

# The Economics of FinTech, Lecture 5

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# Outline

- 1 Overview
- 2 ICO vs. IPO
- 3 Deploying the ICO Contract to a Test Network

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- We will do 2 programming codes for a standard ERC20 token, and an ICO contract.
- We will study contract design for ICO's.

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- Initial Public Offering.
- Investment banks play a crucial role.
- In particular, investment banks will find buyers for all the shares and then sell the shares to the secondary markets.
- Regulated by SEC
- May dilute shares later by having the second IPO.
- Share holders typically have voting rights.

- Initial Coin Offering.
- Peer-to-Peer. No investment bank necessary.
- Information asymmetry.
- Utility tokens and security tokens.
- Security tokens are regulated by SEC.
- No dilution of shares.
- Token holders typically have no voting right.

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# Deploy the ICO contract

- (1) Deploy the token contract. Note the unit of the token and copy the token contract address.
- (2) Deploy the ICO contract, with the initial funding goal to be 2 ethers, with the ether cost of each token being 1. Note that you have to use the token address in Step (1) to deploy the ICO contract.
- (3) Transfer 2 tokens to the ICO contract account (not the token address). This can be done via the token contract (not the ICO contract). Note that the amount has to be multiply by the unit (e.g.  $10^{18}$ , which means typing 2 followed by 18 zeros).
- (4) Use 2 accounts to transfer 1 ether each to the ICO contract account. In return, each account should each get back one token.
- Note that the gas limit in the Metamask should be large enough to support the transfer in Step (4).
- (5) After the deadline passed, check the goal is reached, and then withdraw all 2 ethers in the contract account to the beneficiary account.

- Deploy the token contract.
- Deploy the ICO contract, with the initial funding goal to be 2 ethers, with the ether cost of each token to be 1.
- Transfer 2 tokens to the ICO contract account.
- Use two accounts to transfer 1 ether each to the ICO contract account. In return, the two accounts should each get back one token.
- After the deadline passed, withdraw all 2 ethers in the contract account to the beneficiary account.
- Send your finished ICO contract address to me.