) to score firms based on best margin measure
- Can you have a defensible business model?



Current Profitability (3/10)

- Positive return on assets
- Positive free cash flow
- Limited accruals

Stability (3/10)

- Paying down debt
- Current ratio improvement
- Stock repurchases

Recent Operational Improvements (4/10)

- Improving ROA
- Improving FCF/Assets
- Improving gross margin
- Improving asset turnover

Quality Strategy US

Performance (2012 – 2021)



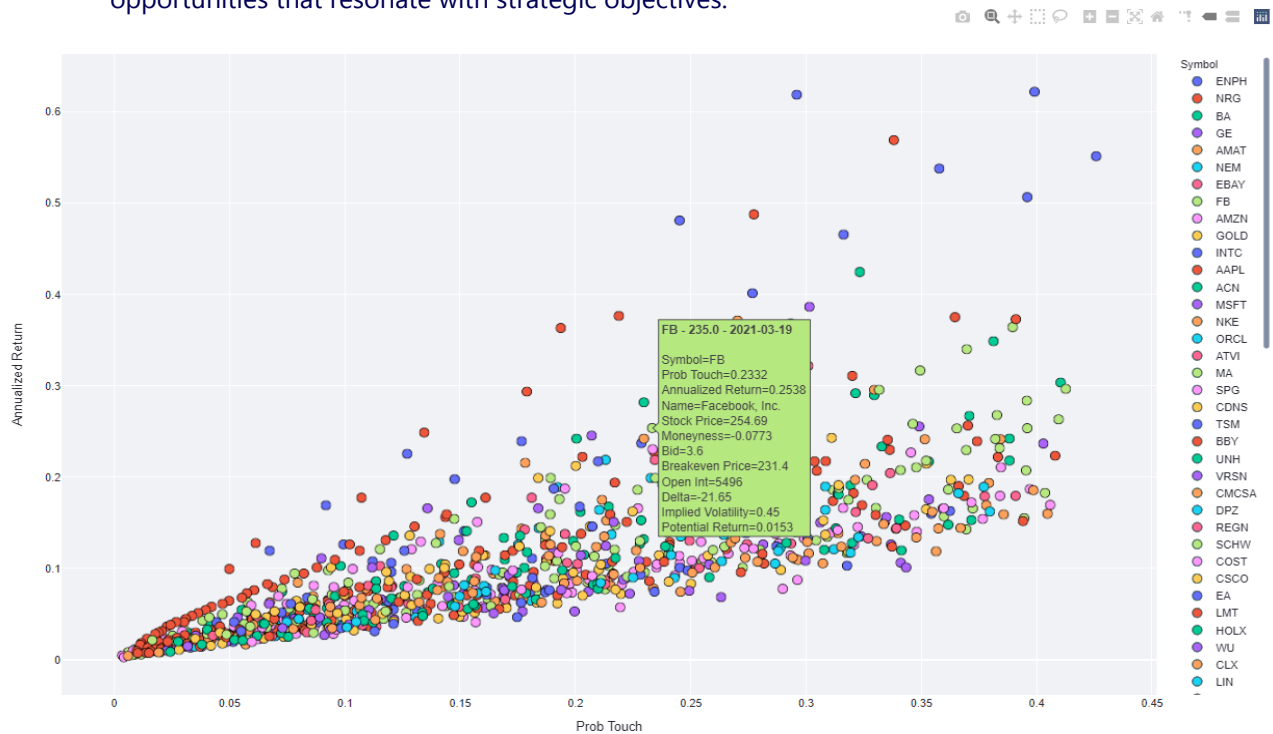
	Quality Strategy	Invesco S&P 500 High Quality	S&P 500
CUMULATIVE PERFORMANCE	340.69%	267.50%	274.61%
ANNUALIZED RETURN	17.63%	15.31%	15.56%
ANNUALIZED VOLATILITY	17.27%	16.07%	16.64%
MAXIMUM DRAWDOWN	-30.34%	-31.60%	-33.79%
MAXIMUM RUNUP	346.70%	272.13%	277.17%
SHARPE RATIO	1.03	0.97	0.95
TURNOVER	1.18	-	-



- Quality Strategy High conviction (25 lines).
- Higher performance with similar risk parameters than peers.
- More capacity to beat the market (S&P 500) with slightly more tracking error.

