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EXECUTIVE SUMMARY

This discussion paper explores the potential ways in which environmental, social and governance (ESG), or sustainability issues in general, can be embedded into strategic asset allocation (SAA) decision-making processes. The aim of the paper is to highlight the links between an asset owner's goals to incorporate ESG factors into investment policies and processes, and what this could mean for SAA frameworks. It includes a discussion on aligning ESG aspirations more broadly, and specifically in terms of climate change, as well as aligning them with the UN's Sustainable Development Goals (SDGs), which are increasingly being incorporated into investment policies by much of the PRI's signatory base.

The paper has been prepared by the PRI in cooperation with a working group of signatories. The working group members (Annex 1) have participated in several discussions and interactions, including providing comments and contributions to this paper.

The paper provides the basis for wider discussions and interactions across the PRI's signatory base that the PRI intends to lead over the course of 2019/20, including: boards; chief investment officers and investment committees of asset owners; fiduciary managers; investment consultants, and multi asset managers. Following this outreach, the PRI intends to publish a guidance document in 2020 detailing key insights and actions, to support signatories in their efforts to embed ESG into SAA decision-making frameworks.

The key insights emerging from this exploration, thus far, suggest that current industry-wide practices do not sufficiently recognise the importance of ESG factors, including climate change and the SDGs, as part of the core SAA decision-making frameworks.

The paper sets out a number of opportunities to embed ESG into SAA frameworks that warrant further discussion, including::

- Setting objectives – This includes setting the primary risk/return objective, as well as considering an additional third dimension objective regarding the maximisation of positive 'real world impact'.
- Reviewing SAA targets and ranges – This includes the impact of ESG risks and opportunities based on long-term capital market assumptions across asset classes, including undertaking scenario analysis that, in turn, impacts on SAA targets and ranges.
- Reviewing the opportunity set – Widening the potential investment universe to capture ESG opportunities and mitigate risks through asset, region, sector and sub-asset class allocation to assets that have unique ESG features or characteristics.
- An illustrative example – The PRI-supported [Inevitable Policy Response](#) to climate change programme of work is presented as an illustrative example of how SAA processes could be adapted in practice.

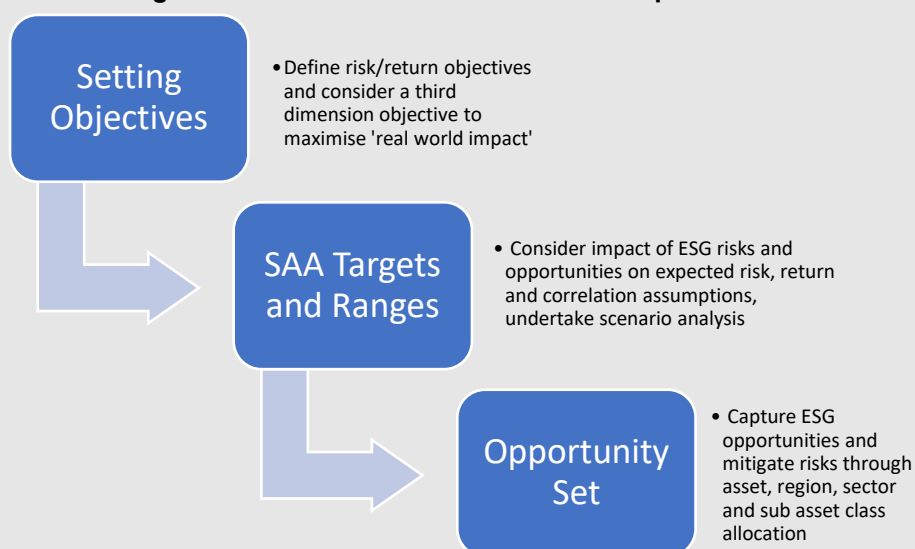
The discussion paper explores each of these areas in further detail. It is not, however, intended to act as a guidance document but rather to stimulate wider discussion on these topics on how PRI signatories might evolve SAA frameworks to more fully reflect their ESG aspirations going forward.

WHY EMBEDDING ESG INTO SAA FRAMEWORKS MATTERS

It is widely recognised that SAA is the most important investment decision for asset owners to make to adequately manage variations in portfolio performance over the long term¹. At the same time, the PRI's signatory base has committed to incorporate ESG risks and opportunities into investment processes. This has implications not only at the asset and individual stock level, but also for how exposures aggregate up and impact on the resilience of performance at the overall portfolio level. Asset owners would therefore benefit from considering the implications of their ESG policies for their SAA frameworks, such that their goals and objectives are consistently and effectively implemented across their entire investment decision-making process, including capital allocation.

What does this mean in practice? Box 1 sets out a framework for discussion that explores ways in which ESG factors, including climate change and the SDGs, could be embedded into SAA decision-making processes.

