Syllabus

Course Title	**ESG / SUSTAINABLE FINANCE AND INVESTMENT**
Instructor	Christian Schopper
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Office Hours	For consultations, approach me either before or after class.
Credits	2 US credits (4 ECTS credits)
Module	Financial Management
Term	Spring 2024
Course Level	MSc Finance elective. All students are required to take the course for grades. This course is delivered with a class cap of 25 students (please note that no exceptions will be made on this).
Prerequisites	Financial Management (or a similar introductory course in finance) and Financial Reporting & Control (or a similar introductory course in accounting)
Course Drop	As described by the Regulations of the MS in Finance program: Overview of the MS in Finance | Department of Economics and Business (ceu.edu)

Course description

In the financial sector, sustainability is becoming increasingly relevant and important. What today is considered sustainable finance will soon be the essence of the finance industry. - Sustainable finance is a response to the growing concerns about climate change, environmental degradation, not least social injustice. It takes into account how companies and projects contribute to society and the environment, as sustainable investors want to ensure that their investments are not only financially viable, but also make a positive impact on the world.

This course in Sustainable Finance and Investment (the "Course") will focus on financing as well as capital markets- and bank-related investment decisions addressing a range of environmental, social and governance (ESG) considerations when making decisions related to sustainable economic activities or projects.

At the core of the Course are case studies which will require participants to not only make analytically sound and thoughtful executive management decisions in complex constellations, but especially consider ESG-related aspects when weighing in various investor views and interests, limitations imposed by stakeholders, possibly legal and corporate governance constraints and aspects of value creation alternatives.

Stretching over 7 days, the Course will be highly intensive and emphasize group work as well as interaction and discussion in the class room. Thereby, Corporate Finance-related concepts already introduced and discussed in previous CEU courses will be applied.

Course requirements, grading, and attendance policies

Participation

- Mandatory and conditional to be graded is a full and timely participation in all classes.
- To be able to actively participate, preparation of mentioned literature and handing in of all 7 Case Study Assignments is mandatory.
- Case Study Assignments will be on an individual basis.

Grading

- Grading will be dependent upon the quality of preparation and hand-ins of the Case Study Assignments as well as the active participation and qualitative contribution in class room discussions.
- Grading will be based on the total score out of 100, in line with CEU's standard grading guidelines:

Grade	Name	Austrian equivalent	Points
A	Outstanding	Excellent (1)	100-96
A-	Excellent	Excellent (1)	95-88
B+	Good	Good (2)	87-80
B	Fair	Satisfactory (3)	79-71
B-	Satisfactory	Sufficient (4)	70-63
C+	Minimum	Pass Sufficient (4)	62-58
F	Fail	Insufficient (5)	57-0

- Course participants can achieve a certain maximum of points along the following criteria:
    - Quality of class room participation a maximum of 30 points.
        - 4-5 points over each of 7 days
    - Case Study Assignments a maximum of 70 points.
        - 10 points for each of 7 mandatory hand-ins
        - Plus up to 3 bonus points for each presentation in class

Attitude

The Course is intense and requires substantial time commitment, effort, energy and concentration, but basically we want to learn and also have fun … - Precondition for this is a professional attitude:

- You are expected to professionally prepare, hand in the Case Study Assignments per deadline, be in class on time and actively participate in sessions.
- In class, you will always have with you:
    - A financial calculator;
    - The Case Study Assignment; and
    - Your hand-in / presentation material on a USB stick
- Mobile phones and other mobile devices will – without exception - be switched off during the entire length of the sessions.

Case Study Assignments

- You are required to hand in Power Point format presentations for a total of 7 case studies.
- Grading will be on an individual basis.
- Volume / page numbers / structure of the presentations are up to you (ideally, though, not more than 10 slides, excl. appendices) whereby quality and creativity rules over quantity.
    - Especially in regards to restructuring assignments, creativity can be key, provided a compelling conclusion is backed up with material, analytics or else to support your arguments. Whereby, your conclusions will be substantiated with a (more or less extensive) financial model, attached in an appendix
    - A good presentation structure may look like following:
        - Analytical status quo / as-is conclusions
        - Which are the major issues to resolve?
        - Which basic alternatives are available and feasible?
        - What would you recommend to do and why?

        - Next steps
- You will send the presentation hand-ins via email (christian.schopper@aon.at) by latest 24.00 the night prior to the respective session in which the Case Study Assignment will be discussed and bring a copy **<u>on a USB stick</u>** to class.
    - Downloading presentations during class time has frequently proven sub-optimal and consumes unnecessary valuable time we want to spent together to discuss
- 2-3 individuals will either volunteer or be chosen arbitrarily to present their conclusions in front of class (time limit: max 15mins), followed by class Q&A, whereby you will have to support your conclusion(s).
    - Please note: If you intend to voluntarily present, it may be useful to run a rehearsal prior to the session, as there will be an absolute presentation time limit of 15mins
- A maximum of 10 points will be awarded for quality of written materials handed in for each Case Study Assignment. Those who present could expect to be awarded an additional maximum of 3 bonus points for the quality of the verbal presentation.

