

Integrating impact in portfolio construction

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Swetha Balachandran, Martina Castro and Yasemin Saltuk Lamy How to balance impact, risk, return and liquidity considerations in strategic asset allocation

Introduction and executive summary

How can an impact investor define the impact, return and risk profile of their portfolio to drive decision-making, prioritise pipeline and deliver a complex, impact-led investment strategy? This was the question we set out to answer over the last three years at British International Investment (BII), the UK's development finance institution (DFI) with a mandate to invest patient capital primarily in Africa and South Asia.

Impact investing has grown over the last 15 years into a global industry led by asset owners that have recognised how capital drives economic, social and environmental outcomes. The practices of evaluating the impact of assets across the investment life cycle – during due diligence, while invested, and upon exit – are becoming increasingly standardised and sophisticated over time. However, while investors are using an impact lens for asset selection, applying an impact lens to inform portfolio construction decisions is still rare.¹

Modern portfolio theory is built on the quantitative measures of risk and return. It's no surprise investors have been slow to incorporate the oftenmore-qualitative impact dimension to portfolio optimisation. While some dimensions of impact are easy to compare, others are much harder and qualitative. Two investments may both reach 1,000 farmers, but who those farmers are and the benefit they derive from the investment can be wildly different. We still don't have strong methodologies to value impact in a comparable way across sectors and geographies: how can we compare the impact of renewable energy, agroforestry, financial inclusion or health tech; or compare Burkina Faso with Bangladesh? Work is underway to develop industry standards for impact valuation, but these are yet to be widely adopted. And the task only begins when a quantitative and comparable measure of impact is defined, because there is still the challenge of optimising a portfolio using more than two dimensions. So, why complicate matters?

Yet, if impact is the core of an investment strategy, we argue that it must feature not only in asset selection but also in portfolio construction. This is implemented through strategic asset allocation across different asset classes.² This paper describes why integrating impact in portfolio construction was important for BII, and how we went about implementing it.

First, why was this important? BII's portfolio must deliver on a range of impact and financial objectives. While our mandate is to maximise impact, we don't believe this is done effectively by simply selecting assets with the highest impact. First, we are not presented with the entire universe of investable opportunities at a single point of time, so we need to pick the best out of the deals we see, without knowing what future origination efforts may uncover. Second, our mandate requires us to maximise impact but also to meet other parameters, such as returns, risk and liquidity. Meeting these has enabled us to operate for the past 75 years and allows us to create more impact in the future. Only by understanding if and how impact correlates with these other dimensions, and constructing a balanced portfolio accordingly, can we best deliver on our mandate to maximise impact, both in the short and long term.

INSIGHT

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¹ A recent article and market study from Impact Frontiers suggests that tactical allocations can include impact, but that these are typically not included in strategic allocation.

² There are two approaches to asset allocation: strategic and tactical. Strategic asset allocation implies having a long-term view of what an ideal or optimal portfolio looks like and allocating capital to those asset classes accordingly. In contrast, tactical asset allocation involves making short-term adjustments to a portfolio's asset mix to adjust for temporary imbalances, respond to short-term market trends or forecasts. These approaches are complementary and are used to construct an optimal portfolio, we discuss how BII has integrated impact in both approaches in this paper.

How BII integrated impact in portfolio construction: A previous Insights paper by BII: Risk, Return and Impact, discussed the relationship between these three dimensions in principle, and how correlations may arise both in the universe of investment opportunities that we face and in our portfolio, through the investment selections we make. We set out to test these theoretical relationships and see how these dimensions inter-relate in order to optimise our portfolio. Rather than attempt false precision, we created a stylised visual framework for incorporating impact in portfolio and pipeline analysis. We then used strategic asset allocations for future investments, based on our boundary conditions and an overlay of qualitative factors, as well as regular tactical allocations to implement this.

What were the key findings from BII's portfolio? As we describe below, within our investable universe, our analysis debunks widely-held beliefs around the negative relationship between impact and financial return. It also guided us in deciding how to construct our portfolio across asset classes. We also found an illiquidity premium for impact and risk, namely higher impact or higher risk investments saw a longer holding period or lower receipts over the lifetime of the investment. Such findings informed investment strategies within asset classes and helped us re-assess where trade-offs existed and how to consider these within the context of the broader portfolio.

