Module 3: Sustainability Evaluation: ESG Ratings and Greenwashing

Lecture Collection

Cross-Faculty Curriculum for Sustainable Finance

University of Liechtenstein | University of Kassel | University of Luxembourg

Module Overview

Module Learning Outcomes

By the end of Module 3, learners should be able to:

- understand which role ESG ratings play in shaping investment decisions;
- evaluate the capabilities and limitations of existing ratings, including measurement issues, limited transparency, uneven coverage, and potential conflicts of interest;
- reflect on what ESG ratings aim to measure and how they are structured and differ across data providers;
- understand, define, and analyze greenwashing in a financial context, recognize common forms of misleading sustainability claims, critically evaluate labels and certifications, and assess their influence on the perception and trustworthiness of sustainable financial products.

Lecture 1: Sustainability assessment and implications for investors

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Module Alignment

This lecture addresses **Module 3 Learning Outcome 1** from the aggregated high-level curriculum.

Aligned Module Learning Outcome

Module Learning Outcome 1: Understand which role ESG ratings play in shaping investment decisions.

Learning Objectives

By the end of this lecture, learners should be able to

- describe the development of the ESG rating market at a high level.
- explain how corporate ESG data affect sustainable investment decisions from an investor point of view.
- critically reflect on how sustainable investment strategies relate to past, current, and future sustainability performance of investments.
- compare and reflect on the procedure of ESG rating measurement and financial ratings with respect to the relations of the actors involved.

Description

The measurement of sustainability at the firm or asset level is essential for sustainable investing. Aggregated sustainability assessments from different third-party providers, commonly referred to as ESG ratings, are therefore a central component of sustainable finance today. These ratings are frequently used to adopt sustainable investment strategies, ultimately providing support for investors in shaping sustainable investment decisions. This lecture on sustainability assessment dives into the measurement of environmental (E), social (S), and governance (G) factors, particularly focusing on how they currently affect financial decisions.

At the beginning of this lecture, learners are given an overview of the ESG rating market and how it has evolved in recent years. Interdependencies between various actors involved in the collection and processing of sustainability-related data are highlighted and compared with those of traditional financial data. Building on the introduction of the multifaceted sustainable investing approaches within Module 2 of the curriculum, this lecture then provides a reflection on how ESG ratings and individual data points from ESG rating agencies are suitable means to adopt certain sustainable investing strategies. Learners are given an understanding of how ESG ratings are utilized within different sustainable investing strategies including, for example, best-in-class, best-in-progress, and ESG integration approaches.

Discussion Questions

- Why do investors need sustainability data?
- What are potential limitations for investors in using ESG ratings and sustainability information in general?
- Can ESG ratings meaningfully capture complex sustainability issues such as biodiversity loss, human rights, or climate transition risks?
- Why might ESG ratings for the same company differ across providers, and what does this mean for investors?

Cross-Faculty Perspective

In a mixed cohort, this lecture offers a shared analytical framework for examining how sustainability is measured and translated into investment-relevant information and subsequent investment decisions. ESG ratings and regulatory classification systems such as the EU Taxonomy provide common reference points that allow students from different disciplines to engage with the same underlying question: how should sustainability performance be assessed and interpreted for decision-making. The lecture therefore establishes a common vocabulary around indicators, data sources, aggregation methods, and rating objectives, while leaving room for disciplinary perspectives to interrogate these elements in different ways.

Students with business, finance, or economics backgrounds can examine how ESG ratings influence portfolio construction, risk assessment, and the implementation of sustainable investment strategies such as best-in-class, best-in-progress, and ESG integration. Students from law, public policy, or governance studies can interpret the same material through the lens of regulation and accountability, exploring how frameworks such as the EU Taxonomy interact with ESG ratings, what regulatory disclosures require in practice, and how oversight might address issues like greenwashing or methodological opacity.

Students from environmental sciences, engineering, or sustainability studies can contribute by critically examining the environmental indicators that underpin ESG ratings, questioning the validity of metrics, baselines, and system boundaries used to measure environmental performance. They may also highlight where simplified indicators fail to capture complex ecological processes or long-term environmental risks. Meanwhile, students from social sciences, humanities, or ethics can analyze how social and governance indicators reflect broader societal values, including questions of fairness, labour rights, corporate responsibility, and the distributional consequences of sustainable investment decisions.

