PERSPECTIVES

Unsafe AI is the latest ESG risk for investment portfolios

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STOXX

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As companies rush to keep up with peers by adopting artificial intelligence (AI), investors and regulators alike are increasingly concerned whether the systems can introduce risks as much as they bring benefits.

AI is being deployed in processes ranging from customer-focused chatbots and profiling, to back-end operations optimization. Regulators are seeking to understand the impact this has on societies – including social equity issues such as privacy, transparency and physical safety – and attempting to set norms around a quickly developing technology.

The European Union (EU) has led the way in this space, as it did for climate risk. The EU Artificial Intelligence Act (AI Act)[1], which entered into force on August 1, is the first rulebook from a major authority set to govern the way companies use AI. The AI Act offers a forward-looking and risk-based framework to evaluate corporates' behavior and readiness at a crucial time of increased use of AI. The regulation assigns four risk categories:

- **Unacceptable risk:** this covers applications that are "a clear threat to the safety, livelihoods and rights of people," such as social scoring, manipulative AI and biometric categorization of persons. These are all prohibited.
- **High risk:** this covers a long list of common systems and applications that manage users' information and carry personal risk, including CV-sorting software for recruitment procedures, credit scoring, and AI systems operating robots, drones or medical devices. These systems are subject to specific legal obligations.[2]
- **Limited risk:** AI systems that could lack in transparency, such as chatbots and AI-generated content. The AI Act introduces specific transparency obligations for this group.
- **Minimal risk:** systems that will remain unregulated – including spam filters and AI-enabled video games.

Source: AI Act, STOXX.

The 'S' in ESG

The AI Act has highlighted new potential liabilities of the Social ('S') type – a category within ESG investing that has had, until now, less press than Environmental ('E') and Governance ('G') issues. This should not neglect E and G risks associated with AI – such as the high energy consumption of data processors, or weak governance of AI developments.

Social risks stemming from the use of AI include:

- **Discrimination**. For example, a company running an AI-enabled hiring system could unwittingly be discriminating against certain protected groups.
- **Physical harm**. This is a concern in self-driving cars, and AI-assisted robot surgery and factory machinery.
- **Personal data privacy violation**. Many have warned that in the process of handling and storing the large datasets required to feed AI, personal information may become exposed and unprotected.[3]

Given the early stage of regulatory scrutiny, the current moment presents an opportunity for investors to screen their portfolio companies' operations and supply chains for problematic AI-related issues.

"German philosopher Ludwig Feuerbach wrote, 'man is what he eats,' so perhaps he would say the same today about AI as it voraciously feeds on data," said Antonio Celeste, Head of Sustainability Index Product Management at STOXX. "The spread of AI has increased our need to be vigilant about the quality of information consumed – as well as about the process and impact of consuming that data."

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[1] Regulation (EU) 2024/1689 of the European Parliament and of the Council of June 13, 2024.

[2] The AIA details in an annex the list of AI systems considered to be high-risk.

[3] See, for example, CFA Institute, "What are the ESG Risks of AI?" December 2023.

Scanning for risks

ISS ESG, the data and analytics provider, offers metrics that point to potential concentrations of AI-related risks. In its "Actionable Insights – Top ESG Themes in 2024" report, the firm considered 73 industries and identified 21 where the use of AI might result in higher risks (Table 1).

Table 1: Industries with higher potential risks associated with AI adoption

ESG rating industries	Potential negative impacts
Aerospace and Defense	Safety
Automobile	Privacy, safety
Commercial Banks and Capital Markets	Privacy, discrimination
Digital Finance and Payment Processing	Privacy, discrimination
Education Services	Privacy, discrimination
Electric Utilities	Privacy, safety
Electronic Devices and Appliances	Privacy, safety
Gas and Electricity Network Operators	Privacy, safety
Health Care Equipment and Supplies	Privacy, safety
Health Care Facilities and Services	Privacy, safety
Health Care Technology and Services	Privacy, safety
Human Resources and Employment Services	Privacy, discrimination
Insurance	Privacy, discrimination
Interactive Media and Online Consumer Services	Privacy, safety
Mortgage and Public Sector Finance	Privacy, discrimination
Multi-Utilities	Privacy, safety
Oil and Gas Storage and Pipelines	Safety
Public and Regional Banks	Privacy, discrimination
Software and Diversified IT Services	Privacy
Telecommunications	Privacy
Water and Waste Utilities	Safety

