

Prepared for Manny Logicly
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# **ADVISOR NOTES**

• Manny, Here is a Side-by-Side comparison of the two models that we discussed earlier. Brian Fechter, CCSM

### **SUMMARY**

Details of the analysis.

### HOLDINGS FOR PROPOSED PORTFOLIO 05.12.2022 15:36:45

Breakdown of the positions on the last day included in the analysis.

Name	Ticker	Size
BTC iShares Short Treasury Bond ETF - BlackRock Institutional Trust Company	SHV US	10.0%
iShares Core U.S. Aggregate Bond ETF - BlackRock Institutional Trust Compan	AGG US	10.0%
Vanguard Total Bond Market ETF - Vanguard Group, Inc. (USD)	BND US	10.0%
Vanguard Tax-Exempt Bond ETF - Vanguard Group, Inc. (USD)	VTEB US	10.0%
JPMorgan Ultra-Short Income ETF - J.P.Morgan Investment Management Inc. (US	JPST US	10.0%
PIMCO Enhanced Short Maturity Active Exchange-Traded Fund - Pimco Exchange	MINT US	10.0%
Cash Position	CASH USD	10.0%
Vanguard Short-Term Bond ETF - Vanguard Group, Inc. (USD)	BSV US	10.0%
JPMorgan Income ETF - J.P. Morgan Exchange-Traded Fund Trust (USD)	JPIE US	10.0%
Invesco QQQ Trust Series 1 - Invesco Capital Management LLC (USD)	QQQ US	10.0%
ProShares Short Term USD Emerging Markets Bond ETF - ProShares Trust (USD)	EMSH US	

### HOLDINGS FOR CURRENT PORTFOLIO 05.12.2022 15:36:45

Breakdown of the positions on the last day included in the analysis.

Name	Ticker	Size
Vanguard S&P 500 ETF - Vanguard Group, Inc. (USD)	VOO US	10.0%
BTC iShares Core MSCI EAFE ETF - BlackRock Institutional Trust Company N.A	. IEFA US	10.0%
iShares Core Dividend Growth ETF - BlackRock Institutional Trust Company N	DGRO US	10.0%
S&P 500 ETF TRUST ETF - SSgA Active Trust (USD)	SPY US	10.0%
iShares Russell 1000 Growth ETF - BlackRock Institutional Trust Company N.A	IWF US	10.0%
iShares Core S&P Mid-Cap ETF - BlackRock Institutional Trust Company N.A. (	IJH US	10.0%
Invesco QQQ Trust Series 1 - Invesco Capital Management LLC (USD)	QQQ US	10.0%
Vanguard Small Cap ETF - Vanguard Group, Inc. (USD)	VB US	10.0%
Vanguard FTSE Emerging Markets ETF - Vanguard Group, Inc. (USD)	VWO US	10.0%
Vanguard Total Bond Market ETF - Vanguard Group, Inc. (USD)	BND US	10.0%

# SIMULATION PARAMETERS

Recap of the parameters used to run the simulation of past performance.

	Parameter Value
Start Date	2021-11-02
End Date	2022-05-11
Backfill Method	Common Inception
Rebalancing Method	Calendar Rebalancing
Rebalancing Frequency	Monthly Schedule
Return On Cash	
Underlying Data	Daily Observations

# **COMPARISON TABLE**

Side-by-Side comparison of fund instruments within your input portfolio.

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	VB US	VWO US
Issuer Name	Vanguard	Vanguard
Fund Name	Vanguard Small Cap ETF	Vanguard FTSE Emerging Markets ETF
Inception Date	2004-01-26	2005-03-04
Asset Class	Equity	Equity
Investment Focus	Industrials	Financials
ETFLogic TruLiquidity Score		
NAV (USD)	USD 180.11	USD 40.90
Fund AUM (USD)	USD 40,187.16M	USD 70,034.83M
Benchmark	CRSP US Small Cap Index	FTSE EMs AC China A Incl (US RIC) NR USD
Leverage Ratio	1.0	1.0
Creation Unit Size	25,000	200,000
Creation		
Fund Expense Ratio	0.05%	0.08%
Holder	Current Portfolio 05.12.2022 15:36:45	Current Portfolio 05.12.2022 15:36:45
		Wide table continues→
	BND US	
Issuer Name	Vanguard	
Fund Name	Vanguard Total Bond Market ETF	
Incention Date	2007-04-03	

	BND US	
Issuer Name	Vanguard	
Fund Name	Vanguard Total Bond Market ETF	
Inception Date	2007-04-03	
Asset Class	Fixed Income	
Investment Focus		
ETFLogic TruLiquidity Score		
NAV (USD)	USD 76.08	
Fund AUM (USD)	USD 80,813.93M	
Benchmark	Bloomberg Barclays US Aggregate Float Adjusted Index	
Leverage Ratio	1.0	
Creation Unit Size	100,000	
Creation		
Fund Expense Ratio	0.03%	
Holder	Proposed Portfolio 05.12.2022 15:36:45	
		Wide table continues $\rightarrow$

	VOO US	IEFA US
Issuer Name	Vanguard	iShares
Fund Name	Vanguard S&P 500 ETF	iShares Core MSCI EAFE ETF
Inception Date	2010-09-07	2012-10-18
Asset Class	Equity	Equity
Investment Focus	Technology	Financials
ETFLogic TruLiquidity Score		
NAV (USD)	USD 360.87	USD 61.60
Fund AUM (USD)	USD 245,178.50M	USD 88,729.26M
Benchmark	S&P 500 (TR)	MSCI EAFE IMI Index
Leverage Ratio	1.0	1.0
Creation Unit Size	25,000	200,000
Creation		
Fund Expense Ratio	0.03%	0.07%
Holder	Current Portfolio 05.12.2022 15:36:45	Current Portfolio 05.12.2022 15:36:45
		Wide table continues→

	DGRO US	QQQ US
Issuer Name	iShares	Invesco
Fund Name	iShares Core Dividend Growth ETF	Invesco QQQ Trust Series 1
Inception Date	2014-06-10	1999-03-10
Asset Class	Equity	Equity
Investment Focus	Technology	Technology
ETFLogic TruLiquidity Score		
NAV (USD)	USD 49.29	USD 291.68
Fund AUM (USD)	USD 22,204.56M	USD 158,352.00M
Benchmark	Morningstar US Dividend Growth Index	NASDAQ-100 Total Return Index
Leverage Ratio	1.0	1.0
Creation Unit Size	50,000	50,000
Creation		
Fund Expense Ratio	0.08%	0.20%
Holder	Current Portfolio 05.12.2022 15:36:45	Proposed Portfolio 05.12.2022 15:36:45
		Wide table continues $ ightarrow$

