Asset Management

ESG MEGATRENDS: IMPLICATIONS FOR STRATEGIC ASSET ALLOCATION

Investment Solutions Center

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Global trends relating to environmental, social and governance (ESG) phenomena are expected to affect the economy on a fundamental level in the coming years. From climate change to digitalization, to pandemics and aging populations, the current economic paradigm is being challenged from all sides. This has consequences for institutional investors and their approach to long-term asset allocation. In a series of papers, we will look at how ESG trends affect portfolio construction through scenario analysis.

In the first edition, we highlight our materiality assessment of several ESG megatrends. The assessment identifies five significant ESG megatrends expected to have profound implications for the global economy. We also introduce the integration of ESG megatrends into strategic asset allocation (SAA) to potentially improve portfolio resilience in the face of these megatrends.

We will elaborate more on the identified ESG megatrends in this series of papers. We will explain how we think the critical driving forces of these trends may affect the global economy, which forms the basis for our asset class return assumptions in the specific scenarios. Using a scenario analysis tool, we will quantify the impact on the balance sheet of an illustrative pension fund. We conclude this series of papers with insights for portfolio construction and will consider how we can interpret the combined effect of megatrends.

The integration of environmental, social and governance (ESG) risk factors into the investment process has gained tremendous momentum over the last decade. Asset managers have established processes and methodologies for understanding and assessing ESG factors for each asset class, and in some cases, sector by sector. ESG risk, similar to financial risk, varies by asset class: the materiality of ESG factors on the ability to repay a bond is not the same as their influence on equity valuation. Sovereign, real estate and asset-backed security issuers face different types of ESG risk altogether.

There are, however, commonalities between the different ESG risks faced by issuers regardless of asset class. Issues such as climate change or population aging are so systemic and structural that they can impact macroeconomic factors, which in turn may affect the returns of different asset classes. We call these 'ESG megatrends'. These megatrends have implications for the global economy, and their impact cuts across asset classes. This paper introduces the critical role of ESG integration in the strategic asset allocation process. We first give an overview of the ESG megatrends we identified, and then discuss which of those megatrends we believe to be the most material to institutional investors' asset allocation. Finally, we provide insights into how we can integrate those trends into scenario analysis, and the potential benefits to institutional investors.

ESG megatrends

Beyond the traditional economic trends, some issues are rising in importance that are not necessarily purely economic. These may have to do with people – e.g. demographic trends or shifting social norms – or with the environment – e.g. climate change or pollution. Finally, some trends emerge within governance systems and the values governing societies. This section presents an overview of 16 such ESG megatrends, including those identified by our parent company Aegon N.V., as well as by external parties such as the McKinsey Global Institute, PwC, and the European Environmental Agency. We have classified these megatrends into environmental, social and governance categories, and into a further six sub-categories, as shown in Exhibit 1.

Exhibit 1: ESG megatrends

Environmental	Climate change
	Environmental pressures
Social	The future of work
	People and values
Governance	Democracy and politics
	Privacy and cyberspace

Source: Aegon Asset Management, April 2020.

Environmental megatrends

The first and most significant environmental megatrend is climate change. Two types of risks typically arise from climate change: physical and transition risks. **Long-term warming trends** pose a physical threat through changing the natural phenomena on which human life and the economy depend, and tipping points in the near future may exacerbate those long-term changes. Next to that, **extreme weather events** are an immediate consequence of climate change, which threaten infrastructure and could disrupt economic life. Finally, **transition risks** arise from the actions taken to mitigate climate change and the transition to a net-zero carbon economy.

Environmental pressures other than climate change are also expected to increase. The pressure on **biodiversity and ecosystems** resulting from resource extraction and pollution create risks for many sectors, such as agriculture and tourism. **Increased urbanization** also compounds pressures such as water stress and air pollution, concentrating them into rapidly growing cities with the associated health and economic risks.

Social megatrends

Existing labor laws and economic systems are designed for a particular type of work but expected changes in the way people work may yet upend those frameworks.

The rise of **artificial intelligence (AI) and automation** threatens jobs with an increasing level of required skill, with the potential to reshape the labor market. A greater focus on **gender parity and diversity** in the workplace can increase productivity and improve outcomes for all. Finally, the increase in independent workers in the **platform economy** means that job protection and labor laws may become partially obsolete, and existing firms will have to adapt.