Box 1. Embedding ESG into SAA Frameworks: Where Top Down Meets Bottom up



Source: The PRI [Inevitable Policy Response](#) programme, with input from Aberdeen Asset Management

The remainder of this discussion paper explores the potential mechanisms through which ESG issues could be integrated into each of these decision-making layers.

The suggested framework is largely based on a traditional Mean-Variance Optimisation (MVO) approach to SAA, which has well known limitations, not least given its heavy reliance on historical data

¹ Brinson, G.P., Singer, B.D., and Beebower, G.L. (1991) Determinants of Portfolio Performance II: An Update, Financial Analysts Journal, May/June 1991, 47, 3; Ibbotson and Kaplan 2000; Xiong, Ibbotson, Idzorek and Chen, 2010

and relationships that might not prove to be robust or reliable in the future². While some optimisation techniques and models have made improvements to the more standard MVO approach, as highlighted in Figure 1, the majority of asset owners and their advisors still utilise some form of optimisation in terms of the end-outputs to guide capital allocation decisions.

Figure 1. SAA model approaches and suitability for embedding ESG factors, such as climate change and the SDGs

Model	Features	Potential link to ESG issues	Outputs to reflect ESG issues
Mean-variance optimization (MVO)³	MVO results in the construction of an efficient frontier that represents a mix of assets that produces the minimum standard deviation (as a proxy for risk) for the maximum level of expected return. It is based on defined asset class buckets and long-term expected returns, risks and correlations	MVO is highly sensitive to baseline assumptions, making it imperative to fully understand any revised assumptions due to ESG considerations. MVO is highly dependent on historical data as the baseline with adjustments made to reflect future expectations. Volatility as a proxy for risk does not work well in cases of fat tail risk and large market swings	ESG issues could impact on assumptions regarding expected return, volatility and correlation at the asset and sub-asset class level. ESG issues also have the potential to expand the regional and asset class mix and to add new sub-asset classes to align with the pursuit of positive real-world impact
Factor risk allocation⁴	Factor risk frameworks seek to build a diversified portfolio based on sources of risk. Typically includes factors such as fundamental risks (GDP, interest rates, inflation) as well as market risks (equity risk premium, illiquidity, volatility)	The macroeconomic links to ESG issues are more difficult to quantify with precision from a purely top down perspective. Market risk factors can be built from the bottom up using asset and sector level analysis	ESG issues could require a change to baseline factor risk assumptions. Offers the potential to build in new 'ESG-related' risk factors (such as climate change) to improve diversification (particularly across market risk factors)
Total Portfolio Analysis⁵	Similar to factor risk allocation, TPA allows for closer review and interplay between the strategy setting process and alignment of investment goals. Based on an agreed risk budget, asset allocations are made on expected	TPA is relevant to consider ESG issues that require the interplay between judgement about the future, and quantitative analysis.	TPA's emphasis on risk budgeting and allocation of capital to opportunities within that budget (bringing alignment between top down and bottom up) would provide greater flexibility to

² <https://www.newfrontieradvisors.com/media/1184/why-mv-optimization-isnt-useful.pdf>

³ Markowitz, H, (1952) Portfolio Selection. The Journal of Finance, Vol. 7, No. 1, pp. 77-91. Widely used models to generate the inputs for portfolio optimisation (including estimates of asset returns) include Black Litterman (1991) (www.blacklitterman.org) with a range of asset return estimation techniques subsequently being developed (<http://www.blacklitterman.org/methods.html>)

⁴ See for example Idzorek, T.M and Kowara, M. (2013) Financial Analysts Journal, Vol. 69, Issue 3, Factor Based Asset Allocation vs. Asset Class-Based Asset Allocation

⁵ <https://media.top1000funds.com/wp-content/uploads/2017/10/25154404/Total-portfolio-factor-not-just-asset-allocation-2.pdf>

	risk exposures and are less constrained by asset class 'buckets' as traditional MVO approaches	TPA requires specialist knowledge to make informed judgements about future risk	capture the potential winners and losers in scenario analysis that also incorporate ESG-related issues
Dynamic asset allocation⁶	DAA is driven by changes in risk tolerance, typically induced by cumulative performance relative to investment goals or an approaching investment horizon	DAA could introduce an additional source of estimation errors due to the need for dynamic rebalancing	DAA has the potential to reflect changes in baseline assumptions over different time horizons
Liability driven asset allocation⁷	LDI seeks to find the most efficient asset class mix driven by a fund's liabilities. Simultaneously concerned with the return of the assets, the change in value of the liabilities, and how assets and liabilities interact to determine the overall portfolio value	LDI encounters the same limitations as MVO, with high sensitivity to baseline assumptions	Some ESG issues could potentially impact on inflation and alter liability assumptions
Regime Switching Models⁸	Regime switching approaches model abrupt and persistent changes in financial variables due to shifts in regulations, policies and other secular changes. Captures fat tails, skewness, and time-varying correlations	Regime switching approaches are relevant for considering ESG issues where an abrupt shift is expected over time. It is also typically based more on forward looking rather than historical data	These approaches have the potential to capture dramatic shifts in the investment environment. Models not yet widely utilised by investment practitioners

