



IMPACT FRONTIERS

Impact Portfolio Construction Yesterday, Today, and Tomorrow



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[impactfrontiers.org](https://www.impactfrontiers.org)

Executive Summary

This discussion document reviews and summarizes the current state of practice in impact-driven portfolio construction and optimization across asset classes. It also serves as an introduction to a series of case studies spotlighting novel practices developed by individual investors incorporating impact into asset class allocation. The aims of this series are:

1. To inspire asset owners and allocators to consider impact not only in manager selection and security selection, but also in the determination of their asset allocation; and
2. To provide examples of how leading investors are already doing so.

The document begins with a set of anonymized vignettes of approaches taken by investors interviewed as part of the project. Next comes an introduction to asset allocation intended primarily for those not previously familiar with it (and which can be treated as optional background reading). This is followed by an exploration of the potential to incorporate impact into two complementary techniques of asset allocation – strategic and tactical – which concludes that while both are possible, focusing on tactical asset allocation may be most practical for most investors. Additional issues related to the duration and liquidity of portfolio holdings are discussed, and a brief conclusion introduces a series of forthcoming case studies. This document is based on a review of 35 academic papers and book chapters and 17 publicly available practitioner publications (see Appendix 1), as well as interviews with more than 30 leading investors (see Appendix 2).

State of Practice

While traditional financial theory offers robust methods for capital allocation across asset classes and impact management practices are rapidly developing, the available evidence suggests that the disciplines of multi-asset class capital allocation and impact management remain mostly non-interoperable.

As a result, the majority of multi-asset class impact investors do not incorporate impact into asset class allocation, instead seeking impact within asset classes determined by an existing asset allocation, or in some cases, as they construct a portfolio within a single asset class (for instance with an efficient impact frontier-type approach¹). By contrast, a smaller number of family offices simply do not have a strategic asset allocation (or do not pay it much attention), instead pursuing the greatest-impact opportunities regardless of asset class and allowing the asset class allocation to land where it may.

The following are brief, anonymized examples of some of the unique ways that investors are approaching asset allocation in practice, to offer a survey – illustrative, not comprehensive – of the state of practice in this field today:

Example 1: This organization generally uses a tactical allocation process for managing their impact-forward portfolios. They use impact ratings to assess expected impact alongside financial performance expectations to inform investment decisions. Once an investment is made, they measure realized impact using data collected directly from their investees. In the future, they are interested in using impact ratings post-investment as an input to asset allocation, particularly when considering follow-on investments.

Example 2: This organization starts with a traditional asset allocation approach based on financial risk and return. Then they look across a wide range of impact areas which offer financially attractive investment opportunities and fill up their asset class allocation with those. Other impact opportunities that align with their impact goals but not their financial goals are addressed separately through their advocacy work or philanthropy. While their overall asset allocation strategy is formed through traditional financial methods, if those methods say that X% percent of their portfolio should be in a particular asset class and there are not any investment opportunities in their pipeline that are in that class, then they will not fill that allocation until they find an investment opportunity that aligns with their impact goals.

Example 3: This organization does not have an allocation by asset class, but rather by risk profile, to address the wide-ranging constraints preventing capital from flowing to impact-first funds. Some constraints are grounded in traditional financial risk (e.g., business, market, currency), while some constraints are more technical (e.g., systemic aversion to unfamiliar structures and teams) or psychological (e.g., preference for easily-communicable near-term impact outcomes over systemic impact potential). By creating a thoughtfully constructed portfolio that blends different risk profiles, the organization is able to target a return of capital and support the most compelling strategies. Approximately 20% of the portfolio will be frontier funds with low expected returns and a high degree of market or macro risk, 15% will be lower-return but highly dependable investments providing efficient impact outcomes, and 65% will be allocated to strategies with potential to scale via market investment (about half where proof of concept embraces business model and operational risk, and about half where proof of concept identifies mispriced or misunderstood risk in the financial structure or strategy).

1 McCreless, Michael. 2017. "Toward the Efficient Impact Frontier." Stanford Social Innovation Review.

Example 4: This organization aims to achieve their impact goals by having 10% of their portfolio allocated to impact investments, 40% in real estate, and the remaining 50% in public markets. SAA is used to set the allocation within the listed asset classes, with exclusionary screens applied for certain categories of investments. Within the 10% of the portfolio allocated to impact, 70-80% is in private markets, some is in property, and the rest is mostly in private debt. They actively focus on catalytic impact opportunities, in part to signal the importance and potential of those opportunities.

More narrowly, two investors have offered the following insights into how impact might inform short-term tactical rebalancing across asset classes in their portfolios:

Example 5: This organization keeps a rank-ordered list of top and bottom performers, in terms of impact. When funds become available, they refer to that list, and move into higher impact opportunities.

Example 6: This organization is willing to be flexible in terms of “tilting” (rather than a full allocation rebalance) toward an asset class if there is a good reason to do so (i.e., based on impact).

