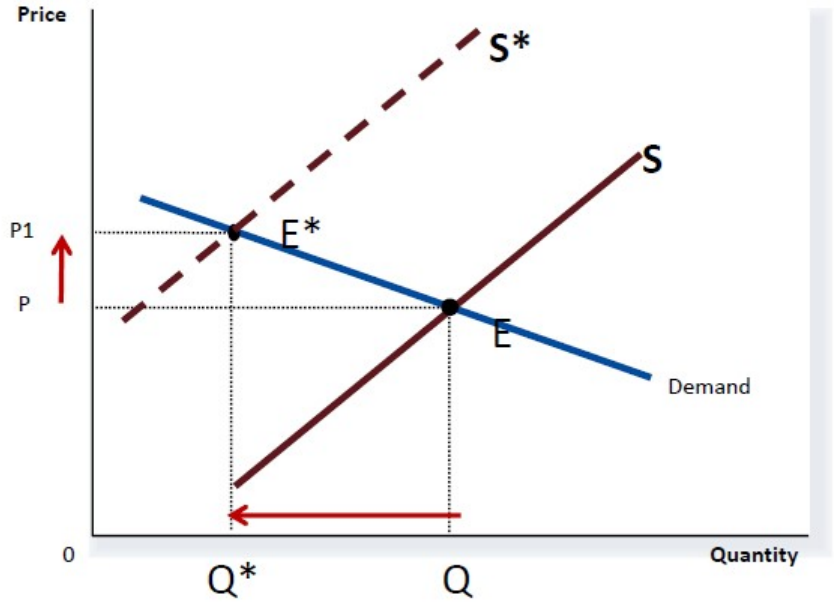
INTRODUCTION : AGRICULTURAL ECONOMICS (2)

NONDH NUCHMORN

How economics theory make us understanding the complication of Agriculture ?



Farm decisions?

- Which crop/animal? (With respect to soil, climate and ecosystem)
- What kind of plant is the demand of the market?
- How much to produce? How much to sell? How much should we stored or used as animal feed?
- How much are the costs?
- Where are the source of finance?

Farm decisions?

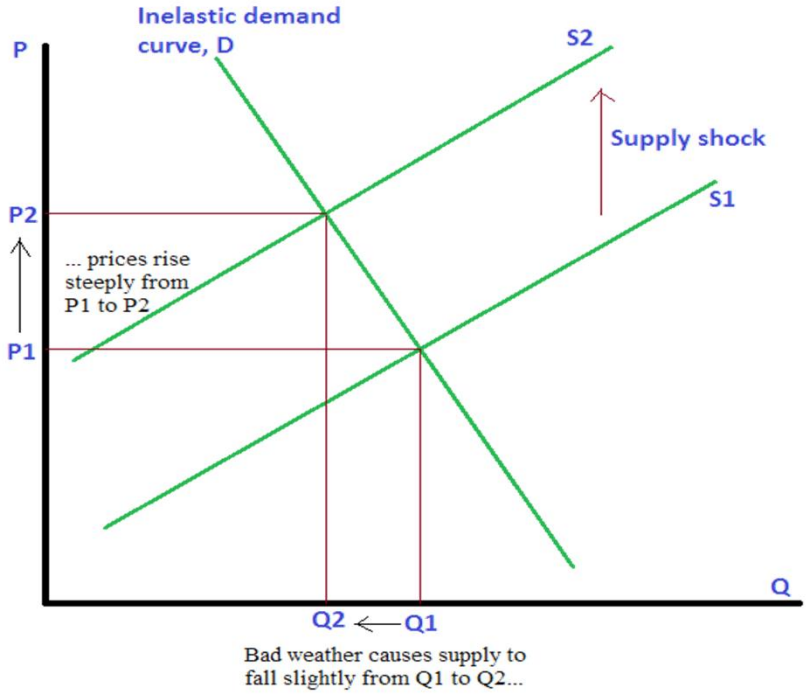
- Does each crop/animal have different production risks?
- How can farmer access to technology/factors (e.g. seed)?
- Should farmer hire more labor or machine?
- Should farmer store produces for selling or consuming in the next season?
- Should we corporate with other farmers in the form of group / cooperative / company etc. ?

Economics and agriculture?

- **Classical school**
  - Adam Smith (1776) The Wealth of Nations
    - "*It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages*"

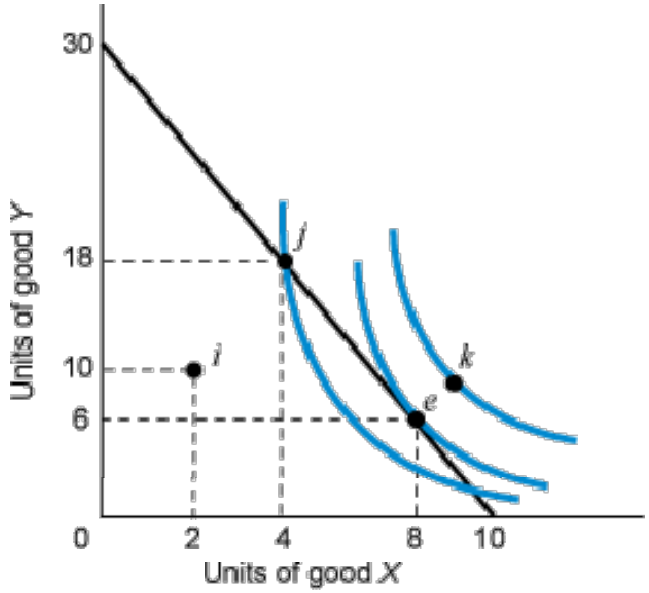
Economics and agriculture?

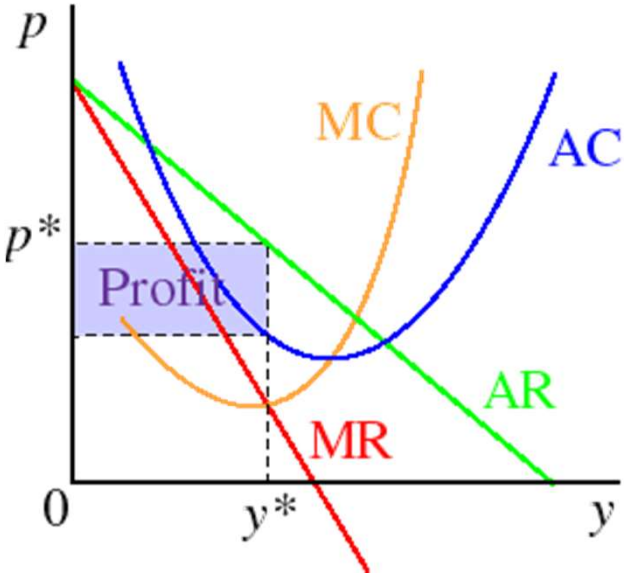
- **Classical school**
  - Alfred Marshall (1842-1927) "*Principle of Economics*"
    - Demand & Supply, Marginal Utility, Cost of Production



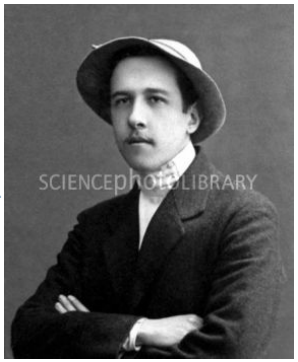
Economics and agriculture?