	IWF US	
Issuer Name	iShares	
Fund Name	iShares Russell 1000 Growth ETF	
Inception Date	2000-05-22	
Asset Class	Equity	
Investment Focus	Technology	
ETFLogic TruLiquidity Score		
NAV (USD)	USD 225.12	
Fund AUM (USD)	USD 57,473.08M	
Benchmark	RUSSELL 1000 GROWTH TOTAL RETURN INDEX	
Leverage Ratio	1.0	
Creation Unit Size	50,000	
Creation		
Fund Expense Ratio	0.19%	
Holder	Current Portfolio 05.12.2022 15:36:45	
		Wide table continues $\rightarrow$

	IJH US	SPY US
Issuer Name	iShares	SSgA
Fund Name	iShares Core S&P Mid-Cap ETF	S&P 500 ETF TRUST ETF
Inception Date	2000-05-22	1993-01-22
Asset Class	Equity	Equity
Investment Focus	Industrials	Technology
ETFLogic TruLiquidity Score		
NAV (USD)	USD 234.21	USD 392.62
Fund AUM (USD)	USD 57,579.51M	USD 353,703.00M
Benchmark	S&P 400 (TR)	S&P 500 (TR)
Leverage Ratio	1.0	1.0
Creation Unit Size	50,000	50,000
Creation		
Fund Expense Ratio	0.05%	0.09%
Holder	Current Portfolio 05.12.2022 15:36:45	Current Portfolio 05.12.2022 15:36:45
		Wide table continues→

	BSV US	VTEB US
Issuer Name	Vanguard	Vanguard
Fund Name	Vanguard Short-Term Bond ETF	Vanguard Tax-Exempt Bond ETF
Inception Date	2007-04-03	2015-08-21
Asset Class	Fixed Income	Fixed Income
Investment Focus		
ETFLogic TruLiquidity Score		
NAV (USD)	USD 77.15	USD 49.47
Fund AUM (USD)	USD 37,107.53M	USD 15,627.99M
Benchmark	Bloomberg US 1-5Y GovCredit FIAdj TR USD	S&P National AMT Free Muni TR USD
Leverage Ratio	1.0	1.0
Creation Unit Size	100,000	50,000
Creation		
Fund Expense Ratio	0.04%	0.05%
Holder	Proposed Portfolio 05.12.2022 15:36:45	Proposed Portfolio 05.12.2022 15:36:45
		Wide table continues $ ightarrow$

	JPST US	JPIE US
Issuer Name	JPMorgan	JPMorgan
Fund Name	JPMorgan Ultra-Short Income ETF	JPMorgan Income ETF
Inception Date	2017-05-17	2021-10-28
Asset Class	Fixed Income	Fixed Income
Investment Focus		
ETFLogic TruLiquidity Score		
NAV (USD)	USD 50.16	USD 46.77
Fund AUM (USD)	USD 19,006.40M	USD 140.30M
Benchmark		
Leverage Ratio	1.0	1.0
Creation Unit Size	50,000	30,000
Creation		
Fund Expense Ratio	0.18%	0.41%
Holder	Proposed Portfolio 05.12.2022 15:36:45	Proposed Portfolio 05.12.2022 15:36:45 Wide table continues→

	AGG US	SHV US
Issuer Name	iShares	iShares
Fund Name	iShares Core U.S. Aggregate Bond ETF	iShares Short Treasury Bond ETF
Inception Date	2003-09-22	2007-01-05
Asset Class	Fixed Income	Fixed Income
Investment Focus		
ETFLogic TruLiquidity Score		
NAV (USD)	USD 102.76	USD 110.18
Fund AUM (USD)	USD 81,674.33M	USD 18,356.77M
Benchmark	Bloomberg Barclays US Aggregate Bond Index	ICE US Treasury Short Term Index
Leverage Ratio	1.0	1.0
Creation Unit Size	100,000	10,000
Creation		
Fund Expense Ratio	0.04%	0.15%
Holder	Proposed Portfolio 05.12.2022 15:36:45	Proposed Portfolio 05.12.2022 15:36:45 Wide table continues→
		vvide table continues—
	MINT US	
Issuer Name	PIMCO	
Fund Name	PIMCO Enhanced Short Maturity Active Exchain	nge-Traded Fund
Inception Date	2009-11-16	
Asset Class	Fixed Income	
Investment Focus		
ETFLogic TruLiquidity Score		
NAV (USD)	USD 99.71	
Fund AUM (USD)	USD 12,252.08M	
Benchmark		
Leverage Ratio	1.0	

### HISTORICAL PERFORMANCE, GROWTH OF \$10,000

70,000

0.35%

Creation Unit Size

Fund Expense Ratio

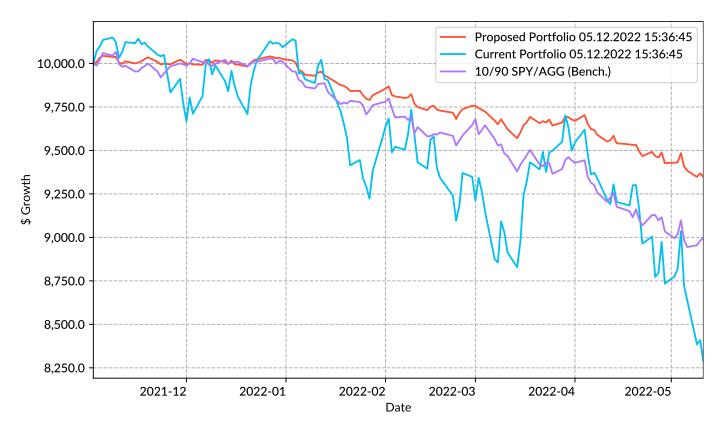
Creation

Holder

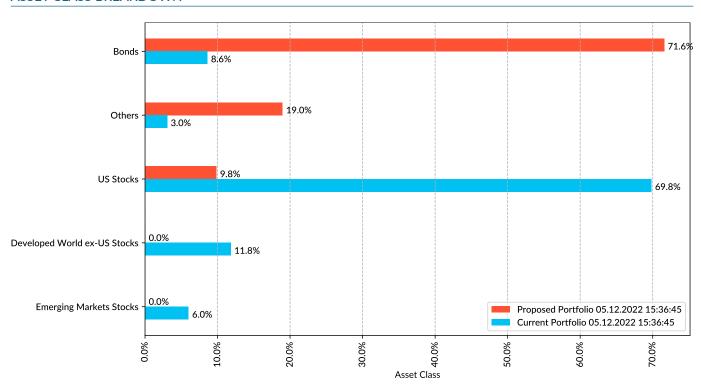
Simulated backtest of the input portfolios and benchmark \* Please see the important Performance Disclosures at the end of the document.