Resources

- Brackley, A., Langemeier, K., & Osborn, C. (2025). *Rate the Raters 2025: ESG ratings in evolution.* https://www.erm.com/globalassets/insights/rate_the_raters_rtr_2025.pdf

- European Commission: Directorate-General for Financial Stability, Financial Services and Capital Markets Union and ERM. (2021). *Study on sustainability-related ratings, data and research.* Publications Office of the European Union.
https://data.europa.eu/doi/10.2874/14850

Lecture 2: How can ESG be measured?

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Module Alignment

This lecture addresses **Module 3 Learning Outcome 2** from the aggregated high-level curriculum.

Aligned Module Learning Outcome

Module Learning Outcome 2: Evaluate the capabilities and limitations of existing ratings, including measurement issues, limited transparency, uneven coverage, and potential conflicts of interest.

Learning Objectives

By the end of this lecture, learners should be able to

- explain how sustainability information can be translated into aggregate ESG ratings.
- distinguish and categorize different types of sustainability information.
- critically reflect on corporate disclosure of sustainability information in the context of the growing demand for ESG data.
- describe key points of regulatory disclosures, for example in the context of the EU Taxonomy as a regulatory framework and alternative classification systems for sustainability evaluation.

Description

Unlike traditional credit ratings, ESG ratings show a substantial and persistent level of divergence across different providers, translating into mixed signals for financial product providers, investors, and other stakeholders involved. These mixed signals can have widespread implications for sustainable decision-making as financial market participants face a lack of clarity and consistency with respect to their investment objectives. Acknowledging the divergence of ESG ratings, this lecture and the following lecture of Module 3 stress the following question: "(How) can sustainability be measured objectively on a firm level?" Therefore, learners explore varying methodological approaches used by different rating providers in the assessment of firm-level sustainability.

To calculate numerical and easy-to-implement ESG ratings for sustainable investment decision-making, rating agencies need to translate different types of information (including qualitative and quantitative information) into scalable and comparable performance measures. This raises the question of how rating agencies process the collected data and which implications can be drawn from aggregate ESG ratings. To start, this lecture introduces one rating methodology of one specific ESG rating provider. Learners are presented with a blueprint that covers the full process from collecting single data points to providing aggregate ESG scores. Different data sources are introduced and reflected upon with regard to different dimensions including accessibility, usefulness, and reliability. Moreover, differences between qualitative and quantitative data are highlighted and their strengths and limitations for sustainability assessment are discussed. From there, this lecture shows how different standards, frameworks, and certifications are currently integrated into firm-level sustainability assessment, and it highlights the role of regulatory disclosure requirements and sustainability classification systems in this context. At the end of this lecture, learners are split into groups to prepare an in-depth analysis of the ESG rating methodology of other data providers.

Discussion Questions

- What are potential benefits and shortcomings of investors' use of ESG ratings compared to individual sustainability indicators and raw data?
- What are different objectives (i.e., including sustainability risk, performance, and impact dimensions) rating providers might capture with ESG ratings? Should these objectives be treated separately?
- Can ESG ratings genuinely improve sustainability outcomes, or are they primarily a marketing tool for the financial industry?
- Is sustainable investing truly about creating positive societal impact, or is it mainly about managing financial risk related to ESG issues?

Cross-Faculty Perspective

In a mixed cohort, this lecture establishes a common understanding of the measurement and processing of sustainability-related information used to construct ESG ratings. Students with business, finance, or economics backgrounds can help explain how firms react to the demand for sustainability data. Students from law, public policy, or governance studies can add perspectives on the advantages and disadvantages of regulatory requirements for firms' sustainability disclosure. Students from environmental sciences, engineering, or sustainability studies can contribute by critically reflecting on the measurement of different E, S, and G indicators and on how they are processed to aggregate ESG ratings. Students from social sciences, humanities, or ethics can contribute by critically challenging the objectivity and universality of ESG data in the rating process.

Resources

- Drempetic, S., Klein, C., & Zwergel, B. (2020). The influence of firm size on the ESG score: Corporate sustainability ratings under review. *Journal of Business Ethics*, 167, 333–360. https://doi.org/10.1007/s10551-019-04164-1
- European Commission: Directorate-General for Financial Stability, Financial Services and Capital Markets Union and ERM. (2021). *Study on sustainability-related ratings, data and research.* Publications Office of the European Union. https://data.europa.eu/doi/10.2874/14850
- Kotsantonis, S., & Serafeim, G. (2019). Four things no one will tell you about ESG data. *Journal of Applied Corporate Finance*, 31(2), 50–58. https://doi.org/10.1111/jacf.12346

Lecture 3: Different raters, different opinions? Exploring the gap in ESG ratings

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Module Alignment

This lecture addresses **Module 3 Learning Outcome 3** from the aggregated high-level curriculum.