- **Neo-classical school → "Marginal Revolutions"**
  - Three assumptions:
    - People have rational preferences among outcomes that can be identified and associated with a value.
    - Individuals maximize utility and firms maximize profits.
    - People act independently on the basis of full and relevant information.



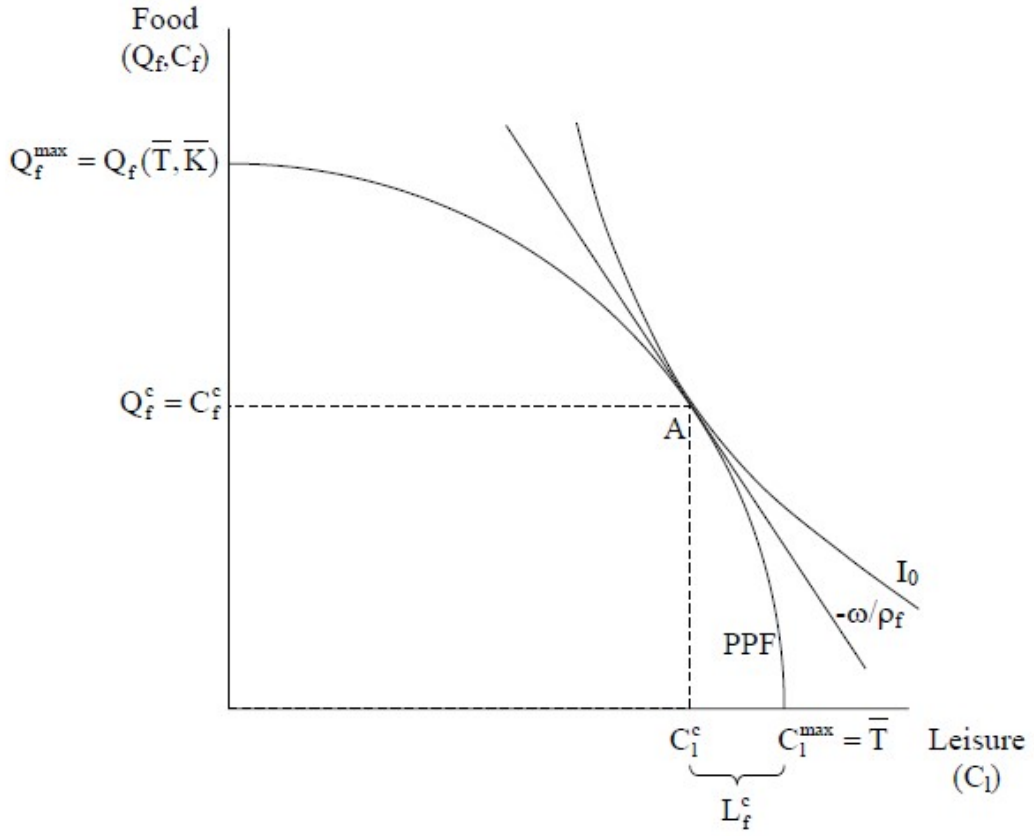


Economics and agriculture?

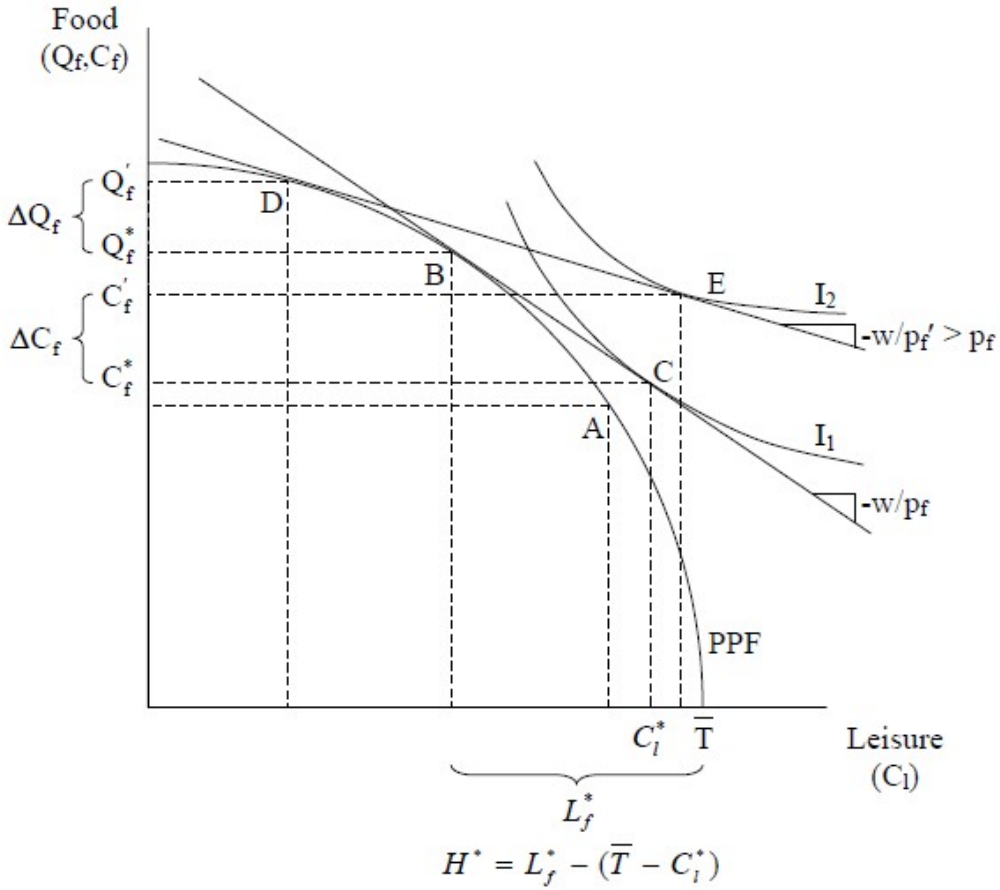


- **Neo-classical school**
  - Application to farm household decision-making
  - "***Peasant household model***": Alexander Chayanov (1888 –1937)
    - **Farmers' production and consumption activities could be considered as 'non-separable'. Most farm households retain some of their farm production for home consumption.**
    - **"Consumption-Labor-balance" principle**
      - **Peasants would work as hard as they needed in order to meet their subsistence needs, why?**
      - **The value of additional time spent on leisure (food preparation, time with children, ...) must be balanced with an additional time working on farm**
      - **Why farmers didn't adapt themselves to capitalism?**

