

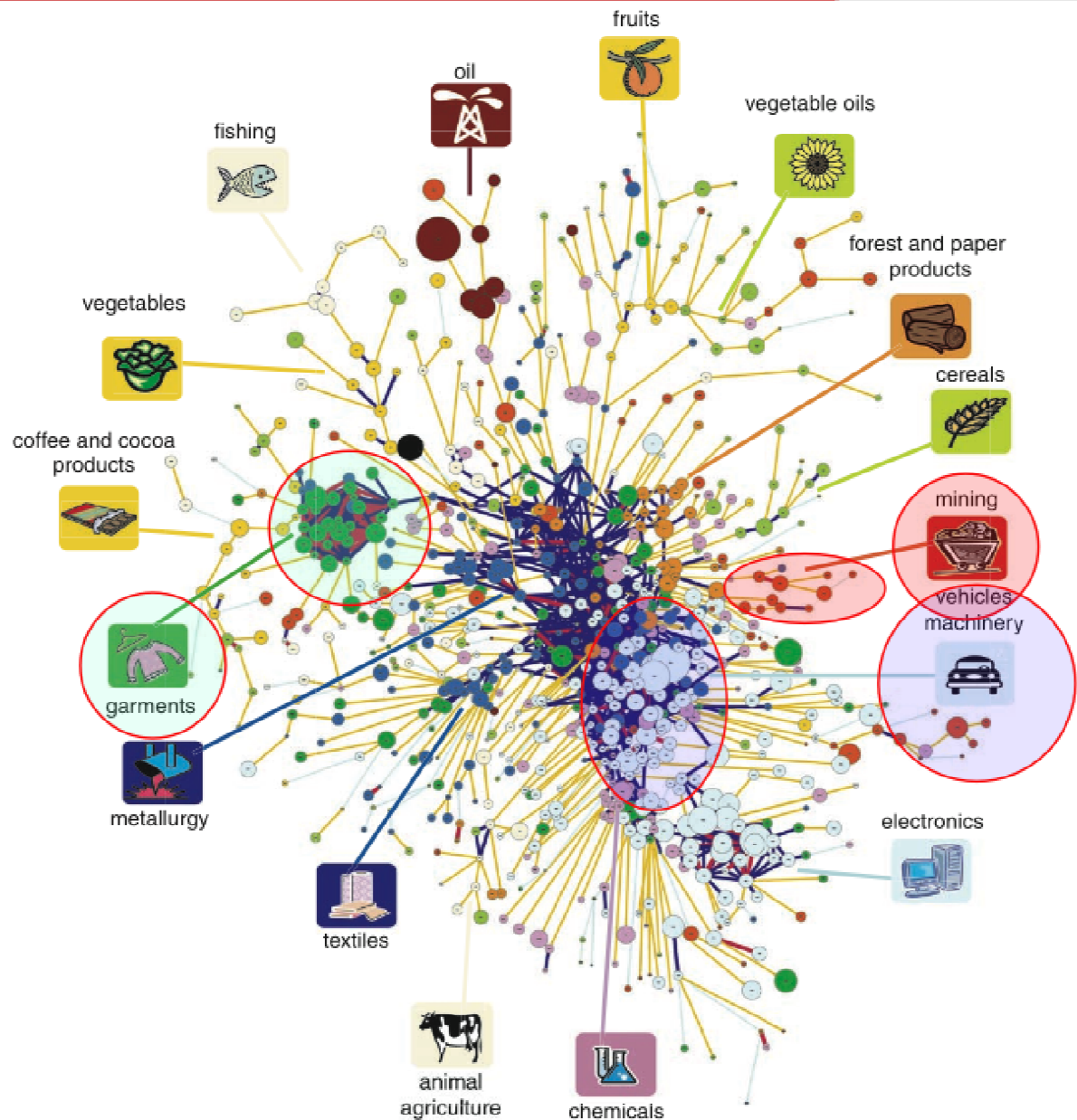


International Economics: Lecture 2

International Trade Modeling Tools

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Product Space

Each node is an export product; colors indicate category.

Nodes are linked if the two products are likely to be exported by the same country -- indicating that the production of the two products requires similar capabilities.

How

all this variety can be grasped and analyzed?

