

INTERNATIONAL AGRIFOOD MARKETS AND POLICY

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Topic 1

1. Agri-food markets

1.1 Demand and supply of agri-food products

1.2 Market models in agri-food sectors

1.3 Instability and uncertainty in agriculture

1.4 Agricultural sector in the developed and in developing countries

Agri-food sector in modern societies

Nowadays, agri-food sector, in EU and Italy, shows the following trends:

Decline of the economic role of agriculture in terms of contribution to GNP and employment ratio.

The economic growth is driven by industrial sectors and by services sectors, that mainly produce the GNP.

Industrial sectors and by services sectors have the main number of employees.

Agriculture provide labor force to other sectors.

Agri-food sector in modern societies

Increase of agricultural productivity

In the industrialization and post-industrialization process there is:

- a labor force exodus from agriculture and rural areas;
- an increase in incomes, in particular in non-agricultural incomes (industrial incomes and services incomes);
- a demographic growth;
- an increase in agri-food demand.

Agricultural sector, with less labor force, can provide more food to satisfy a increasing demand only with a increase of productivity.

Agri-food sector in modern societies

More complex relationship of agriculture with other economic sectors/activities (industry, logistic, retail,...):
filierre / supply chain of agri-food.

Farms increase the purchase of input and the sell of output.

Change the relationship of agriculture with input industry and with food transformation industry.

Technological progress and innovations change the characteristics of agri-food products.

The links of agriculture with other sectors become more and more important.

Agri-food sector in modern societies

Increase of (geographical) distance between producers and consumers.

Several factors influence this trend:

- Reduction of transportation costs.
- Innovation in storage and conservation food techniques.
- Increase in domestic and international trade.
- Globalization of consumption behavior.

Agri-food sector in modern societies

Increase of (geographical) distance between producers and consumers.

Consequences:

No direct relationship between consumers and producers.

The links of agriculture with other sectors become more and more important.

Asymmetric information – risk of market failure.

New markets for firms and increasing differentiation process.

Agri-food sector in modern societies

Importance of quality of food (multidimensional concept) and the differentiation of the agri-food products.

Diversification of food products:

- Commodities: grain, meat, milk,..
- “Specialties” (differentiation of agri-food products): wine, olive-oil, geographical indication products, organic products, food with brand,...
- Commodities (perfect competition market)
- “Specialties” (imperfect competition market)

Agri-food sector in modern societies

Importance of quality of food (multidimensional concept) and the differentiation of the agri-food products.

The agri-food product from no-differentiated goods became ad differentiated goods.

Commodities vs Specialties.

Commodities: perfect competition model.

Specialties: imperfect competition model with product differentiation.

Global market vs Local market.

Agri-food sector in modern societies

Environmental concern

Negative externalities (soil and water pollution, CO2 emissions,..).

Positive externalities (landscape, biodiversity conservation,..).

Risk of market failure.

Agri-food sector in modern societies

Environmental concern

Socio-environmental role of agriculture in modern societies.

Multifunctional agriculture (Rural development).

Sustainability.

Economic growth  sustainable development

Green economy, circular economy

Agri-food sector in modern societies

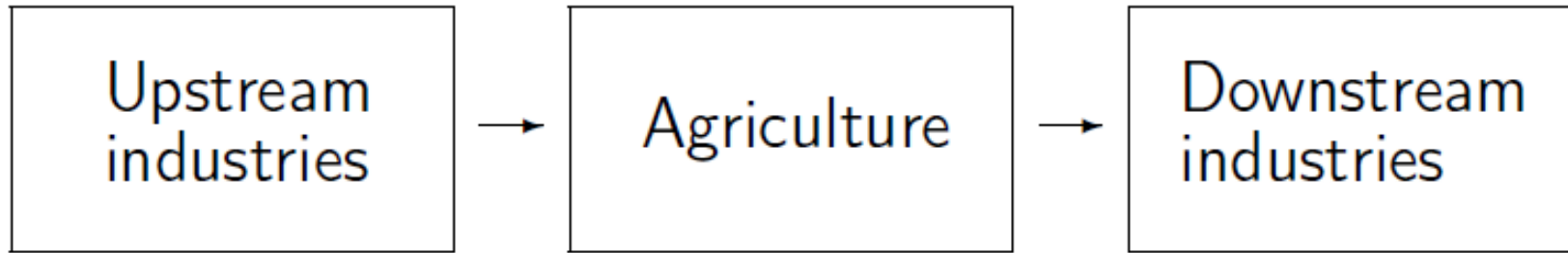
Importance of government regulation and public intervention.