- "***Peasant household model***"



- "***Peasant household model***"

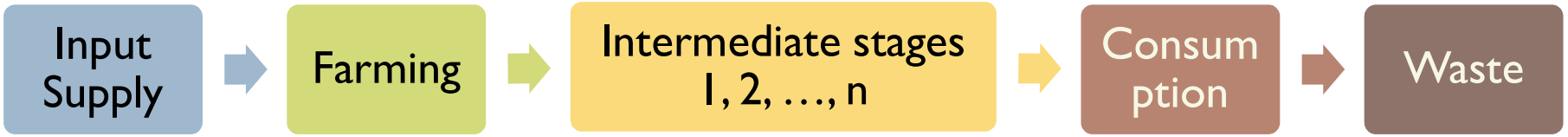


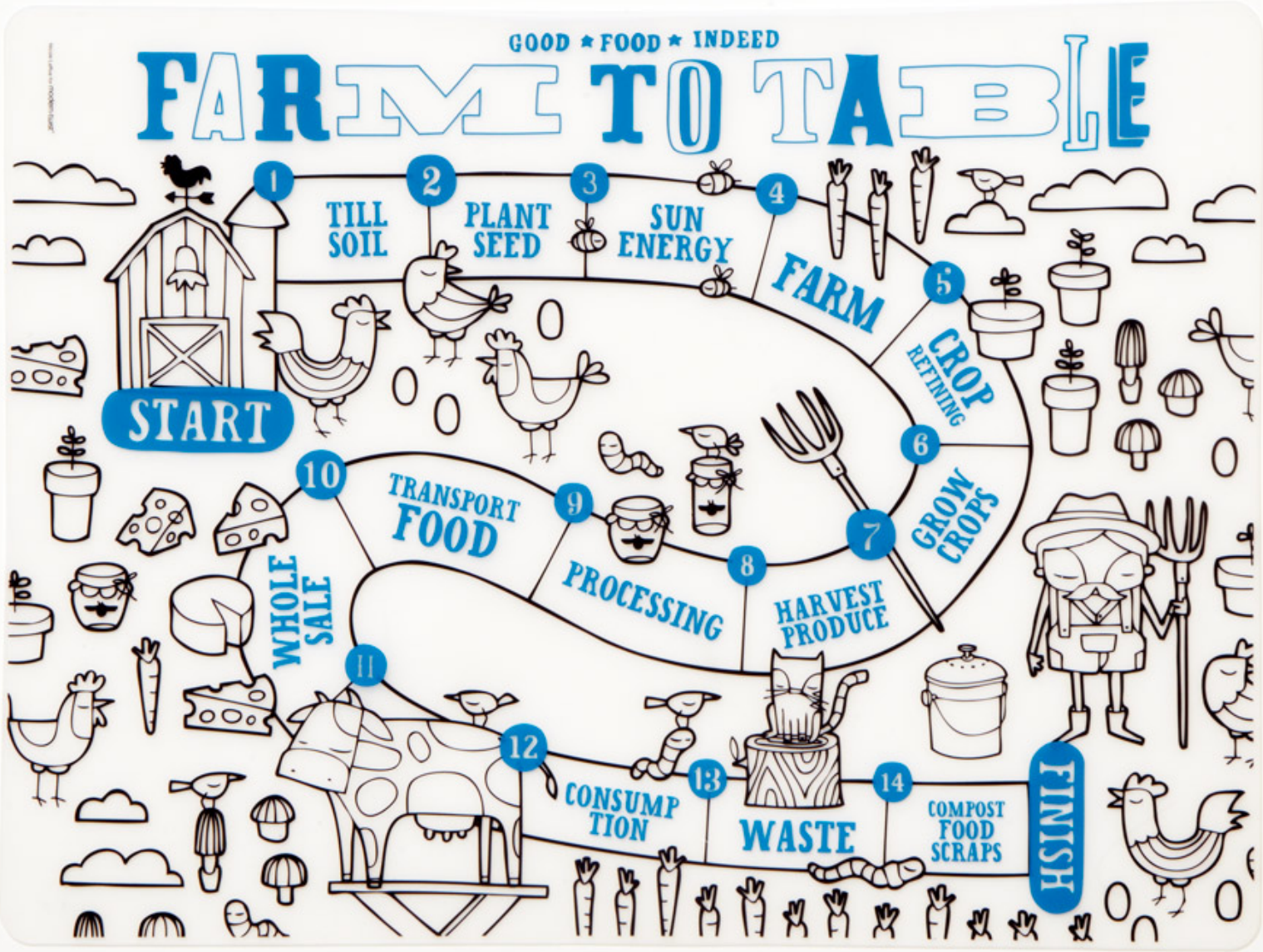
Agricultural marketing

Food Supply Chain

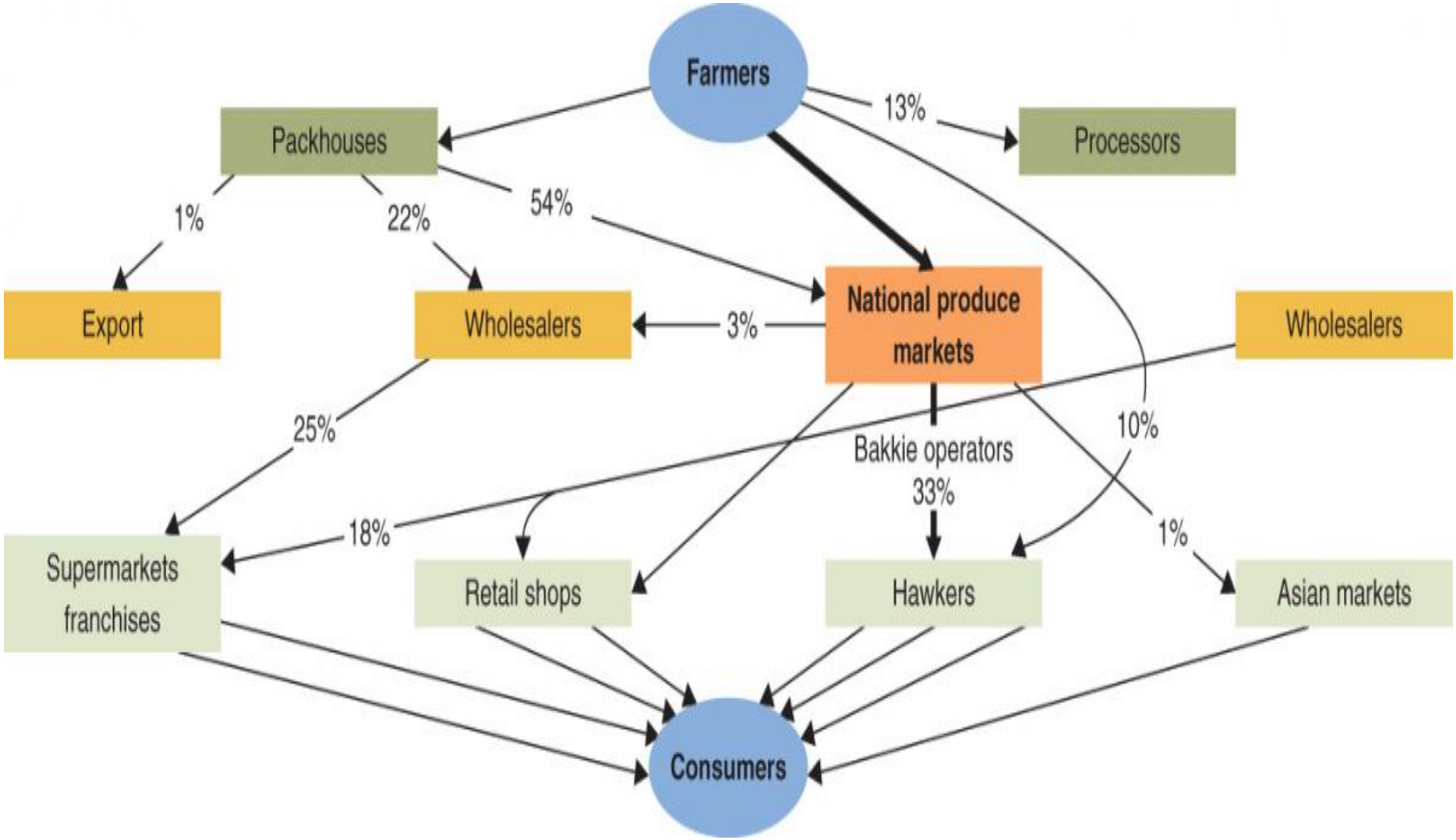
- ‘From farm to fork’ approach
- Complex food supply chain
- Lots of intermediates among farmers and consumers

Post-harvest process, storage, transport, distribution, wholesale, processing, packaging, retailing




GOOD ★ FOOD ★ INDEED
FARM TO TABLE
START
1
TILL SOIL
2
PLANT SEED
3
SUN ENERGY
4
FARM
5
CROP REFINING
6
GROW CROPS
7
HARVEST PRODUCE
8
PROCESSING
9
TRANSPORT FOOD
10
WHOLE SALE
11
12
CONSUMP TION
13
WASTE
14
COMPOST FOOD SCRAPS
FINISH

Marketing Channels



Agricultural marketing

Food Supply Chain

- 'Number of farmers were less than producers
- Less number of producers who sell input factors Ex. Chemical fertilizer
- High number of consumers
- Trends of vertical integration