⁶ For an overview of various Dynamic Asset Allocation techniques see Jarvis, S., Lawrence, A., and Miao S. (2012) Dynamic Asset Allocation techniques, British Actuarial Journal, Vol.15, Issue 3, pp. 573-655

⁷ See for example Hoevenaars, P.M.M., Molenaar, R.D.J., Schotman, P.C., and Steenkamp, T.B.M (2008) Strategic asset allocation with liabilities: Beyond stocks and bonds, Journal of Economic Dynamics and Control, Vol.32, Issue 9, pp. 2939-2970

⁸ Ang, A., and Timmerman, A. (2011) Regime Changes and Financial Markets, NBER Working Paper No. 17182, <http://www.nber.org/papers/w17182>

SETTING OBJECTIVES

The first step in SAA processes typically starts with defining an asset owner's long-term risk-return objectives. Depending on the approach taken by an asset owner, their investment consultant or other third-party advisor, this is normally delineated as a point along the 'efficient frontier' or the minimum variance portfolio for a specified level of return. There are a number of constraints that impact on such considerations, including regulatory requirements, liquidity constraints, funding needs, home country bias and so on.

While at present it is not standard practice to consider ESG issues when setting SAA objectives, there is potential for asset owners to specify an additional 'real world impact' criteria at the pre-allocation stage that could act as a signpost for subsequent stages of the SAA decision-making process. This would be particularly relevant for those investors that have policies to integrate ESG factors, such as climate change, into their investment processes and, for an increasing number of PRI signatories, these policies could also include explicit reference to alignment with the SDGs⁹.

In this case, an example of long-term SAA objectives with an ESG component overlay could be to pursue a minimum variance portfolio, which also generates the maximum (positive) real world impact.

INCORPORATING ESG ISSUES INTO RISK/RETURN CONSIDERATIONS

The basis for integrating ESG issues, including climate change and/or SDGs, into investment processes is fundamentally underpinned by a belief that such a pursuit *will improve* the financial resilience of investment portfolios over time, by better managing the risks and generating more stable, sustainable long-term returns¹⁰.

Both research and frameworks have been developed to examine the impact of climate change scenarios on asset allocation decision-making frameworks, with Mercer – a leading global wealth advisor – developing a factor-based risk model to support investors in such assessments¹¹. The Task-Force on Climate-related Financial Disclosure (TCFD) has also lent weight to the importance of undertaking climate-related scenario analysis as part of investors' decision-making processes (as further discussed later in this paper), highlighting the potential risks and opportunities that climate change poses for long-term investors¹².

The 17 SDGs, considered to be the blueprint for global efforts to end poverty and inequality and halt the climate crisis¹³, represent a globally agreed sustainability framework, signed up to by 193 countries

⁹ <https://www.unpri.org/sdgs>

¹⁰ <https://www.unpri.org/pri/what-is-responsible-investment>

¹¹ <https://www.mercer.com.au/our-thinking/wealth/climate-change-the-sequel.html>

¹² <https://www.fsb-tcf.org/publications/final-recommendations-report/>

¹³ <https://sustainabledevelopment.un.org/?menu=1300>

in 2015. To date, the implications of the SDGS on SAA frameworks are unclear, although some asset owners are evidently assigning a high degree of importance to such considerations and are investing in SDG-aligned investments on an opportunistic basis.

There is increased recognition that such a strategy will not only provide wider benefits to society and the environment, more broadly, but also provide a more stable and resilient global economic and financial system in which to invest. The PRI and PWC paper [The SDG Investment Case](#) identified five major reasons why the SDGs are relevant for investors: 1) alignment with fiduciary duty; 2) SDGs as source of (global) GDP growth; 3) not meeting the SDGs as a potential source of systemic risk; 4) a risk framework for specific industries and companies, and 5) a source of interesting investment.

Figure 2. The SDG Investment case

Fiduciary duty The SDGs can support investors in understanding the sustainability trends relevant to investment activity and their fiduciary duties.		
	Macro	Micro
Risks	Failing to achieve the SDGs will create macro financial risks for large institutional investors, considered to be ‘universal owners’.	SDGs provide a future looking risk framework for specific industries, companies, regions and countries
Opportunities	Achieving the SDGs will be a key driver of global GDP growth towards 2030.	Companies globally moving towards more sustainable business practices, products and services, provide clear investment opportunities. Investors will have an interest to position themselves ahead of the curve.

