

Syllabus

ECO5023 European Financial Markets (MBA, IMEP, MLICS)

Prof. Dr. habil. Dirk Wentzel and Dr. Alexander Del Toro Barba (Google)

Winter Semester 2022/23

Level	Master
ECTS-Credits	3
Students Contact Hours	2 (fast track)
Workload	90 hours, 30 hours within class and 60 hours for self-study (term paper) Virtual visit to the European Central Bank in Frankfurt (December 6, 2022), field trip Munich (optional)
Prerequisites	Microeconomics and Macroeconomics
Time	Blocked on Friday and Saturday (October 28 and 29; November 11 and 12)
Room	Tba
Start date	October 28, 2022 in classroom
Lecturer(s)	Prof. Dr. habil. Dirk Wentzel (Jean Monnet Chair in European Economic Integration) and Dr. Alexander Del Toro Barba (Google)
	Office W4.1.05
	Virtual Office Internet Office Wentzel
	Office Hours Monday, 1.45 – 3.15 pm
	Phone 07231-286293
	Email dirk.wentzel@hs-pforzheim.de

Short Description

This class is addressing international master students from our partner universities (IMEP) and local students from our MBA program.

The seminar is co-taught with Dr. *Alexander Del Toro Barba* from Google who is an expert in Machine Learning, Artificial Intelligence, and Quantum computing. His PhD thesis dealt with AI and finance.

Dependent of the group size, we will have several topics for a small term paper (max. ten pages) and a ppt presentation. Dr. *Del Toro Barba* will supervise some topics in this expertise. He is available online (Zoom) and he will give several presentations in hybrid settings with Prof. *Wentzel* in classroom.

As soon as we know the exact number of participants, we will have a ZOOM meeting to discuss the topics for the term papers and presentations that will be held on November 11-12. The final term papers that will be included in the grading will be due at the end of our regular semester (January 31, 2023).

A virtual visit to the ECB will also be included.

Outline of the Course and topics for seminar papers/presentations:

Professor Wentzel will give an introduction into finance and explain the scope of the research papers. Topics about QC and ML will be presented, supported and supervised by Dr. Del Toro Barba from Google.

1. The worldwide return of inflation: Explanations, options, perspectives!
2. Reasons and explanations for the collapse of the Turkish currency.
3. The European project for a digital Euro: Timelines, applications, challenges!
4. Sustainability in Finance: Towards a blue and green finance.
5. Quantum Computing in Finance: Challenges, risks and opportunities.
6. Machine Learning in Finance: Challenges, risks and opportunities.
7. The evolution and performance of krypto currencies: Opportunities, challenges and risks.

Course contributions to the MBA program goals / learning outcomes

Goal	Learning Objectives	Course Contributions to Goal	Assessment
1 Responsible leadership in organizational contexts	1.1 Knowledge of leadership principles 1.2 Application of leadership principles 1.3 Critical reflection of leadership concepts	Leadership in finance requires a deep knowledge of the latest trends and technologies in finance.	Presentation, written academic paper
2 Creative problem solving skills in a complex business environment	2.1 Ability to identify, differentiate and classify problems 2.2 Ability to analyze problems (instrumental competence) 2.3 Ability to find creative solutions (systemic competence) 2.4 Ability to present problems (communicative competence)	Term paper and presentation in AI and QC require analytical skills, empirical tools and creativity.	x
3 Research Skills	3.1 Methodological knowledge (extending knowledge) 3.2 Competence in applying relevant state of the art research methods (instrumental competence) 3.3 Ability to collect innovative results by using relevant research methods (systemic competence)	Highest standards in academic paper writing, applying modern tools like econometrics, AI, QC	Academic paper
4 Management of Innovation	4.1 Fundamental knowledge of operational innovation processes 4.2 Ability to assess a company's innovation potential 4.3 Ability to develop complex technological strategies	Financial Innovation, analysis of a complex market connecting different business cultures	x
5 Management of the challenges of global sustainability and awareness for social and corporate responsibilities	5.1 Fundamental knowledge of sustainability issues 5.2 Ability to identify and analyze sustainability issues and its causes 5.3 Development of sustainability strategies	All topics in finance are confronted with their ethical and sustainability impact	x

Teaching and Learning Approach

Usually, this class is taught in an interactive approach with lecture elements, discussions, case studies and a field trip to the European Central Bank in Frankfurt and the German Stock Exchange (Deutsche Börse).

This semester, we are pleased to introduce Dr. Alexander Del Toro Barba as an additional instructor for this expert seminar. Dr. Del Toro Barba is machine learning specialist with Google. He will be available online and in hybrid meetings.

The final assessment will be based on a short term paper (max. ten pages) and a presentation. The class ends before Christmas.

Literature and Course Materials

- **De Haan, Jacob; Oosterloo, Sander; Schoenmaker, Dirk (ed.) (2015): Financial Markets and Institutions – A European Perspective, Cambridge University Press.**
- *De Grauwe, Paul* (latest edition): Economics of Monetary Union, Oxford
- *European Central Bank* (2022): The ECB, Frankfurt.
- *Moussis, Nicholas* (2008): Access to European Union law, economics, policies, European Study Service.
- *Neal, Larry* (latest edition): The Economics of Europe and the European Union, Cambridge.
- **Wentzel, Dirk (2021): Updated reader in European Financial Markets will be provided online (based on the book of De Haan, Oosterloo and Schoenmaker).**

Further materials from the European Union will be provided in class!

Assessment

The final assessment is based on a term paper (max ten pages and a presentation).

Schedule

October tba, 2022	First <u>virtual meeting</u> , discussion of materials, websites, lecture list, introduction and motivation
October 28 (Friday)	Online presentation Dr. Del Toro Barba: Quantum Computing and Finance Classroom presentation Prof. Wentzel: Finance and current challenges
October 29 (Saturday)	Online presentation Dr. Del Toro Barba: Machine Learning and Finance Classroom presentation Prof. Wentzel: Finance and current challenges
November 11 (Friday)	Classroom presentation Prof. Wentzel: Finance and current challenges
November 12 (Saturday)	Students presentations about their term papers and research
November tba	Field trip to Munich Allianz Arena (optional)
December tba	Virtual field trip to the European Central Bank
January 31, 2023	Submission of final term papers (10 pages text)

Availability of the Professor

Prof. Wentzel is available during his office hours (tba), after class and by appointment. **Prof. Wentzel is also available by appointment through digital communications channels (Zoom, Alfaview).**

Academic Integrity and Student Responsibility (optional)

I fully trust my students concerning academic integrity and standards. This class is based on mutual trust and multi-cultural respect.

Rules of Conduct for Online Teaching/Hybrid Meetings

If the technical requirement and the internet bandwidth allow, I prefer my students to use both audio and video. I appreciate to see the full first and last name. I always keep the chat function open and respond directly.

If students are in completely different time zones (US or Asia), I respect if they might have special challenges and reduce their videos.

[Link to the Rules of Conduct for Online Teaching](#)

Additional Information

We are planning a field trip to Munich to visit the Allianz Arena as part of the seminar in sport economics. Details will be provided by the ISP team at the beginning of semester. May be it could be opened also to IMEP students.