September 30, 2024

Author:
Wayne Ferbert

Wayne is the co-founder of Alpha DNA Investment management. Alpha DNA is an active equity manager that deploys a systematic, quantitative and repeatable approach to its equity selection and hedge construction.

Alpha DNA is changing the investing landscape using alternative data and machine learning to construct unique equity portfolios.

Wayne is the co-author of the book, Buy & Hedge – a book about using hedges to defend the downside in your equity portfolio.

Wayne is based in Columbia, Maryland and can be reached at 443-288-6444 or go to our website to request a meeting: www.alphadnaim.com

White Paper

GARP Investing: Prioritize Focus on Growth over Value

Executive Summary:

Growth at a Reasonable Price (GARP) investing is often understood as an equal blend of growth and value factors. This white paper argues that forward growth is the key element of extracting success from value or GARP portfolios. Our analysis of 15 years of market data reveals that forward earnings growth is a primary driver of stock performance, especially within the segment of stocks that are ‘at a reasonable price’. We also demonstrate that investors who can accurately predict forward earnings growth stand to achieve superior returns by investing in value stocks relative to their non-value (aka growth) counterparts.

Alpha DNA further demonstrates that predicting forward earnings can be done successfully and that it has led to our success over the last 10 years.

Abstract:

- Stocks with highest EPS and/or Revenue Growth in a calendar year, as a category, yield the best returns annually. **(Page2)**
- The incoming Trailing 12-month (TTM) EPS/Revenue growth alone is not predictive of future stock returns. **(Page 4)**
- Traditional valuation metrics using TTM Earnings/Revenue, as a stand-alone, also are not predictive of returns. **(Page 5)**
- Among the stocks with the highest concurrent EPS/Revenue growth in a calendar year, Value stocks outperform Non-Value stocks materially. **(Page 6)**
- Value stocks with the highest EPS growth show more consistently above-average returns than non-Value stocks, aiding portfolio construction as stock selection is less likely to be a drag in a Value portfolio when you identify the successful EPS growers. **(Page 7)**
- Alpha DNA has a track record of successfully forecasting EPS/Revenue growth and generating excess stock returns. **(Page 8)**
- Our recent GARP strategy launch in 2023 has shown exceptional performance relative to benchmarks. **(Page 9)**

1. Introduction

Investors often struggle between two dominant strategies: value investing and growth investing. Value investors focus on identifying stocks that are undervalued relative to their intrinsic worth, while growth investors seek companies with strong future growth prospects, regardless of their current valuations. GARP investing aims to bridge these two strategies, identifying growth companies that are reasonably priced.

The common perception of GARP is that it evenly balances growth and price metrics, **but the success of GARP relies heavily on growth prospects**, with price considerations playing a secondary role. The most crucial factor in driving investment success is, more precisely, a company's future growth prospects. **This paper argues that GARP should be understood primarily as a growth-driven strategy, where the "ARP" serves as a refinement rather than primary driver.**

2. Methodology

Our analysis covers the 15 calendar years from 2010 to 2024. For each year, we examined the 1,500 largest market cap US-traded equities. Key points of our methodology include:

- Annual re-casting of the population of 1,500 largest stocks
- Comparison of actual forward one-year EPS growth to stock price returns in the corresponding year
- Stratification of stocks into quintiles based on EPS growth – both incoming growth and forward EPS growth
- Separate analysis of value and non-value stocks based on TTM earnings yield and price-to-TTM sales ratios
- Examination of incoming growth metrics compared to actual forward growth results
- Returns are always expressed as Calendar year returns (Jan 1 to Dec 31); 2024 returns are thru June 21st

Alpha DNA wants to recognize O'Shaughnessy Asset Management (OSAM) for the motivation and direction that it has unknowingly provided. OSAM first wrote a similar paper on the alpha in the value space that inspired us to focus on the impact of forward growth on value stocks. The paper was titled 'Alpha Within Factors'.

3. The Primacy of Growth in Stock Returns

3.1 Forward EPS Growth and Stock Performance

Growth, in the context of GARP investing, refers to the ability of a company to increase its earnings, revenue, and market share over time. Companies that exhibit consistent growth typically do so because they have a strong competitive advantage, operate in expanding markets, and have innovative products or services. This potential for increased profitability often drives long-term stock price appreciation.