Proposed Portfolio 05.12.2022 15:36:45

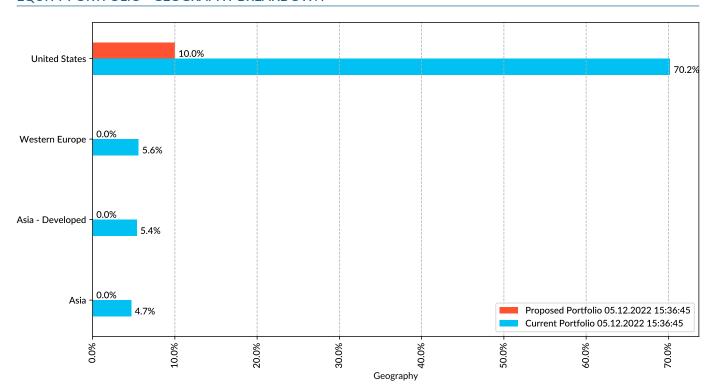
- The Historical Performance, Growth of \$10,000 chart is hypothetical based upon the historical performance of the portfolio. Total returns of the portfolio components are used, which assumes reinvestment of dividends.
- Advanced options allow for multiple rebalancing options: calendar rebalancing on the last trading day of each period, or a buy-and-hold strategy where no rebalancing occurs.
- Portfolio history length can vary based on the different inception dates of components in the portfolio and can be modified based on the advanced options settings:
  - (i) The common inception date is the earliest date when all items in the portfolio were available for trading.
  - (ii) Cash replacement attempts to backfill history for certain items with the \$CASH ticker. This is useful, for example, when a recent IPO or new ETF is added to the portfolio, so that the portfolio simulation is not limited by these components. If cash replacements represent more than 50% of the portfolio going back in time, then no more cash replacements can occur.



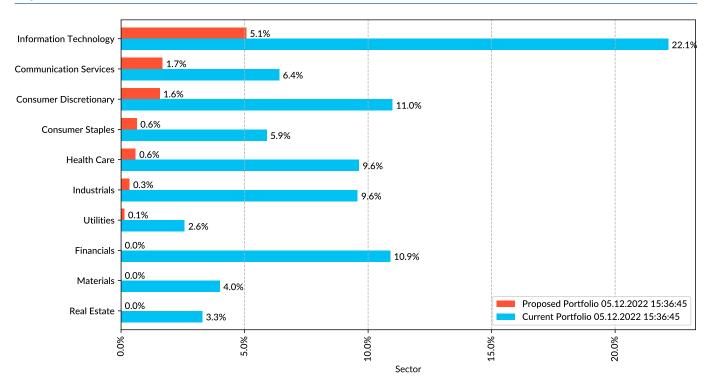
### ASSET CLASS BREAKDOWN

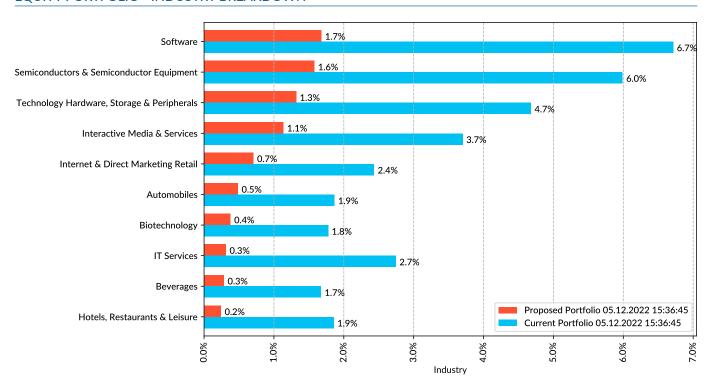


# **EQUITY PORTFOLIO - GEOGRAPHY BREAKDOWN**

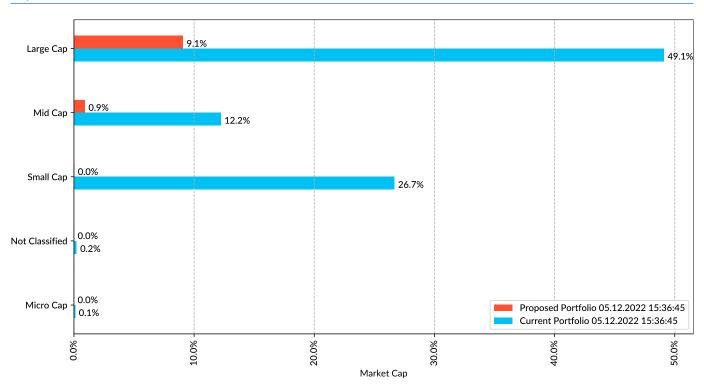


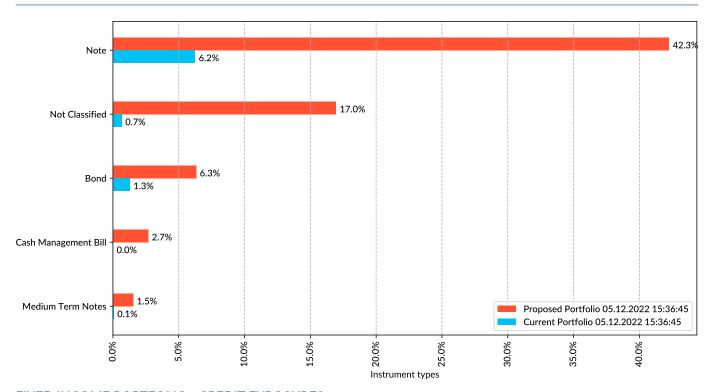
### **EQUITY PORTFOLIO - SECTOR BREAKDOWN**