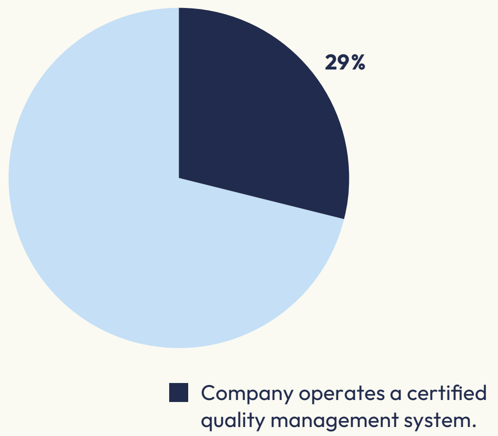
Source: ISS ESG, 'Actionable Insights – Top ESG themes of 2024'.

Quality management and human talent

AI Act obligations will require operators in the "high risk" category to implement quality and risk-management processes to ensure the systems' functions are trustworthy and secure.

ISS ESG counts the existence of such a certified quality management system as a trackable ESG factor for 27 industries in the ISS ESG Corporate Rating. There are 959 companies of a total of 3,323 companies, or 29%, that operate a certified quality management system (Figure 1).

Figure 1: Certified quality management systems in place



Source: ISS ESG. Data as of September 13, 2024.

"Companies with robust quality management with respect to AI systems and the right talent to integrate them may be better positioned to mitigate risks and turn AI adoption into a competitive advantage," said Joe Arns, Executive Director at ISS ESG.

"If a company's success in adopting new technologies is determined by the union of technology with skills and managerial competence, corporate disclosures may offer insights into companies' capacity to make effective use of AI," he added.

To get a sense of how seriously companies take employee competence, investors can comb their human capital development data to identify a commitment to training more broadly.

Around 81% of companies in the ISS ESG Corporate Rating universe have disclosed a systematic approach to identifying their employee training needs (Figure 2). However, only 14% of rated companies track and publicly disclose (by employee category) the average annual number of hours employees spend in training. Less than 8% disclose the metrics on employee career development reviews, and just 5% of companies said they evaluate the effectiveness of their training.

Figure 2: Corporate training practices

Source: ISS ESG. Total ISS ESG Corporate Rating universe is 8,092 companies. Data as of August 12, 2024.

"The small subset of companies conducting each of these four practices might be better prepared to incorporate AI and other technologies into their business," said Arns.

Benefits of AI in portfolio construction

In an ironic twist, AI itself can be deployed by the investment community to detect ESG risks in portfolios.

According to a 2022 report from Amundi Asset Management[4], the benefits of AI in ESG investing include:

- providing textual analysis to measure companies' ESG incidents and commitments.
- collecting satellite and sensor data to determine environmental impact and physical risk exposures.
- bridging gaps in company data.

Similarly, AI has been employed systematically to build indices and portfolios, and that use is set to grow. According to a recent survey by the Index Industry

[4] Amundi Asset Management Institute, "Artificial Intelligence and ESG: How do they fit?" October 2022.