Several interviewees mentioned the importance of the investment policy statement (IPS) in shaping the allocation process. The IPS codifies the bands (e.g., 15-20% of a portfolio) around particular asset classes, and the flexibility to adjust asset class allocations in pursuit of impact. An IPS can emphasize a focus on impact in a narrative way that frames an allocation around impact priorities.

These examples demonstrate a range of existing approaches to incorporating impact into asset allocation. The next section reviews traditional approaches to asset allocation focused solely on financial considerations, and subsequent sections explore methods by which impact can systematically inform asset class allocation.

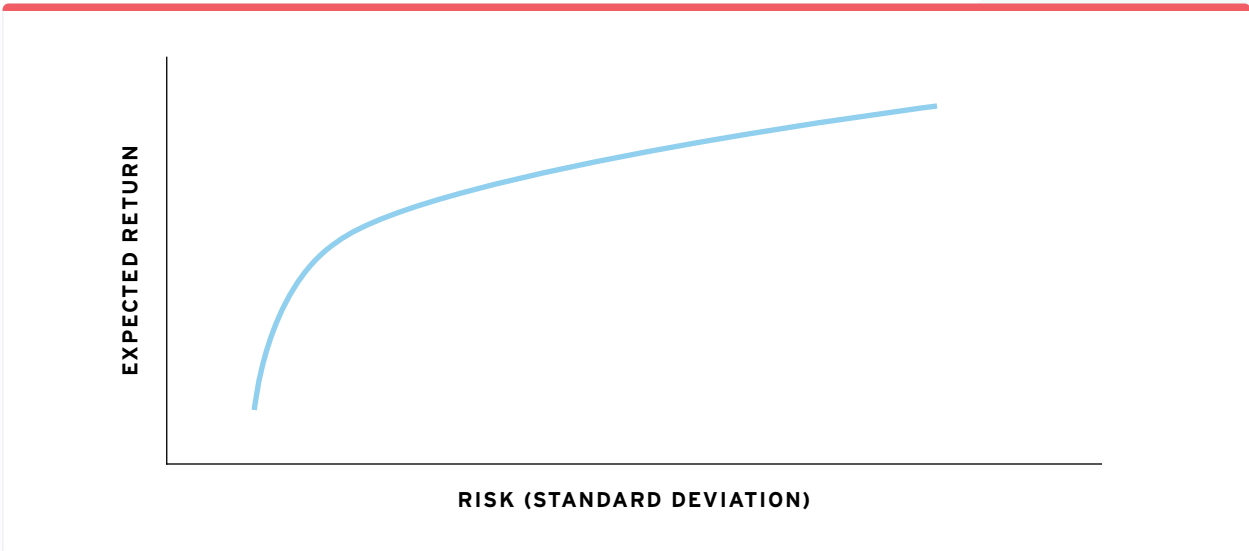
Introduction to Asset Allocation (Optional Review)

Asset allocation is the process by which investors divide their capital across asset classes such as stocks, bonds, and cash. Through the early part of the 20th century, asset class allocation was ad-hoc and informal, to the extent it was considered at all. Beginning in the mid-20th century, following advances in data storage and computational power, financial economists began to develop theories to explain and guide asset allocation.

A seminal development in this regard was the creation of Modern Portfolio Theory (MPT) by Harry Markowitz, for which he was awarded a Nobel Prize in Economics. MPT is the foundational asset allocation theory and focuses on maximizing a portfolio's financial return while reducing its risk. One key feature of MPT is mean-variance analysis, a technique that enables investors to identify the portfolio of assets that offers the greatest expected (i.e., mean) financial return at a given level of risk (i.e., variance), or the least risk at a given level of return. In this approach, investors are assumed to be rational and risk-averse, and they choose "mean-variance-efficient" portfolios that fit the above characteristics based on their investment goals. MPT and its successors underpin the cornerstone portfolio construction approach of Strategic Asset Allocation, which is described in more detail below.

An important concept in MPT is the "efficient frontier." The efficient frontier is the set of possible portfolios that would each offer the greatest possible expected financial return for a given level of risk, as seen in Figure 1. Portfolios that fall below the efficient frontier are sub-optimal compared to portfolios on the frontier, since they have the same returns but with greater risk or lower returns with the same risk.

Figure 1. Efficient Frontier



Another concept that stems from MPT's mean-variance analysis is the Capital Asset Pricing Model (CAPM). In this model, the expected return of an investment is equal to the risk-free rate plus the product of the investment's beta (which captures whether an investment is riskier or less risky than the overall market) and the market risk premium (the expected return of the market minus the risk-free rate). In addition to helping assess individual securities, CAPM can be a useful framework for portfolio construction, as it suggests diversifying across risky assets to reduce overall risk.