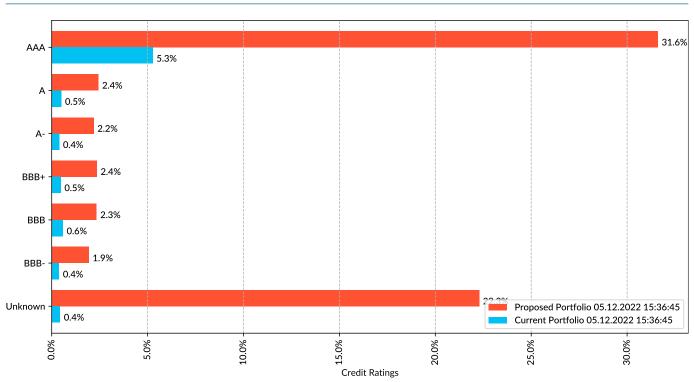


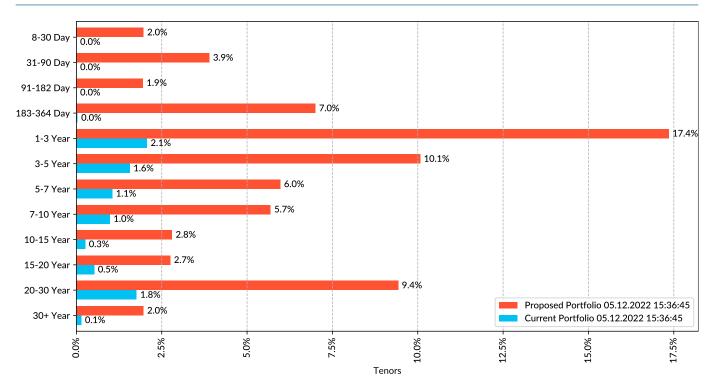
# **EQUITY PORTFOLIO - MARKET CAPITALIZATION BREAKDOWN**





# FIXED INCOME PORTFOLIO - CREDIT EXPOSURES





### PERFORMANCE MEASURES

- All returns are total returns. Metrics over one year are annualized.
- Following user's selection, history is based on either:
  - (i) The common inception date is the earliest date when all items in the portfolio were available for trading.
  - (ii) Cash replacement attempts to backfill history for certain items with the \$CASH ticker. This is useful, for example, when a recent IPO or new ETF is added to the portfolio, so that the portfolio simulation is not limited by these components. If cash replacements represent more than 50% of the portfolio going back in time, then no more cash replacements can occur.

### TRAILING RETURNS (AS OF 2022-05-11)

Portfolio and Benchmark Trailing returns.

	Entire History	YTD	1w	1m	3m	6m
Proposed Portfolio 05.12.2022 15:36:45	-6.52%	-6.76%	-0.90%	-2.52%	-4.32%	-6.57%
Current Portfolio 05.12.2022 15:36:45	-17.15%	-17.93%	-6.09%	-11.28%	-13.60%	-17.43%
10/90 SPY/AGG (Bench.)	-10.02%	-10.11%	-0.23%	-2.80%	-6.25%	-10.00%

#### **CALENDAR RETURNS**

Portfolio and Benchmark Calendar returns.

	2022	2021
Proposed Portfolio 05.12.2022 15:36:45	-6.76%	0.26%
Current Portfolio 05.12.2022 15:36:45	-17.93%	0.95%
10/90 SPY/AGG (Bench.)	-10.11%	0.11%

<sup>\*</sup> Please see the important Performance Disclosures at the end of the document.

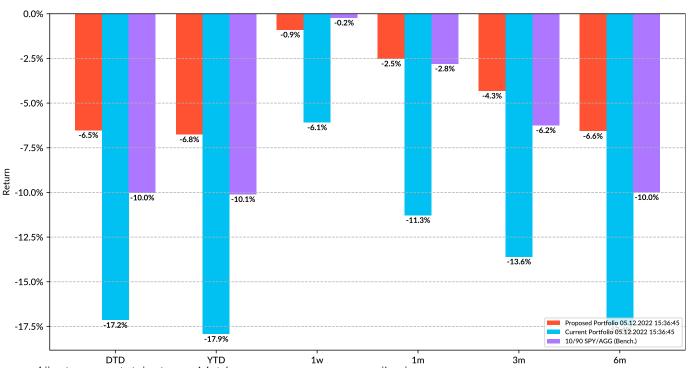
### **DRAWDOWN**

The yearly peak to trough return. We display this return in absolute value. "Drawdown" differs from the "Maximum Drawdown" calculation which is the peak-to-trough return followed by a new peak. The Full drawdown column is the largest peak-to-trough negative return across the entire available history.

	Entire History	2022	2021
Proposed Portfolio 05.12.2022 15:36:45	-6.94%	-6.70%	-0.62%
Current Portfolio 05.12.2022 15:36:45	-18.38%	-18.30%	-4.75%
10/90 SPY/AGG (Bench.)	-11.15%	-10.14%	-1.46%

## TRAILING RETURNS (AS OF 2022-05-11)

Observation of Trailing Returns for the selected Portfolio and its Benchmark.

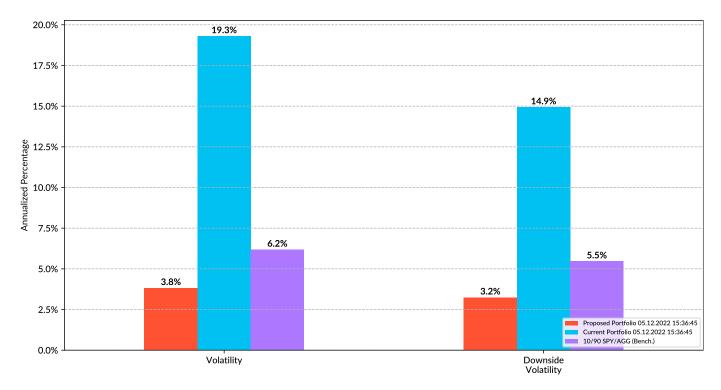


• All returns are total returns. Metrics over one year are annualized.

## RISK OVERVIEW (AS OF 2022-05-11)

Classical risk metrics for the selected portfolio.

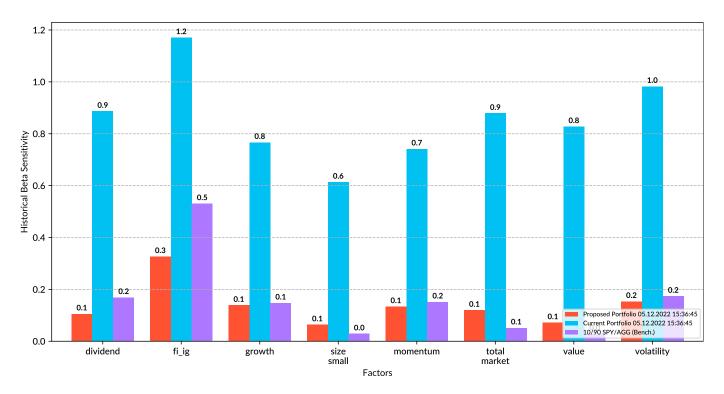
- Volatility and Downside Volatility are computed on a 1-year trailing basis.
- VaR is computed with the historical method, using realized returns.