While BII has a targeted mandate to invest for economic development in private markets across Africa and Asia, we believe some learnings will apply to impact investors globally (see box below). Over the next decade, we expect integrating impact to strategic asset allocation will be a key area of development for the industry.

General lessons for investors across the impact investing spectrum

- The importance and value of quantifying risk, return and especially impact in enabling more sophisticated portfolio construction.
- Expanding the opportunity set or 'sandbox' of investments by moving from a binary assessment of each deal to a portfolio-level approach: investors can consider a broader universe of opportunities that collectively align with their overall objectives. Many investors continue to view incorporating impact as narrowing or reducing the opportunity set while our analysis shows it has the opposite effect.
- Enabling enhanced decision-making: Sharpening the understanding of what investments are achieving at a portfolio-level allows investors to adjust the portfolio to align with their objectives, and to determine if investment decisions have yielded expected financial and impact performance.



BII's approach to integrated portfolio construction

In 2021, we were developing our five-year strategy for 2022-26 to be implemented from January 2022. Our organisation and portfolio had grown rapidly from circa £2 billion in 2012 to circa £6 billion in 2021, and we had evolved from exclusively using fund instruments in 2012 to being a multi-asset class investor, with a range of direct and intermediated investments. As we worked on defining the 2022-2026 strategy, it became clear the portfolio would need to meet a matrix of goals:

- Bold impact objectives of inclusion, sustainability and productivity
- Delivery on a threshold for **financial return**
- Remaining within **risk limits**
- Continuing to generate **liquidity** for future investments
- Regional balance across geographies from fragile states to mature countries³
- Diversified products using debt and equity, intermediated or direct to meet the range of funding needs in market
- Varied and comprehensive sector coverage to enable diversified impact outcomes

Confronted with the growing complexity that came with the ambition of this strategy, our leadership established a dedicated asset allocation and portfolio optimisation function – unique for a DFI – to set out the guardrails for portfolio construction and ensure we could achieve our complex set of ambitions. This framework was then implemented with long-term strategic allocations on a five to ten-year basis, which are refreshed if there are significant changes in the performance profile of a product, or if we see correlations in the portfolio materialise or change. Beyond this, our five-year strategy cycles are a natural point to review these longer-term views, especially if there are changes to our mandate or strategic objectives. The strategic allocations are then complemented by tactical allocations made annually, to respond to any changes in market conditions or opportunities, or readjustments needed in the portfolio.

3 BII's strategic objectives are set together with the UK government and reflect in part our shareholder's foreign policy priorities. Amongst others, BII's geographic mandate for the current strategy period saw us expand into the Caribbean and Southeast Asia.

4

1.1 Defining parameters, primary objectives and constraints for optimisation

Investors using modern portfolio theory must make a choice at the start: maximise return within a given risk limit or minimise risk for a given return. One of the two dimensions becomes the variable to be optimised, while the other is a constraint to the optimisation. Incorporating impact means confronting this question across multiple dimensions.⁴ Our strategy set out the explicit intent to maximise impact, with the constraints of meeting the set financial return hurdle and managing within risk limits. Further, as an equity-funded patient investor, we wanted to add a lens on liquidity to ensure the portfolio was generating cash receipts or dividends at a sufficient pace to continue supporting new investments each year.

1 Impact: the primary parameter

It is impossible to construct a portfolio that maximises impact without having some methodology to define what higher or lower impact investments look like, in a way that can be applied to every investment opportunity. To do so, we developed the Impact Score, a quantitative tool to compare impact across sectors, products, regions and impact themes. Every investment is scored against each of our three impact objectives of productive, sustainable, and inclusive development, using quantitative references such as a country's relative degree of need, the evolution of an investee's carbon intensity, and its reach to low-income populations.

These three scores add up to a total score: transactions that are highly inclusive, sustainable and productive score higher than transactions that are strong on only one dimension, or middling on all three. A more detailed discussion of the design of the Impact Score is available here.

The Impact Score allows for comparability at the portfolio level. Our investment decisions continue to be judgments based on impact assessments underpinned by both qualitative and quantitative impact data, including, but not limited to, the Impact Score. But the score is crucial because it allows us to identify pockets of impact outperformance (and underperformance), to analyse how impact correlates to other dimensions, and in turn to inform portfolio construction decisions.