Rolling Spread 1Y vs S&P 500 TR	Quality Strategy	Invesco S&P 500 High Quality
Maximum	12.53%	7.65%
Prcille 95	8.37%	5.40%
Prcille 5	-5.63%	-4.23%
Minimum	-7.81%	-5.92%
% Positive	67.51%	54.05%
Mean	2.18%	0.14%
Mean +	4.85%	2.30%
Mean -	-3.37%	-2.41%

2. **Ongoing Options Screening:** From the broader landscape of available options, ETS zeroes in on opportunities that resonate with strategic objectives.



Symbol - Strike - Exp	Name	Prob Touch	Moneyness	Breakeven	Potential Return	Annualized Return	Implied Volatility	Qual Percentile	Drawdown
NVDA - 410.0 - 2021-06-18	Nvidia Corporation	18.7%	-23.0%	-23.0%	3.18%	10.3%	52.7%	0.16	-6.1%
AMAT - 87.5 - 2021-06-18	Applied Materials Inc.	19.1%	-23.2%	-23.2%	3.36%	10.8%	54.1%	0.12	-2.9%
INTC - 50.0 - 2021-06-18	Intel Corp.	21.3%	-17.2%	-17.2%	3.26%	10.5%	42.7%	0.13	0.0%
FB - 210.0 - 2021-06-18	Facebook, Inc.	21.4%	-17.5%	-17.5%	3.19%	10.3%	43.8%	0.07	-0.2%
ADBE - 390.0 - 2021-06-18	Adobe Inc.	22.8%	-15.1%	-15.1%	3.12%	10.1%	39.4%	0.04	-5.6%
AAPL - 102.5 - 2021-06-18	Apple Inc.	23.1%	-15.3%	-15.3%	3.32%	10.7%	40.5%	0.06	-7.0%
INTU - 330.0 - 2021-06-18	Intuit Inc.	23.5%	-14.0%	-14.0%	3.24%	10.5%	40.3%	0.03	-1.0%

3. **Portfolio Surveillance:** With state-of-the-art real-time tools at its disposal, ETS ensures every position is diligently monitored, guaranteeing alignment with overarching investment strategies.

Open Positions Info:		Option Data		Position Data			Valuation Data			Distance to key levels		Implied Volatility & Execution Probability	
Updated: 2021-03-31 10:24:08													
Amounts in USD													
	Stock	Exp Date	Strike	Position	Nominal	Premium	Valuation	P&L	Progress	Moneyness	Breakeven	IV	Prob Touch
0	BA	2021-06-18	100.00	-10	100,000	5,830	2,350	3,450	59.2%	-28.6%	-30.9%	54.6%	9.4%
1	COST	2021-06-18	320.00	-5	160,000	5,950	2,200	3,735	62.8%	-8.5%	-11.9%	23.5%	20.9%
2	CRM	2021-06-18	200.00	-8	160,000	6,000	6,000	-24	-0.4%	-4.8%	-8.3%	31.1%	36.9%
3	ENPH	2021-05-21	115.00	-7	80,500	4,606	3,241	1,352	29.4%	-23.6%	-28.0%	85.4%	20.1%
4	NVDA	2021-06-18	440.00	-4	176,000	7,200	4,360	2,828	39.3%	-14.5%	-18.0%	41.7%	21.1%

Average Weighted Progress: 28.7%. Average Weighted Breakeven: -16.9%

[Download xlsx file](#)

Furthermore, ETS has developed PALESTRA, a simulation platform for option strategies, offering a systematic analysis tailored for both investment and hedging purposes.