Marketing functions

- Seasonal and geographical dispersion create the need for a marketing system

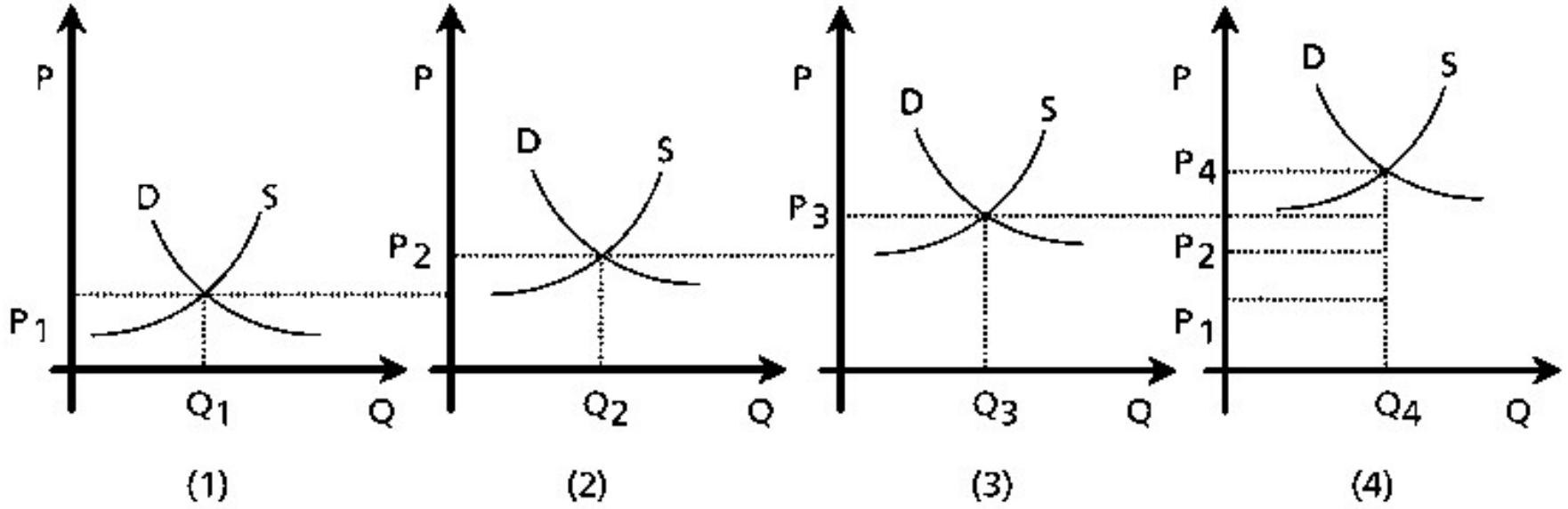
Agricultural Marketing

Marketing functions

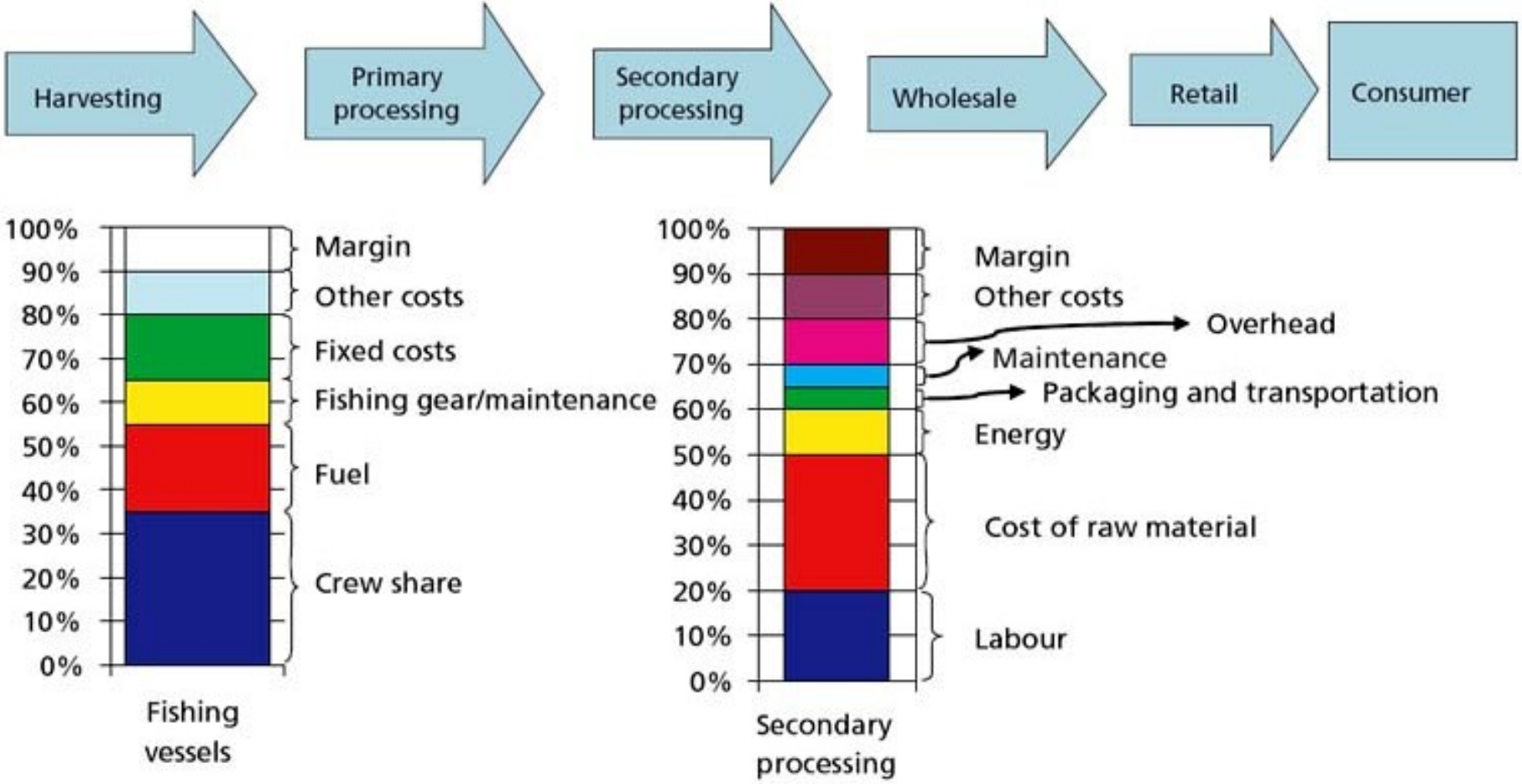
- **Exchange functions**
- **Physical functions: Increasing the value-added**
  - Place utility
    - Transportation (domestic shipping, international imports/exports)
  - Time utility
    - Holding products from harvest or production and distributing it over time as it needed $E_t(p_{t+1}) - SC_{t,t+1} > p_t$
  - Form utility
    - Processing, especially in the manufacturing activities
- **Facilitating functions**
    - Grading and standardization, insurance, market information