Though ground-breaking for its time, MPT has since been largely supplanted by a number of other asset allocation models, including factor-based models, post-modern portfolio theory, and the Total Portfolio Approach, among others:

- **Factor-based models** account for multiple factors that could influence the return on an investment. The formalization of this approach dates back to a 1976 research paper by Stephen A. Ross introducing arbitrage pricing theory, incorporating multiple factors such as different sources of risk. Another milestone in this approach was Eugene F. Fama and Kenneth R. French's 1992 paper presenting a three-factor model accounting for the size of firms, ratio of book-to-market values, and excess return on the market. In a 2015 paper, they added profitability and firms' internal investment to that framework, for a five-factor model. Empirical tests find that both Fama and French's three and five factor models perform better than CAPM at explaining the average excess returns of portfolios. Despite these advancements, these models still account for a modest portion of the variance in average excess returns, leading to an expanding "factor zoo" as researchers propose additional factors in an attempt to capture more explanatory power, which hints at potentially fundamental elements of asset returns that remain unidentified.
- **Post-Modern Portfolio Theory (PMPT)** was developed by Brian M. Rom and Kathleen Ferguson in 1991, in response to MPT's use of the standard deviation of all returns as a measure of risk. In contrast, PMPT measures risk as the standard deviation of negative returns specifically, thereby focusing on downside risk when diversifying across asset classes.
- A **Total Portfolio Approach (TPA)** starts with clearly stated goals for a portfolio. As described in a 2019 paper from the Willis Towers Watson's Thinking Ahead Institute and a 2020 paper from Amundi Asset Management, TPA's focus is not on traditional asset classes, but rather all the "risk and return streams" that compose a portfolio, toward achieving the overarching goal for the portfolio. This offers a "more holistic approach than traditional portfolio construction methods."² In this context it is notable for enabling the integration of non-financial criteria, as well as a factor-based approach to portfolio construction.

In practice, many professional investors today do not themselves use a mathematical model to derive their optimal asset class allocation. For instance, some might rely on an asset allocation that they inherited from a predecessor, while others simply implement "received wisdom"

2 Amundi Asset Management. 2020. "Multi Asset: A Solid Total Portfolio Approach for a Complex World." Investment Insights Blue Paper.

about appropriate asset class allocations (the simplest example of this would be the standard recommendation that investors allocate 60% of their assets to stocks and 40% to bonds). Even these investors, however, are influenced by traditional asset allocation theories, insofar as those theories underpin the portfolios they inherit and the rules of thumb they rely on.

One aspect common to these asset class allocation theories and models is that they exclude impacts on stakeholders such as employees, suppliers, customers, and local communities, as well as the natural environment, from the analysis. Investors that do wish to take those factors into account are therefore faced with the challenge of developing their own bespoke methods for doing so.

Pioneering investors began exploring this concept more than twenty years ago. Jed Emerson was an early leader in this field and continues to guide its development. Over the past couple decades he has published a series of papers and books advocating for what has become known as the Total Portfolio Management (TPM) approach to impact portfolio construction.³ In this approach, impact considerations are integrated with financial risk and return across portfolios. That is, impact is a lens through which investors can view their entire portfolios, while also shaping investor decision-making within particular asset classes. Different asset classes may have different impact and financial returns, “but the total portfolio should be managed to generate financial and impact returns in alignment with the investor’s specific goals.”⁴

A small but growing number of investors are now allocating 100% of their portfolios to impact investments (recognizing variability in how that term is defined and in the criteria applied). For instance, the T100 Project of Toniic – a global community of impact investing asset owners – tracks a set of portfolios that are fully allocated to impact investments across all asset classes.

Among investors interviewed for this project, even those that allocate 100% of their portfolios to impact often follow “standard” asset allocations. They focus on ensuring that all of the assets within each asset class meet pre-defined criteria for impact – a significant undertaking in itself – but most do not change their asset class allocations in pursuit of impact.

This discussion document poses the question: is there a systematic way for investors to develop impact-informed asset class allocations while still using the best of what mainstream financial theory has to offer?

3 See Appendix 1 for a list of Emerson's contributions to this topic.

4 Emerson, Jed. 2017. “Construction of an Impact Portfolio: Total Portfolio Management for Multiple Returns.” Investments & Wealth Institute. Page 41.

Getting Started: Strategic Asset Allocation and Tactical Asset Allocation

In practice, investors often distinguish between strategic asset allocation (SAA) and tactical asset allocation (TAA). Strategic asset allocation (SAA) focuses on identifying and maintaining long-term target allocations for each asset class in a portfolio (for instance, 50% equities, 40% debt, and 10% cash). These allocations are often determined with the aid of a mean-variance optimization or other mathematical model. In simple terms, the user inputs assumptions about expected future returns in the various asset classes, correlations between those returns, and the user's own risk tolerance. The optimization model then calculates a recommended asset class allocation given those assumptions.

Over time, a portfolio based on SAA is rebalanced so that the original allocation goals remain in place. For instance, if equities appreciate more quickly than bonds and cash do, then eventually the portfolio's allocation to equities will exceed that recommended by the SAA. In the example from the previous paragraph, the equities portion might have grown to 60% while the debt and cash portions shrank to 32% and 8%, respectively – a significant deviation from the original allocation. The investor would then “rebalance” the portfolio, selling equities and buying bonds, to get back to the recommended allocation.

Tactical asset allocation is more active and short-term focused than SAA, with investors adjusting the allocation of assets in a portfolio to take advantage of unforeseen opportunities that arise in the market. Often, investors will set a range around the asset allocation targets established by the SAA, within which they can deviate opportunistically.