Our analysis reveals a strong correlation between forward EPS growth and stock price returns. This should surprise no one**.** For our analysis, we divided stocks into 5 quintiles according to their actual EPS growth rate in each calendar year and examined the price return for that same calendar year. (Chart 1)

Key findings:
- The top 20% of EPS growers consistently deliver the best price returns
- Returns are consistently higher in the quintiles with higher EPS growth
- This pattern holds true across most individual years (Table 2)

CHART 1 – Forward EPS Growth Quintiles to Price Response

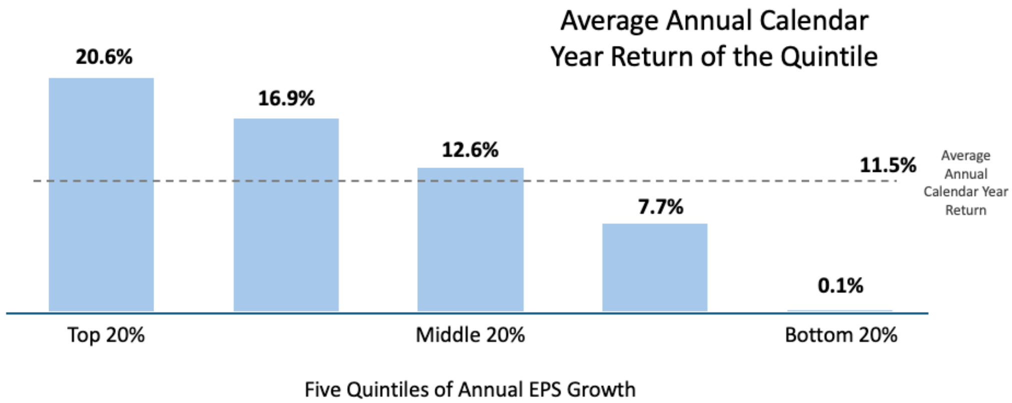


TABLE 2 – Annual Price Response to Forward EPS Growth by Calendar Year

Calendar Year returns by EPS Growth Quintile

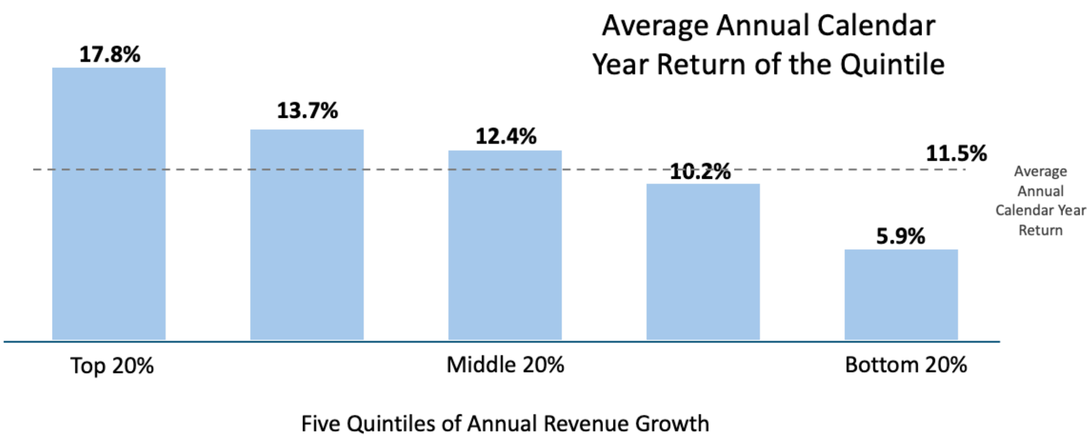
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Top 20%	31.75	-1.26	28.80	49.29	16.53	2.54	18.51	32.93	-8.34	35.11	41.72	33.92	-9.12	30.02	6.16
	31.43	6.72	22.18	44.14	12.26	3.98	13.92	24.17	-5.01	35.78	19.54	31.16	-13.93	21.93	5.91
Middle 20%	23.40	0.79	16.72	36.12	10.17	1.36	17.76	15.27	-7.56	28.45	16.89	25.55	-12.77	15.38	2.40
	16.60	1.26	11.35	31.58	5.66	-6.19	13.16	12.96	-11.10	23.33	4.01	13.61	-15.74	15.13	0.64
Bottom 20%	14.95	-9.72	5.92	24.03	0.84	-18.95	7.15	5.37	-13.96	16.78	-4.20	-2.83	-31.80	8.95	-1.09
Average Stock Return	24.50	-1.06	17.29	36.66	8.85	-3.61	14.07	17.67	-9.49	27.48	17.68	18.50	-17.95	18.95	3.37

*Green and Red highlights match whether the quintile in given year is higher or lower than year's average.

3.2 Forward Revenue Growth and Stock Performance

We also stratified the quintiles by forward REVENUE growth. We divided stocks into 5 quintiles according to their actual Revenue growth rate in each calendar year and examined the price return for that same overlapping year (Chart 3). **While the range of outcomes is narrower than for EPS growth, the pattern remains consistent, showing meaningfully higher stock returns from the higher growth quintiles.**

CHART 3 – Forward Revenue Growth Quintiles to Price Response



It should surprise no one to learn that a stock's investment return is highly correlated to its ability to grow its EPS and Revenue. Predicting forward growth in EPS and Revenue is therefore a key factor in successful stock selection for an investment portfolio.

