

Investment philosophy

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1 Introduction

ebi (evidence based investing) provides a Turnkey Asset Management Program (TAMP) to independent financial advisers, allowing them to outsource time-consuming functions such as research, portfolio construction, performance reporting, and portfolio management tasks such as fund swaps and efficient portfolio rebalancing.

The following pages outline in detail the investment philosophy that underlies ebi's proposition.

2 ebi's investment philosophy

ebi believes that investors, advisers, and portfolio managers are better served through adopting an evidence based approach, as outlined in this document, than embarking on the traditional speculative investment route which has been, overall, of little benefit to all but a few investors and been of great benefit to all but a few fund managers¹.

2.1 Core principles

2.1.1 A process built on a robust academic body of evidence

Core elements of ebi's investment philosophy include:

- Modern Portfolio Theory that explains the benefits of portfolio diversification
- The Capital Asset Pricing Model (CAPM) that links returns to non-diversifiable market risk
- The Fama-French Multifactor Asset Pricing Model extension to CAPM that introduces the Size and Value components of equity return (and the maturity and default factors for fixed income)
- The existence of a Quality premium which was built upon Fama & French's work and continued by Robert Novy-Marx with his 2013 paper "The Other Side of Value: The Gross Profitability Premium". These studies found that Profitability (as measured by the ratio of gross profits to book-to-market Value) identified companies

that generated significantly higher returns than unprofitable firms, despite having significantly higher valuation ratios (price higher).

The Minimum Volatility factor premium exists with academic contributions coming as early as 1972 when Robert Haugen and James Heins produced the paper "On the Evidence Supporting the Existence of Risk Premiums in the Capital Market". Examples of why this premium exists stem from skewness preference and behavioural biases.

- The Efficient Market Hypothesis proposes that prices reflect values and information both accurately and quickly. Prices should therefore reflect the market's estimate of the intrinsic value of a company (and in aggregate the market), until such time as further information becomes available.

2.1.2 An understandable and simple approach

ebi's goal of keeping its investment process relatively simple is not for simplicity's sake, but because that is what the empirical evidence suggests.

2.1.3 Obtain economies of scale

The vast majority of financial advisers in the UK cannot influence product or service providers; they simply do not produce enough business to have a voice. However, ebi can and does act as an agent on behalf of its users and their investors. ebi users have acted together to obtain lower trading costs, launch new funds, and access otherwise unavailable share classes with lower charging structures.

2.1.4 Capitalism works (mostly)

In a capitalist society, where individuals and companies rather than the state own assets, capital and labour are generally put to efficient use, seeking to generate the maximum wealth for those who take on the risk of the enterprise. It is assumed that free markets price financial assets effectively and fairly, based on supply and demand, where profits are ultimately expected to flow through to owners.

Whilst this may not always be the case in individual circumstances, it is largely a fair description and expectation.

¹ [SPIVA U.S Year-End 2020 Scorecard](#).

2.1.5 Risk and reward go hand in hand

A basic underlying assumption is that achieving a higher level of return requires an investor to assume a higher level of risk, assuming that the alternative investments are maximising the return per unit of risk undertaken. The Capital Asset Pricing Model (CAPM), developed by the Nobel Prize-winning academic Professor William Sharpe et al which describes the relationship between market risk taken and the level of expected return, is assumed to be largely valid¹. It is accepted that this relationship exists and is only altered through the risk-reducing benefits of diversification. This core investment principle works for investments on a broad scale.

2.1.6 The mathematics of diversification works

The concept that spreading investments around into different building blocks (asset classes) is intuitively easy to accept. The mathematics underlying the concept is: knowing the return, risk (annualised standard deviation), and the relationship between the return series of every pair of asset classes in the mix (correlation), one can calculate the beneficial effect in the reduction of risk per unit of return achieved and vice versa.

2.1.7 Investing is a (less than) zero-sum game

An under-performer must offset every out-performer of the market in investing. As all investors constitute the market, the average investor will receive the market return before costs. In the real world, costs in their widest sense (including taxes) make a substantial impact on returns, thus making investing a significantly less-than-zero-sum game and implying that the average investor will be below the market by the sum of these costs.