Agricultural Marketing

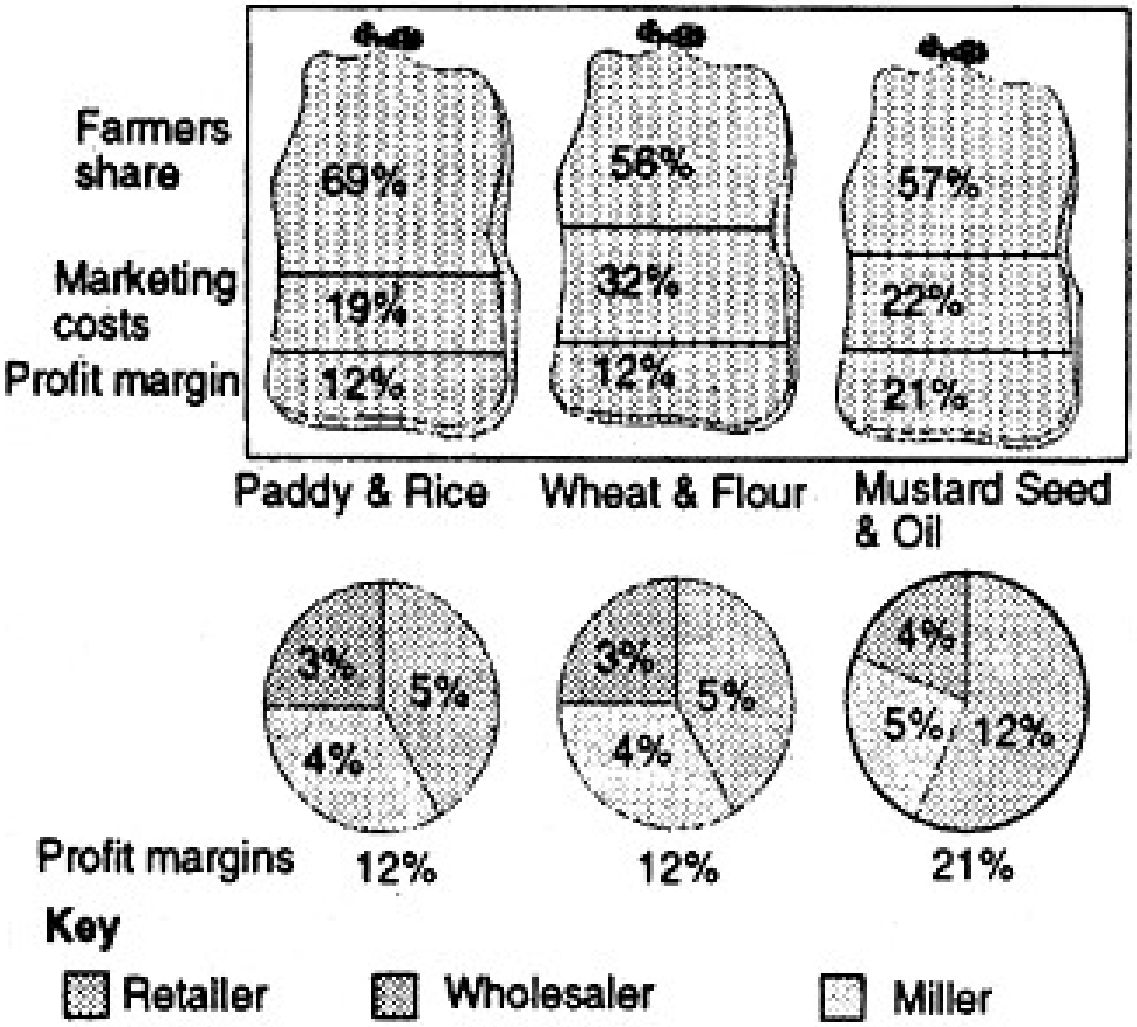
Price transfer in supply chain



Price transfer in supply chain



Price transfer in supply chain



Price transfer in supply chain

	Fresh Tomatoes	Canning Tomatoes