3.3 The Limitations of Backward-Looking Growth

With the knowledge that forward growth in EPS and Revenue will matter in a significant way to stock price return, let's examine whether incoming growth matters. Our hypothesis going into this exercise was that forward growth matters ***more*** and the data ends up validating that viewpoint.

Our analysis shows that incoming EPS growth is not a predictor of stock price for the next year. Returns are not materially better, on average, for the top quintile of incoming EPS growth. In addition, the yearly results are highly variable and inconsistent. (Table 4)

TABLE 4 – Annual Price Response to Incoming One-year EPS Growth by Calendar Year

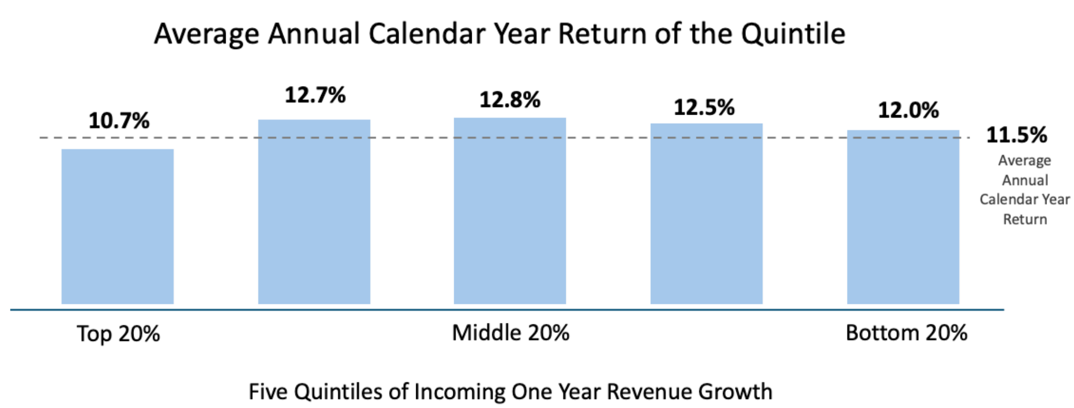
Calendar Year returns by Incoming EPS Growth Quintile

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Top 20%	22.69	-4.03	19.52	36.12	8.26	-0.95	7.83	21.75	-11.17	24.46	30.07	17.90	-16.56	24.05	5.35
	20.52	3.67	19.09	39.13	10.24	-1.74	12.19	20.34	-8.47	30.65	11.47	23.38	-21.30	22.04	5.34
Middle 20%	23.94	2.74	15.65	36.88	10.32	-0.02	16.30	17.66	-5.85	28.35	11.87	26.60	-14.67	15.05	2.18
	24.00	5.13	13.45	36.57	8.84	-1.65	21.18	15.12	-8.08	28.26	7.84	21.48	-9.49	11.02	1.60
Bottom 20%	31.77	-2.91	16.41	33.29	7.83	-8.52	16.29	13.72	-8.26	26.75	12.82	22.16	-14.25	20.48	0.39
Average Stock Return	**24.50**	**-1.06**	**17.29**	**36.66**	**8.85**	**-3.61**	**14.07**	**17.67**	**-9.49**	**27.48**	**17.68**	**18.50**	**-17.95**	**18.95**	**3.37**

*Green and Red highlights match whether the quintile in given year is higher or lower than year's average.

Again just to validate the incoming growth hypothesis as not predictive, we also ran the incoming Revenue growth for each calendar year. Just like the incoming EPS data, it is not predictive. See table 5 below

TABLE 5 – Annual Price Response to Incoming One-year Revenue Growth across last 15 years