2.1.8 ESG stance

ebi has worked extensively with best-of-breed managers to bring on board ESG funds that stick to our core ethos of factor-based investing but operate with ESG investing at their heart. ebi follows an ESG integration approach; selecting fund managers and funds that we believe, through rigorous research, to have strong ESG credentials, whilst designing portfolios that remain committed to an evidence

based, highly diversified factor-driven strategy.

2.2 Core rules of successful investing

2.2.1 The right strategic asset allocation for an investor is key

Strategic asset allocation (investment policy) overwhelms all other investment decisions in importance for investors. The choice of ownership and subsequent adherence to a well-defined strategic asset allocation is the core driver of long-term portfolio returns, describing around 100% of the total return of portfolios and 90% of the variability of portfolio returns over time².

2.2.2 Diversification is essential to all investors

The only certainty in financial markets is uncertainty; and this reality requires the astute investor to take advantage, wherever they can, of the diversification benefits on offer. The real risk to the long-term investor is not return volatility, but the lack of certainty that equity markets will act as the engines of portfolio returns over the coming years. Owning a diverse portfolio, both in asset classes and material allocations to them, is critical to long-term portfolio survivability and the chances of a successful outcome.

2.2.3 Let time and compounding work in the investor's favour

Time and compounding play important roles in successful investing; time tends to smooth out some of the more extreme market returns evidenced over shorter periods, allowing portfolios and the individual building blocks from which they are built, to deliver the hoped long term returns that they are associated with. Second, time goes hand in hand with the compounding of returns. Time and compounding have an exponential effect on outcomes, magnifying even slight differences in annual return into significantly different outcomes, both positively and negatively (through returns and costs respectively).

2.2.4 Create solutions that mitigate the very real threat of inflation

The threat of inflation can be mitigated through diversification of the portfolio into building blocks

¹ Prof. W. F Sharpe, Capital Asset Price: A Theory of Market Equilibrium Under Conditions Of Risk, 1964.

² Determinants of Portfolio Performance II: An Update by Gary P. Brinson Brian D. Singer Gilbert L. Beebower, 1991

that have the ability to provide good short and long-term inflation protection.

2.2.5 Identify and minimise costs of all kinds

A cost saving of a pound is more valuable than a pound of overperformance achieved by fund managers, as the certainty of its effect and consistency over time is achieved without taking any additional risk. In today's benign return environment, costs deserve greater scrutiny than ever. In their widest sense, costs include fees for advice (developing investment policy) and ongoing investor portfolio management, total expense ratios for individual building block products, trading commissions, and custody (platform) fees. Other unseen costs include inappropriate investment policy advice, active manager underperformance, the impact of taxes for taxable investors, the holding of material levels of uninvested cash, and market impact costs.

2.2.6 Keep emotions in check and stay the course

ebi helps financial advisers' investors to keep their emotions in control, and to stay the course, in two main ways:

- First, ebi has developed an investment process that removes many of the points of emotion from an investor's portfolio including the psychological implications of using active managers and the consequences of being part of an industry trying to time markets and select stocks.
- Second, ebi seeks to provide financial advisers with the appropriate information for their investors to help them choose the ideal portfolio in the first place and fully understand the implications of being invested in this manner.

2.2.7 Choose your funds wisely

The first market index was created by Charles H. Dow (Dow Jones Industrial Average) in 1896, it and all subsequent indexes were, in the main, simply an incremental list of stocks in a select universe, listed in order of market cap weighting. The idea of creating funds to replicate indexes came later in 1973. The evidence repeatedly shows that when indexes are used to determine the stocks held in an 'index

tracker' fund, such funds became very hard for active fund managers to beat.

However, it can often be the case that an index fund is either not available for the asset class required, or the asset class is better captured via a 'rules-based' fund, often referred to as a passively managed fund.

Such funds aim to capture asset class returns from a similar universe of stocks to an index, but usually avoid some of the problems that might be inherent in a tracker fund trying to replicate an index. For example, a given index may be extremely biased to certain sectors or many of the constituents of an index are illiquid and thus difficult, and typically expensive to acquire and sell.