Source: Fig. 1.(b) from Hidalgo, C. A., Klöpper, B., Barabási, A. L., & Hausmann, R. (2007). The Product Space Conditions the Development of Nations. *Science*, 317(5837), 482–487.

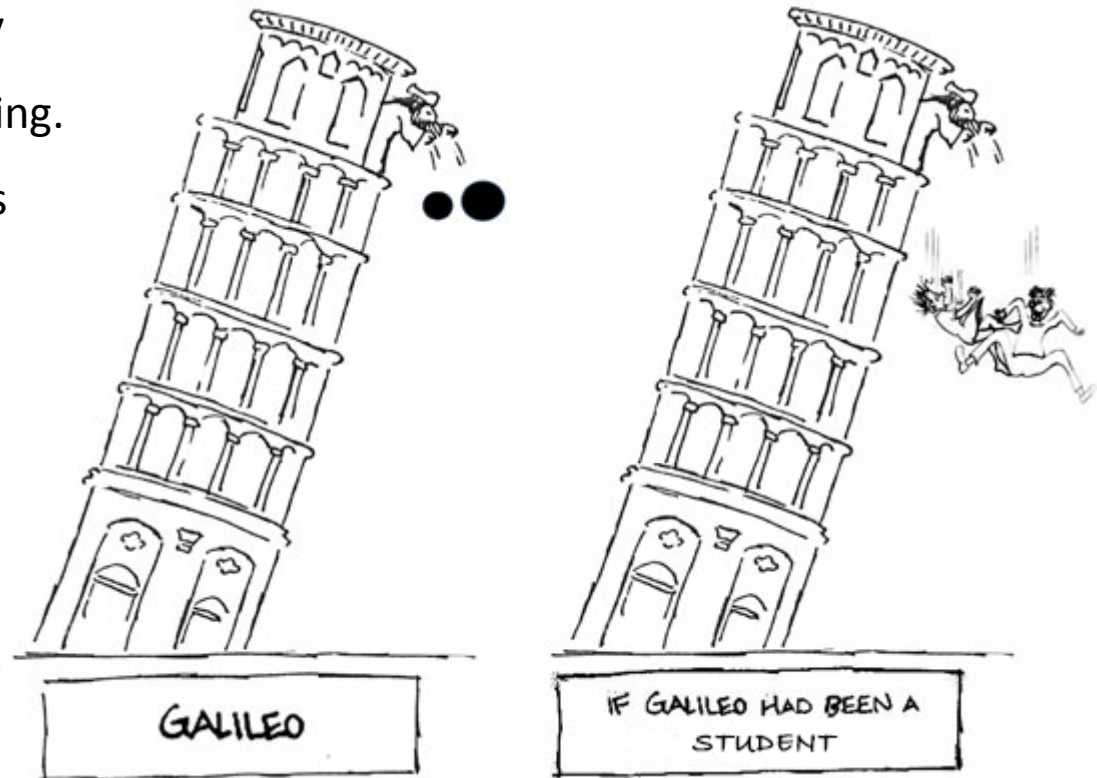
Part 1: Basics of economic analysis

1. Models
2. Positive & Normative analysis
3. General & Partial Equilibrium analysis

Galileo & model thinking

Imagine two light and heavy objects are connected by a string. We drop this system of objects from the top of a tower.

If we assume heavier objects fall faster, the string will soon pull tight as the lighter object retards the fall of the heavy one.



But the whole system is *heavier* than the heavy object alone, and therefore should fall *faster*. This contradiction proves the original assumption is false.

What is a Model?

- Model is a simplified system used to simulate some aspects of the real economy.
- We use simplification, because the real world economy is so complicated that it cannot be fully described in finite time.
- A model concentrates on the point under the study and leaves out anything not essential.
- A model is good, if its predictions approximately resemble to the real economy.

The only criterion for model validity is whether it yields implications which are consistent with observations.

It is irrelevant whether the model assumptions are plausible or not.

Milton Friedman



WHAT IS

Positive economics is the study of how economic processes work.

- It is concerned with the description and explanation of economic phenomena or behavior.

WHAT OUGHT TO BE

Normative economics is the study of how the economy ought to be run.

- It makes value judgments about economic fairness or about goals of public policy.
- Main considerations are efficiency and equity.

Non-economic example:
Positive: What is the effect of marriage on an individual.
Normative: Should one get married or not?