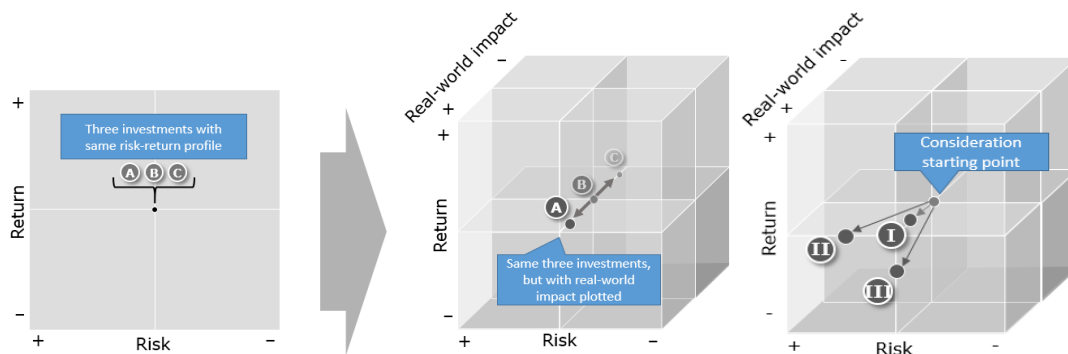
Source: PRI and PWC, [The SDG Investment Case](#)

MOVING TOWARDS THE MAXIMISATION OF (POSITIVE) REAL WORLD IMPACT

For those asset owners that seek to more closely align ESG, including climate change and potentially the SDGs into their SAA processes, the pursuit of ‘real-world impact’ could be considered as a third dimension on top of the more traditional risk/return and correlation metrics that underpin SAA decision-making processes.

As illustrated in Figure 3, in addition to the potential asset mix that best meets an asset owner’s risk/return objectives over the long term, considering the ‘real-world’ impact of each of these asset mixes could bring added benefits in a way that still fulfils their long-term risk/return objectives.

Figure 3. Introducing the third dimension of real-world impact (aligned with the SDGs)



Source: [How to crafting an investment strategy](#)

To illustrate how this could work in practice, typically, when portfolio optimisation software identifies the so-called ‘optimal’ mix of assets for a given point on the efficient frontier, it identifies several possible portfolios with different combinations of assets, but similar aggregate risk-return characteristics.

A key feature of this approach is that the optimiser selects between portfolios at the same position on the efficient frontier. This outcome is important for fiduciary investors such as pension funds and insurers. It is now widely accepted that ESG investing can be compatible with fiduciary duties; but only as long as trustees believe that doing so is consistent with the long-term interests of beneficiaries¹⁴. By prioritising climate- or SDG-aligned options that offer the same expected risk-adjusted return, this optimisation process could potentially provide the necessary governance for embedding ESG considerations into the objectives that underpin SAA decision-making processes.

It is therefore conceivable to consider incorporating a third dimension, such that the optimisation process selects from a range of minimum variance portfolios to create a mix of assets that also produces the maximum positive real-world impact. This approach could identify portfolios of equal investment appeal, whilst preferencing the combination of assets that offers potential for the most positive SDG outcomes. Although positive SDG outcomes are heavily dependent on the individual portfolio holdings, some asset classes or sub-asset classes (e.g. infrastructure, emerging markets, SDG- or green bonds, venture capital, small and mid-cap companies, and thematic or impact investing opportunities) may provide better opportunities for positive SDG outcomes than others.

In this way, it could be conceivable for asset owners to pursue the goal of increasing capital allocation to SDG-aligned activities, subject to the requirement that expected risk-adjusted returns are the same (or improved). This could lead to a significant increase in capital flows to activities that are more strongly aligned with SDG policies, thus bringing the capital allocation decisions into closer alignment with asset owners’ aspirations and objectives.

¹⁴ <https://www.unpri.org/fiduciary-duty/fiduciary-duty-in-the-21st-century/244.article>; Freshfields Brukhaus Deringer notes: where decision-makers face “a number of alternatives, all of equal attractiveness from the point of view of the overall investment strategy being pursued...the decision-maker would be entitled to select one alternative on the basis of its [non-financial] ESG characteristics, without thereby being in breach of his or her fiduciary duties or civil law obligations.”

REVIEWING SAA TARGETS AND RANGES

The second way in which ESG policies can be reflected in SAA processes is through reviewing SAA targets and ranges, which are underpinned by long-term capital market assumptions agreed upon as the basis for the so-called 'optimal' allocation of assets. Assumptions around expected returns and the definition of portfolio risk across asset classes could be reviewed in light of ESG factors, including climate change or SDG-related issues, to the extent that these issues could impact on the underlying drivers of asset class performance.

REVIEW EXPECTED RETURN ASSUMPTIONS

Long-term expected returns on assets are influenced by macro-economic trends, the most important of these being inflation and GDP¹⁵. Moreover, most SAA processes will also consider medium-term drivers of asset class performance (over say, a 5 to 7-year time horizon), including valuations and market-based risks. The SAA process is therefore twofold: firstly, to formulate a view around the long-term economic outlook and estimate expected inflation and potential economic output (typically 30 years); and secondly, to consider how asset class valuations might diverge from those long-term assumptions and the implications this has for capital allocation decisions.

