

Trustless Business Models: In-Class Exercises

Standalone Lecture — 3 Short Exercises

Prof. Dr. Joerg Osterrieder

Digital Finance — BSc Course

How to use these exercises

- Three short in-class exercises, ~8–10 minutes each.
- Attempt on paper first, then discuss with a partner.
- Solutions are hidden by default; instructor build reveals them via `\solutionstrue`.

Companion to `lecture_trustless_business_models`.

Exercise 1: Three Trustless Business Models

Task. Name three categories of trustless (or minimally-trusted) business models. For each, identify:

- a) A concrete product or protocol example.
- b) The primary source of revenue.

Difficulty: Introductory — tests recall.

Exercise 2: AMM Fee Calculation

Scenario. On a Uniswap-style AMM with a 0.3% swap fee pool:

- Alice swaps 1 ETH (market price \$2,000) for USDC.
- Ignore slippage and gas.

Task. Compute (a) fee paid in dollars, (b) USDC received, (c) what fraction of fee goes to liquidity providers if 10% is routed to the protocol treasury. *Difficulty: Introductory — single-step arithmetic.*

Exercise 3: Residual Trust Assumptions

Task. “Trustless” is never fully trustless. Identify **two** trust assumptions that remain even in a well-designed DeFi protocol, and for each state a real-world incident where that assumption was violated. *Difficulty: Intermediate — links theory to incidents.*