People are also changing, and so does their behavior in economies across the globe. **Increased urbanization** may lead to more efficient public services and infrastructure, as well as a potential for more creativity and innovation, but also possible dangerous social implications through increased crime and health risks. **Demographic trends** will also affect the economy, as aging Western societies put a strain on public finance, tighten job markets and put downward pressure on interest rates. Increased interconnectedness and anti-bacterial resistance increase the **risk of pandemics**, as demonstrated by the Covid-19 outbreak. As young people with increasing purchasing power embed values into their consumption patterns, **consumer activism** may become a force to be reckoned with.

Governance megatrends

The shift in the global balance of power and changes in domestic politics influence global trade as well as domestic industries. **Increased polarization within countries** creates uncertainty in the political process, which adds regulatory uncertainty to economic activities. **Increased polarization between countries** resulting from the shifting balance of powers adds to that uncertainty at the global level. Finally, **governance models** are being re-thought to address modern issues, reconsidering the role of the nation-state as a governance unit.

Additionally, in an increasingly digital world, **data privacy and cybersecurity** will be at the forefront of governments' and firms' agendas, with dramatic economic and security implications.

Materiality assessment

While these trends are important for society as a whole, not all of them will necessarily have a material effect on macroeconomic factors or across entire asset classes. While many of these trends imply a profound change in some areas – such as business model changes in extractive industries – this effect is likely to be contained to specific assets. Furthermore, some issues do not have a direct economic impact, or only in the very long term. In order to assess the materiality of megatrends, we developed a framework to assess their importance to investment portfolios.

We consider two key ways in which ESG megatrends can impact asset classes:

- Directly, by reshaping this asset class, putting a strain on cash flows or presenting new opportunities; or
- Indirectly, by affecting macroeconomic variables which, in turn, influence the returns.

Determining the exact influence of each of those megatrends on the economy and in turn, on portfolios, requires detailed research. In an initial effort to prioritize research areas, we assessed the trends for materiality using the following scoring framework, where a high score reflects a higher expected impact, and a wider score range reflects the greater importance of an item:

A. Does the issue affect significantly one or more asset classes directly? (1-5)

B. Does the issue affect significantly one or more macroeconomic factors? (1-5)

C. Does the effect of the issue happen within a foreseeable timeframe (<20 years)? (1-5)

D. How inevitable is the issue? (1-3)

E. Are the effects of the issue clear and pronounced? (1-5)

F. Is the issue relevant for other reasons, such as regulatory or investor priorities? (0-2)

The assessment is based our view on the impact of those issues on macroeconomic data and financial instruments, based on a review of academic and practitioner research.

Exhibit 2: Materiality assessment of ESG megatrends

Sub-category	ESG megatrend	A. Asset class effect (1-5)	B. Macro effect (1-5)	C. Occur in 20 years or less (1-5)	D. Event likelihood (1-3)	E. Clarity of effects (1-5)	F. Regulatory or client relevance (0-2)	Score (x/10)
Climate change	Long-term climate change risk	4	3	1	2	2	2	2.5
	Extreme weather events	**5**	**4**	**5**	**3**	**2**	**2**	**8.0**
	Transition risks	**5**	**5**	**5**	**3**	**3**	**2**	**9.0**
Environmental pressures	Biodiversity and ecosystems	2	2	3	3	1	1	3.5
	Increased urbanization (environmental)	3	2	3	2	1	0	3.0
The future of work	**AI and automation**	**4**	**5**	**4**	**2**	**3**	**0**	**6.5**
	Gender parity and diversity	3	2	5	2	2	1	5.0
	Platform economy	3	3	3	2	1	0	3.5
People and values	Increased urbanization (social)	2	3	3	3	2	0	4.0
	Demographic trends	**4**	**5**	**4**	**3**	**3**	**2**	**8.0**
	Risk of pandemics	**5**	**4**	**3**	**2**	**4**	**2**	**7.5**
	Consumer activism	1	1	3	2	1	1	2.0
Democracy and politics	Increased polarization within countries	2	2	4	3	2	0	4.0
	Increased polarization between countries	3	3	4	3	2	0	5.0
	Changing governance models	1	3	2	1	1	0	1.5
Privacy and the cyberspace	Data privacy and cybersecurity	3	2	4	3	2	1	5.0

Source: Aegon Asset Management, April 2020. **Sample for illustrative purposes only.** Information shown is based on a sample pension plan and is based on certain information and assumptions at the time shown. It should not be relied upon for investment decisions.