Aligned Module Learning Outcome

Module Learning Outcome 3: Reflect on what ESG ratings aim to measure and how they are structured and differ across data providers.

Learning Objectives

By the end of this lecture, learners should be able to

- distinguish between different measurement objectives and lenses of ESG ratings from different providers.
- critically reflect on differences in ESG ratings across different providers from a methodological point of view.
- explain why ESG rating agencies can use different indicators to measure certain sustainability attributes.
- discuss the capabilities and limitations of ESG ratings and evaluate how investors can meaningfully integrate them into different strategies of sustainable investing.

Description

Unlike traditional credit ratings, ESG ratings show a substantial and persistent level of divergence across different providers, translating into mixed signals for financial product providers, investors, and other stakeholders involved. These mixed signals can have widespread implications for sustainable decision-making as financial market participants face a lack of clarity and consistency with respect to their investment objectives. Acknowledging the divergence of ESG ratings, the previous lecture and this lecture of Module 3 stress the following question: "(How) can sustainability be measured objectively on a firm level?" Therefore, learners explore varying methodological approaches used by different rating providers in the assessment of firm-level sustainability.

The aim of this lecture is to explore why ESG ratings diverge based on different measurement objectives these ratings aim to capture, the categories included, the indicators utilized for sustainability assessments, and the weights assigned to different indicators. In the previous lecture, learners were split into groups to prepare a presentation of a methodological approach of an ESG data provider. In this lecture, groups present their results, which enables all learners to critically reflect on the rating provider context including the ESG measurement objectives and different approaches to measuring E, S, and G factors, and calculating aggregated ESG ratings based on these inputs. Comparing the findings of these analyses in shared presentations enables all learners to develop a critical understanding of the strengths and weaknesses of different ESG rating processes in general and for certain rating providers in particular.

Discussion Questions

- What are the pros and cons of diverging ESG ratings given the different perspectives of sustainability in the context of sustainable investing?
- Given the widespread use of ESG ratings, what are potentially unintended consequences of current ESG rating methodologies and processing of sustainability information?
- What are potential benefits and shortcomings of investors' use of ESG ratings compared to individual sustainability indicators and raw data?
- What are different objectives (i.e., including sustainability risk, performance, and impact dimensions) rating providers might capture with ESG ratings? Should these objectives be treated separately?

Cross-Faculty Perspective

This lecture expands the common understanding of the measurement and processing of sustainability-related information by stressing the fact that sustainability assessments can lead to different conclusions about a company's sustainability, depending on what is being measured and how. Students with business, finance, or economics backgrounds may focus on how the mixed signals of rating divergence can affect market behaviour, capital allocation, and create obstacles in long-term decision-making for companies and investors alike. Students from law, public policy, or governance studies can add their perspectives to the question of how regulation might reduce the negative effects of mixed market signals, for example by setting rules for company disclosures and for providing ESG ratings.

Students from environmental sciences, engineering, or sustainability studies can help assess whether rating differences come from the underlying measurement choices. They can examine the individual indicators included, how these indicators are defined, what reference points or benchmarks are used, and where the boundaries of the assessment are drawn. This helps show that rating differences may not only reflect disagreement, but also different technical choices about what is counted and how sustainability is measured. Students from social sciences, humanities, or ethics can add their perspectives on the weightings assigned to categories and indicators included within the sustainability assessment of a specific rating provider and between different rating providers.

Both Lectures 2 and 3 of Module 3 are particularly effective when interdisciplinary groups are asked to interpret ESG ratings or sustainability disclosures from multiple perspectives. By combining methodological critique, regulatory interpretation, environmental expertise, and ethical reflection, students can better understand both the usefulness and the limitations of ESG ratings as a tool for evaluating sustainability in financial markets.

Resources

- Berg, F., Kölbel, J. F., & Rigobon, R. (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance*, 26(6), 1315–1344.
  https://doi.org/10.1093/rof/rfac033
- Chatterji, A. K., Durand, R., Levine, D. I., & Touboul, S. (2016). Do ratings of firms converge? Implications for managers, investors, and strategy researchers. *Strategic Management Journal*, 37(8), 1597–1614.
  https://doi.org/10.1002/smj.2407

Lecture 4: Greenwashing and sustainability claims

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Module Alignment

This lecture addresses **Module 3 Learning Outcome 4** from the aggregated high-level curriculum.