2 Returns: standardising metrics across products

For a portfolio across private equity and private credit, with some intermediated and some direct assets, we needed a return metric⁵ that was comparable across products. Using internal rate of return (IRR) metrics or multiples of money (MoM) multiples for equity, yields for the credit book, and total value to paid-in ratio (TVPI) or distributed to paid-in capital (DPI) ratio for funds makes sense for individual asset performance management, but makes portfolio-level comparison difficult.

Our investment policy defines our financial return requirement as a 2 per cent annual portfolio return over a seven-year rolling basis in pound sterling (GBP). Similar to how this annual portfolio return is calculated, we used a Profit and Loss (P&L) based approach to determine the quarterly return of each investment (Equation 1) and then annualised this return⁶ – we defined this metric in US dollars (USD) as most of our investments are dollar-denominated with any foreign exchange (FX) gains/losses measured to USD from local currency investments.

⁴ We considered combining risk-adjusted return into a single metric, such as Sharpe Ratio, to keep the framework two-dimensional with impact as the other parameter. This would have yielded an easier optimisation problem, but would have lost the visibility between high-risk, high-return and low-risk, low-return investments, which might look similar. Therefore, for BII, we decided to keep return and risk as separate parameters in the framework.

⁵ See note on different return metrics for measuring private equity performance, including IRR, MoM, TVPI, and DPI.

⁶ Quarterly portfolio return is used instead of annual return to provide a longer time series for the returns data. This is then annualised based on the number of quarters by compounding the returns (i.e., using Annualised Return = (1 + Quarterly Return) ^ (1 / N) - 1 where N = number of periods.

Quarterly Return =

Opening Valuation

Equation 1: BII's profit and loss metric Source: BII

We note that this methodology is dependent on valuations of private assets where benchmarks and comparables can be few, and liquidity premia are real. It does not fully reflect the ability to realise value for the portfolio in the market, but it is the best measure for our portfolio. A separate measure of liquidity – the liquidity ratio – is even more important with this in mind.

3 Risk: harder than it looks

Volatility is a common measure of the riskiness of assets. It is productagnostic and easy to calculate for most publicly traded securities with intraday liquidity. However, the illiquid nature of private assets in emerging markets means our asset volatility would only be calculated on quarterly valuations, mostly on unrealised values.

So, how did we measure risk? We designed a standardised risk score that reflects the inherent risk present in our investments to gauge the probability of actual capital loss rather than mark-to-market volatility. The metric captures the investee risk plus the risk of the underlying instrument of the investment, and applies across all products in the portfolio.

- For equity assets, the investee risk score is based on three factors: country risk (the major risk factor), sector risk, and company/strategy risk. For credit and infrastructure assets, we use the credit ratings of the underlying investee.
- The instrument risk is based on where in the capital structure we invest, or the structured features of the transaction. For example, equity carries a greater risk score than debt, and unsecured subordinated debt is riskier than senior secured debt.

The risk score sums up these components for each asset in our portfolio and weights the portfolio 'risk score' by the drawn exposure.⁷

4 Liquidity: balancing patience and realised return

A patient investor like BII might make investments such as seeding a permanent capital vehicle for forestry, establishing the first private investment platform for transmission and distribution in Africa, or backing a 20-year urban resilience infrastructure fund. These kinds of investments are squarely part of our appetite, but are only possible in the context of a diversified portfolio across patient assets as well as investments generating cash returns more quickly.

To ensure a balance of liquid and illiquid investments in our portfolio construction, we needed a measure that captured the amount, pace and source of receipts from the portfolio, such as debt payments, direct equity exits and fund distributions.⁸ For direct and intermediated equity, there may be significant differences between valuation gains captured in the return metric and actual returns achieved at point of exit. This is because many of our markets are relatively illiquid, and valuation gains may not accurately reflect the achievable realised value. The liquidity metric allows comparisons between products currently achieving high unrealised returns – such as the venture capital portfolio – with products achieving lower total returns but where these are regularly realised without a liquidity premium, such as corporate debt.

⁷ We designed the risk indicator to focus on financial risk and not impact or environment and social return risk, as we were interested in measuring the range of financial return outcomes. Other investors may choose to incorporate impact risk here.

⁸ By contrast, the returns metric captures both unrealised valuation gains as well as realised returns.