The public intervention is related and justified by the following goals:

- Food security
- Food safety
- Market failure (asymmetric information and externalities)
- Environmental goals
- Social goals
- Economic goals

Agri-food sector in modern societies

The agri-food sector



Examples:

- Feed
- Agricultural machinery
- Fertilizer
- Plant protection
- Seed
- Energy

Other markets:

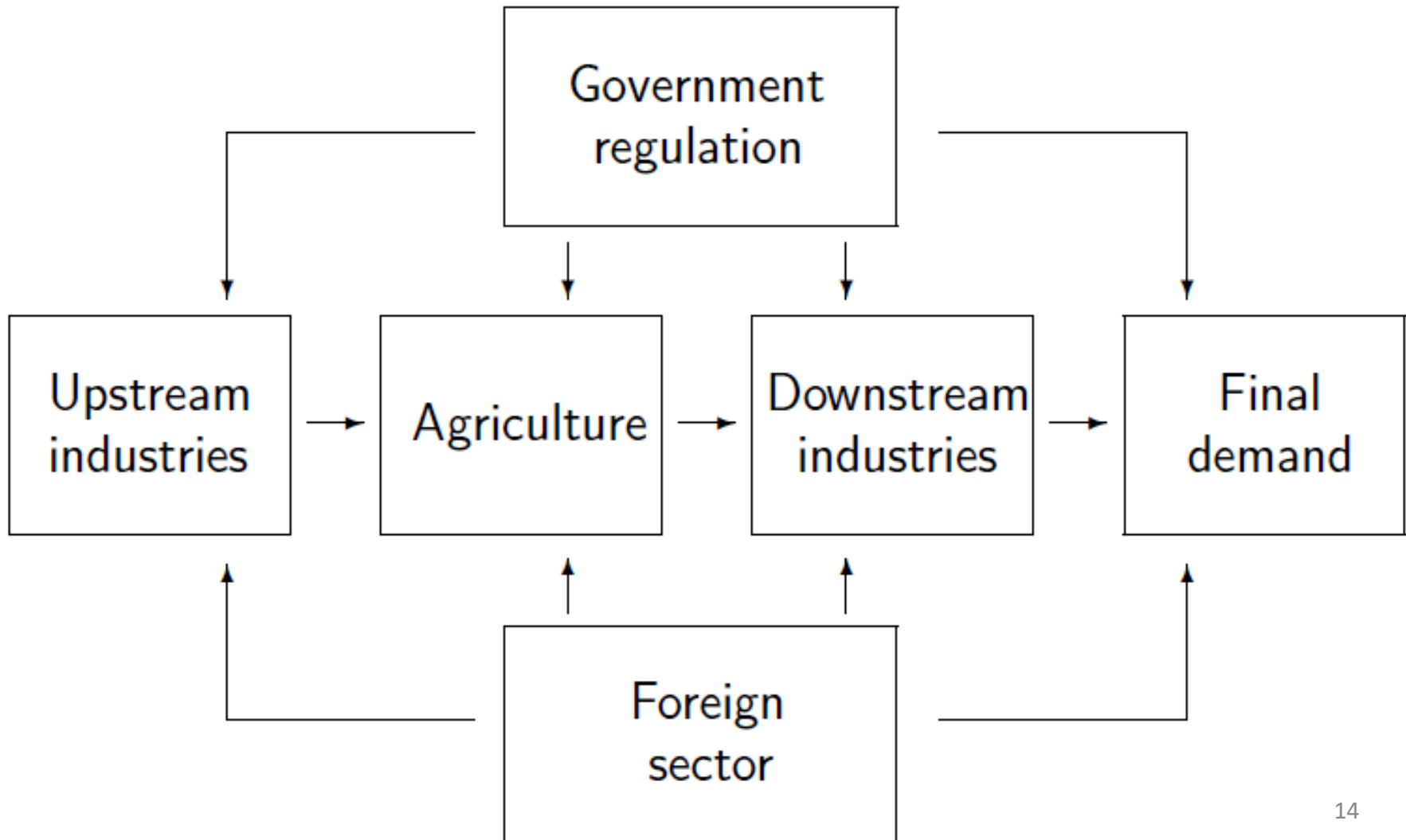
- Labour market
- Land market

Examples:

- Procurement of raw products
- Semiprocessed foods (e.g. flour mills)
- Consumer food products (e.g. food processing, bakeries)
- Grocery wholesalers and retailers

Agri-food sector in modern societies

The agri-food sector in a broader context



Agriculture and other economic sectors

It becomes important not so much the macroeconomic relationship between agriculture and other sectors, but the **supply chain** relationships (**agri-food filière**).

A supply chain is a system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer.

Supply chain activities involve the transformation of natural resources, raw materials, and components into a finished product that is delivered to the end customer.

Agriculture and other economic sectors

In sophisticated supply chain systems, used products may re-enter the supply chain at any point where residual value is recyclable. (**Circular economy**).

Agriculture and other economic sectors

Many agribusinesses and food processors source raw materials from smallholder farmers.

This is particularly true in certain sectors, such as coffee, cocoa and sugar.

Over the past 20 years, there has been a shift towards more traceable supply chains.

Rather than purchasing crops that have passed through several layers of collectors, firms are now sourcing directly from farmers or trusted aggregators.

The drivers for this change include concerns about food safety, child labor and environmental sustainability as well as a desire to increase productivity and improve crop quality (**sustainability**)

Agriculture and other economic sectors