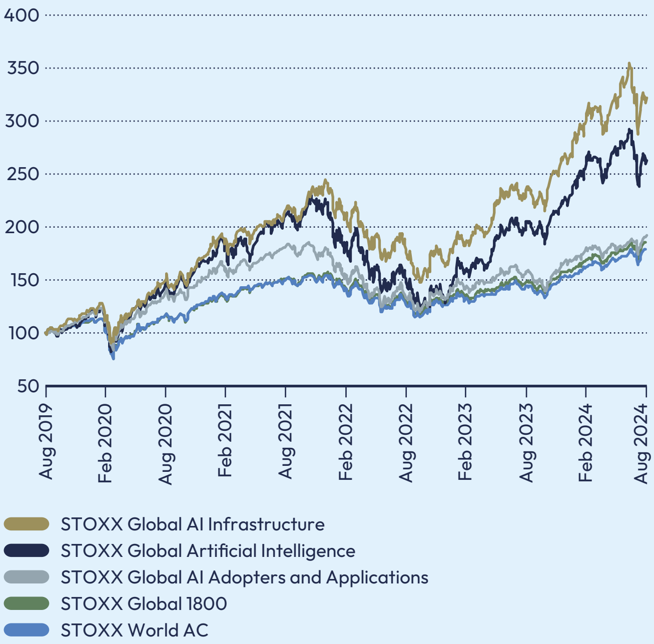
Shares of AI companies are running high

Of course, used responsibly, AI can support the fight against the same social drawbacks that worry authorities, including employment discrimination and healthcare malpractice. The benefits of AI have been widely reported, and companies selling AI products and services have seen a boom in demand.

The market has reacted positively, with the STOXX® Global Artificial Intelligence index rising 163% in the past five years, almost twice the advance of the STOXX® Global 1800 benchmark (Figure 3). The index tracks companies with the highest revenue exposure to sectors associated with AI.

STOXX expanded its coverage of the AI theme in August with two new indices: the STOXX® AI Infrastructure and STOXX® Global AI Adopters and Applications. The indices gain exposure to the two targeted segments by considering companies' revenues and their innovation patents, the latter itself a search aided by AI.

Figure 3: STOXX Global Artificial Intelligence index performance



Source: STOXX. Gross returns in US dollars, September 2, 2019 – August 30, 2024.

Association[5], two-thirds of asset managers said generative AI / machine learning was among the topics most frequently raised by their firms and colleagues over the past 12 months. That exceeded the 51% who mentioned sustainable investment and the 35% who included thematic investment.

In the same poll, 65% of asset managers said they see generative AI as an opportunity for their firms' current business practices, far exceeding the 14% who said it was more of a challenge. Optimistic respondents cited the technology's potential to boost operational efficiency and investment performance as AI systems can be used to pick stocks and extract information from company reports.

STOXX, for example, has employed AI systems to scan and read through patents to find prospect index constituents innovating in different themes.

A world of action against unsafe AI

Beyond the EU's AI Act, governments and companies are stepping up efforts to ensure that this technology is not prone to misuse and abuse.

In November 2023, over two dozen nations and the European Union pledged to work toward AI that is "safe, human-centric, trustworthy and responsible."

In May of this year, 16 companies committed to developing AI safely and to halt development of AI models whose risks cannot be sufficiently mitigated. Signatories include Alphabet, Meta and Microsoft, the three largest components in the STOXX Global Artificial Intelligence index.

France will be hosting an AI Action Summit in February 2025, where stakeholders will unveil steps taken towards their objectives. These include building critical, open, public infrastructure for the global AI sector, as well as shaping an effective and inclusive framework of international governance for AI.

The European Commission, meanwhile, is working on a code of practice for providers of 'General-Purpose' AI (GPAI) models, or those that have a wide range of possible uses. In the US, individual states have moved to regulate AI in the absence of federal legislation so far.

[5] IIA, "2024 Survey of Asset Managers."

Risks and responsibilities

The emerging regulatory environment suggests that both providers and deployers of high-risk AI systems need the right human oversight to avoid harmful scenarios.

For AI providers, the AI Act lists data quality, documentation and traceability, transparency, human oversight, accuracy, cybersecurity and robustness as key issues. AI deployers, meanwhile, must understand their own risks while ensuring their systems and data are relevant and transparent for consumers.

As AI becomes more pervasive, investors should prepare for potential financial liabilities, and government and industry efforts to limit unsafe AI offers guidelines as to how to detect shortfalls. These risks are here to stay in portfolios, even as wider adoption of AI technology is likely to boost productivity and profitability.

Just as specific environmental and governance issues can be monitored and mitigated with careful consideration, the same is true for AI-related risks. Acknowledging where unexpected breaches of responsible investing principles may lie is key to protect portfolios.

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