4. The Value Premium in Growth Investing

4.1 Defining the Value Universe

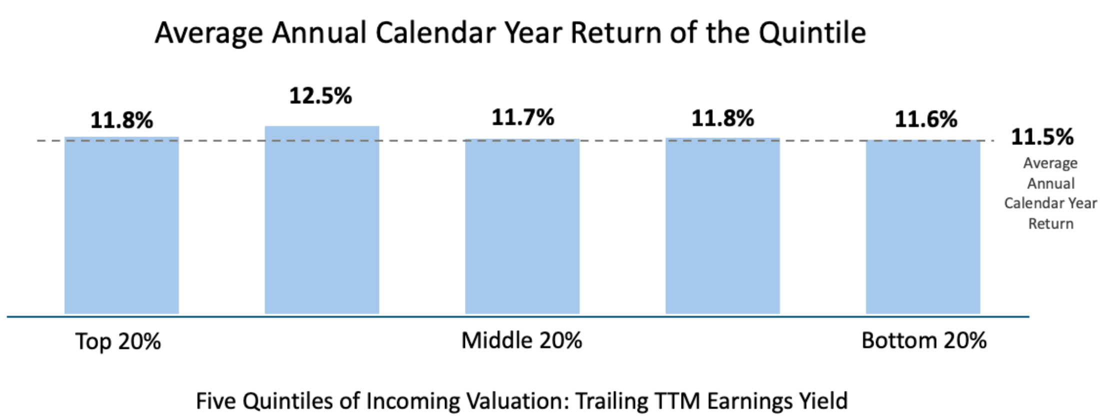
Now that we have shown the importance of forward EPS & Revenue ***growth***, let's dig down on the importance of the price you pay for that stock. To be clear, we believe the price you pay matters – and it would be almost silly to think that it doesn't. We all like to bargain shop in every day matters so why wouldn't we want to bargain shop for stocks.

The point we will prove in this paper is that valuation alone is not predictive to future price moves, BUT MORE IMPORTANTLY that value focused investors will get ***more benefit*** from accurately assessing forward growth potential than a stock that does not meet a traditional value filter. **In other words, if you are the kind of investor that insists on a bargain when shopping for stocks, get your priority focused on assessing the forward growth of the company – not so much on the relative bargain it represents.**

4.2 Incoming Valuation Metrics are not a good predictor of price response

Our analysis shows that incoming relative valuation of a stock on common value metrics is not a reliable predictor of future price moves. Purchasing stocks trading at a discount alone is not a guarantee of success at investing. (Chart 6 & Table 7)

CHART 6: Incoming Valuation to Annual Price Response: TTM Earnings Yield



Note: In any given year, about 2% of the population lacks the sufficient data of full year of incoming data to create the necessary valuation calculation – and this population averages only a 1% annual return in year it is in our top 1500 largest stocks. This is why the average across the entire population is slightly less than each of these 5 quintiles.

TABLE 7: Incoming Valuation to Annual Price Response: Calendar Returns of TTM Price to Sales

Calendar Year returns by Quintile of Incoming TTM Price to Sales

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Lowest 20%	24.22	-2.59	23.88	46.70	10.72	-9.01	19.26	15.99	-14.47	24.71	7.13	29.85	-4.13	24.10	3.70
	28.95	2.10	20.39	37.42	10.11	-7.82	13.49	18.11	-14.31	25.94	4.48	27.14	-7.06	18.28	4.68
Middle 20%	25.69	0.95	13.32	38.49	6.60	-1.79	17.36	17.66	-6.08	30.63	13.83	24.59	-13.60	15.75	4.06
	24.66	-3.88	12.67	33.49	5.64	-0.77	17.20	15.58	-7.45	25.07	16.95	22.93	-22.84	17.84	3.19
Highest 20%	19.99	0.35	16.12	28.39	12.34	2.90	4.16	20.93	-2.29	32.34	42.04	2.99	-34.96	18.63	1.32
Average Stock Return	**24.50**	**-1.06**	**17.29**	**36.66**	**8.85**	**-3.61**	**14.07**	**17.67**	**-9.49**	**27.48**	**17.68**	**18.50**	**-17.95**	**18.95**	**3.37**

*Green and Red highlights match whether the quintile in given year is higher or lower than year's average.

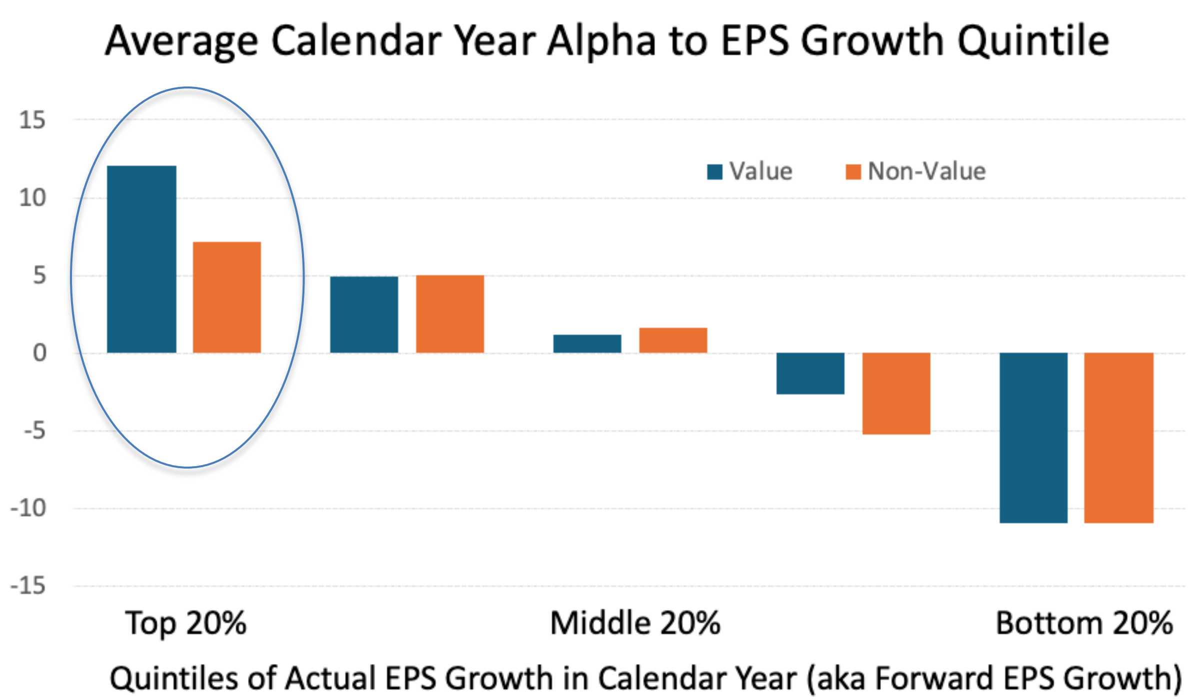
4.3 Defining the Value / non-Value universe for our analysis