Benefits

Incorporating the Harvest Income Strategy within a diversified portfolio can lead to:

- Augmented returns, particularly in stable or slightly bullish markets.
- Diversification through less correlated income sources.
- Meticulous management resulting in consistent gains over the long term.

Lumenai stands at the forefront of innovation in the investment realm, offering tailored solutions by synergizing human oversight with AI computing power. With ETS Asset Management Factory powering Lumenai's investment engine, the combination brings decades of experience in quantitative/AI investing, managing assets for esteemed clients like HSBC and Rothschild Bank.

Lumenai, powered by ETS, can work together with investors to boost asset and investment management, potentially adding 2-3% extra alpha to existing strategies.

Conclusion

The Harvest Income Strategy, presented by Lumenai in partnership with ETS, offers a nuanced approach for sophisticated investors to potentially enhance their portfolios. As the financial landscape continues to evolve, strategies such as these will undoubtedly play a pivotal role in navigating the complexities of investment.

Important Disclosures



This presentation does not constitute an offer to sell, or a solicitation of an offer to buy, any interest in any investment vehicle, and should not be relied on as such. Nor does this document, email or any attachment hereto disclose the risks or terms of an investment in any investment vehicle managed by Lumenai or any of its affiliates.

These materials are not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use is contrary to local law or regulation. Distribution of this information to any person other than the person to whom this information was originally delivered and to such person's advisors is unauthorized and any reproduction of these materials, in whole or in part, or the disclosure of any of the contents, without the prior written consent of Lumenai Investments LLC in each such instance is prohibited.

We believe the information contained in this material to be reliable but do not warrant its accuracy or completeness. The opinions, estimates, and investment strategies and views expressed in this document are based upon current market conditions and/or data and information provided by Lumenai and unaffiliated third parties—and are subject to change without notice. Certain information herein constitutes "forward looking statements." Actual events or performance may differ materially from those contemplated by such forward-looking statements.

Past performance is not indicative nor a guarantee of comparable future results. Performance indicated, if applicable, includes the reinvestment of all dividends, interest, income, and profits. The investments discussed herein may fluctuate in price or value. Investors may get back less than they invested.

Investments referenced herein are examples only and actual portfolios may differ significantly. Lumenai's team and technology refers to Lumenai and its third-party technical partners who are disclosed upon request to Lumenai clients, but which may change at any point without prior or subsequent notice.

This material may contain certain forward looking statements, expected or target returns, opinions and projections that are based on the assumptions and judgments of Lumenai with respect to, among other things, future economic, competitive and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the control of Lumenai. Other events which were not taken into account in formulating such projections, targets or estimates may occur and may significantly affect the returns or performance of any Client managed by Lumenai. Because of the significant uncertainties inherent in these assumptions and judgments, you should not place undue reliance on these forward-looking statements, nor should you regard the inclusion of these statements as a representation by Lumenai that it will achieve any strategy, objectives or other plans. For the avoidance of doubt, any such forward looking statements, opinions, expected returns, assumptions and/or judgments made by Lumenai may not prove to be accurate or correct.

Investors must be (i) "accredited investors" as defined under the Securities Act of 1933, as amended, or (ii) "qualified purchasers" or "knowledgeable employees" as defined under the Investment Company Act of 1940 and the rules promulgated thereunder. Interests may not be purchased by non-resident aliens, foreign corporations, foreign partnerships, foreign trusts or foreign estates, all as defined in the Internal Revenue Code of 1986, as amended, or by entities that are exempt from federal income tax. Lumenai may decline any investor even if they meet such suitability requirements. Prospective investors will be furnished with an investment management agreement and will be required to complete and return it to Lumenai prior to setting up Lumenai accounts and starting any portfolio.

Lumenai Investments LLC

John Bailey
+1 203.807.1013 john.bailey@lumenai.net

John Van Schaick
(518) 791-4950 john.van.schaick@lumenai.net

700 Canal St. Stamford CT 06902 | www.lumenai.net

l|lumenai