SAA and TAA offer two potential paths to impact-informed asset class allocation. In the first, the investor would adapt their mathematical models and resulting asset allocation targets to incorporate impact. In the second, the investor would establish a structured and systematic way to deviate from the models' recommendations to take impact into account. The following sections explore each possibility in turn.

A Mountain Too High? Incorporating Impact Into Strategic Asset Allocation

If impact could be reduced to a variable or set of variables, could the mathematical models typically used for SAA be adapted to include those variables? The short answer is yes, in theory. Experts interviewed for this project, however, suggested that there are obstacles and limitations that may make this impractical or simply not worth the effort involved.

Limitations of data and analytical techniques: Issues raised by interviewees fell into two general categories. The first pertains to limitations in data about impact, the sensitivity of optimization model results to small variances in input data, and the interactions between those two considerations.⁵ Investors do not necessarily agree that impact can be reduced to a variable or set of variables. Even if they did, availability and accuracy of data about social and environmental impact is not on par with data about financial performance especially of publicly listed companies, though it is improving. Put slightly more formally, impact data generally has a high degree of “measurement error.”

This is a particular concern in this context because the asset allocations calculated by mean-variance optimization models are often quite sensitive to relatively small variances in the input data. In practical terms, most investors would not and should not be willing to change their asset class allocations on the basis of what may be nothing more than measurement error in impact data.

Impact as a goal in its own right: The second category of concerns pertains to the fact that impact is not just an “input” into a model that optimizes for wealth, but also an “output” that the investor values for its own sake, in addition to wealth. This requires a deeper reconceptualization of the investor preferences that asset allocation is assumed to be solving for.

There is a growing body of evidence that investors do care about more than just wealth. For example, in a 2007 paper, Eugene Fama and Kenneth French (originators of the factor-based models described above) note that traditional asset pricing models assume that “investors choose asset holdings based solely on anticipated payoffs; that is, investment assets are not also consumption goods.”⁶ They go on to offer a series of examples which show that this assumption is unrealistic.

One such example focuses on how “tastes” can shape which investments are included in a portfolio. To illustrate this phenomenon, Fama and French cite a 2005 paper by Christopher Geczy and coauthors, who find that tastes (in this case for socially responsible investing) can influence which

5 Several interviewees noted that this challenge applies to conventional models too, which is perhaps why in practice some investors choose not to employ sophisticated asset allocation models.

6 Fama, Eugene F., and French, Kenneth R. 2007. “Disagreement, Tastes, and Asset Prices.” *Journal of Financial Economics*. Page 667.

assets investors choose to hold in their portfolio, along with expected financial returns.⁷ More recently, in a 2022 paper Florian Heeb and coauthors find that investors' willingness to pay for sustainable investments is driven by how they emotionally value impact.⁸

The utility function in mean-variance optimization is based on wealth, so adding impact requires a deeper rethinking of the underlying features of the methodology in terms of both theory and computability.⁹ These issues apply to investors broadly, not just those focused on impact. Multi-dimensional financial and non-financial investor preferences add complexity to models which are solvable in theory but difficult to implement in reality. To wit: Winfried Hallerbach, Aloy Soppe, and Jaap Spronk observed in a 2004 article on this topic that "the complexity of specifying a multi-attribute preference functional is enormous and not likely to be overcome in practice."¹⁰ While financial economists are exploring how such non-financial preferences can be incorporated into financial theory, this is a topic of ongoing research, the full details of which go beyond the scope of this paper.

Among investment practitioners, authors from Bridgewater Associates present an interesting applied example in a 2020 book chapter in which they depict "ESG (environmental, social, and governance) impact" goals being considered along with financial risk and return as a cube with dimensions representing those three factors.¹¹ Impact – in this case, alignment with the Sustainable Development Goals – is only taken into account in screening the investment universe prior to portfolio construction, so there is no optimization for impact. Nevertheless, the approach is notable in that it shows the world's largest hedge fund exploring portfolio construction techniques in which impact is not a means toward financial performance, but as a goal in itself.

7 Geczy, Christopher Charles; Stambaugh, Robert F.; and Levin, David. 2005. "Investing in Socially Responsible Mutual Funds." SSRN.

8 Heeb, Florian; Kölbl, Julian F.; Paetzold, Falko; and Zeisberger, Stefan. 2022. "Do Investors Care About Impact?" *The Review of Financial Studies*.

9 Antunes Amaral, Felipe Vilhena, and Gartner, Ivan Ricardo. 2021. "Portfolio Impact Investment Management Using Multi-Objective Optimization." *Pesquisa Operacional*. Page 14.

10 Hallerbach, Winfried; Soppe, Aloy; and Spronk, Jaap. 2004. "A Framework for Managing a Portfolio of Socially Responsible Investments." *European Journal of Operational Research*. Page 12 in the [working paper version](#) of this paper.

11 Karniol-Tambour, Karen et al. 2020. "Building a Balanced and Scalable Strategic Asset Allocation to Meet Financial and ESG Impact Goals." In: *Sustainable Investing: A Path to a New Horizon*.