Supply chains link value chains.

A value chain is a set of activities that a firm operating in a specific industry performs in order to deliver a valuable product or service for the market.

The concept comes through business management and was first described by Michael Porter in his 1985 best-seller, *Competitive Advantage: Creating and Sustaining Superior Performance*.

Agriculture and other economic sectors

The idea of the value chain is based on the process view of organizations, the idea of seeing a manufacturing (or service) organization as a system, made up of subsystems each with inputs, transformation processes and outputs. Inputs, transformation processes, and outputs involve the acquisition and consumption of resources – money, labour, materials, equipment, buildings, land, administration and management. How value chain activities are carried out determines costs and affects profits.

Agriculture and other economic sectors

In Porter's value chains, Inbound Logistics, Operations, Outbound Logistics, Marketing and Sales, and Service are categorized as primary activities.

Secondary activities include Procurement, Human Resource management, Technological Development and Infrastructure.

Agriculture and other economic sectors

What exactly is an agri-food supply chain?

Entire set of processes and activities required to produce a product then deliver it to a target market.

- The term “produce” encompasses growing, transforming, or manufacturing.
- The entire chain goes from “farm to fork,” but development projects are usually concerned with a subset of links within the chain.
- For the chain to work, factors of production and technology are not enough; efficient transport, information systems and management are crucial.

Agriculture and other economic sectors

The agri-food filière:

- The upstream pole which includes farming and fisheries activities, agricultural machinery and animal feed producers.
- The downstream pole which comprises catering services, and distribution of finished products.
- The core consists of the food processing industry.