Sometimes the choice is easily made, but often there are competing tracker and passively managed funds available; close attention needs to be paid to the relative merits of each approach.

2.2.8 Rebalance efficiently

The concept of rebalancing a portfolio (i.e. returning some or all of the funds held in a portfolio back to their original proportions) is an often-overlooked risk-management mechanism. Left unattended, the portfolio will increasingly become overpowered by the riskier asset class. The primary role of rebalancing is to maintain the risk profile of the portfolio in a zone in which the investor feels comfortable, established at the start of the relationship. A beneficial by-product that occurs in portfolios that contain higher volatility and lowly correlated asset classes, and in mean reverting markets, is a rebalancing return bonus that comes from a buy-low, sell-high strategy at the margin of the portfolio.

2.3 Core investment beliefs

ebi holds a set of core investment beliefs based on the theory and evidence that is available today and its assessment of the probability of a favourable impact on investor portfolios of holding them. These beliefs are reflected in the structure and implementation choices that ebi makes.

2.3.1 Major markets are, by and large, reasonably efficient

'Efficiency' describes the fact that prices reflect all known information. An active manager needs either better information or an ability to use it more effectively than others do, in order to beat the market.

ebi believes that the major world markets are relatively macro-efficient, which include the investment-grade bond market, the large-cap equity market, and other major developed global equity and fixed income markets, making active management a challenging proposition. As such, ebi employs a healthy degree of scepticism over active managers' claims to deliver consistent market-beating returns, after costs.

2.3.2 Passive investing strategies are favoured over active management

Based on probability, indexing wins out over active management. The decision of whether to employ a passive or an active approach revolves around three key questions: Do markets exhibit inefficiencies that managers can take advantage of? Can these inefficiencies be profitably exploited after all costs, including taxes? Moreover, can managers who have persistent skills as opposed to luck be identified in advance? In short, the probability of success lies in favour of index investing over the long odds of identifying market-beating active managers, despite the potential benefits of doing so.

2.3.2.1 ebi's stance

ebi uses index products as its default implementation strategy in all building blocks as far as is practicably possible and does not seek to add incremental active returns by trying to time markets (tactical asset allocation) or select individual securities. The evidence indicates that in both equity and fixed income investing, index investing provides the greatest probability of success for a investor (if not necessarily the very best outcome).

Index products provide a high degree of certainty over future performance relative to the market, eliminating significant risk from investors portfolios (that of active manager underperformance). With all the difficulties of choosing the best active managers

ex-ante, and the added risks of investors abandoning good managers going through tough times relative to the market, the probabilities of success lie with the certainties of index investing. Selecting passive/index products is relatively straightforward.

2.4 Factor based investing

Since the early 1960s, the academic community has been on a quest to uncover the 'secret sauce' of investing – the characteristics of stocks and other securities that both explain performance and provide premiums above-market returns.

Factor investing is an investment approach that involves targeting quantifiable firm characteristics or "factors" that can explain differences in stock returns. The earliest theory of factor investing originated with a research paper by Stephen A. Ross in 1976 on Arbitrage Pricing Theory, which argued that security returns are best explained by multiple factors. A factor based investment strategy involves tilting portfolios towards and away from specific factors in an attempt to generate long-term investment returns in excess of benchmarks. The approach is quantitative and based on observable data, such as stock prices and financial information, rather than on opinion or speculation.

Factors are simply a set of properties common to a broad set of securities. Contrary to popular belief, it is the exposure to these factors, and not fund management skill, that determines performance.

To be worthy of exposure, a factor must be:

- **PERSISTENT** (it works across long periods of time and different economic regions);
- **PERVASIVE** (it works across countries, regions, sectors, and even asset classes);
- **ROBUST** (it works for various definitions);
- **INVESTABLE** (it works not just on paper, but also after considering implementation issues like trading costs);
- **INTUITIVE** (there are logical risk-based or behavioural-based explanations for its premium and why it should continue to exist).