The results of the assessment are shown in Exhibit 2, where the final column is the sum of all scores, re-scaled from 0 to 10 for simplicity.[1] We find five key issues to be most material to the world economy (marked in **bold** in Exhibit 2):

- Extreme weather events arising from the physical effects of climate change
- Risks and opportunities linked to the transition to a net-zero carbon economy
- Changes in the labor market due to increasing automation and artificial intelligence
- Demographic trends and the impact of population aging on labor markets and interest rates
- The increased risk of pandemics

[1]A score of 0 corresponds to the lowest possible score (i.e. 5) and 10 to the highest possible score (i.e. 25).

Integrating ESG megatrends within SAA

We believe awareness of ESG megatrends may significantly enhance institutional investors' decision making. Understanding long-term, global systemic risks can help inform investment decision-making today to help mitigate risks in the future.

These ESG megatrends also present investment opportunities. Identifying the potential for long-term structural change could yield opportunities through early investments in expected upcoming transformations. Identifying emerging themes can therefore represent a new way of looking for investment opportunities. For instance, demographic trends such as an aging population could eventually lead to a growing demand for health care real estate. The energy transition may also present investment opportunities, as discussed in this paper.

We also expect ESG megatrends to impact macroeconomic factors. For example, demographic trends will put a strain on public finance, tighten job markets and put downward pressure on interest rates while transition risks arise from the actions taken to mitigate climate change could potentially lead to higher prices for emitting greenhouse gases. These sorts of trends will have various financial consequences. One of the things we find significant evidence for is that in a transition risk scenario, inflation often starts to rise due to increased costs. This in turn can affect risks and returns across many asset classes. As a result, we believe integrating ESG megatrends when setting SAA could improve the resilience of portfolios. This will be in scope of the coming papers in the ESG Factors & Strategic Asset Allocation series.

Practical guidance

SAA is about combining asset classes to build a portfolio with the highest expected risk-adjusted returns. As investment advisers, we use our expertise and quantitative models in an effort to provide clients with the best potential solutions. The combination of our macroeconomic outlook and views of returns, risks and correlations across asset classes is key to constructing portfolios. A considerable challenge in doing so is the complexity and interconnectivity of the world around us. For example, none of the identified ESG megatrends will occur in isolation and all of them are expected to have a global impact. Different methods are available to deal with this complexity in the investment decision making process.

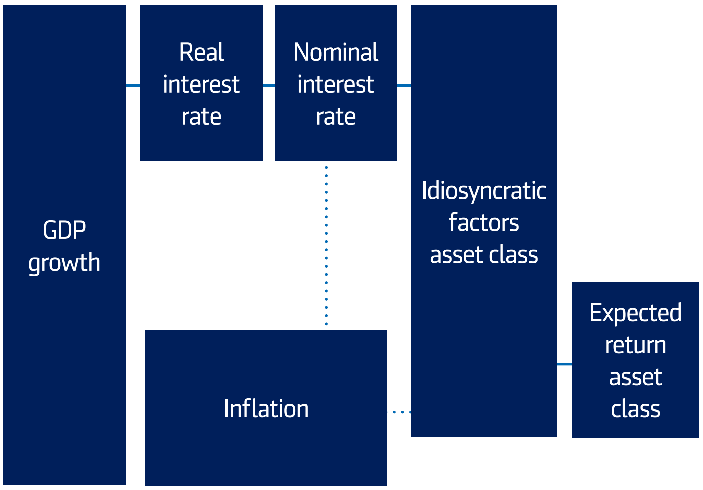
At Aegon Asset Management, we support institutional investors in taking practical action to integrate ESG into their SAA process. In an effort to enhance portfolio resiliency to ESG megatrends investors can incorporate ESG-specific scenario analyses in their investment processes. Scenario analysis is helpful in building an understanding of how assets classes and portfolios may perform under different future states of the world, given a set of assumptions. This can provide insight into how a portfolio is positioned to weather these trends or how it may evolve and whether the goals of the investor are achieved.