Retail price (50 kgs)[a]	$20.00	$40.00
Marketing margin	$12.00	$32.00
Farmer's return	$8.00	$8.00
Farmer's %	40%	20%

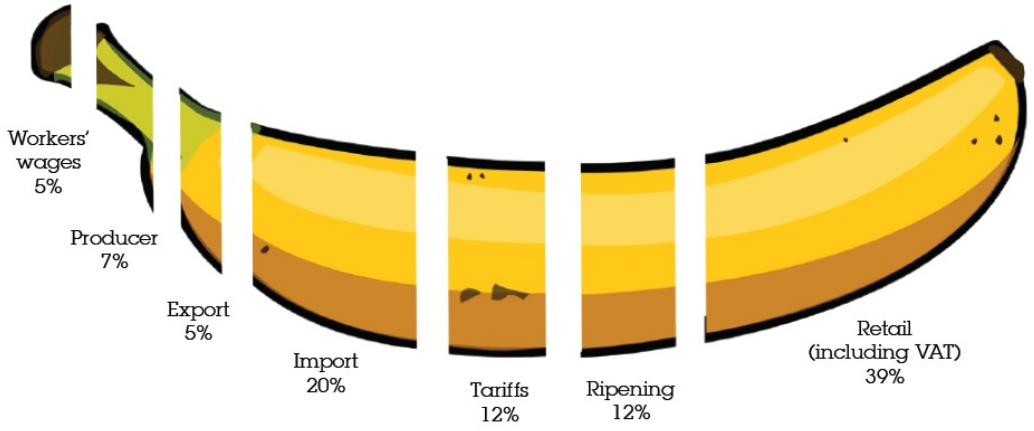
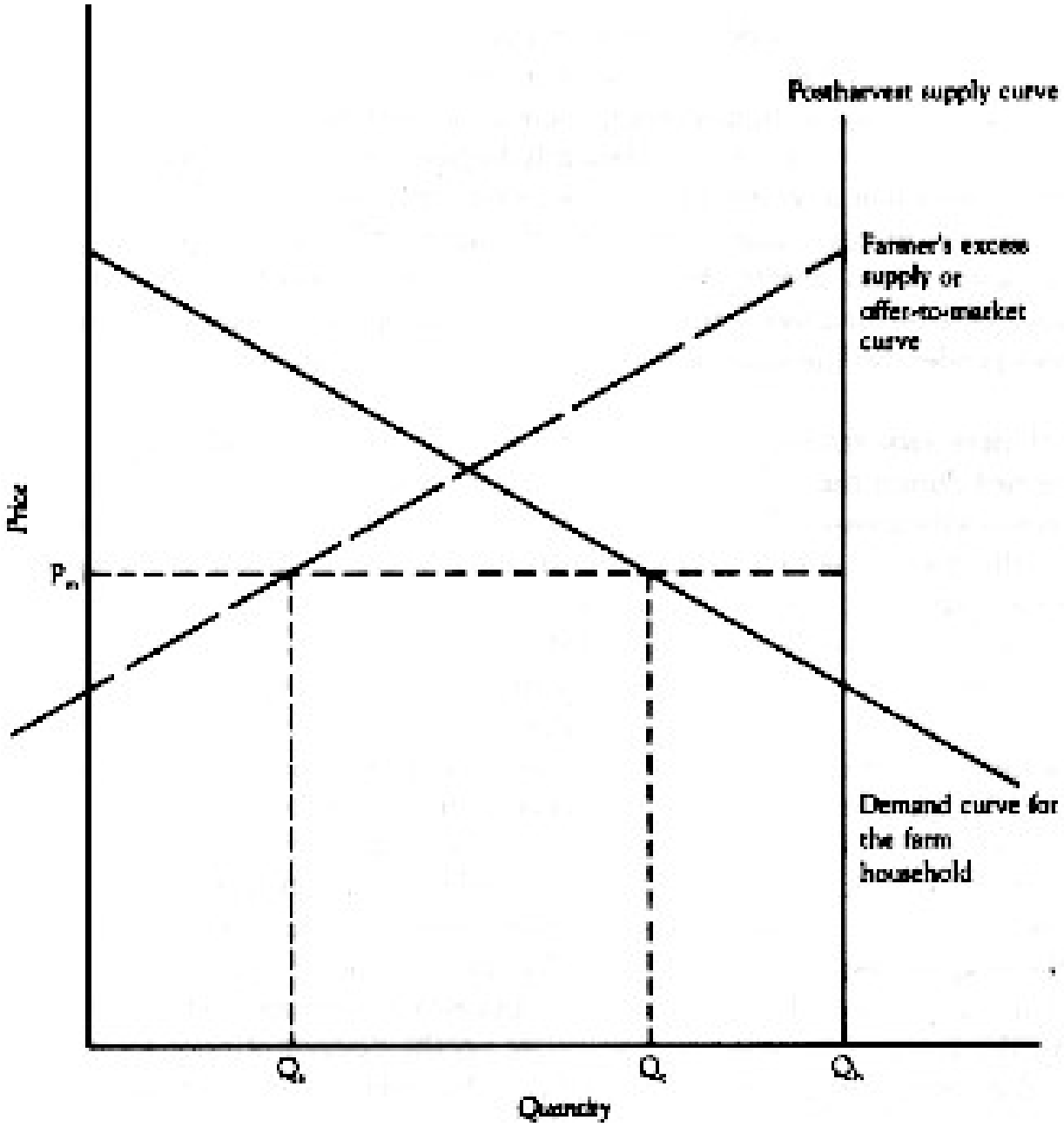