In the prior two charts, we used TTM Price to Sales and TTM Earnings Yield to segment stocks along the value continuum. To define a 'Value' stock for our analysis going forward, we used these two metrics together. The value quadrant was defined as the highest TTM Earnings Yield (top 6 deciles) crossed against the Lowest Price to TTM Sales (bottom 6 deciles). In crossing 10 deciles by each other, we have 100 possible intersections and our 6x6 selection represents about 45% of the population.

4.4 Forward EPS Insight is more helpful to Value over non-Value stocks

Earlier in this paper, we found that perfect foresight into EPS growth is a significant predictor of one-year stock price return for both Value and Non-Value stocks. However, the best forward EPS growth stories in the value space yield the best price outcomes on average, and the difference is material. Check out the top quintile of EPS Insight below and the difference in annual alpha between the Value and Non-Value groups. **The difference in alpha stands out the most in the quintile of highest EPS growth. (Chart 8)**

CHART 8: Alpha relationship of Value/Non-Value stocks to Actual Forward EPS Growth

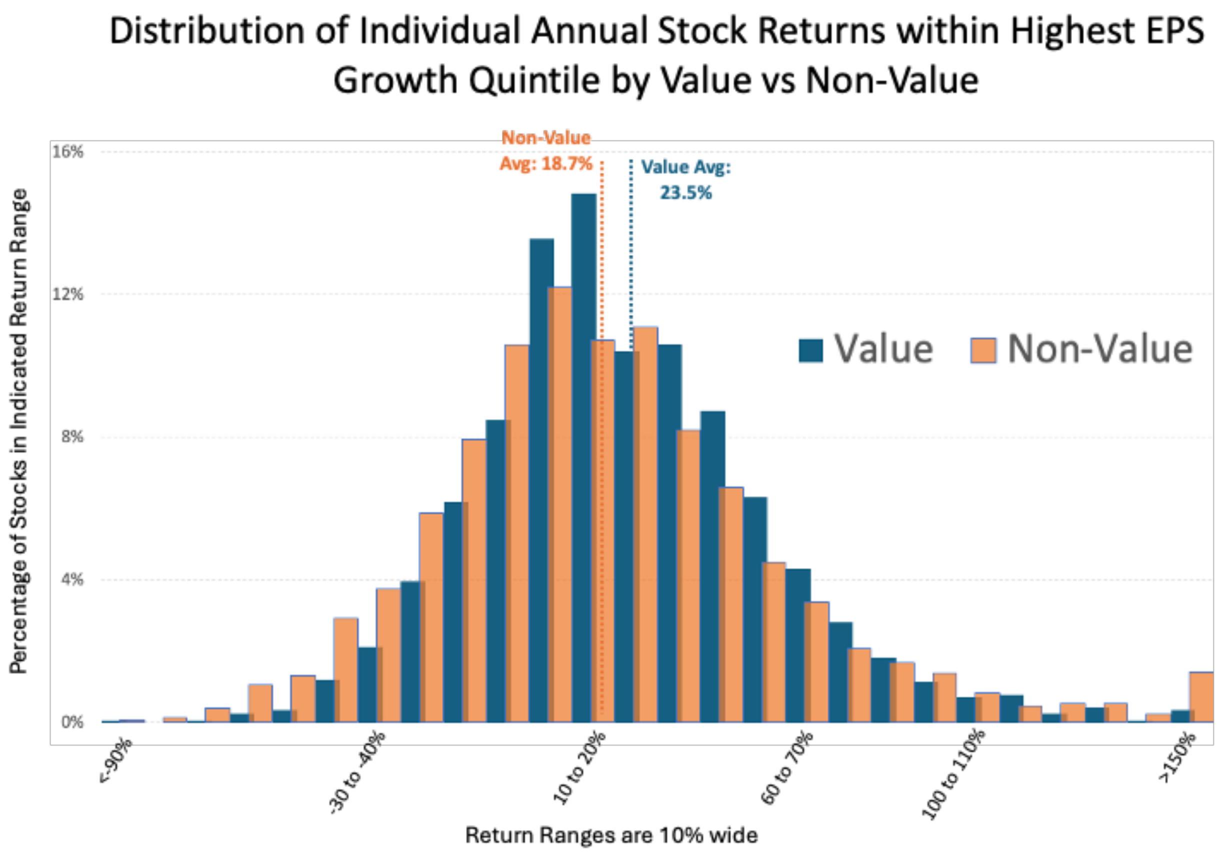


4.5 Distribution of returns in Value vs non-Value with perfect Growth insight

We found a more even distribution of returns within the top quintile of Forward EPS Growers in Value stocks versus the non-Value stocks. In the Value space, selection will be easier as you are less likely to find a material loser and the returns are not as concentrated in the positive tail. This is a key concept. **Basically, if you shop for stocks in the Value space and your analysis is focused on forward earnings potential, your selection is advantaged not only by the fact that the Value space has better overall returns, but the good returns are more concentrated around the average, meaning your ability to build a portfolio of stocks that captures that return is higher. You are not as dependent on getting the best of the best stocks to deliver the alpha benefits. See Chart 9**

Key findings:
- The Value stocks with the highest EPS growth show a distribution of returns that is not as populated in the tails as the Non-Value stocks with the highest EPS growth
- The returns distribute in a more concentrated pattern around the average for Value than Non-Value
- In Table 9, the average returns in the tails of the Non-Value group are more extreme and the overall Non-Value group lags the Value by nearly 5% on average