SCREENING AND OPTIMIZING FOR IMPACT WITHIN A TRADITIONAL SAA

A 2022 white paper from Credit Suisse presents a structured approach to adding impact to an asset allocation process after using SAA to shape the overall allocation.¹² The approach begins with an investor setting their investment objectives and then their target asset allocation, using a traditional SAA model.

The investor then divides their investment universe into five categories, defined by Credit Suisse in descending order of impact:

- Impact Investing: Investments made with the intention of generating positive, measurable impact alongside financial returns. For Credit Suisse, “the key to impact investing is investor contribution or ‘additionality,’ the idea that the investment itself generates more impact than would be the case had the investment not been made.”
- Sustainable thematic investing: Investments in companies whose products and services contribute directly to addressing societal challenges
- ESG Integration: Incorporate environmental, social, and governance (ESG) factors into investment processes in order to reduce financial risk and enhance financial return
- Exclusions: Screen out companies or sectors perceived as harmful (e.g., tobacco, weapons)
- Traditional investments: All other

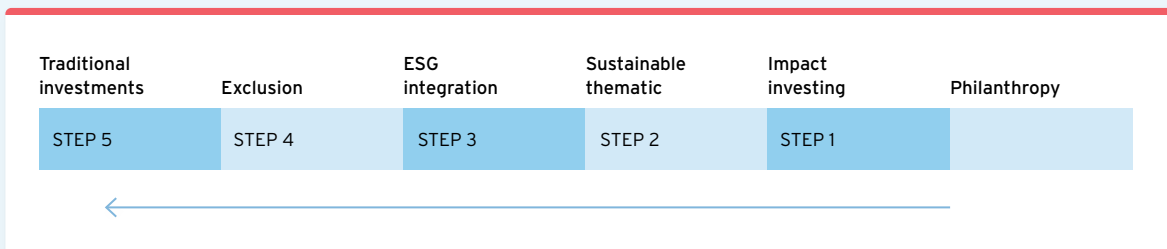
Within each asset class, the investor fills the desired allocation according to the following heuristic: first, adding as many impact investments as they are comfortable with from a financial perspective; then adding as many sustainable thematic investments as they are comfortable with; then filling any remaining gaps with ESG Integration strategies, then exclusion strategies, and lastly, traditional investments. This contrasts with the more common approach of beginning with exclusion strategies and then moving stepwise in the direction of greater impact.

¹² Other recent examples of using SAA and then adding impact to that allocation include Australian Impact Investments’ “Impact Report 2022: Mobilising Capital for a Better Tomorrow” and Antunes Amaral, Felipe Vilhena, and Gartner, Ivan Ricardo. 2021. “[Portfolio Impact Investment Management Using Multi-Objective Optimization.](#)” Pesquisa Operacional. These examples show how this approach can be undertaken in a careful, structured way.

The Credit Suisse paper summarizes:

There is a vast range of sustainable investing quality, even within the same asset class building blocks. Therefore, it is important to define – often within an investor’s IPS – their preferences relating to sustainable instrument selection.

[Our proposed] approach, starting with impact allocation and working back, allows investors to fulfill their investment objectives, while ending up with the most sustainable and impactful portfolio possible. The idea of this approach is that if investor can find an instrument that is more impactful or more sustainable and has similar investment characteristics, then they should select it over less sustainable and impactful options.



Though the approach does not offer guidance on adjusting asset class allocations based on impact, it is notable in that it not only screens but also optimizes for impact within each asset class in a practical way.

Source: Gifford, James; Bettermann, Richard; and Bieri, Sophia. 2022. “Build for the Future: A Guide to Sustainable Portfolio Construction.” Credit Suisse.

Impact as a means toward financial goals: Investors increasingly incorporate social and/or environmental factors as predictors of portfolio risk and return in an SAA model. For instance, a recent white paper from Neuberger Berman adds climate risk as a factor that shapes the SAA process itself.¹³ The authors of that paper note that “In the traditional ‘bottom-up’ ESG investing process, climate considerations are generally implemented at the sector and company level after the SAA of the portfolio has been set.” For their climate example, the authors then argue that such an approach “may leave climate risk exposure unrecognized at the level of the SAA, and foregoes the potential to enhance risk-adjusted returns by taking advantage of meaningful variation in climate impact across asset classes and sectors.” This can be depicted by an efficient frontier shifting down, such that return is lower for a given amount of volatility, due to climate risk.