Case Study 1: In March 2021, the team at **Carbfix** - a start-up born out of the culmination of more than 15 years of work by universities and parent company Reykjavik Energy- believed it had a game-changing technology to fight against climate change: eliminating CO2 permanently and safely from the atmosphere by storing it in basalt rock. In an aim to scale, they were considering three options to commercialize the concept: licensing the technology to other countries for onsite deployments near carbon dioxide (CO2) emitters, accelerating a direct air CO2 capture and storage system; and developing a storage hub in Iceland where CO2 could be imported and stored. In the deliberations of where to place precious time and resources, the company needed to consider the European Union Emission Trading Scheme (EU ETS) mechanism, a "cap and trade" system that permits carbon units to be sold in order to meet CO2 reduction targets. What was the best path forward to deliver on the company goal of reducing CO2 while building a viable commercial entity?

Case Study 2: Warren Adams founded **Patagonia Sur** in 2007 as one of the world's first for-profit land conservation businesses. His goal was to purchase over 100,000 acres of land in southern Chile and to run a variety of sustainable businesses to generate annual returns for investors. Patagonia Sur planned to derive various streams of revenue from the land-including eco-tourism, sustainable land development, carbon credits, water rights and eco-brokerage-thereby giving a financial return to investors on top of achieving a positive environmental impact. By 2011, Warren had raised over $20 million from high net worth individuals and Patagonia Sur had over 60,000 acres in Patagonia under management. However, institutional investors seriously questioned whether Patagonia Sur could ever do more than break even on an annual basis. Further, they worried that in fact the risk of the investment went up significantly as the company spent both its capital and management time on so many different revenue streams. In addition, some investors felt that for-profit conservation was morally wrong. Warren needed to convince both individual and institutional investors that his vision would succeed in both generating returns and preserving the natural beauty of Patagonia.

Case Study 3: In June 2017, **Barry Callebaut**, the largest B2B cocoa and chocolate company in the world renewed its revolving credit facility (RCF) introducing a novel feature suggested by the Dutch bank ING: the margin on the RCF would be tied to the company's ESG score from Sustainalytics, a leading sustainability agency, as a way to "make sustainability truly pay". A year later, Barry Callebaut has made progress towards the ambitious environmental and social goals of its Forever Chocolate programme, yet its ESG score has fallen almost to the level where the margin on the RCF will increase.

Case Study 4: Matthew Haertzen, a timber portfolio manager for Cogent Partners, the fund manager for Cambium Global Timberland (a UK listed timber investment fund), was tasked with the analysis of a managed **teak plantation in Honduras** for potential cumulative investment in the amount of $21-25 million. Matt was evaluating an opportunity from Beyond Forestry, a Honduran Company that employed a unique accelerated teak growth model. This accelerated growth model allowed for harvesting of teak wood in as few as 7-12 years, as compared to 20-30 years for traditional commercial plantations. The demand for teak was growing and the supply was dwindling due to significant restrictions regarding the harvest of native teak forests, which traditionally have a very long growth cycle of 70-80 years. The current supply/demand conditions led to a shortage of teak and created an opportunity for investment in companies who could grow teak in an ongoing, sustainable basis with manageable harvest rotations. Mr. Haertzen needed to perform a capital budgeting analysis, including deriving an appropriate risk-adjusted cost of capital, to use in his investment analysis. He obtained data from Beyond Forestry in Honduras including growth rates of managed teak plantations, teak pricing, and operational expenses necessary to estimate cash flows associated with the managed teak plantations. Of equal importance was an assessment of the many risks associated with the teak plantation investment, given the political and economic environment in a developing market such as Honduras.

Case Study 5: Lisa Jackson, vice president of Environment, Policy and Social Initiatives at **Apple** Inc. (Apple) and, previously, the first African American administrator of the Environmental Protection Agency, was preparing for questions that might arise in relation to Apple's upcoming 10-year $1 billion green bond issue, Apple's second such offering. The case explores the economics of bond pricing in general, and green bonds in particular, by describing the results of the first issue, focusing on possible reactions to the second issue, and surfacing concerns that arise in connection with green bond markets. The possible positive impact on the environment from green bond issues is contrasted to concerns about greenwashing and the stark reality that Apple's first green bond exhibited at best a very small reduction in yields relative to comparable conventional bonds (a very small so-called greenium). The case provides a basis for discussion of green bond markets and enough information to estimate a yield for the new bond. Case data allow a yield estimate based on the yield curve of Apple's outstanding issues, bonds of comparable firms, and Apple's bond rating. All comparable yields are provided so the case discussion can focus on the underlying drivers of yields: a baseline risk-free rate that can vary by time to maturity, an added risk premium, and adjustments based on other characteristics that might affect supply and demand. While not central to the case, sufficient information is provided to critically evaluate Apple's bond rating at the time and comment on Apple's growing use of debt financing. This case has been used successfully to generate a discussion of green bond markets in an elective course and as an introduction to bond pricing in a core finance class. It has also been used successfully in an Executive Education program to explore the advantages and disadvantages to a firm of employing green bonds in financing investments.