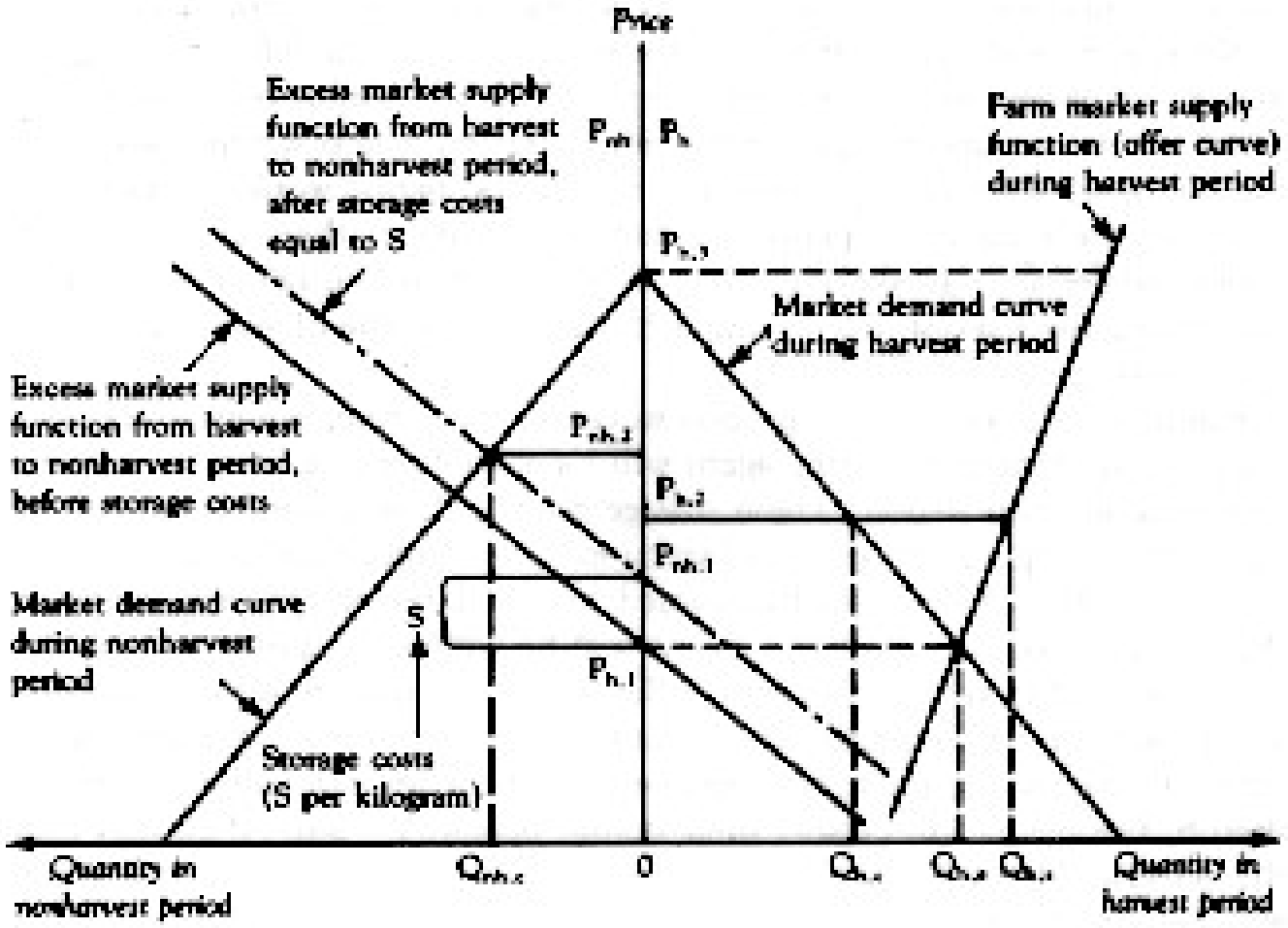
Fig. 2 Average banana value breakdown imported into the Republic of Ireland (source: BASIC, based on UN Comtrade data, FAO data and interviews with sector experts).