13 Nguyen, Charles et al. 2022. “Integrating Climate Risk Into Strategic Asset Allocation.” Neuberger Berman. Page 2.

Academic financial economists are exploring the theoretical underpinnings of approaches such as Neuberger Berman's. To cite two examples among many:

- In a 2023 paper in the *Journal of Sustainable Finance & Investment*,¹⁴ De Spiegeleer et al. construct portfolios that fall on the efficient frontier while taking into account various ESG constraints as well as financial risk and return.
- In a 2021 paper in the *Journal of Financial Economics*, Pedersen et al. develop an ESG-Efficient Frontier with a portfolio's ESG scores on the horizontal axis and Sharpe ratio (capturing financial risk and return) on the vertical axis.¹⁵

Despite promising indications of progress, the overall message of this section is summarized by an excerpt from a 2020 book chapter on "Machine Learning Optimization Algorithms & Portfolio Allocation" by the researchers Sarah Perrin and Thierry Roncalli:

...very few models have succeeded in providing a real alternative solution to the Markowitz [traditional mean-variance optimization] model. The main reason lies in the fact that most academic portfolio optimization models are intractable in real life although they present solid theoretical properties. By intractable we mean that they can be implemented for an investment universe with a small number of assets using a lot of computational resources and skills, but they are unable to manage a universe with dozens or hundreds of assets.¹⁶

Data limitations for many impact opportunities compound these challenges. For this reason and others cited above, many investors may find it easier to incorporate impact into tactical asset class allocation.

14 De Spiegeleer, Jan et al. 2023. "ESG: A New Dimension in Portfolio Allocation." *Journal of Sustainable Finance & Investment*.

15 Pedersen, Lasse Heje; Fitzgibbons, Shaun; and Pomorski, Lukasz. 2021. "Responsible Investing: The ESG-Efficient Frontier." *Journal of Financial Economics*.

16 Perrin, Sarah, and Roncalli, Thierry. 2020. "Machine Learning Optimization Algorithms & Portfolio Allocation." In: *Machine Learning for Asset Management: New Developments and Financial Applications*.

A Practical Alternative: Incorporating Impact Into Tactical Asset Allocation

For many investors, a simpler path may be to establish wide ranges around asset class allocation targets established through an SAA and follow simple heuristics governing how the portfolio may be allowed to wander from the long-term targets in pursuit of impact. If, after a suitable period of tactical adjustments, the portfolio stabilizes at a new set of asset class allocations, those may in turn be adopted as the new target portfolio weights.

Investors implementing a tactical approach to impact portfolio optimization can categorize or rank-order their pipeline of prospective investments based on expected impact as well as expected financial risk and return. Then, as additional funds become available or when rebalancing a portfolio becomes necessary, investors will be prepared to deploy their capital to the most attractive opportunities from both an impact and financial perspective, within and across asset classes.

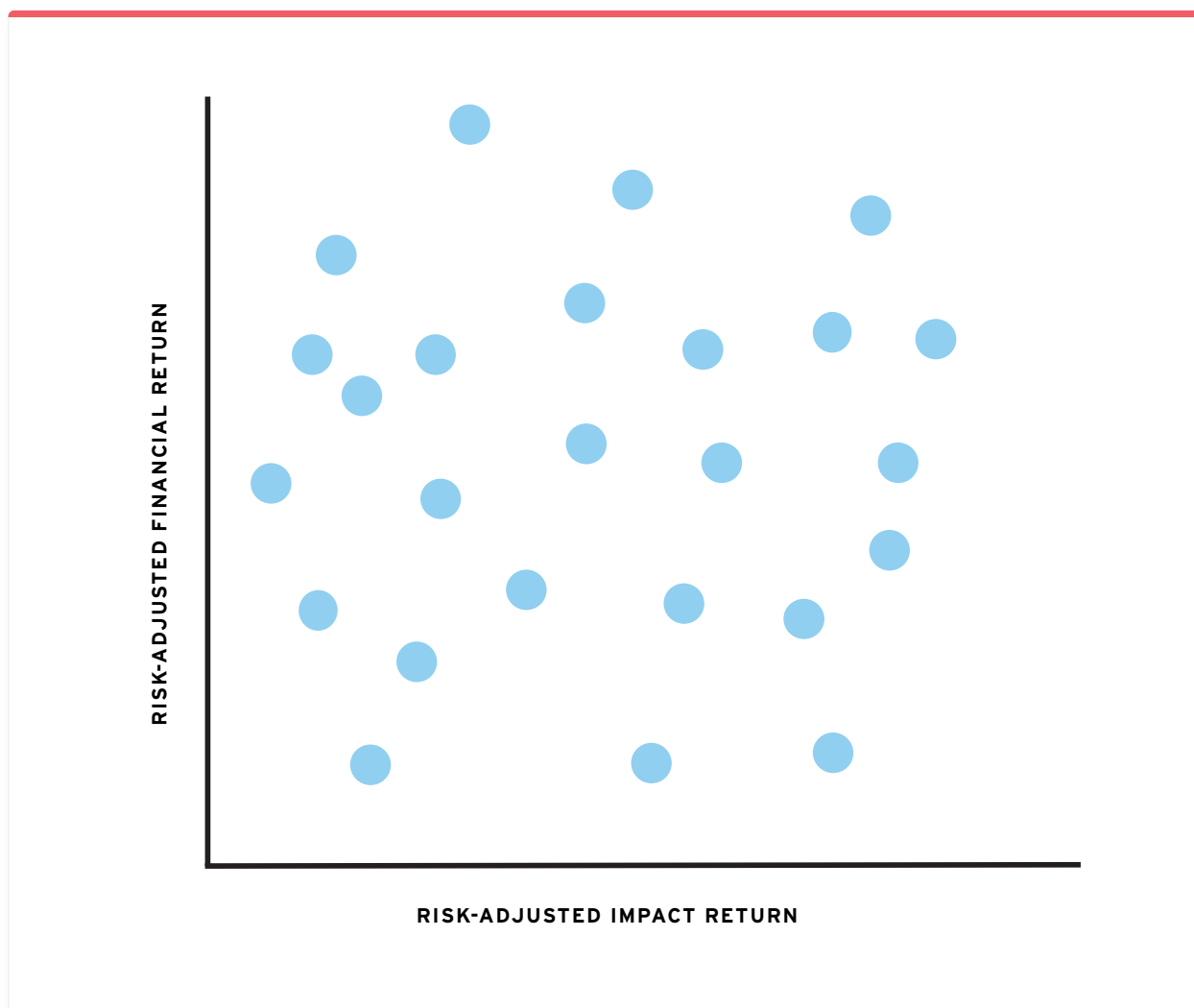
As a simplified example, an investor's SAA might dictate that 20% of the portfolio be allocated to public debt and 20% to private debt. Within each asset class, the investor might direct the capital to the opportunities identified as offering greatest impact, subject to suitability from a financial perspective. Shifting the asset class allocation might enable the investor to take the pursuit of impact one step further still. Returning to the initial example, the investor might find that their least-impactful private debt holding is more impactful than their most-impactful public debt holding, or vice versa. Subject to suitability from a financial perspective, the investor might decide to shift from a 20% public debt and 20% private debt allocation to a 15% public debt and 25% private debt allocation in order to allocate a greater share of their capital to the most-impactful opportunities.