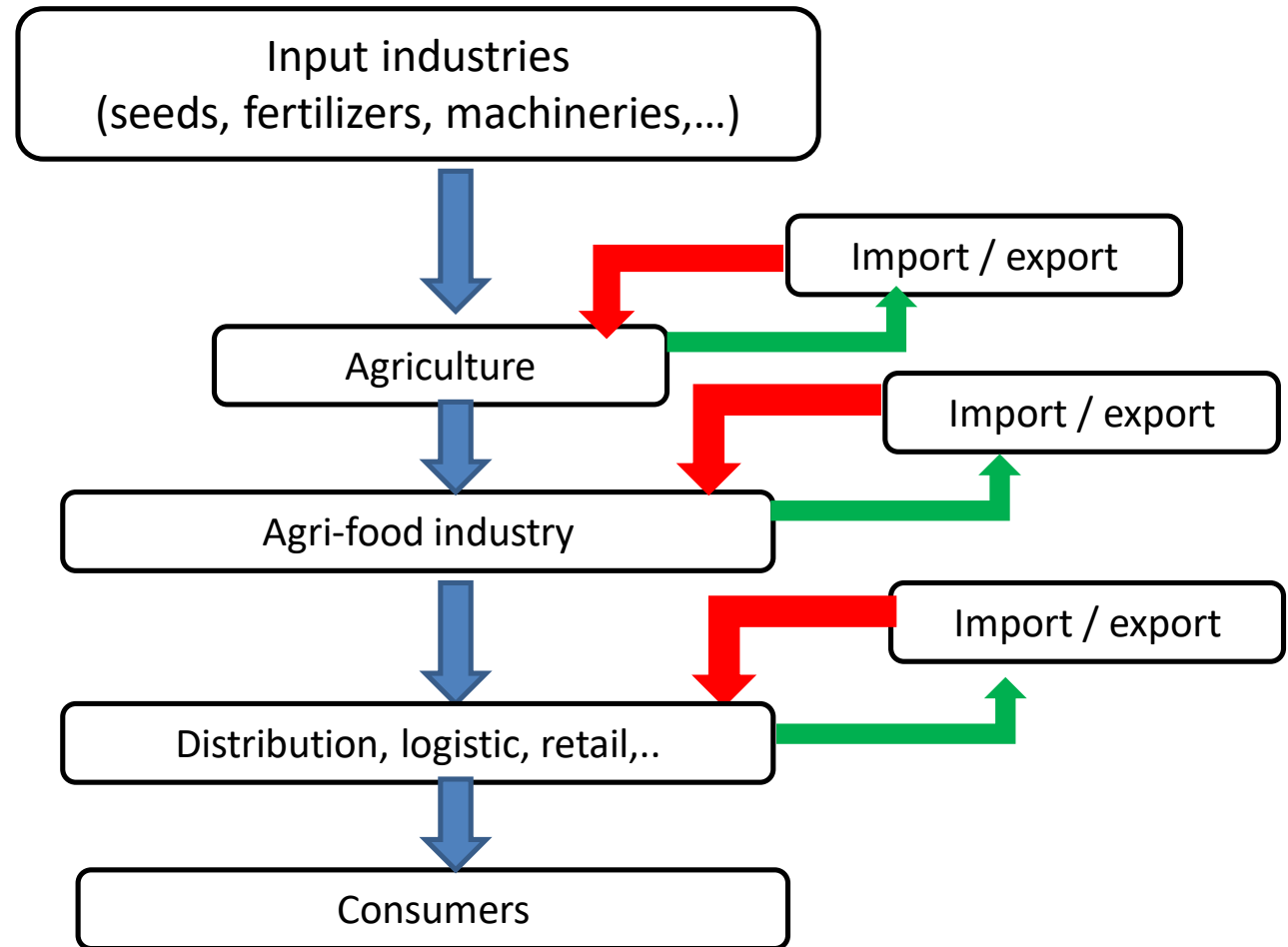
The upstream pole is a set of industries supplying to the core industries of the filière.

The downstream pole consists of the industries that buy from the core industries.

The core comprises all the industries involved in the transformation of inputs such as raw materials and primary products into finished goods.

