

# Seminar in Banking

## Decentralized Finance (DeFi)

*Prof. Dr. Andre Guettler – Winter term 2021/22*

Decentralized Finance (DeFi) is enabled by smart contracts on blockchains and does not rely on central financial intermediaries such as banks or exchanges. DeFi protocols offer a wide range of financial services such as trading, lending, and borrowing. It is an extremely fast growing (and fascinating) market that will likely disrupt many traditional business models in Finance.

For those not (yet) familiar with the topic, I recommend reading „Decentralized Finance: On Blockchain- and Smart Contract-Based Financial Markets“ by Fabian Schär

Source: <https://research.stlouisfed.org/publications/review/2021/02/05/decentralized-finance-on-blockchain-and-smart-contract-based-financial-markets>

### **Topics:**

Topics (note that these are very recent papers that may be updated until the seminar starts, make sure that you download the most recent version):

#### *1. Flash loan attacks*

Qin et al., 2021, Attacking the DeFi Ecosystem with Flash Loans for Fun and Profit

(easy start: Wang et al., 2021, Towards A First Step to Understand Flash Loan and Its Applications in DeFi Ecosystem)

#### *2. Frontrunning*

Daian et al., 2021, Flash Boys 2.0: Frontrunning, Transaction Reordering, and Consensus Instability in Decentralized Exchanges

#### *3. Liquidations*

Perez et al., 2021, Liquidations: DeFi on a Knife-edge

#### *4. Centralized versus Decentralized Finance*

Qin et al., 2021, CeFi vs. DeFi — Comparing Centralized to Decentralized Finance

### 5. Wash trading

Victor and Weintraud, 2021, Detecting and Quantifying Wash Trading on Decentralized Cryptocurrency Exchanges

(easy start: [www.coindesk.com/for-15k-hell-fake-your-exchange-volume-youll-get-on-coinmarketcap](https://www.coindesk.com/for-15k-hell-fake-your-exchange-volume-youll-get-on-coinmarketcap))

### 6. Financial contagion in DeFi

Gudgeon et al., 2021, The Decentralized Financial Crisis: Attacking DeFi

(easy start: <https://medium.com/coinmonks/how-to-turn-20m-into-340m-in-15-seconds-48d161a42311>)

### 7. Decentralized Autonomous Finance (DAO)

Harwick and Caton, 2019, What's holding back blockchain finance? On the possibility of decentralized autonomous finance., Quarterly Review of Economics and Finance, forthcoming.

## Further information:

#What is the seminar's goal:

You should read the allocated academic paper as well as a few closely related papers (usually, they are mentioned in the paper or you find them by clicking on „Cited by..“ or „Related articles“ below the paper's Google Scholar search result). The seminar thesis and its corresponding presentation need to summarize the allocated paper and it should also discuss the paper's strengths and weaknesses. The strengths are usually easy to list because authors mention them clearly. Weaknesses are more difficult to detect and for that reason you need to read other papers that may have taken a different / better approach or data etc. Note that you are not required to replicate any of the paper's empirical results (even though this might be fun and helpful in case the author's provide data and code).

#Details with respect to the seminar thesis:

Please write around 10 pages (12 font Times New Roman, 1.5 line spacing) of text if you are a group of two students and around 13 pages if you are a group of three students. References, tables, and figures are on top of that page count. Please put all figures and tables on separate pages (for a formatting example see, e.g., [https://www.uni-ulm.de/fileadmin/website\\_uni\\_ulm/mawi.inst.120/Lehrstuhl/Example\\_WP\\_style1.pdf](https://www.uni-ulm.de/fileadmin/website_uni_ulm/mawi.inst.120/Lehrstuhl/Example_WP_style1.pdf)). Please try to replicate key aspects of one academic paper and relate to 2-5 closely related academic papers.

#Details with respect to the presentation:

You have 30 minutes to present your work; followed by around 15 minutes of discussion. That makes 10 to 12 content slides. You are required to send your presentation as a PDF file (!) the day BEFORE the presentation. To be fair to everyone, I do not accept later updates. Depending on the pandemic situation, the seminar presentations will either be in person or online.

#### IMPORTANT DATES:

- Formal registration for the seminar: around beginning of November (TBA); see instructions: [https://www.uni-ulm.de/fileadmin/website\\_uni\\_ulm/mawi/kommissionen/pruefungsausschuss\\_wiwi/Richtlinien-Anmeldung-Seminararbeit.pdf](https://www.uni-ulm.de/fileadmin/website_uni_ulm/mawi/kommissionen/pruefungsausschuss_wiwi/Richtlinien-Anmeldung-Seminararbeit.pdf)
- All registered students can submit topic and group preferences via email after the formal registration process (TBA); I will allocate topics and groups based on these preferences.
- Seminar will take place mid-January 2022 (TBA)