Slightly more formally, investors could follow a simple heuristic such as:

1. Set **initial allocation**: decide on the target or long-term asset allocation using existing methods.
2. Within each asset class, **allocate capital** to opportunities that meet defined criteria for impact.

3. For each asset class, complete a **within-asset-class assessment of expected impact risk and return, and expected financial risk and return**. This could involve using tools such as a matrix or scatterplot (see figure below) accounting for both the risk-adjusted financial return and impact for each investment. This highlights the strongest investments in terms of both of those factors (upper-right area in the figure below), as well as the investments that should be dropped (lower-left area in figure below). Estimating a risk-adjusted impact return can be done in any number of ways. The most common approach is to develop a bespoke impact rating or scoring system.¹⁷ Another approach is to estimate the monetary value of impact created, for example through calculating the social return on investment (SROI) in monetary terms, though such calculations do not necessarily capture all relevant considerations including all five dimensions of impact.¹⁸

Figure 2: Integrated Impact-Financial Scatterplot



17 More information on impact ratings is available here: <https://impactfrontiers.org/norms/impact-financial-integration/impact-ratings-financial-valuation-metrics/>

18 Ashoka. "Social Return on Investment: Everything You Wanted to Know in 30 Seconds."

4. **Trade off marginal opportunities in adjacent asset classes.** That is, for every pair of asset classes, compare the expected risk-adjusted impact and financial returns of the “best” assets within each class to the “worst” opportunities in the others. If any assets in one asset class offer superior impact and financial characteristics to those in another asset class, the investor can consider selling the latter and buying the former. The following figure presents a simple way to visualize this process:

Figure 3. Integrated Impact and Financial Returns by Asset Class (illustrative)



Figure 3 shows the impact (color) and financial (vertical axis) performance of a set of investments composing an illustrative portfolio. There are two main ways an investor could use this chart to reallocate their investments. First, each asset class can be assessed individually. If there are investments that outperform other investments in that class in terms of both expected impact and financial performance, an investor might consider reallocating capital from the lower-performing asset to the high-performing asset. For example, in the fixed income vertical line of Figure 3, an investor might want to sell a stake in the investment represented by the red dot in order to reallocate that capital to the investment shown by the green dot.

Another way an investor could use Figure 3 to improve a portfolio is by comparing the best opportunities in each asset class with the worst opportunities in adjacent asset classes, and then identifying opportunities in which selling the latter and buying the former may improve overall impact and financial performance. This would result in deviating from the target asset class allocations, but may improve overall impact and financial performance. For instance, an investor might sell the investment represented by the red dot in the fixed income column and reallocate the capital to the investments represented by the yellow dots in the cash column or in the private real assets column, both of which offer superior impact and similar or better expected financial return.

This is a highly simplified example that omits correlation in returns across asset classes among many other important considerations. It is shared only to illustrate one possible heuristic investors might follow to optimize their asset class allocations for both impact and financial risk and return. Real investors would need to use more sophisticated heuristics that might nevertheless follow the same basic principle of trading off marginal opportunities within and across asset classes.

Impact returns: The Total Portfolio Project has developed “impact returns” as an approach to quantifying impact so that it can be integrated into investment analysis along with financial returns. This approach accounts for a range of impact attributes, such as the magnitude of impact, enterprise and investor contribution, and the strategic price of impact based on how much an investor is willing to pay to reduce social costs. Altogether, this yields a cumulative impact return metric which captures these features of impact in a single data point. This allows investors to optimize total impact-adjusted returns, to help achieve both their impact and financial goals across their portfolios.