We define our liquidity metric as a ratio of the total cash receipts to total committed capital, normalised by the expected holding period for the investment. This metric is similar to the DPI ratio used to measure fund performance, normalised to account for the length of time taken to generate receipts. DPI captures the cumulative value of distributions or realised value paid to the investors in a private equity fund relative to the money invested. Alongside residual value to paid-in capital (RVPI), this provides the full perspective of fund performance. We use this metric as a portfolio-level tool in addition to product-specific metrics, such as weighted average life for debt investments, time to 1x DPI for funds or 1x MoM for equity.

Total receipts (cash inflow) from investmentLiquidity ratio =Total committed capital (cash outflow) to investmentAverage holding period of investment9

Equation 2: BII's liquidity measure Source: BII

5 Other relevant parameters

In designing our framework, we chose these four priority optimisation and constraint parameters as those that are most relevant to us. Other investors could consider different parameters including: sub-components of impact such as carbon intensity, or diversity indicators; transaction costs; resource efficiency; or capital efficiency. Currently, these parameters are either embedded in the above four metrics (e.g., carbon and diversity within the Impact Score) or considered qualitatively to inform our asset allocation decisions.

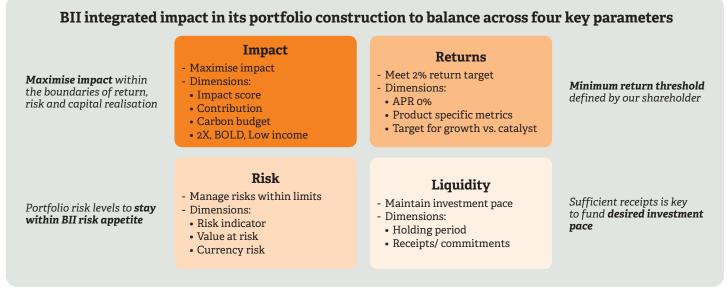


Figure 1: BII's strategic asset allocation framework

9 Based on current holding period of the investment or average holding period of similar assets in the portfolio

Lessons from developing BII's portfolio construction framework

- Don't let perfect be the enemy of good: Ours framework is nowhere near perfect, but it enabled visualisations and comparisons to understand the trade-offs between different dimensions in different parts of the portfolio. We recommend starting somewhere and improving it over time, while recognising limitations.
- Identify the 'right' parameters: Identifying the optimisation and constraint variables based on the organisational context and objectives is the critical first step. In our case, the mandate agreed with the shareholder was clearly to maximise impact. Different organisations will have different mandates and need to adapt their frameworks accordingly.
- Defining standardised metrics is hard, even for the traditional financial dimensions: Once we agreed on the priority parameters, the next step was to define and measure them. This can be hard, especially in multi-asset portfolios which have a range of different products and specialised return and receipts metrics for each. Again, starting somewhere imperfect is better than nothing at all.
- Bring the dimensions together based on your organisational context: Optimising a portfolio across multiple parameters requires clarity on how allocations will be made. We started with allocations by product and sectors, with an overlay of a geographical markets by defining the fixed amount of exposure desired in different types of markets and used that to make allocations to the teams.
- A portfolio construction mindset requires careful governance and messaging: Going from a more opportunistic bottom-up portfolio construction approach to a more intentional top-down approach was a culture shift for us. We managed it by setting up strong and credible governance mechanisms, sharing insights and analysis transparently, and rolling-out interactive training to ensure our organisation understood the value of integrated portfolio construction.



Strategic asset allocation through visualisations

Once the metrics are defined, each asset is characterised by its historical performance for each parameter, normalised to ensure comparability. We then aggregate the whole portfolio, or analyse constituents by product, sector, geography, or investment strategies.¹⁰

1 Analysing by sub-portfolio

First, we produced spider charts representing each portfolio across all four dimensions. Figure 2 shows a comparative chart for our portfolio by product, illustrating the trade-offs involved for two different products. We can see how Product A performs well against all parameters, while Product B provides slightly higher impact but at a higher risk and lower return and receipts. Comparative analytics visualised across different cuts of the portfolio, with similar spider charts for sectors and geographies, enabled a comprehensive view of the sources of performance across our four key parameters.



Figure 2: Portfolio visualisation comparing portfolios by product Source: BII

10 For example, BII has Growth and Catalyst portfolios, where the Catalyst portfolio is a high-risk portfolio to shape nascent markets. Different organisations may have specific investment strategies relevant to their organisational mandate or priorities.