On this basis, a study from 2016 (which appeared in the Financial Analysts Journal in 2016) narrowed the field down to just 6 factors, being Low Beta, Size, Value, Momentum, Illiquidity, and Quality.

ebi portfolios include Size (meaning Small Company shares), Value, Minimum Volatility (meaning Low Beta), Momentum, and Quality. While the exposure to the Quality factor does exist in ebi portfolios, it's not gained through the standard form of using a Quality targeted fund. Most of ebi's funds have Quality screens built into them and this echoes throughout our portfolios which have ample exposure to the Quality factor. See below the reasons why we don't use the other factors in our portfolios, such as adding Carry (dividend yield), for the sake of completeness.¹

The problem with firms with a high dividend yield (aka Carry) is that they are often Value firms, (as a high yield is often seen as a sign of relative cheapness) and returns are thus likely to be due to exposure to common factors.

Thus many of the factors we don't include are at least partly correlated, reducing their diversification benefits. In many cases, there is no universal agreement on what constitutes the criteria for inclusion as a factor.

Finally, to be useful, the factor must be investable - i.e. there must be a (cheap) product out there in which we can invest. For Value, Size, Minimum Volatility, and Momentum this is not a problem, but for other factors this is generally very hard to obtain (unless one were to pay a price premium).

2.4.1 Equity factors within ebi portfolios

2.4.2 A 'Value' premium appears to exist

Value stocks are generally described as stocks that are undervalued and unappreciated, and growth stocks as those with great future stories. A premium of around 1.74% per annum appears to exist for holding developed market Value stocks over developed market stocks, explained in part, but not entirely, by higher volatility².

The Value premium has been identified in the data

series of a wide range of major global equity markets including Australia, Canada, the Eurozone, Japan, and the UK.

2.4.2.1 ebi's stance

ebi makes a material yet constrained, long-term exposure to Value stocks to exploit the Value premium throughout its global exposure, where suitable implementation products are available. It does not seek to try to make market-timing moves between investment styles. While the Value premium appears to exist in the UK and on a global long-term basis, lengthy periods exist when growth stocks outperform Value stocks.

2.4.3 'Size' premium (probably) exists but is not certain

It appears that small company stocks deliver a premium above the returns of large-cap stocks, even after taking the additional market risk that they exhibit into account. Some debate exists over the quality of the data, the reasons for the premium, and even whether it exists at all. However, research suggests not only is there a small-cap premium but the premium is amplified when considered in combination with other factors. For example, research suggests that Value and Momentum stocks are stronger for small stocks than their larger counterparts. Evidence also shows that small Quality stocks outperform large Quality stocks³.

2.4.3.1 ebi's stance

ebi seeks to exploit the existence of the small company premium. It does not seek to try to make market-timing moves between investment styles but will offer a modest, systematic exposure throughout its global exposure to capture the premium for long-term investors by making a material allocation to smaller companies.

2.4.4 Momentum works:

Momentum investing is an investment strategy that aims to capitalise on the continuance of existing trends in the market, thus an asset that is rising in price tends to continue to do so, (and vice versa) for a period, as a result of investor's consistent "under-

¹ Berkin & Swedroe's Your Complete Guide to Factor-Based Investing, 2016.

² Fama, E. & French, K. (2021). 3 Factors for Developed Markets.

³ Size Matters, if You Control Your Junk. Asness, Cliff S. and Frazzini, Andrea and Israel, Ronen and Moskowitz, Tobias J. and Pedersen, Lasse Heje, 2015

reaction” to both good and bad news concerning a stock or bond, etc. Thus once an asset starts to rise (or fall) it tends to continue to do so.

2.4.4.1 ebi's stance

ebi aims to have an exposure to Momentum strategies as they provide a good proxy for growth stocks and thus a negative correlation with Value strategies thereby aiding diversification.

Momentum strategies often involve higher levels of trading than other factors and so it is important to take transaction costs into account. Like Value, the premium appears to be significant and is robust to different regions, asset classes, and time periods.