- In addition, outside of the top 20% performers for each category, the average return for the Non-Value stock is just +2% compared to over +10% for the Value population

CHART 9: Distribution of annual returns for stocks in the Highest EPS Growth Quintile – Split by Value & Non-Value



5 Avoiding Value Traps with effective growth insights

Being a successful value investor requires an approach to avoiding the periodic landmine associated with value traps. A value trap occurs when a stock appears undervalued based on traditional metrics but fails to appreciate in price because the company's fundamentals remain weak or deteriorate further. Such stocks can stay cheap for extended periods, providing little or no return to investors. Value traps are often companies in declining industries, with poor management, or that face structural challenges.

A value trap, in the end, is a company that fails to grow as intended and delivers poor stock price performance. Earnings growth is the key to avoiding value traps. In our prior section, we analyze the top Quintile of Forward EPS Growers in the Value space. Within those Value stocks that are the top growers, we find that only 14% of the stock returns lag worse than -10%, compared to 21% in the overall Value population. **In other words, finding the companies that successfully grow in the Value space helps you materially in avoiding losing stock performance – or getting stung by a value trap.**

This paper shows that accurately predicting forward earnings is a key driver of success to any investment approach – but it is particularly effective in the GARP and value investing space.

So the question you probably have is: ***Is it possible to predict forward earnings effectively?***

The answer with Alpha DNA is a definitive YES!

6. Identifying Forward Growth: The Alpha DNA Approach

At Alpha DNA, we create a near-real time quantitative report card for nearly 3,000 US based publicly traded companies. We measure the digital footprint of these companies on a near real-time basis, comparing it to historic footprints and competitors' footprints. This approach allows us to understand the growth dynamics of individual companies and industries.

Using artificial intelligence, Alpha DNA models the Revenue and EPS for each of the 3,000 companies it tracks. We compare our estimates to Wall Street analyst estimates to find examples where growth is under-estimated by Wall Street.