2 Analysing by parameter

We also used scatter plots to analyse the parameters across the full set of portfolios¹¹, as shown in Figure 3. The white unshaded areas of the plots are where the relationship is desirable at the portfolio level. We can see how there are parts of the portfolio that are desirable on certain dimensions (e.g., impact and return) but aren't in the preferred quadrant for risk. Similarly, there are parts of the portfolio that provide decent risk-return trade-offs but don't outperform on impact. This allows us to identify areas of over or underperformance on these dimensions. Such visualisation also allows us to identify relationships of positive or negative correlation between impact, return, risk and receipts (more in Section III).

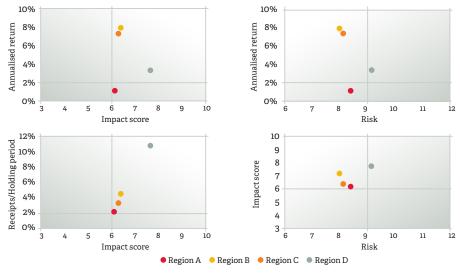


Figure 3: Comparison of parameters by market Source: BII

3 Making allocations for future investments

The typical approach to portfolio construction would maximise return per unit of risk taken. Our optimisation equation maximises impact subject to achieving a minimum level of returns (as defined in the Investment Policy) and staying within financial risk limits. Ideally, we would use the Markowitz mean-variance optimisation¹² to produce curves such as in Figure 4, which show the combination of portfolios possible to achieve our desired optimisation. For each individual optimisation, there would then be many portfolios that could be optimal. Given our addressable market, and the limits on constructing any potential portfolio, we add the following steps on boundary conditions and qualitative overlays to make allocations.

Risk/Return



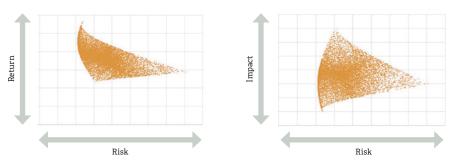


Figure 4: Optimised portfolios Source: BII

- 11 All BII portfolio analysis is based on our post-2012 portfolio of 227 investments of \$6.4 billion net asset value (NAV) as of Q4 2023 (investments which had been given Impact Scores or back-scored); this was divided into sub-portfolios by product, sector, and geography for this analysis; data was adjusted for outliers and not used where the sample size for a certain cut was too small.
- 12 The Markowitz mean-variance model is a portfolio optimisation model which is the foundation of modern portfolio theory, assisting in the selection of the most efficient portfolio by analysing various possible portfolios of the given securities based on the expected returns (mean) and the standard deviation (variance) of the various portfolios.

4 Adding boundary conditions

Our strategic asset allocation seeks to align the portfolio and pipeline with the goals set out in the five-year strategy. For instance, our 2022-26 strategy sets out a goal to grow the high-impact, high-risk Catalyst portfolio to 10-15 per cent of the total portfolio value by the end of the strategy period. Our strategic asset allocation exercise adds this as a constraint to the possible optimal portfolios to weight capital allocation to the Catalyst portfolio accordingly. Equally, products like guarantees demonstrate low risk¹³ for us, but are not core to the investment strategy. It would be sub-optimal for us to have a large allocation to such products, so we added constraints to limit their exposure.

5 Overlaying qualitative factors

While the strategic asset allocation framework is a powerful and useful tool to think about strategic portfolio construction, quantitative models are built on assumptions about the predictive nature of past impacts, returns, risks, and receipts. It is important to account for qualitative factors beyond the models to account for the market and organisational context.

We don't operate in markets that lend themselves to a solely quantitative model as private markets in Africa and Asia have low traded volumes and are subject to macroeconomic factors that can significantly affect currency and context for each investment. Further, the addressable market that reflects our strategy is limited, so the allocation must reflect the reality of the market opportunity. Finally, we must account that the stylised metrics we designed to capture are just that: simplified stylisations rather than perfect measures of each dimension.

Similarly, we need to account for execution constraints such as limited human resources in certain markets or products, sudden changes in macro context (e.g., elections, policy changes that affect foreign investment), and changes in strategic priorities as they arise. By integrating these qualitative considerations into asset allocation decisions, we ensure that the longterm strategic allocation aligns with the realities of our market and of our organisational identity. Last, to accommodate the imprecision of the output, we set asset allocations as a range, rather than a single investment budget for each team or product.