Short-run Supply and Demand Curves for a Representative Rice Farmer



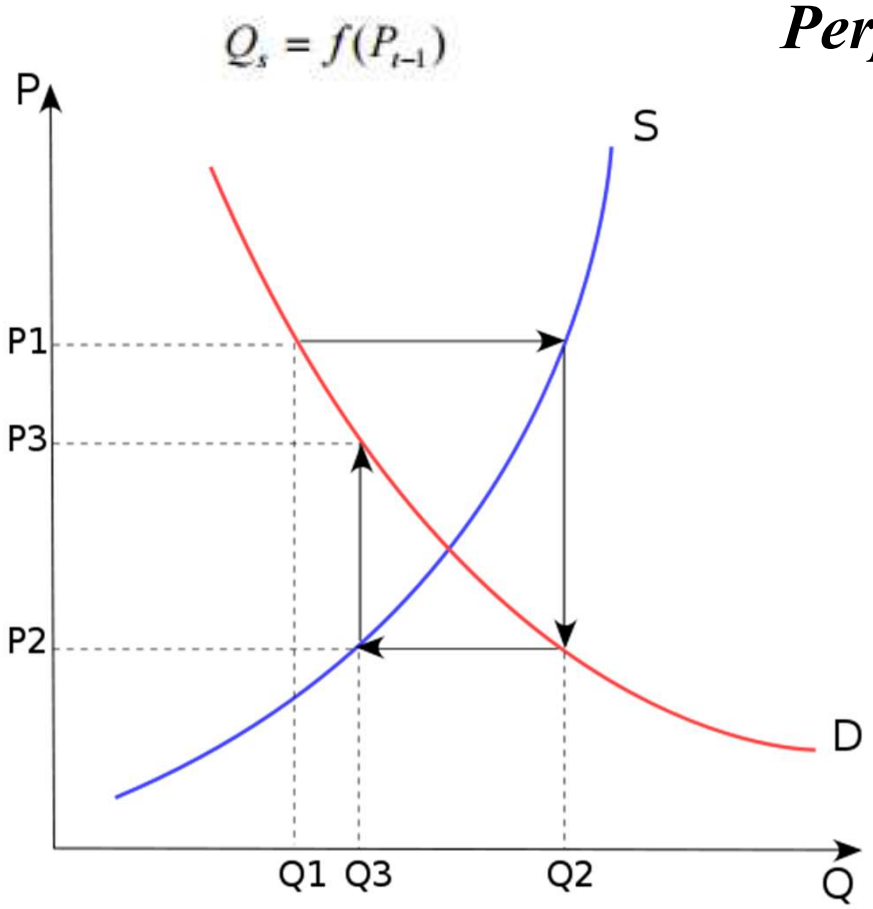
Seasonal Price Formation

Back -to-back Supply and Demand Framework

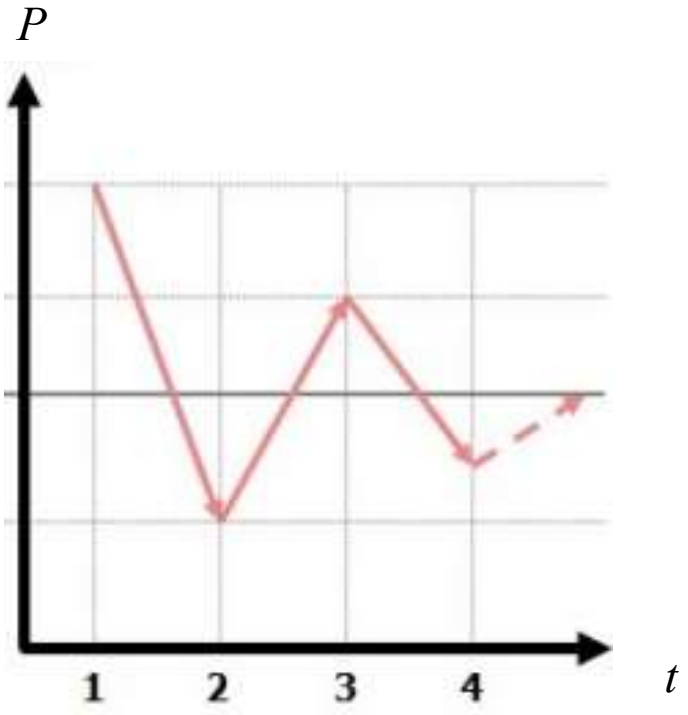


Agricultural Price Dynamics

Cobweb Model

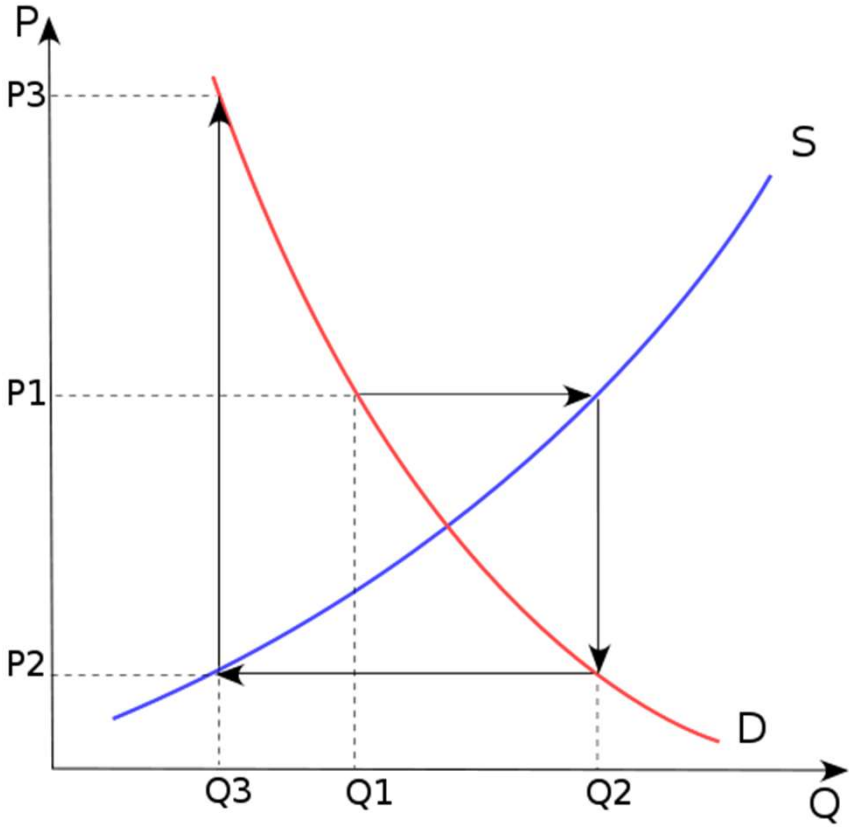


Perpetual Oscillation

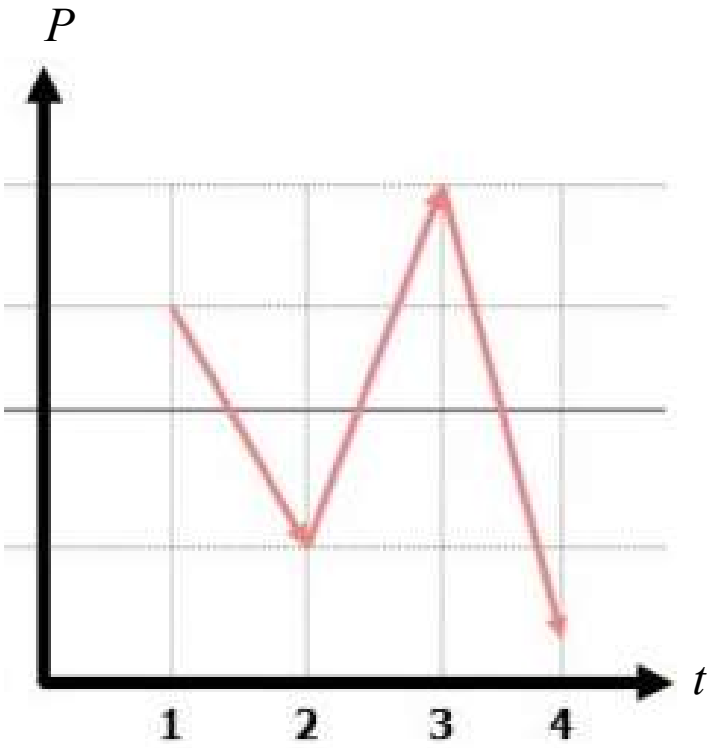


Cobweb Model

$$Q_s = f(P_{t-1})$$



Damped Oscillation



Cobweb Model