### **FACTOR EXPOSURES**

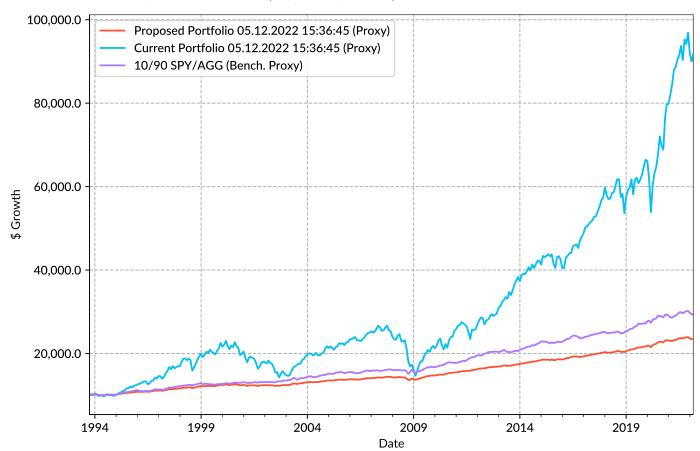
Historical beta sensitivies, estimated as of the portfolio simulation end time.

- The factor exposures breakdown provides a relative view of factor sensivity of the input portfolio and a benchmark. Factors analyzed range from fundamental to technical exposures including fixed income credit quality, market-cap size, growth vs value, dividend and volatilty.
- This tool allows you to better understand your portfolio, and compare it with its benchmark, in the factor space.



# FACTOR BACKTEST, GROWTH OF \$10,000

This line chart shows the factor-based historical performance for these portfolios.



# IMPORTANT CONSIDERATIONS AND WARNINGS

• We could not retrieve suffficient price information for the ticker EMSH US. It has been replaced with a Cash position within your portfolio named Proposed Portfolio 05.12.2022 15:36:45.

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#### **DEFINITIONS**

Allocations and Exposure Data: All hypothetical portfolio attributes are calculated as weighted averages of the underlying holdings using the target weights input by the cre-

ator of this report. The underlying securities' attributes are based on data in Logicly. provided by the fund issuer or other data vendors. For individual stock positions the entire weight is assigned to the corresponding sector, market cap group, style, etc.

Alpha: Alpha measures the risk and market-adjusted returns for the portfolio. The metric is calculated on the specified lookback period using the benchmark that is set for the portfolio. When your PDF report includes an ETF or Mutual Fund, the alpha is calculated vs. the category benchmark.

Note: Risk free rate = average 1 month treasury rate throughout the lookback period.

Formula: Alpha = Annualized security return - risk free rate - beta \* (annualized benchmark return - risk free rate) \* 100

Avg. Market Cap: Market capitalization is the share price multiplied by the total number of shares outstanding. For the portfolio, an average of the underlying holdings' market cap is taken.

Benchmark:: The benchmark used in this report was chosen by the creator of the report. The benchmark is displayed for comparison reasons and is used to calculate portfolio level risk data when necessary. Underlying holdings risk data is computed using specific benchmarks based on that security's asset classification.

Beta: Beta measures the movement of the portfolio in comparison to the benchmark based on the lookback period. It is a statistical measure that can be used to measure the volatility of price movements. When your PDF report includes an ETF or Mutual Fund, the beta is calculated vs. the category benchmark.

Formula: Beta = Covariance ( Portfolio Return , Benchmark Return) / Variance (Benchmark Return)

Dividend Yield (TTM): For the underlying holdings of the portfolio, the dividend yield measures the total amount of dividends per share paid over the last 12 months, divided by the price per share of the security. To calculate the portfolio's dividend yield, a weighted average of the underlying holdings' dividend yield is taken.

Distribution Yield (TTM): Measures the total amount of distributions received from common dividends paid in the underlying holdings over the last 12 months.

Expense Ratio: A measure of the fees charged by an Asset Manager to the investors that own shares of the fund. The value is a percentage and represents the portion of the investor's assets that are paid to the fund company on an annual basis. Any expense ratio shown is only inclusive of the underlying fees in the securities included in the hypothetical portfolio, and as such should be considered for illustrative

purposes only. These fees do not include additional commissions, loads, transaction, or advisory fees. All fee data is collected by ETFLogic from various data sources including third party data vendors as well as sourced directly from the fund providers.

Historical Sharpe: Sharpe measures the risk-adjusted return for the specified lookback period.

Formula: Sharpe = (Average monthly return over lookback period) / (Historical standard deviation)

Historical Sortino: Sortino Ratio measures the downside risk-adjusted outperformance of the portfolio versus the benchmark.

Formula: Historical Sortino = (Average Monthly Returns - risk free rate) / downside deviation

Max Drawdown: Max drawdown is an indicator of the risk of a portfolio chosen based on a certain strategy. It measures the largest single drop from peak to bottom in the value of a portfolio (before a new peak is achieved).

Formula: Max Drawdown = (Peak value before largest drop - Lowest value before new high established) / (Peak value before largest drop)

Portfolio: All portfolios represent hypothetical blended investments of weighted securities as designated by the creator of this report and should be used for illustrative purposes only and should not be considered performance reports. They are calculated by taking a weighted average of the target weights and the securities total return, assuming all dividends reinvested, since the latest rebalance date. These portfolios are assumed to rebalance to the exact designated weights at each calendar quarter or month end — whichever is chosen when setting up the portfolio. No transaction costs, taxes, or advisory fees are included. Portfolio holdings are weighted by percentage, not whole share numbers.

Portfolio Rebalance: Each portfolio listed on this report contains a rebalance frequency. This can be selected when you create the portfolio on Logicly. The portfolios are rebalanced to the proper target weights at each target rebalance point. For monthly rebalancing, the portfolio will rebalance to the target weight at the end of each calendar month. For quarterly rebalancing, the portfolio will rebalance to the target weight at the end of each calendar quarter (March 31st, June 30th, September 30th, December 31st). For annual rebalancing, the portfolio will rebalance to the target weight at the end of each calendar year. Lastly, if the portfolio never rebalances, the target weights are implemented at the portfolio inception date, but will not change after that.

Portfolio Weights: All stated portfolio weights are based on

allocation choices input by the creator of this report. These weights represent the values used at rebalance periods and not necessarily the implied weights at the time this report was generated. All weightings ignore the concept of whole shares and instead uses the exact percentage chosen when setting up the portfolio.

Rebalancing: Rebalancing is conducted on either a quarterly or monthly basis, as selected by the creator of this report. Weights may drift away from the target allocations between rebalance periods.

Returns: All returns are hypothetical and should not be considered performance reporting. The hypothetical returns displayed are based on weighted calculations of the underlying holdings' returns and other selections by the creator of this report. Returns assume all dividends and distributions are reinvested on the corresponding ex-date. Returns are not audited and should not be considered performance reporting, as they are hypothetical in nature.

Risk Calculation: All risk calculations are for illustrative purposes only. They are calculated at the portfolio level using a benchmark selected by the creator of this report. At the security level, risk metrics are calculated by Logicly using historical volatility.