Reasons for integrating qualitative considerations and overriding quantitative modelling

- Past performance used in modelling may not be indicative of future performance.
- The metrics aren't perfect and need an overlay of judgement.
- The addressable market may be different from optimal portfolio allocations.
- Resources, evolving market context and investment strategy need to be incorporated.
- Allow for allocation in ranges (not a single allocation target) to provide flexibility.

13 The guarantees are typically trade finance with low default rates historically.

6 Making tactical allocations

Agreeing on a strategic asset allocation is akin to setting a sailboat's direction. You need to know where you are headed, but winds and currents will continually take you slightly (or significantly) off-course so you must readjust your course to bring you back on track – or to take advantage of better conditions elsewhere. In portfolio construction, this means complementing a vision for long-term strategic asset allocation, with more opportunistic 'tactical' allocations in response to opportunities or necessary readjustments. For example, in 2022, we created a pool of capital to be drawn on a 'first-come, first-serve' basis for teams with deals that scored highly on inclusion to ensure we would meet a new corporate goal around inclusion. This additional capital unlocked origination efforts in otherwise constrained teams and the goal was achieved.

Using tactical allocations to complement longer-term strategic allocations means we can re-adjust the shape of the portfolio when we are drifting off course, particularly in relation to some of our secondary dimensions (such as specific elements of impact or geographies). It also helps us understand the trade-offs of coming back on track and what is the best path to doing it.



Key findings

This section summarises the key conclusions from analysing impact, risk, return, liquidity data for BII's portfolio and the implications for our portfolio construction.

Conclusions from BII's portfolio14

1 No correlation between impact and returns

For years, the impact investment sector has debated whether there is a trade-off between returns and impact. In analysing our portfolio, we found **no statistically significant relationship between impact and returns**¹⁵ **within the universe of deals that a DFI like us would consider** (in Africa or Asia, in companies, funds or projects where there is additionality of development capital).

A lack of correlation at the portfolio level does not mean that this trade-off does not exist at all. We tested this both at the total Impact Score level, but also for individual components or impact characteristics (such as reach to low income or climate credentials). However, it is important to note that, in some cases, we create this trade-off intentionally, as in the case of impact-linked financing, where we contractually accept lower returns in exchange for more impact. As an impact investor, we also strategically consider portfolio construction to diversify across different quadrants of the impact-return matrix. This means we are willing to accept potentially lower returns for high impact when we think there is enough counterbalance elsewhere in the portfolio.

Despite these intentional choices, impact and returns within the portfolio remain uncorrelated and in many sub-portfolios are indeed positively correlated. Our findings suggest this is because for impact to occur and be sustainable, businesses need to be successful and grow. And while investee growth and financial returns are not always linear, we are encouraged to see so many of our high impact businesses also being commercial successes. As Figure 5 shows, data points in the top right quadrant represent businesses or investments that are successful on both impact and financial returns.¹⁶

¹⁴ All BII portfolio analysis is based on its post-2012 portfolio of 227 investments of \$6.4 billion NAV as of Q4 2023 (investments which had been given Impact Scores or back-scored); data was adjusted for outliers and not used where the sample size for a certain cut was too small. Returns measured since time of investment to December 2023 or exit, whichever earlier.

¹⁵ Our findings are in line with analysis published in 2015 by Cambridge Associates and the GIIN.

¹⁶ Granted, this analysis compares relative impact of investments all of which are impactful, just in varying degrees. We have not compared these impact investments to non-impact investments.

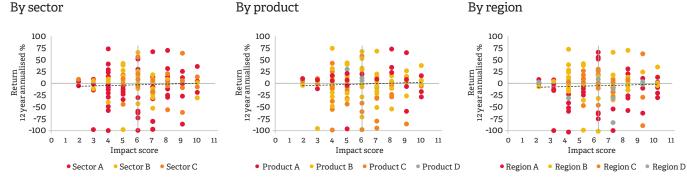


Figure 5: Impact and return correlations Source: BII

Note: the lack of correlation between impact and returns within our portfolio is not to say that impact investors do not deliberately sometimes accept lower returns for higher impact, as argued by our Chief Executive here. This just means that at a portfolio level, we are willing to accept a 'sub-commercial' return target compared to other investors, to achieve our impact mandate, but at investment-level, there is no correlation suggesting higher impact investments have lower returns. We have not compared these impact investments to non-impact investments.