Using this as a starting point, ESG issues can potentially impact on long run macroeconomic outcomes. For example, in 2006 the Stern Review¹⁶ concluded that the costs associated with failing to act to mitigate climate change will be equivalent to reducing the level of global GDP by at least 5% by 2100. If the global community were to act quickly, however, to mitigate the worst effects of climate change, losses could be limited to a 1% reduction in GDP over the same period. In either scenario, long run GDP expectations should be adjusted. Since 2006, the issue of climate change has become even more urgent and estimates of economic effects have become both more precise and more worrisome.

This paper further explores the issue through an example on [The Inevitable Policy Response \(IPR\)](#) scenario.

Other examples of ESG issues that might impact on asset class returns include demographic changes, globalisation and mobility of the labour markets. The single biggest SAA issue for institutional investors today is perniciously low real interest rates. Clearly monetary policies have played a major role but there may be other relevant factors. Economies grow either because the total number of hours worked increases, or because the output produced each hour (labour productivity) increases. Interest rates are low partly due to a decrease of annual labour productivity growth - in turn caused by a change of the composition of the economy from the production of products to services - but also due to the weakening of trade unions and their power to bargain collectively for higher wages.

¹⁵ See for example: <https://www.ssrn.com/abstract=2154021>

¹⁶ The Stern Review: The Economics of Climate Change, 2006

Over the medium term, there are a range of ESG-related issues that could impact on asset valuations that also need to be considered, including the risk of stranded assets (in the case of climate change) and the potential for re-pricing of assets in response to the transition to a low carbon economy. The PRI has partnered with the Carbon Tracker Initiative to consider these risks and the potential impact they could have at the portfolio level¹⁷, to help guide investors in undertaking such assessments.

SOURCES OF RISK

In addition to return drivers, asset owners can also widen the definitions and framing around potential sources of risk across asset classes and at the portfolio level, by including ESG factors such as climate change and SDG-related issues. Mercer's 2011 SAA and climate change [study](#) highlighted the need for asset owners to embed climate change risk into their asset allocation processes, and to look beyond macroeconomic impacts by considering microeconomic drivers such as technology, geopolitical risks and regulatory/policy changes. The study also highlighted other actions to support asset owners in widening the risk aperture, including thinking about diversification across sources of risk, rather than via asset classes per se. This means potentially utilising a factor risk approach to supplement asset allocation decision making. SAA processes may also need to review assumptions around market risk in view of ESG issues and would benefit from being more forward looking in terms of how the sources of risk are identified and managed, utilising tools such as scenario analysis (as discussed further below).

SCENARIO ANALYSIS

Scenario analysis is a process of analysing possible future events by considering alternative possible outcomes (sometimes called "alternative worlds"). The art of scenario modelling is to establish what the scenario is with the highest probability, identify what alternative scenarios there could be, identify what drivers or criteria could lead to a shift in probabilities that would then require a change of scenario, and identify what potential tail risks could materialise that might require a full re-assessment of the selected scenario.

Climate change has already been identified as an issue that is relevant for both scenario analysis and SAA. Mercer's work in this area and the TCFD recommendations that highlight the importance of scenario analysis all lend weight to its utilisation as part of SAA frameworks. The PRI-supported [PACTA tool](#) on climate scenarios is also an important component of considering portfolio resilience to future climate-related outcomes that can be factored into discussions on asset allocation implications.

Another important factor driving long-term economic growth is the change in the size of an economy's labour force. Demographic trends such as ageing populations, inequality, weaker immigration and changing participation rates are likely to be key drivers of labour-force growth in the years ahead. Populations are ageing as people live longer and the 'baby boomers' reach retirement. Much of the world is in the early stages of a major demographic transition, which is likely to result in a global

¹⁷ <https://www.unpri.org/climate-change/2-degrees-of-separation-transition-risk-for-oil-and-gas-in-a-low-carbon-world/594.article>

economy that grows more slowly. Meanwhile, fertility rates are falling as people get wealthier and cultural norms change. Net migration can have a major impact on labour-force growth, and is an important reason why working-age populations are forecast to continue growing in the US and UK. Of course, tolerance for immigration can change. The size of the labour force is not solely a function of working-age population growth; it also depends on what proportion of the population participates in the labour force, the hours worked by the labour force and the share of the labour force that is employed versus unemployed.

A recent study by Willis Towers Watson, commissioned by PRI, identified several mega trends that are relevant for scenario analysis including: technological advances; environmental challenges; globalisation and connectivity; society and demographics, and emerging economy growth and dynamism. Figure 4 highlights the link between some of these mega trends and the potential impact on economic value.