For more, please see www.total-portfolio.org/

Additional Considerations: Liquidity and Duration

The liquidity of investment opportunities and the duration that investments are held are essential considerations in portfolio construction. Interviewees highlighted two considerations unique to impact portfolio construction. One consideration is duration of impact,¹⁹ a component of the “how much” dimension of the five dimensions of impact from the Impact Management Project.²⁰

Tactical reallocation based on impact or financial considerations will be limited by the illiquidity of many private market investments. Investors may wish to consider whether impact increases or decays over the course of long holding periods.

For instance, if short-term loans are consistently found to have less impact than longer-term holdings, the low liquidity of some asset classes that impact investors focus on might be less of a concern. The longer holding periods would be worth it for the additional impact they create. Conversely, investors that have goals for investor contribution (also referred to as “additionality”) may determine that the impact of their investor contribution fades quickly. For these investors, longer capital tie-ups could restrict the ability to reallocate toward new opportunities and additional sources of investor contribution.

Little empirical evidence exists to assess whether shorter or longer holding periods are associated with greater impact, and any such research would be highly context-specific. The purpose of this section is simply to raise the question as relevant for consideration in impact portfolio optimization.

Next Steps: Case Studies

Systematically incorporating impact into asset class optimization is a challenge that only a handful of leaders are beginning to take on. It may be that theory can learn as much from new practices as the other way around. This discussion document therefore also serves as an introduction to a series of case studies of new approaches to impact-driven portfolio construction and optimization being developed by pioneering investors. We look forward to highlighting the advances made by these leaders in hopes of inspiring and providing examples to others in the future.

¹⁹ Paddy Carter, Director of Research and Policy at British International Investment, addressed this topic in a recent blog post on [“Impact and Duration.”](#)

²⁰ Impact Frontiers. [“Five Dimensions of Impact – How Much?”](#)

Appendix 1. Resources Consulted

- Ahmed, Shamim; Bu, Ziwen; and Tsvetanov, Daniel. 2018. “Best of the Best: A Comparison of Factor Models.” *Journal of Financial and Quantitative Analysis*.
- Amundi Asset Management. 2020. “[Multi Asset: A Solid Total Portfolio Approach for a Complex World](#).” Investment Insights Blue Paper.
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Appendix 2: Methodology

For this project, investors and related professionals at approximately one dozen organizations were consulted, spanning the following categories:

	Industry network / association	OCIO / wealth manager / investment advisor	Foundation / endowment	Family office	Other
Number of individuals (some from the same organization):	5	14	1	8	4

The following questions guided the interviews with investors:

1. Which portfolio will you be referring to during this interview?
2. How are impact and financial goals and constraints framed in the language of your organization or fund’s Investment Policy Statement, Private Placement Memorandum, or other documents that formally articulate impact goals?
3. Which of the statements best describes impact and financial goals and constraints for your organization or fund:
 - a. We must satisfy certain financial criteria at the portfolio level, and seek to optimize or maximize impact subject to satisfying those financial criteria (e.g., meeting a financial return target, keeping portfolio risk within risk appetite, etc.);
 - b. We must satisfy certain impact criteria at the portfolio level, and seek to optimize or maximize risk-adjusted expected return subject to satisfying those impact criteria;
 - c. We primarily manage toward impact goals and are willing to accept whatever risk-adjusted financial return is possible, subject to the attainment of those impact goals; or,
 - d. We primarily manage towards financial goals, invest primarily in companies whose financial performance we believe is reflective of their impact performance, and are willing to accept the resulting impact.
4. Have you conducted an analysis exploring the relationships between your investments’ impact performance and their financial performance? If so, what did you find?
5. Do you have a target asset class allocation or policy portfolio? If so, how were the target allocations derived?

6. Do impact considerations influence your target asset class allocation or policy portfolio? If so, how?
 - a. Have you incorporated impact into a mean-variance optimizer, factor allocation model, etc.? Please describe.
7. Do you have a band or range around the target asset allocations within which you can increase or decrease allocations to each asset class tactically or opportunistically? If so, how are the size of those bands set?
8. Do impact considerations influence tactical adjustments within this band? If so, how?
9. Does impact influence the portfolio's benchmarks or its performance against those benchmarks? Does it influence performance evaluation of portfolio managers?
10. Are there aspects of impact portfolio construction and optimization that are specific to your type of organization (e.g., DFI, family office, foundation, individual)?



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Impact Frontiers is a peer learning and market-building collaboration, developed with and for asset managers, asset owners and industry associations. The initiative creates practical tools and peer-learning communities that support investors in building their capabilities for managing impact, and integrating impact with financial data, analysis, frameworks, and processes.

Impact Frontiers originated at Root Capital, migrated to the Impact Management Project in 2019 as a natural platform for industry collaboration, and is now continuing as an independent non-profit initiative of the Bridges group.

Learn more at impactfrontiers.org



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