2 Even adjusting for contribution show no correlation with returns

Investor contribution is another key impact paramater for us which is not currently integrated in our Impact Score. Contribution is the difference in impact that we believe we make with our capital and/or our value-add. We rate our contribution as high where we think it unlikely the impact would happen without us. This would be the case with investments considered too risky for commercial investors, such as those in conflict-afflicted countries or in very nacent sectors. Our contribution instead is low where we have less confidence in the difference we are making, for example when we are investing in more mature markets or businesses. Those who believe in market forces would say there's a reason for lack of investor engagement and might expect high contribution investments to be lower return (and higher risk).

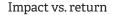
Despite this hypothesis, Figure 6 shows that **adjusting our impact score for contribution**¹⁷ **still produces no statistically significant relationship between impact and returns** (although the correlation is slightly more pronounced than for impact vs. returns alone).

Again, this does not mean this correlation is never there, but rather there are enough investable opportunities where that relationship is not there (or even is reversed). This means our overall portfolio remains balanced despite us intentionally pursuing high-contribution deals.

Note: we acknowledge there are limitations to our dataset and impact and return metrics. The Impact Score is relatively recent and at the time of writing this paper was limited to reflecting our expected impact, while returns is an ex-post performance measure. We also note that valuations for many investments (namely equity) may not have panned out yet. As more data points come in, we will also be comparing the ex-post Impact Score¹⁸ with realised returns. The refresh of this analysis in coming years will allow for a more robust comparison of ex-ante and ex-post measures.

¹⁷ Our Impact Score does not currently account for contribution. We ran this analysis by multiplying each investment's impact score by 0.5, 1 and 1.5 respectively for Low, Medium and High contribution.

¹⁸ Ex-post Impact Scores reflect the actual impact performance of the investment compared to their original thesis. Deals are rescored regularly over their lifetime and at exit.



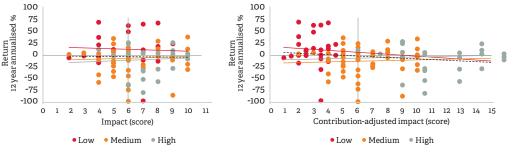


Figure 6: Contribution-adjusted impact correlations Source: BII

3 Illiquidity premium for higher impact and higher risk investments

While we don't see a return trade-off or risk premium for higher impact, we found an illiquidity premium for higher impact and for higher risk investments as shown in Figure 7. This means that higher impact in our portfolio is associated with greater illiquidity, primarily through longer holding periods or lower receipts. Similarly, higher risk from riskier countries or early-stage companies is translating into longer holding periods or lower receipts.

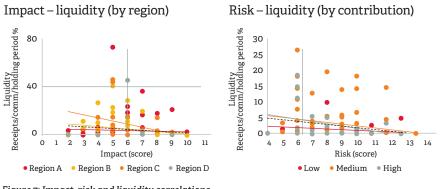


Figure 7: Impact, risk and liquidity correlations Source: BII

Implications for BII's portfolio construction

As we continued to monitor the relationship between these different parameters, the correlations and analysis has helped us set a long-term strategic asset allocation and a product mix which we think can help us meet our competing objectives. It also helped us make tactical allocations to rebalance the portfolio as required. At the same time, it has provided a wealth of guidance for the development of our investment strategies and reviews of certain product strategies. For example, we realised that debt and guarantees performed best commercially in risky markets, while still delivering impact. This helps us inform the product mix we deploy in different markets and to rebalance the portfolio across riskier markets with less risky products. Similarly, the asset allocation framework provided high-level guidance on which sector, product and market combinations are best suited to deliver against specific impact objectives.

From an organisational perspective, it helped us set clear objectives and parameters at team and sub-team levels. With \$2 billion of new commitments every year, and an investment team of 300 people, it was time to move from treating this as one single pipeline to constituent pipelines that would sum up to the whole. The asset allocation framework clarified that each team contributes to our firm-wide objectives in different ways. While the effects of this new approach are still unfolding, feedback from teams has been positive, as they feel they can play to their product's and sector's strengths and have greater clarity on how they contribute to organisational goals.



Conclusion: Where do we go from here?

Our efforts at integrating impact into portfolio construction is in many ways pathbreaking within the financial industry. It has taken us years to get to where we are, but we are still at the early stages of this significant journey. As such, we invite dialogue and partnerships with other industry participants interested in this pioneering course. We are committed to refining and advancing our methodology over time. Only by challenging our thinking and comparing ourselves to others can we collectively make strides in this frontier of impact investing.

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