Scenario analysis

Our materiality assessment of several ESG megatrends identified five significant ESG megatrends that potentially could have profound implications for the global economy. These serve as the backbone for our scenario analysis.

A starting point for the scenario analysis is to research and describe the critical driving forces behind each megatrend. The next step is to analyze the projected impact of these forces on relevant macro-economic factors. We convert this into a set of key economic projections and asset classes return assumptions. This leads to the parameterization of the tool. For instance, we project an extra structural rise in inflation of 0.5% in a scenario with transition risks compared to our baseline macro expectations. For each ESG megatrend we estimate the consequences on GDP growth, inflation, interest rates and expected returns across asset classes. Exhibit 3 shows a high-level overview of the interconnection between key variables in the scenarios.

Exhibit 3: Macroeconomic variables and expected returns



Source: Aegon Asset Management, May 2020.

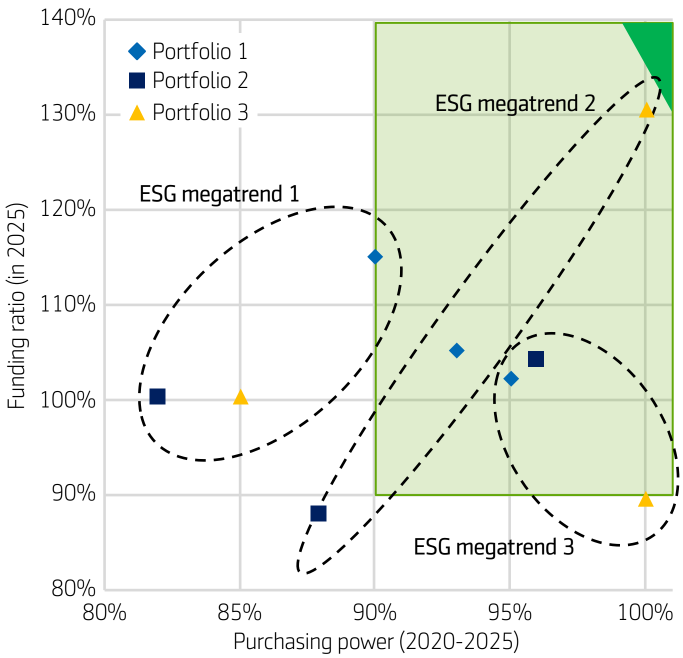
Method and output

Scenario analysis can help us to quantify the potential impact of ESG megatrends on the portfolio of institutional investors. This also enables us to test the consequences of adjusting on the probability of meeting the investor's objectives and goals as ESG megatrends evolve. The outcomes of the analysis can help inform stakeholders about how the portfolio is positioned in relation to the perceived risks and opportunities. While the ESG megatrends are interconnected, each ESG megatrend still has its own specific characteristics. This results in multiple projected pathways for GDP growth, inflation, interest rates and asset class returns for the coming 15 years. Using these projections in our tool helps us to evolve the balance sheet of an investor (i.e. a pension fund) given the different projected future states of the world.

Impact on funding ratio and purchasing power

Exhibit 4 is an illustrative example of the projected impact on the funding ratio and purchasing power of three illustrative pension fund portfolios for three hypothetical material ESG megatrends. The portfolios have varying asset class weights and different levels of risk and we are able to link the outcomes of the tool to the objectives and goals of this pension fund. The light green area in the graph represents minimum boundaries for the funding ratio and a desired level of purchasing power for this specific pension fund

Exhibit 4: Illustrative example of portfolio impacts



Source: Aegon Asset Management, May 2020. **Sample for illustrative purposes only.** Information shown is based on a sample pension plan and is based on certain information and assumptions at the time shown. It should not be relied upon for investment decisions.

We can draw several conclusions from the information in Exhibit 4:

- Portfolio 1 yields the most balanced outcomes if we assume that there is an equal probability of each megatrend emerging under our current assumptions.
- Portfolio 1 falls within the tolerance ranges of this pension fund for each projected ESG megatrend.
- Portfolio 2 and 3 show greater variation. Some of the outcomes of these portfolios do not fit within the pension fund's tolerance range.
- Portfolio 3 is best positioned to capture the opportunities from one of the megatrends (2), but it seems more at risk when the other megatrends (1) are considered.

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