Case Study 6: Angeleno Group, a clean energy private equity firm co-founded by Yaniv Tepper, is assessing a potential exit from a major acquisition in the solar power industry. The portfolio company, GT Solar, manufactures a critical component for solar cell production. GT holds the rights to a technology that disrupted the solar market by reducing the price of refined silicon and enabling the production of low-cost solar panels. Three years after the original acquisition, Tepper and the Angeleno Group are considering a lucrative exit, but must decide between the public markets or a private sale-or possibly holding onto GT Solar.

Case Study 7: On October 27, 2021, Daniel S. Loeb, founder and chief executive of the hedge fund Third Point, sent a letter to **Royal Dutch Shell**'s Board of Directors outlining a significant value-creation opportunity. The letter suggested splitting the company in two -- a spinoff company that will include the Liquefied Natural Gas, Renewables, and Marketing businesses and the remaining company that will include the Upstream, Refining, and Chemicals operations. How might the CEO and Board respond to this suggestion? How can Shell manage the increasing pressure from the activists? Should Shell frontally reject the proposal or try to arrive to an agreement? To successfully answer these questions, the participants will need to consider several key factors such as the financial implications of such a spinoff in Shell's valuation and cost of capital, its governance issues, the impact on the various different stakeholders, and how this case fits in the current sustainability trends.

Course contents

Content

The Course aims to equip you with unique skills and valuable insights into the area of sustainable finance and investments. The skills acquired will help you in staying up-to-date with one of the latest trends in finance by gaining a deeper understanding of the topic. You will

- Become familiar with key concepts related to sustainability and learn how to integrate them into the financial decision-making process as a corporate seeking funding as well as from an investor perspective seeking and assessing opportunities.
- Establish core knowledge of some of the key ESG-related factors associated with assessing financial decisions and investments.
- Learn how to apply financial tools to incorporate and adopt ESG-related factors in selecting and managing propositions with a view to integrate them in a portfolio.
- Be able to assess the viability of ESG investments, both in the equity-, bond- and loan-related spectrum

Learning Approach

Learning is foremost by building on already acquired know-how of Corporate Finance principles and applying these in case study constellations, with lecture elements provided as needed. Hence, learning will take place in individual preparations and then subsequently in class room.

Learning Outcomes

During this intensive Course you are offered the opportunity to get up to speed in a very short time on relevant themes in the areas of sustainable finance and investment. You will

- Understand the importance and viability of sustainable investing
- Get an insight into the challenges and disruptions facing financial systems and business
- Develop an understanding of ESG-related factors in private and public market investing
- Acquire knowledge about tools and frameworks to respond to financial risks posed by sustainability issues
- Appreciate ESG-related valuation as a tool for making strategic decisions
- Understand the risk and return associated with ESG-based investment strategies
- Understand the sources of value in impact investing
- Identify and understand the different types of sustainable debt
- Measure environmental and social factors
- Gain ability to develop sustainable finance strategies and lead integration into traditional financial management practices
- Develop a vision for the future of sustainable investing

Schedule

	16.April 2024	18.April 2024	23.April 2024	25.April 2024	26.April 2024	30.April 2024	2.Mai 2024
08:50		**Patagonia Sur**			**Apple**		
10:30		ESG Entrepreneurship			Green Bond		
10:50		ESG Concepts		**Honduran Teak**		**Angeleno Solar**	
12:30				Investment Analysis		Impact Investment	
13:30	**Carbfix**		**Barry Callebaut**				
15:10	ESG Technology		ESG Rating				
15:40	Business Plan		Credit Ratings				**Shell**
17:20	Working with VCs		ESG Ratings				Shareholder Activism
	Interactive Lecture						
	Case Study						

Course materials

Preparation

- All relevant themes and topics tackled in the Course you will find in the book: Schopper / Corporate Finance Concepts, 3rd edition, 2023.
- Other good references are general Corporate Finance-related books, such as by Damodaran.
- Please note and be mindful of the intensity of the course: One may assume that the preparation of each Case Study Assignment realistically requires 4-5 hours.

Bio

Information regarding my background can be found on www.christianschopper.com

Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at CEU are not tolerated.