2.4.5 Minimum Volatility premium exists

The low volatility anomaly suggests that stocks that exhibit lower volatility have returns above that which would be implied by the efficient market theory. Investors pursuing a low volatility strategy actually seek to capture benefits from lower risk and lower volatility stocks for two purposes. Firstly, they seek to dampen portfolio risk by using the lower volatility tilt as a form of portfolio stabiliser. Secondly, investors look to exploit a longstanding anomaly that researchers have uncovered demonstrating that lower-risk securities tend to outperform. Traditional investment principles demand investors take on additional risk for higher reward, as risk and reward go hand-in-hand however, Minimum Volatility seems to be an exception which is thought to be attributable to a combination of regulatory constraints and investor preference for lottery type wagers:

- Research suggests regulatory and institutional constraints on leverage and short selling that impact investor behaviour, limits normal market arbitrage and distort prices (Black, 1972). In practical terms this means that investors tend to seek out higher volatility securities and, in the process, distort market prices of those higher volatility securities as well increasing the costs of shorting and trading the lower volatility securities.
- Another type of explanation (Barberis and Huang, 2008) suggests that investors have biases towards placing small wagers for potentially large returns, rather like a lottery ticket. Investors have

behavioural biases which means that they do not necessarily maximize their wealth in the way academic models assume. They may be too short term and focussed on getting a big win quickly rather than lots of smaller wins over a longer period.

2.4.5.1 ebi's stance

ebi aims to have exposure to Minimum Volatility strategies as they provide good evidence of having a premium over the market whilst being able to act as a safeguard against periods of uncertainty and increased volatility. ebi understands that different factors historically have a stage in the economic cycle where they shine. For Minimum Volatility, this tends to be in the contraction phase which is in contrast to the other three factors we have and will, as a result, provide more stability to our portfolios.

2.4.6 Fixed-income factors within ebi portfolios

2.4.6.1 Using credit risk to generate higher returns adds unwanted characteristics to portfolios

The primary reason for owning fixed-income is to protect a growth-oriented investor from periods of severe equity market trauma. Unfortunately, at these times, credit spreads tend to widen, and liquidity shrinks; thus, bonds with high credit risk will likely underperform those issued by the Government (with comparable duration). Investing in high-yield/junk bonds (under BBB credit quality) may look attractive when market conditions and economic policy have pushed down the yields of many high-quality bonds, but investing in lower credit quality bonds increases risk; emerging market debt typically have exhibited higher correlations to equity markets such as the S&P 500. This means that this type of fixed income is most likely to behave like equities during market downturns and provide lower levels of stability than higher-quality bonds.

2.4.6.2 ebi's stance

ebi will include investment-grade and government bonds from around the world (currency exposure is hedged to avoid unwanted exchange rate-driven volatility) with varying maturities focussed to the shorter end of the maturity range, that pass screening for Size and Liquidity. Liquidity means the extent

to which a bond may be bought and sold without significantly distorting its price. The fixed-income holdings of ebi's portfolios will normally maintain a weighted average maturity of between 4 and 6 years.

2.4.6.3 Longer-duration fixed-income

The beneficial effects of owning longer-dated bonds which may or may not rise in value due to a flight to quality during a market downturn are unreliable.

2.4.6.4 ebi's stance

ebi believes the "flight to quality" benefits of longer-dated fixed income securities are not sufficiently consistent, or of a sufficiently large enough magnitude, to warrant enduring the higher volatility such securities exhibit with little or no premium as compensation. If the volatility of holding longer-term fixed income securities is to be born for prolonged periods it would be better to accept marginally higher exposure to equities, which have a far greater likelihood of providing a premium for the volatility. Longer-dated bonds are also more sensitive to interest rates due to there being a greater probability that interest rates will rise, thus negatively affecting a bond's market price. Similarly, longer-dated bonds are also more sensitive to inflation and therefore have a higher inflation risk than shorter-dated bonds; there is a greater probability of inflation rising and reducing the value of bond payments.

