Pre-Class Discovery: Supply Chain Transparency

Digital Finance – BSc Course | Prof. Dr. Joerg Osterrieder

Complete before class. No prior knowledge required. Work alone or in pairs.

Activity 1: Trace Your Lunch

Pick one item from your last meal (e.g. a banana, a chicken sandwich, a coffee).

(a) Trace it back 3 steps from your plate. Fill in the table:

Step	Actor	What you do NOT know
3 (you)	Retailer / canteen	
2	Distributor	
1	Producer / farmer	

(b) What information would you *need* to verify the item is organic, fair-trade, or sustainably sourced?

Activity 2: The Trust Gap

A blockchain records that your coffee is certified organic. But the blockchain only stores what someone typed in. The coffee itself never touches the chain.

(a) This is called the "oracle problem." In one sentence, explain why a blockchain cannot verify physical-world facts by itself.

(b) List 3 approaches to bridge the gap between the physical bean and the digital record.
Hint: think about IoT sensors, third-party audits, and economic incentives.

(c) For each approach, name one weakness or way it could be defeated.

Activity 3: EU Digital Product Passport Impact

Starting in 2027, the EU requires Digital Product Passports (DPPs) for textiles, batteries, and electronics—a full lifecycle record on-chain or in a verified database.

Consider a $5 t-shirt sold by a fast-fashion brand:

(a) Estimate the implementation cost per unit to create a DPP (think: scanning, data entry, storage, QR code, IT systems).

(b) Who ultimately pays this cost? The brand, the factory, or the consumer?

(c) Does the DPP requirement help or hurt small producers in developing countries? Give one argument for each side.