Figure 4. ESG-related mega trends and economic value

Material Trends	Uncertainties	Potential Impact on Economic Value
 ▪ Inequality: quality of life, populism and conflict ▪ Savings deficits: the current low interest rate and low return investment environment combines with high debt repayment requirements ▪ Public sector finance pressures ▪ Managing human capital ▪ Changing consumption preferences	 ▪ Pressures from regulation and societal attitudes on organisations to address inequality as part of their business ▪ Policies to pursue inclusive growth versus unbalanced development ▪ How to pay current and future public and private liabilities, including social services and pensions	 Business Value ▪ Primary impact from long-term drag on spending which will reduce global revenue pools ▪ Secondary impact from profit migration from changing consumer groups by age and country  Societal Value ▪ Reduced ability to maintain social welfare as government revenues will fall with the number of workers, unless there is an offsetting increase in productivity or taxes ▪ Under a low return outcome US DB and DC underfunding would be c. \$8 trillion ▪ Disparity in income/wealth is contributing to rising political populism and less trust in government in the developed world  Critical Barriers ▪ Governments will need to determine wealth transfer policy ▪ Policies to produce higher productivity are a priority, e.g., in large and weak productivity areas such as the public sector and healthcare

Source: <https://www.unpri.org/sustainable-financial-system/responding-to-megatrends-investment-institutions-trend-index-2017/738.article>

CHALLENGE UNDERLYING ASSUMPTIONS

Even if sustainability issues are not an explicit part of the scenario analysis, there are usually explicit, or sometimes implicit assumptions in currently used scenarios that may be challenged due to developments related to ESG risks, including climate change and the SDGs. For example, currently used scenarios for SAA may not incorporate climate change, but probably do include basic assumptions on oil prices and on the spread between the price of energy coming from fossil fuels and renewable

energy sources. Another example may be the (implicit) assumption that poverty and inequality will not lead to major political unrest. The mostly failed Arab Spring is just one example of why this type of underlying assumption may turn out to be wrong. As a final example, there is a growing discrepancy between the (theoretical) assumptions of the Philips curve, a theory based on historical correlations, and the currently widening gap between GDP growth, inflation rates and wages; to a large extent probably due to globalisation and labour market mobility.

Although these types of assumptions may indeed be implicit, they nevertheless raise the question as to what the consequences could be if those underlying economic assumptions were challenged? Could this potentially require the need to update the scenario model, or shift to an entirely new one?

CONSIDER TAIL RISKS

Scenario analysis usually leads to the identification of two or three main scenarios with a medium to high probability. Low probability, high impact scenarios are usually treated as 'tail risks'. This raises the question: If there are low probability, high impact events related to macro, ESG risks of not meeting SDG objectives, could this lead to tail risks? Climate risk, inequality and the breakdown of multinational institutions due the rise of nationalism are clear risks and would need to be part of a thorough scenario analysis. Could a serious decrease of biodiversity (starvation of bees, death of coral reefs) lead to major challenges to food security (agriculture and fishery)? Is a failure to adequately respond to a global virus pandemic a tail risk? Is the depletion of natural resources, which are integral to the development of our technological advanced society, a tail risk? If these are all relevant tail risks, they do not necessarily require the creation of an alternative scenario, but such tail risks may need to be monitored within a prevailing scenario analysis to prepare for disaster planning or contingency plans.

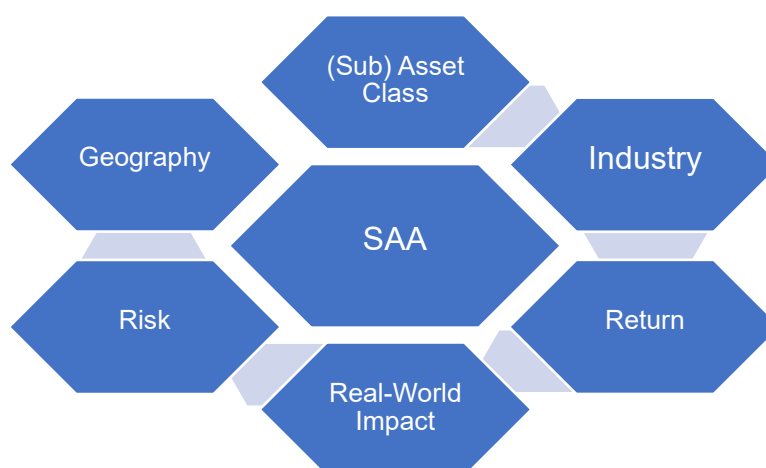
REVIEWING THE OPPORTUNITY SET

A third potential way in which ESG policies could be reflected in SAA processes is through reviewing the opportunity set used to underpin SAA reviews. As the following discussion suggests, widening the opportunity set through reviewing definitions of the regions, sectors, asset classes and sub-asset classes that are potentially investable could help to bolster positive real-world impact, , potentially capture additional illiquidity premia and act as a hedge against ESG-specific risks. It might also allow asset owners to free up their risk budget to allocate to other assets and investments that might otherwise not have been possible.