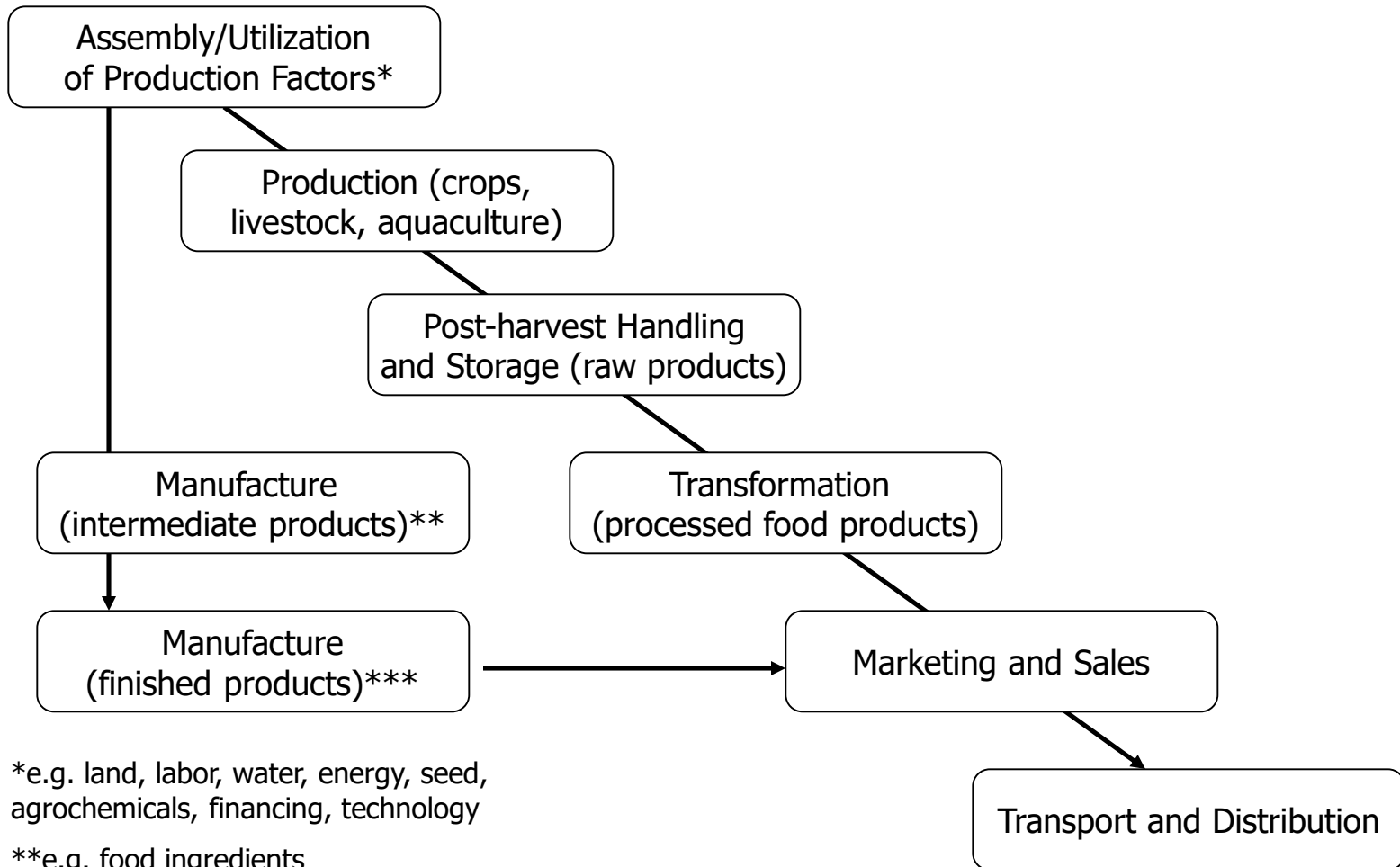
Agriculture and other economic sectors

A scheme to represent a Agri-food supply chain



Agriculture and other economic sectors

A scheme to represent a Agri-food supply chain

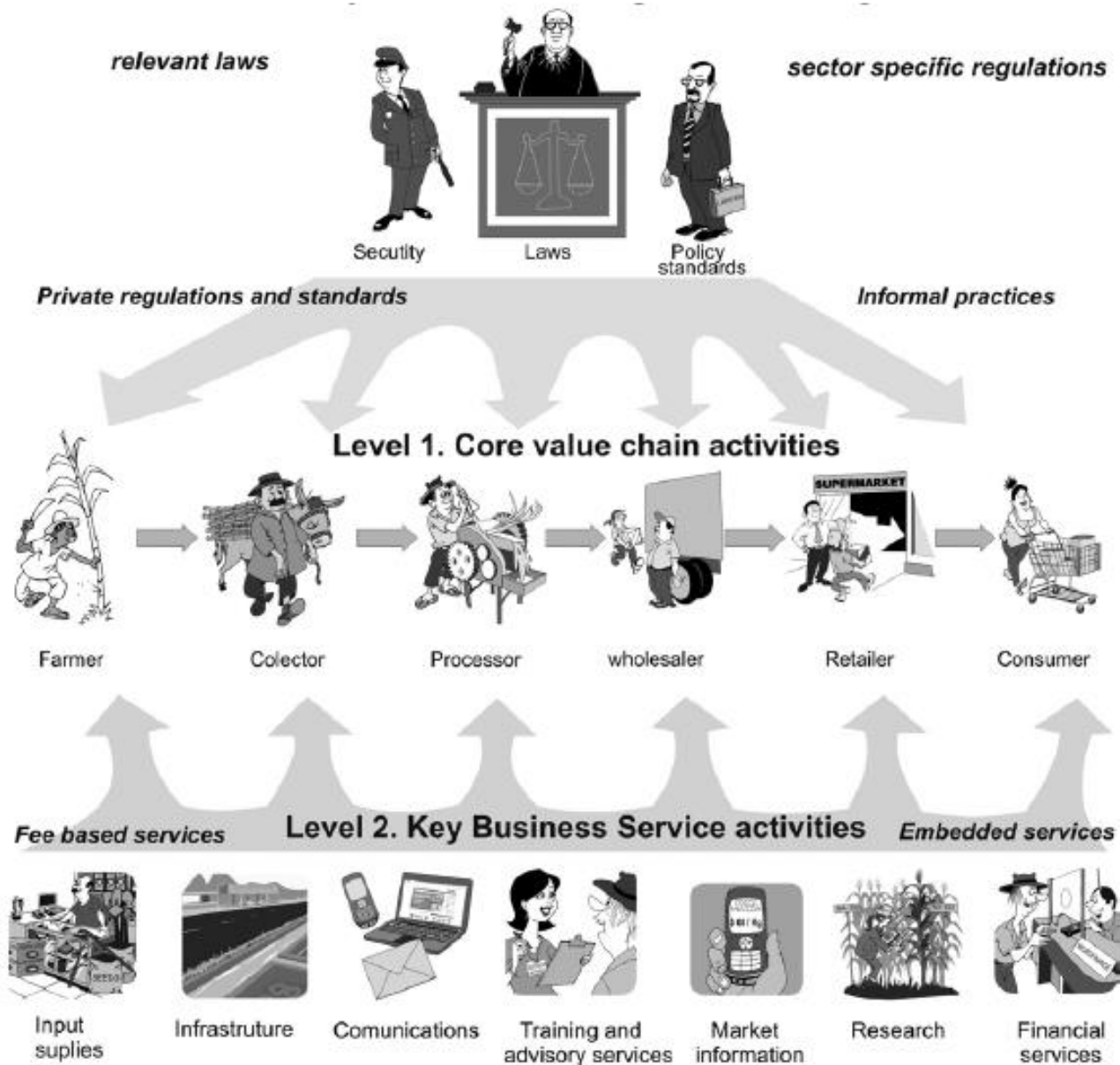


*e.g. land, labor, water, energy, seed, agrochemicals, financing, technology

**e.g. food ingredients

***e.g. packaged foods

Agriculture and other economic sectors

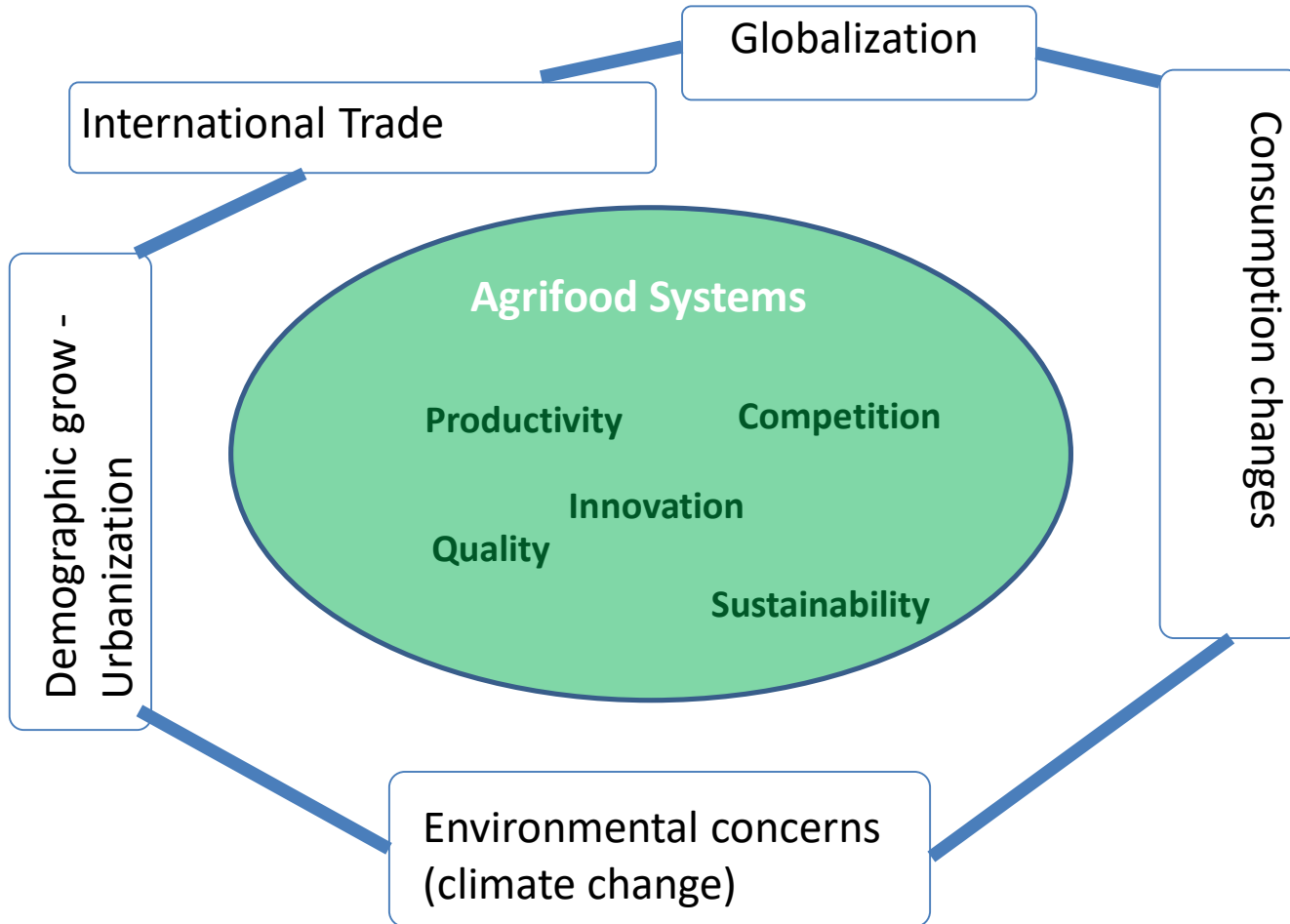


Agriculture and society

Keyword: Food security – Food safety

- **food security:** is a condition related to the supply of food, and individuals' access to it.
- **food safety:** refers to handling, preparing and storing food in a way to best reduce the risk of individuals becoming sick from foodborne illnesses. Food safety is a global concern that covers a variety of different areas of everyday life.

Agriculture and society



Agriculture and society

High income countries	Low income countries
Low contribution to GNP	High contribution to GNP
Low contribution to Employment ration (high age of farmers)	High contribution to Employment ration
High relevance of Agrifood Industry, Transport and Logistic	Low relevance of Agrifood Industry, Transport and Logistic
Growing environmental problems	
Growing social and environmental functions of agriculture	
Growing demand of high quality food	Demand of normal/necessary food (quality food in emerging countries)
Quality certification systems - labels	
Food Safety (Food Security)	Food Security and Food Safety