Aligned Module Learning Outcome

Module Learning Outcome 4: Understand, define, and analyze greenwashing in a financial context, recognize common forms of misleading sustainability claims, critically evaluate labels and certifications, and assess their influence on the perception and trustworthiness of sustainable financial products.

Learning Objectives

By the end of this lecture, learners should be able to

- explain greenwashing in a real-economy and a financial product provider context.
- critically reflect on sustainability claims of firms and financial institutions.
- understand and distinguish between types of sustainability labels and certifications for financial products.
- briefly summarize the regulatory landscape for sustainable financial products, how it has evolved, and which implications it has had for financial markets and capital in- and outflows.

Description

The challenges society faces today have increased the relevance of sustainability in an economic context. With growing awareness of sustainability-related issues, firms operating in the real economy and in the financial industry are incentivized to advance sustainability- or environmentally friendly claims in corporate communications, such as advertisements, websites, and corporate reporting. Building a sustainable or green image can be beneficial for firms, for example by strengthening their societal legitimacy or attracting new customer segments. However, because corporate sustainability can hardly be observed in the absence of reliable information, the resulting information asymmetries between firms on the one hand and their stakeholders on the other hand can create incentives for misleading sustainability claims. Providing incomplete or false information on sustainability matters is commonly referred to as sustainability- or greenwashing. It can have widespread implications for firms, customers, investors, and society in general.

This lecture focuses on sustainability and environmental claims, particularly addressing their implications within the financial sector. To begin with, the lecture introduces a framework of sustainability- or greenwashing, in which relevant actors are highlighted and their motivations are discussed. Based on selected examples, different types of sustainability- or greenwashing are presented and placed within a regulatory and societal context. The impact of these different types on firms, society, customers, and investors is then evaluated. From there, the lecture turns to potential mechanisms that can reduce the likelihood of sustainability- or greenwashing. The role of certifications and labels for financial products is critically evaluated with regard to how they can mitigate information asymmetries, how they currently affect capital allocation, and, with respect to investors' investment intentions, which approaches can support investors in financial decision-making.

By the end of this lecture, learners should be able to contextualize instances of sustainability- or greenwashing in a broad economic context. Moreover, they should be able to critically reflect on the strengths and weaknesses of sustainability certifications and labels with respect to their ability to align customers' and investors' product decision-making with their preferences for sustainability.

Discussion Questions

- Which tools can investors use to align their investment decisions with their sustainability preferences?
- To what extent are labels and certifications suitable means to support sustainability-oriented financial decision-making?
- Who is responsible for ensuring that the information provided by companies accurately and reliably reflects the company's sustainability performance?
- What responsibility do consumers have when choosing products to ensure their own preferences are taken into account?

Cross-Faculty Perspective

In a mixed cohort, this lecture provides a shared understanding of how sustainability- or greenwashing can be defined. It enables learners to distinguish different approaches to sustainability- or greenwashing and to evaluate their regulatory and societal implications.

Students with business, finance, or economics backgrounds can contribute by critically evaluating the potential costs and benefits of sustainability- or greenwashing behaviour in the real economy and in the financial sector, focusing on the distinction between short-term and long-term value creation from a firm point of view. In this regard, they can critically reflect on the role of sustainability-linked management compensation and its potential relation to firms' sustainability- or greenwashing behaviour.

Students from law, public policy, or governance studies, as well as students from social sciences, humanities, or ethics, can contribute by adding different perspectives on the different types of sustainability- or greenwashing, particularly addressing regulatory and societal dimensions. Students from environmental sciences, engineering, or sustainability studies can contribute by providing their nuanced understanding of the feasibility of technical innovations and product life-cycle assessments and by adding perspectives on potential rebound effects of increasing customer demand that might result from more sustainable economic practices.

Resources

- Bowen, F., & Aragon-Correa, J. A. (2014). Greenwashing in corporate environmentalism research and practice: The importance of what we say and do. *Organization & Environment*, 27(2), 107–112. https://doi.org/10.1177/1086026614537078
- Dorfleitner, G., & Utz, S. (2024). Green, green, it's green they say: a conceptual framework for measuring greenwashing on firm level. *Review of Managerial Science*, 18, 3463–3486. https://doi.org/10.5283/epub.55149
- European Commission (2024). *Environmental claims in the EU.* https://op.europa.eu/en/publication-detail/-/publication/f7c4cb8b-f877-11ee-a251-01aa75ed71a1/language-en