2.4.7 The Emerging Markets premium exists

2.4.7.1

The Emerging Markets factor premium has been questioned in recent decades on the grounds that correlation between markets increases over time and in times of market stress. Despite this, there are still several reasons why we should account for an Emerging Markets equity risk premium to exist:

- Emerging market equities expose investors to additional types of underlying risks; fragile economies, less stable political and policy frameworks, and weaker legal protections.
- Emerging market investors need to pay particular attention to how the value of their ownership claims might be expropriated. Among the areas of concern are standards of corporate

governance, accounting and disclosure standards, property rights laws, and checks and balances on governmental actions.

- Research by Aswath Damodaran at the Stern School of Business, NYU, shows the difference in equity risk premiums between Emerging and Developed markets. The premiums vary between 0.29% and 3.27% over the period 2004-19.

2.4.7.2 ebi's stance

ebi's initial stance is to be marginally overweight EM stocks due to their higher expected rate of returns but exposure to our core factors is of greater value than exposure to emerging markets. Therefore ebi acknowledges that an emerging markets risk premium exists but also recognises that the funds have to meet the axioms of ebi's philosophy to be considered investable; there is currently a lack of suitable ESG screened factor-based emerging market funds. When suitable funds are available that meet the criteria and investment philosophy they will be considered for inclusion of ebi's portfolios.

2.5 ebi's investment philosophy in summary

ebi believes that:

- Every investment decision it makes needs to be based on insight and an understanding of the probability of success, given the evidence available, academic theory, and common sense.
- Setting an appropriate asset allocation for an investor, given their goals and cash flow needs, is the major contributor to investment success. This solution should represent a robust diversified portfolio, geographically and mathematically split between multiple asset classes.
- Making material allocations to capture Value, Momentum, Size, Minimum Volatility and to a lesser extent, emerging market premiums. Quality is also being captured by our portfolios however, this exposure is not being captured through any specific fund as the exposure is coming from multiple funds due to the Quality screens that built them.
- ebi is wholly committed to upholding its

commitment as a signatory to the United Nations Global Compact. Our ongoing fund monitoring will reflect this transition to sustainable investing.

- Avoiding below-investment-grade credit risk in portfolios.
- Consistent with Modern Portfolio Theory, one's risk budget should be spent on the equity content of the portfolio and the fixed income element used purely to dilute this risk. Shorter duration, hedged to Sterling, high-quality corporate and government instruments are preferred.
- Holding this strategy over time, rebalancing in a timely manner, and ensuring that investors' emotions do not precipitate wealth destroying 'buy-high, sell-low' behaviour is critical.
- The highest chance of a successful outcome lies in passive (index) investing. ebi does not make active market timing or security selection decisions, nor does it employ managers who do either (rules-based passively managed funds will be used in the absence of suitable passive index tracker products). This approach significantly improves the predictability of portfolio characteristics, over time.
- A proactive focus on costs in all elements of decision-making and implementation will provide substantial benefits to its investors.

3 On-going portfolio management

3.1 Tolerance based rebalancing

As explored earlier, rebalancing is an important risk management tool that keeps the risk of the portfolio at a level with which the investor feels comfortable. Allowing risky assets to dominate over time inevitably increases the risk inherent in the portfolio. Rebalancing can be a tough path to follow, particularly at times of very strong, upward (or downward) market momentum, as it requires selling out of assets doing well and investing in assets that have done less well.

ebi's research indicates that rebalancing to "tolerance bands" is preferable to not rebalancing or rebalancing based on a set or random dates. In essence, portfolios should be rebalanced only when a group of assets held in the portfolio collectively breach certain tolerance bands.

4 Investment decision making

4.1 The investment team

Key areas for which it has responsibility include:

- Review of existing products used in Model Portfolio implementation.
- Review of due diligence on any new products to be used in implementation and sign-off of agreed use.
- Oversight of training and competence program for ebi staff.
- Review of the Model Portfolio structures and decisions on the addition of new asset classes to the mix.
- Review of the underlying assumptions made for each asset class.
- Ongoing review and refinement of the investment process.
- Notes are prepared for each meeting recording the discussions and decisions taken. They are to be signed off by the Committee and will be held indefinitely on file.



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