Standard Deviation: Standard deviation measures the range of return values that you can statistically expect from your portfolio compared to it's mean return. This measure is annualized for the specified lookback period.

Formula: Standard Deviation = SQRT(Variance of Monthly Returns for Lookback Period)

Weighted Avg. Debt to Capital: The debt to capit al for underlying stocks is calculated as the total long-term debt divided by the capital of the firm. Capital is measured as the sum of common equity, preferred equity, and long term debt. For the portfolio, the weighted average is taken of the underlying holdings' debt to capital.

Weighted Average PE Ratio: A weighted average of each underlying holding's share price relative to the net income per share. Stocks that have EPS < 0 are excluded in this calculation.

Weighted Average Price to Book Ratio: A weighted average of each underlying holding's share price relative to the book value per share. Stocks that have Book Value per Share < 0 are excluded in this calculation.

Weighted Average Price to Sales Ratio: A weighted average of each underlying holding's share price relative to the sales per share. Stocks that have Revenue per Share < 0 are excluded in this calculation.

Yield: The stated yield for the hypothetical portfolio is based

on the weighted average of trailing 12-month yields for the underlying securities. It is no indication or guarantee of future yield.

7-Day SEC Yield: Annualized yield calculated using interest and dividends earned and paid out over a 7-day period. It is primarily used for money market funds. The unsubsidized version of this yield reflects what the value would be without any fee waivers or expense reimbursements.

30-Day SEC Yield: Annualized yield calculated using net investment income per share earned over a 30-day period. The unsubsidized version of this yield reflects what the value would be without any fee waivers or expense reimbursements.

#### **IMPORTANT DISCLOSURES**

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INVESTMENTS IN SECURITIES INVOLVE INVESTMENT RISKS, INCLUDING POSSIBLE LOSS OF PRINCIPAL AND FLUCTUATION IN VALUE. See "INVESTMENT RISKS" below for a brief summary of certain risks. The investment return and principal value of securities and other financial instruments will fluctuate so that an investor's investments, when sold or redeemed, may be worth more or less than the original cost. Investment results are not guaranteed. No investment strategy (including asset allocation and diversification strategies) can guarantee a profit or protect against a loss of principal.

THIS REPORT IS NOT AN INVESTMENT PERFORMANCE REPORT. DO NOT RELY ON THIS REPORT AS PORTRAYING, OR CONTAINING PERFORMANCE OF, AN ACTUAL ACCOUNT. THIS REPORT SHOWS HYPOTHETICAL OR SIMULATED RETURNS OF PORTFOLIO(S) AND IS FOR ILLUSTRATIVE PURPOSES ONLY. This report is not intended to and does not predict or show the actual investment performance of any account. A portfolio represents an investment in a hypothetical weighted blend of securities which, together with other inputs, were selected by you and/or your Adviser and, accordingly, a portfolio should be used for illustrative purposes only. To obtain performance data

current to the most recent month-ended, visit each fund's respective website.

The performance of a portfolio is calculated by taking a weighted average of the stated target weights and the securities' total return, assuming reinvestment of all dividends and other distributions on the related ex-date, since the latest rebalance date. The portfolio(s) portrayed in this report are assumed to rebalance to the exact designated weights on a monthly, quarterly or annual basis, whichever you and/or your Adviser selected in generating this report. The performance illustrated in this report may assume that rebalancing occurred in a manner different from how your Adviser rebalances a client portfolio. Your Adviser may recommend rebalancing when an asset class varies from its targeted allocation. In general, your Adviser reinvests dividends generated by investments. The way your Adviser invests dividends may be different than how the portfolio(s) invest dividends.

All stated target weights are based on allocation choices input by your and/or your Adviser. These weights represent the values used at rebalance periods. All weightings ignore the concept of whole shares and instead use the exact percentage chosen when creating the portfolio(s).

Unless otherwise noted, no transaction costs (e.g., commissions, sales loads), taxes, or advisory fees are deducted from the performance results generated by the portfolios(s). Any expense ratio shown is inclusive of the underlying fees in the securities included in the portfolio(s), and as such should be considered for illustrative purposes only. As discussed above, such fees do not include transaction costs (e.g., commissions, sales loads), taxes, or advisory fees.

The stated yield for a hypothetical portfolio is based on the weighted average of trailing 12-month yields for the underlying securities. It is no indication or guarantee of future yield.

ACCORDINGLY, ALL PORTFOLIO RETURNS ARE HYPO-THETICAL OR SIMULATED AND SHOULD NOT BE CON-SIDERED PERFORMANCE REPORTING. No representation is made that your investments will achieve results similar to those shown, and actual performance results may differ materially from those shown. Returns portrayed in this report do not reflect actual trading and investment activities, but are hypothetical or simulated results of a hypothetical portfolio over the time period indicated and do not reflect the performance of actual accounts managed by your Adviser or any other person. The mutual funds and other components of the hypothetical portfolio(s) were selected with the full benefit of hindsight, after their performance during the time period was known. In general, hypothetical returns generally exceed the results of client portfolios actually managed by advisers due to several factors, including the fact that actual portfolio allocations differed from the allocations represented by the market indices used to create the hypothetical portfolios over the time periods shown, new research was applied at different times to the relevant indices, and index performance does not reflect the deduction of any fees and expenses. Results also assume that asset allocations would not have changed over time and in response to market conditions, which is likely to have occurred if an actual account had been managed during the time period shown.

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS. To the extent this report portrays historical performance of particular securities or other financial instruments, past performance of such securities or other instruments is not indicative of future results. Further, when reviewing past performance records of actual accounts, it is important to note that different accounts (even if they are managed pursuant to the same strategy), can have varying results. The reasons for this include: 1) the period of time in which the accounts are active; 2) the timing of contributions and withdrawals; 3) the account size; 4) the minimum investment requirements and/or withdrawal restrictions; 5) the rate of advisory, brokerage commissions and transaction fees charged to an account; and 6) restrictions or limitations on whether the account can be rebalanced annually, quarterly or otherwise.

ALL RISK CALCULATIONS ARE FOR ILLUSTRATIVE PURPOSES ONLY. They are calculated at the portfolio level using a benchmark (discussed below) selected by you and/or your Adviser. The benchmark is displayed for comparison purposes and is used to calculate portfolio level risk data when necessary.

For a glossary of terms relating to risk calculations that may be used in this report, see "DEFINITIONS," below.

DO NOT RELY UPON THIS REPORT FOR DETERMINING THE VALUE OF YOUR ASSETS. This report was generated based on information provided by you and by various other sources. If your Adviser generated this report, you should consult with your Adviser to determine what sources of information were used by it in connection with generating this report besides information that was provided by you. You should refer to official final account statements or other final official documents you receive from your Adviser or your other financial services providers when determining the value of your assets.