REVIEW REGIONS, SECTORS, ASSETS AND SUB-ASSET CLASS DEFINITIONS

In addition to reviewing the overall asset class assumptions, asset owners could also consider the implications of ESG factors, such as climate change and the SDGs, for their sub-asset class allocations. Within each asset class, this would involve reviewing the, optimal allocation across different types of sub-assets that could provide sufficient diversification at the overall portfolio level (Figure 5). For example, asset owners could consider the extent to which different regions and sectors of the global economy will prosper or decline under different ESG factors, such as climate change or different SDG scenarios, and how best to prepare for this in their SAA processes now, to capture the maximum upside whilst minimising the downside risks.

Figure 5. Defining the investment opportunity set – where do ESG issues, such as the SDGs sit?



BOLSTER REAL-WORLD IMPACT

For those asset owners that have ambitions to develop an investment portfolio that has a positive real-world impact, while meeting their required risk/return objectives (as discussed earlier in this paper), an additional third dimension to the optimisation process could be considered. Major asset classes (debt, equity, cash) are agnostic when it comes to “what is being financed through their use”. Asset classes are financial instruments and blind to impact. However, some asset classes tend to have a higher impact on positive real-world impact than others, such as green bonds, some infrastructure assets, venture capital, small- and mid-cap companies, and thematic or impact investing opportunities. From a sustainable development perspective, it may also make sense to think about allocations to certain geographies (emerging markets, less developed countries), industries (health, education, energy, cleantech, etc.) or business models (i.e. circular economies) that may contribute a positive real-world benefit.

FREE UP RISK BUDGET

Good ESG risk management by investee companies can help improve financial performance (lower cost of capital, better returns) and bolster the risk-return profile of their assets. In this way, there is potential for ESG integration efforts within an asset class to reduce overall portfolio risk. This creates the possibility to reduce the risks of certain asset ‘allocations’ – including sub-assets –, and ‘free up’ some of the related risk budget to re-allocate to other riskier, but potentially higher return, asset classes (such as infrastructure, blended project finance, venture capital and others). One of the practical challenges, however, is determining how effectively ESG risks are being managed within a particular asset class. Although this is relatively unconventional, it is theoretically possible.

CAPTURE THE ILLIQUIDITY PREMIUM

Increasingly, asset owners are trying to find ways to benefit from the illiquidity premium¹⁸. Many of the ESG and SDG-related investment opportunities, which offer potentially interesting risk-return profiles and a high positive real-world benefit, may also fall in more illiquid asset classes, such as project finance, infrastructure, forestry, farmland and private equity. Asset owners may thus view these opportunities as another potential option to capture the illiquidity premium (subject to liquidity/funding constraints and regulatory requirements across different jurisdictions).

HEDGE AGAINST ESG-SPECIFIC RISKS

Some studies highlight ESG factors, including climate change and SDG issues, as representing potential tail risks that need to be pro-actively managed (i.e. material risks with a low probability, but a potentially, big financial impact). For example, Mercer noted that the risks of climate change to the

¹⁸ Mercer, Setting an appropriate liquidity budget, Making the most of a long investment horizon, February 2015

investment portfolio can be (at least partially) hedged, by engaging in “credit default swaps to hedge credit risk of vulnerable issuers”, or by allocating to investments “such as clean-energy infrastructure, low-carbon transport, dedicated timberland funds, cleantech private equity (and) resilient infrastructure projects”.

There is also evidence that not all risks are avoidable, even with an active hedging strategy in place. For example, around half (53%) of the decline in asset value due to climate-related risks has been estimated in one study as being hedgeable if investments are reallocated effectively, but the other half (47%) is unhedgeable, meaning investors and asset owners are exposed unless some system-wide action is taken to address the risks¹⁹.

Nevertheless, asset owners that explicitly consider the potential sources of risks from a wider viewpoint as part of their SAA processes, will be in a better position to put processes in place that manage these exposures and build in some protection against any potentially large and impactful re-pricing of assets across investment portfolios.

¹⁹ Cambridge Institute for Sustainable Leadership (Unhedgeable risk: How climate change sentiment impacts investment, November 2015

INEVITABLE POLICY RESPONSE (IPR): AN ILLUSTRATIVE EXAMPLE

The [Inevitable Policy Response \(IPR\)](#) to climate change programme explores what would need to happen from governments if the world was to move towards a target of limiting global temperature increases to 1.5-1.75°C with a 50 to 66% probability. It assumes that current policy initiatives to manage climate change are insufficient, and at some stage in the near future will lead to an inevitable policy response with drastic (and unexpected) measures. The PRI, in collaboration with other organisations, is involved in the development of a body of work to help investors take action and implement processes to build resilience to such a rapid and forceful policy response across their investment portfolios, both now and in the future.

The potential implications of IPR for SAA is part of an ongoing workstream, supported by the PRI, with results expected towards the end of 2019. The research team expect that the portfolio impact of IPR is likely to be significant, both in terms of likely upside and downside, with a public-policy-driven (versus market-driven) outcome. Asset owners will most likely need to review their SAA processes, frameworks and baseline assumptions to adequately respond to an IPR. In an environment where policymakers undertake urgent and forceful action to reduce global emissions in a way that is not fully anticipated by the market, asset owners would need to take decisive and pre-emptive action to ensure that investment portfolios and processes are sufficiently prepared.