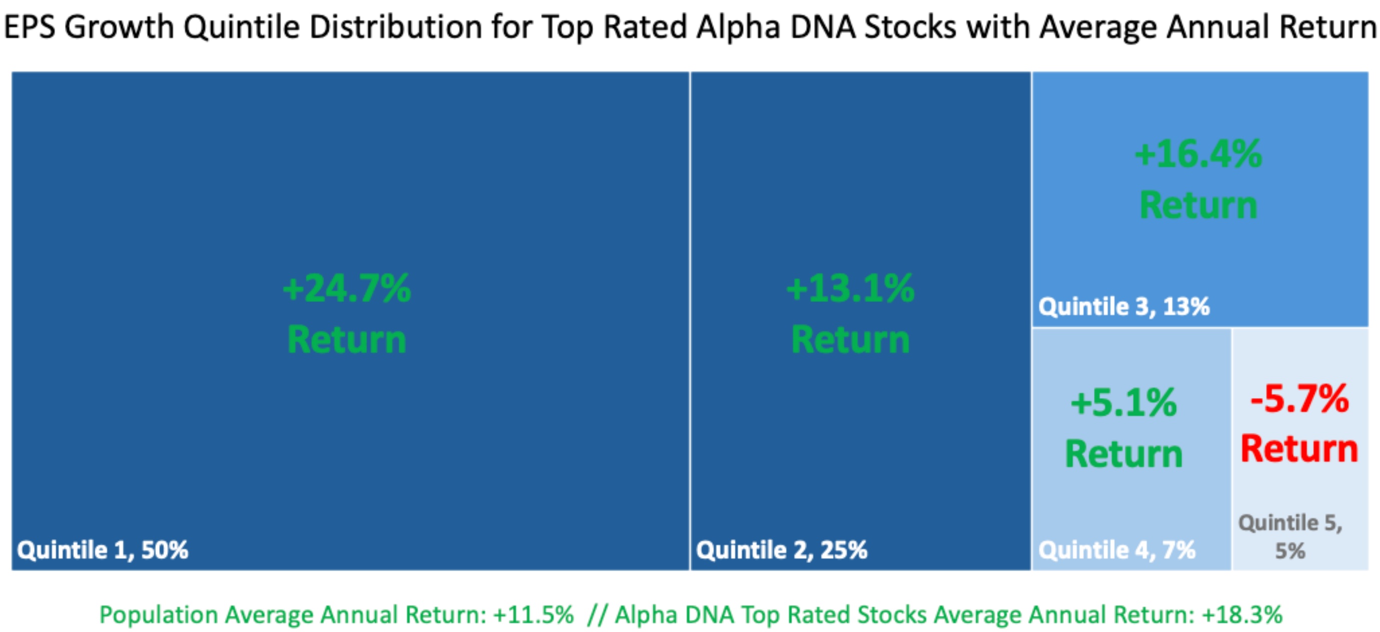
7. Alpha DNA's Performance

How good has Alpha DNA been at identifying the companies that will grow successfully and out-perform the Wall Street analyst consensus?

We examined the stocks going into each calendar year that were rated in our top 5% and then examined where did these stocks finish the year based on the actual EPS YoY growth according to our 5 quintiles of EPS growth. The results are presented in Chart 10.

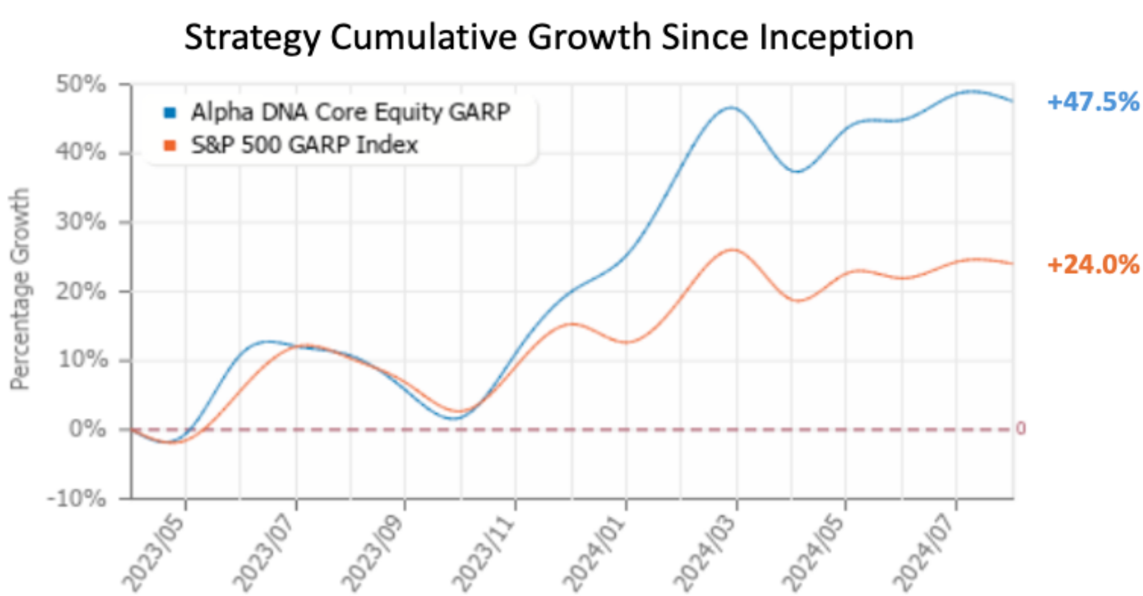
Alpha DNA has been exceptional at identifying companies with high forward EPS growth:
- Of the stocks we ranked in the top 5% going into each calendar year, 50% fell into the top quintile of Forward EPS Growth for that calendar year
- 75% of our top-rated stocks fell into the two top quintiles of Forward EPS Growth
- Our top 5% ranked stocks averaged +18.3% annual returns across the 15-year window, compared to +11.5% for the overall population
- Our Value population within our Top 5% averaged +19.7% returns overall, while the non-Value segment averaged +17.9%