## **INVESTMENT RISKS**

International/Emerging Market Equities: Investing in international securities involves special additional risks. These risks include, but are not limited to, currency risk, political risk, and risk associated with varying accounting stan-

dards. Investing in emerging markets may accentuate these risks. Sector Strategies: Portfolios that invest exclusively in one sector or industry involve additional risks. The lack of industry diversification subjects the investor to increased industry-specific risks.

Non-Diversified Strategies: Portfolios that invest a significant percentage of assets in a single issuer involve additional risks, including share price fluctuations, because of the increased concentration of investments.

Small Cap Equities: Portfolios that invest in stocks of small companies involve additional risks. Smaller companies typically have a higher risk of failure, and are not as well established as larger blue-chip companies. Historically, smaller-company stocks have experienced a greater degree of market volatility than the overall market average.

Mid-Cap Equities: Portfolios that invest in companies with market capitalization below \$10 billion involve additional risks. The securities of these companies may be more volatile and less liquid than the securities of larger companies.

High-Yield Bonds: Portfolios that invest in lower-rated debt securities (commonly referred to as junk bonds) involve additional risks because of the lower credit quality of the securities in the portfolio. The investor should be aware of the possible higher level of volatility, and increased risk of default.

Tax-Free Municipal Bonds: The investor should note that the income from tax-free municipal bond funds may be subject to state and local taxation and the Alternative Minimum Tax.

Bonds: Bonds are subject to interest rate risk. As the prevailing level of bond interest rates rise, the value of bonds already held in a portfolio declines. Portfolios that hold bonds are subject to declines and increases in value due to general changes in interest rates.

Hedge Funds: The investor should note that hedge fund investing involves specialized risks that are dependent upon the type of strategies undertaken by the fund's manager. This can include distressed or event-driven strategies, long/short strategies, using arbitrage (exploiting price inefficiencies), international investing, and use of leverage, options and/or derivatives. Although the goal of hedge fund managers may be to reduce volatility and produce positive absolute return under a variety of market conditions, hedge funds may involve a high degree of risk and are suitable only for investors of substantial financial means who could bear the entire loss of their investment.

Bank Loan/Senior Debt: Bank loans and senior loans are impacted by the risks associated with fixed income in general,

including interest rate risk and default risk. They are often non-investment grade, therefore, the risk of default is high. These securities are also relatively illiquid. Managed products that invest in bank loans/senior debt are often highly leveraged, producing a high risk of return volatility.

Exchange Traded Notes (ETNs): ETNs are unsecured debt obligations. Any repayment of note is subject to the issuer's ability to repay its obligations. ETNs do not typically pay interest.

Leveraged ETFs: Leveraged investments are designed to meet multiples of the return performance of the index they track and seek to meet their daily fund objectives (or other time period stated within the prospectus objective). The leverage/gearing ratio is the amount of excess return that a leveraged investment is designed to achieve in comparison to its index performance (i.e., 200%, 300%, or -300% or 2X, 3X, -2X, -3X). Compounding could affect the performance of the fund to be either greater or less than the index performance multiplied by the multiple stated within the funds objective over a stated time period.

Short Positions: When a short position moves in an unfavorable way, the losses are theoretically unlimited. The broker may demand more collateral and a manager might have to close out a short position at an inopportune time to limit further losses.

Long-Short: Due to strategies used by long-short funds, which may include but are not limited to leverage, short selling, short-term trading, and investing in derivatives, these funds may have greater risk, volatility, and expenses than those focusing on traditional investment strategies.

Liquidity Risk: Closed-end fund, ETF, and HOLDR trading may be halted due to market conditions, impacting an investor's ability to sell a fund.

Market Price Risk: The market price of ETFs, HOLDRs, and closed-end funds traded on the secondary market is subject to the forces of supply and demand and thus independent of the NAV. This can result in the market price trading at a premium or discount to the NAV, which will affect an investor's value.

Market Risk: The market price of ETFs and HOLDRs can fluctuate because of several factors, such as security-specific factors or general investor sentiment. Therefore, investors should be aware of the prospect of market fluctuations and the impact it may have on the market price.

Target-Date Funds: Target-date funds typically invest in other mutual funds and are designed for investors who are planning to retire during the target date year. The fund's target date is the approximation date when investors expect to begin withdrawing their money. A target-date fund's invest-

ment objective/strategy typically becomes more conservative over time, primarily by reducing its allocation to equity mutual funds and increasing its allocations in fixed-income mutual funds. An investor's principal value in a target-date fund is not guaranteed at any time, including the fund's target date.

Money Market Funds: Investments in these funds are not guaranteed by the FDIC or any other government agency. You can lose money by investing in these funds. The fund strives to preserve your investment, however, it can not guarantee to do so.

### INDEXES AND BENCHMARK DISCLOSURES

Indices and benchmarks are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Index return information is provided by vendors and although deemed reliable, is not guaranteed by Logicly, your Adviser or any other person. Benchmark returns may or may not be adjusted to reflect ongoing expenses such as sales charges. An investment portfolio may differ significantly from the securities in the benchmark. Due to timing of information, benchmarks may be adjusted after the publication of this report. Following is a brief description of the common market indexes and benchmarks.

Bloomberg Barclays Municipal Bond Index: Covers the USD-denominated long-term tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prefunded bonds.

Bloomberg Barclays U.S. Aggregate Index: Covers the USD-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities. The index includes bonds from the Treasury, Government-Related, Corporate, MBS (agency fixed-rate and hybrid ARM pass-through securities), ABS, and CMBS sectors.

Bloomberg Commodity Index: A liquid and diversified benchmark for commodities as an asset class. The index is composed of futures contracts on 19 physical commodities which include oil, metals and agricultural products such as corn or soybean. The Bloomberg Commodity Index family includes nine sub-indexes that group commodities based on type, plus single-commodity indexes for each of the 19 individual commodities in the broad index, plus Cocoa, Lead, Platinum and Tin.

Dow Jones U.S. Select REIT Index: Comprised of companies whose charters are the equity ownership and operation of commercial real estate and which operate under the REIT Act of 1960. Each REIT in the REIT Index is weighted by its float-adjusted market capitalization. The total return

version of the index is calculated with gross dividends reinvested.

MSCI EAFE® Index-Net Total Return: Measures the equity market performance of developed markets, excluding the US & Canada. The index returns are calculated with reinvestment of net dividends after the deduction of applicable non-resident withholding taxes. Prior to July 1, 2016, the returns of the MSCI EAFE index were calculated with gross dividends, before application of local taxes, to approximate the maximum possible dividend reinvestment.