While the focus of the research is on the alignment of investment portfolios with managing an IPR, it is expected that the suggested actions and SAA frameworks will orientate global investment portfolios towards outcomes that favour low-carbon versus high-carbon activities across the real economy. The workstream sets out a framework for embedding an IPR climate transition into SAA and portfolio construction processes, combining top-down with bottom-up analysis. It sets out the pillars of SAA processes, and the associated actions that these might necessitate; emphasising, in particular, the need to be forward looking, to stay focused on the long term, to utilise scenario analysis and to link these pillars through to implementation and portfolio construction (Figure 6).

The paper identifies specific pre-emptive actions that institutional investors could take to prepare for, and minimise the potential damaging impact of the IPR transition. These include:

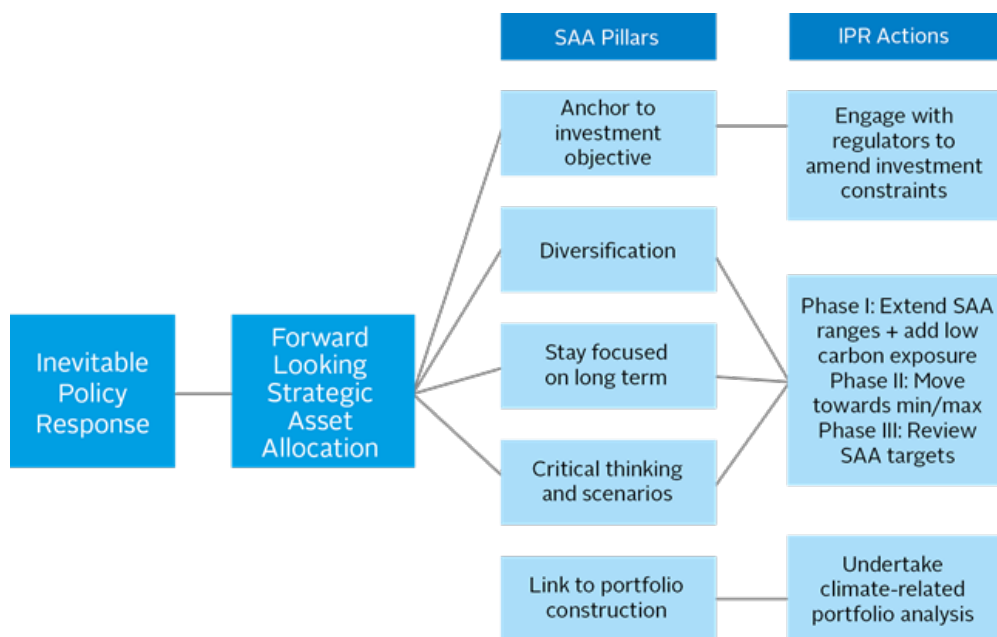
SAA targets and ranges:

- Increase ranges around existing asset class allocations to provide more leeway for significant moves towards the upper and lower boundaries during periods of high volatility;
- Increase SAA targets to unlisted assets to ensure sufficient leeway exists to allocate capital to low-carbon opportunities in unlisted assets; and
- Engage with policymakers where regulatory constraints prevent or limit the allocation to low-carbon assets (including restrictive liquidity requirements and lack of a unified definition of low-carbon activities).

Sub-asset class allocations:

- Add more regions and sectors into the SAA portfolio mix to identify and capture areas where the greatest climate transition is expected to occur; and
- Add a new low-carbon sub-asset class bucket into the SAA portfolio mix using emerging taxonomies as the basis for the definition of low-carbon activities.

Figure 6. Pillars of Strategic Asset Allocation Processes and IPR Actions



DISCLAIMER

PRI does not claim that the IPR scenario is the most probable scenario for the future. It is one of many possible scenarios, although unfortunately not unlikely. However, other scenarios may be more probable. It is not PRI's role to prescribe a most probable scenario, because (1) we do not have the required expertise and (2) it is a process that every asset owner should do independently, taking into account their own liabilities, expectations and objectives. As argued before, scenario analysis is an important, if not necessary step in the SAA-process. It is a process which has to be undertaken with due care.

SUMMING UP AND NEXT STEPS

This discussion paper posits that there is a gap between asset owners' aspirations regarding the integration of ESG factors, including climate change, and the SDGs, into investment processes and the way in which SAA and capital allocation decisions are made. The paper suggests some potential ways in which these pursuits could be brought closer into alignment. However, PRI realises that thinking about the relevance of this integration in the current SAA process is still in its early stages. It is the PRI's intention that this paper be used to help stimulate further discussion and research with its signatories on this topic, such that ESG aspirations can become more closely aligned with asset owners' ongoing capital allocation and SAA decision-making processes.

CREDITS

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