CHART 10: Forward EPS Growth Quintile Distribution for Top Rated Alpha DNA Stocks



Alpha DNA has taken the learnings from this research and launched its newest SMA strategy: the Core Equity GARP portfolio. It's official inception date is May 1, 2023. It has delivered strong performance for the investors that have allocated to the strategy. You can analyze and dissect the returns on our website at: [GARP Strategy]

Our performance thru August 2024 is summarized below and compared to the S&P 500 GARP index.



Managed Accounts	MTD	Last 3 mo	YTD	1 Year	3 Year	5 Year	ITD
Alpha DNA Core Equity GARP (Net)	-0.8%	2.7%	22.9%	33.3%	NA	NA	33.9%
Benchmark: S&P 500 GARP Index TR	-0.3%	1.1%	7.6%	12.5%	NA	NA	17.5%

Table is annualized Returns

Disclosures: ALPHA DNA Core Equity GARP Composite includes all institutional and retail portfolios that invest in a portfolio of US stocks that meet our model definition. The portfolio is made up of Large Cap and Mid Cap U.S. equities. The strategy targets stocks that meet two key qualifications: (1) GARP and (2) probability of exceeding Wall Street analyst estimates. GARP stands for Growth at a Reasonable Price. It targets companies that have positive growth trajectories for earnings & revenue while also displaying high quality attributes like low PE, low debt, and high ROE. We then use Alpha DNA's proprietary Digital Revenue Signal to identify companies that are likely to exceed the current analyst estimates for Revenue and EPS. When we find stocks that are highly rated on both spectrums of GARP and exceeding estimates, we target those kinds of companies in the portfolio. Alpha DNA deploys an innovative new research approach; ADNA tracks the digital Internet footprint of publicly traded companies to find hidden demand trends in the marketplace. This composite includes all portfolios that were at least 70% dedicated to this strategy. The benchmark is the S&P500 GARP Index. The S&P500 GARP Index is a collection of the stocks within the S&P 500 that meet a minimum GARP measurement according to the index manager. The composite was created February 1, 2024. The inception date of the strategy is May 1, 2023.

ALPHA DNA INVESTMENT MANAGEMENT, LLC ("ALPHA") claims compliance with the Global Investment Performance ® Standards (GIPS) and has prepared and presented this report in compliance with the GIPS standards. ALPHA has been independently verified for the periods AUGUST 1, 2017 to December 31, 2022.

The verification reports are available upon request. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm- wide basis. Verification does not provide assurance on the accuracy of any specific performance report.

ALPHA is an independent registered investment adviser. The firm began managing client assets in August 2017. Since August 2017, firm assets included any accounts for which ALPHA has at least some discretionary authority which includes accounts in which ALPHA was a sub- advisor to the account. The firm's list of composite descriptions is available upon request.

Results are based on fully discretionary accounts under management, including those accounts no longer with the firm. To qualify as fully discretionary, at least 70% of the account must be dedicated to the composite strategy and no more than 20% of the account may be invested at discretion of a party other than ALPHA. Past performance is not indicative of future results. Gross returns were used to calculate all risk measures presented in this GIPS Composite Report. The U.S. Dollar is the currency used to express performance. This composite is composed 100% of accounts that use bundled pricing. Net returns are reduced by all fees and transaction costs incurred. Net of fee performance was calculated using actual management fees.

These results should not be viewed as indicative of the advisor's skill. The prior performance figures indicated herein represent portfolio performance for only a short time period and may not be indicative of the returns or volatility each portfolio will generate over a long time period. The performance presented should also be viewed in the context of the broad market and general economic conditions prevailing during the periods covered by the performance information. The actual results for the comparable periods would also have varied from the presented results based upon the timing of contributions and withdrawals from individual client accounts. The performance figures contained herein should be viewed in the context of the various risk/ return profiles and asset allocation methodologies utilized by the asset allocation strategists in developing their model portfolios and should be accompanied or preceded by the model.

The investment management fee schedule for the composite varies. Our fee for portfolio management services is based on a percentage of your assets we manage and ranges from 0.40% to 2.0%. The fee is negotiable depending upon the complexity and scope of the plan, your financial situation, and your objectives.

GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.