MSCI Emerging Markets® Index-Net Total Return: Measures the equity market performance of emerging markets. The index returns are calculated with reinvestment of net dividends, after the deduction of applicable nonresident withholding taxes. Prior to July 1, 2016, the returns of the MSCI Emerging Markets index were calculated with gross dividends, before application of local taxes, to approximate the maximum possible dividend reinvestment.

S&P 500® Index: Capitalization-weighted index of 500 stocks. The index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. The total return version of the index is used, which reflects the effects of dividend reinvestment.

S&P MidCap 400® Index: Covers 7% of the U.S. equity market and is comprised of companies with market capitalization in the range of US \$1.4 billion to US \$5.9 billion. The total return version of the index is used, which reflects the effects of dividend reinvestment.

S&P SmallCap 600® Index: Covers approximately 3% of the domestic equities market covering companies with market capitalization in the range of US \$400 million to US \$1.8 billion. The total return version of the index is used, which reflects the effects of dividend reinvestment.

### **DEFINITIONS**

The following terms, if used in this Report, have the following meanings:

1. Alpha: Alpha measures the risk and market-adjusted returns for the portfolio. The metric is calculated on the specified lookback period using the benchmark that is set for the portfolio.

Formula Alpha = Annualized security return - risk free rate - beta \* (annualized benchmark return - risk free rate) \* 100 Note: Risk free rate = average 1 month treasury rate throughout the lookback period.

2. Beta: Beta measures the movement of the portfolio in comparison to the benchmark based on the lookback period. It is a statistical measure that can be used to measure

the volatility of price movements.

Formula Beta = Covariance ( Portfolio Return , Benchmark Return) / Variance (Benchmark Return)

3. Standard Deviation: Standard deviation measures the range of return values that you can statistically expect from your portfolio compared to its mean return. This measure is annualized for the specified lookback period.

Formula Standard Deviation = SQRT(Variance of Monthly Returns for Lookback Period)

4. Historical Sharpe: Sharpe measures the risk-adjusted return for the specified lookback period.

Formula Sharpe = (Average monthly return over lookback period) / (Historical standard deviation)

5. Historical Sortino: Sortino Ratio measures the downside risk-adjusted outperformance of the portfolio versus the benchmark.

Formula Historical Sortino = (Average Monthly Returns - risk free rate) / downside deviation

6. Max Drawdown: Max drawdown is an indicator of the risk of a portfolio chosen based on a certain strategy. It measures the largest single drop from peak to bottom in the value of a portfolio (before a new peak is achieved).

Formula: Max Drawdown = (Peak value before largest drop - Lowest value before new high established) / (Peak value before largest drop)

- 7. Monthly Value at Risk (VaR) 5%: The VaR calculates the potential loss of an investment with a given time frame and confidence level. This metric is a statistical measure that gives an idea of the statistical chance of a drawdown occuring.
- 8. Dividend Yield (TTM) For the underlying holdings of the portfolio, the dividend yield measures the total amount of dividends per share paid over the last 12 months, divided by the price per share of the security. To calculate the portfolio's dividend yield, a weighted average of the underlying holdings' dividend yield is taken.
- 9. 7-Day SEC Yield Annualized yield calculated using interest and dividends earned and paid out over a 7-day period. It is primarily used for money market funds. The unsubsidized version of this yield reflects what the value would be without any fee waivers or expense reimbursements.
- 10. 30-Day SEC Yield Annualized yield calculated using net investment income per share earned over a 30-day period. The unsubsidized version of this yield reflects what the value would be without any fee waivers or expense reimbursements.

- 11. Distribution Yield (TTM) Measures the total amount of distributions received from common dividends paid in the underlying holdings over the last 12 months.
- 12. Weighted Average PE Ratio A weighted average of each underlying holding's share price relative to the net income per share. Stocks that have EPS < 0 are excluded in this calculation.
- 13. Weighted Average Price to Sales Ratio A weighted average of each underlying holding's share price relative to the sales per share. Stocks that have Revenue per Share < 0 are excluded in this calculation.
- 14. Weighted Average Price to Book Ratio A weighted average of each underlying holding's share price relative to the book value per share. Stocks that have Book Value per Share < 0 are excluded in this calculation.
- 15. Weighted Median ROE Return on equity is measured as the Net Income / Average TTM shareholder's equity. On the portfolio level, the weighted median ROE of the underlying holdings is calculated.
- 16. Expense Ratio A measure of the fees charged by a fund manager to the investors that own shares of the fund. The value is a percentage and represents the portion of the investor's assets that are paid to the fund manager on a periodic basis.
- 17. Weighted Median ROA Return on assets is measured as the Net Income / Average Total assets of the last 5 quarters. On the portfolio level, the weighted median ROA of the underlying holdings is calculated.
- 18. Avg. Market Cap Market capitalization is the share price multiplied by the total number of shares outstanding. For the portfolio, an average of the underlying holdings' market cap is taken.
- 19. Weighted Avg. Debt to Capital The debt to capital for underlying stocks is calculated as the total long-term debt

- divided by the capital of the firm. Capital is measured as the sum of common equity, preferred equity, and long term debt. For the portfolio, the weighted average is taken of the underlying holdings' debt to capital.
- 20. Upside/Downside Capture Ratio The upside/downside capture ratio measures the ratio of the upside and downside of an investment vs a benchmark. This ratio explains to you how an investment typically performs in relation to their benchmark index. An upside/downside ratio of 100 means that the investment typically performs the same as the benchmark regardless of if it is rising or falling. If the benchmark increases by 10%, the investment increases by 10%. If the benchmark decreases by 5%, the investment decreases by 5%. Investments usually don't have upside/downside ratios of 100. Sometimes, an investment may rise 15% when their benchmark rises by 10% but falls 12% when the market falls 10%. In this case, we calculate the upside/downside capture ratio by dividing the investment's upside return and dividing by the downside return: (.15/.10)/(.12/.10) = 1.25. Multiplying this by 100 gives us an upside/downside capture ratio of 125 for this investment. Formula Upside/Downside Capture Ratio = (Investment's Upside / Benchmark's Upside) / (Investment's Downside / Benchmark's Downside) \*100.
- 21. Portfolio Rebalance Each portfolio listed on this report contains a rebalance frequency. This can be selected when creating portfolios on Logicly. The portfolios are rebalanced to the proper target weights at each target rebalance point. For monthly rebalancing, the portfolio will rebalance to the target weight at the end of each calendar month. For quarterly rebalancing, the portfolio will rebalance to the target weight at the end of each calendar quarter (March 31st, June 30th, September 30th, December 31st). For annual rebalancing, the portfolio will rebalance to the target weight at the end of each calendar year. Lastly, if the portfolio never rebalances, the target weights are implemented at the portfolio inception date, but will not change after that.