Positive economics

suppose

- Armenia has comparative advantage in dental services.
- Armenian planned tariff increase on cars imports from US & Germany will increase car prices by 10%.

Normative economics

- Armenia should specialize in dental services export, as it will increase overall health services competitiveness.
- Armenia should increase tariffs on car imports to curb air pollution.

General Equilibrium Model

All markets are considered simultaneously.

Equilibrium values of variables (e.g. production, consumption, prices, trade) are determined jointly for all goods.

Partial Equilibrium Model

Deals only with part of the economy, deliberately ignoring its links with the rest of the economy.

Partial equilibrium models assume that what happens on the studied market has no impact on other markets and isn't impacted by other markets.

General Equilibrium Model

e.g. analysis based on:

- Production possibilities frontier and community indifference map.
- Aggregate supply and demand.

Partial Equilibrium Model

e.g. analysis based on

- Product supply and demand.

It is implied that the price of every other good or the income doesn't change.

Part 2: Trade model assumptions

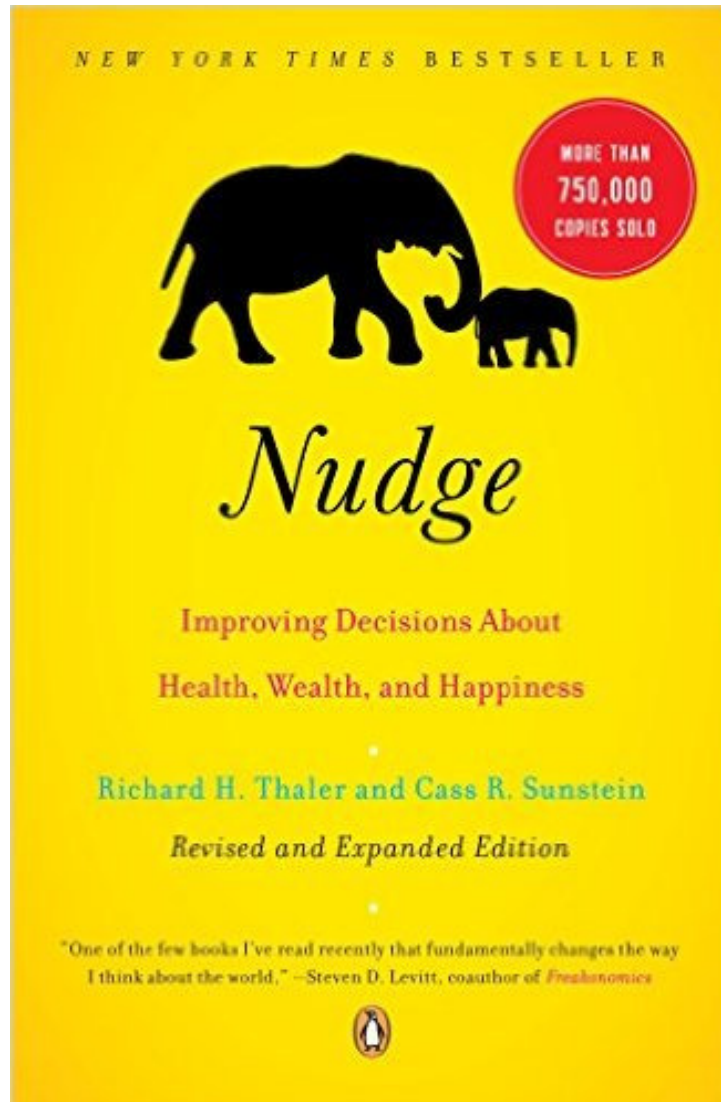
1. All economic agents are rational

Consumers: Max Utility

Firms: Max Profit

Politicians: Max Elections

Humans: Max Love



Richard Thaler & Cass Sunstein

Humans and Econs

Econs are mythical creatures created by not God but Economists.

Econs make rational choices and unbiased forecasts, they can compute utility, and they respond to incentives.

Econs don't care about emotions because they don't have any.

Humans are emotional and impulsive. We love and hate. We do silly things, regret our choices, and choose things because of no apparent reason.

We form judgments or make choices based on the context.







Rationality implies that humans are able to make completely unemotional decisions.

But real humans hate, love, regret, disgust,



Nevertheless, it is a good approximation to assume

1. All economic agents are rational

2.

2 x 2

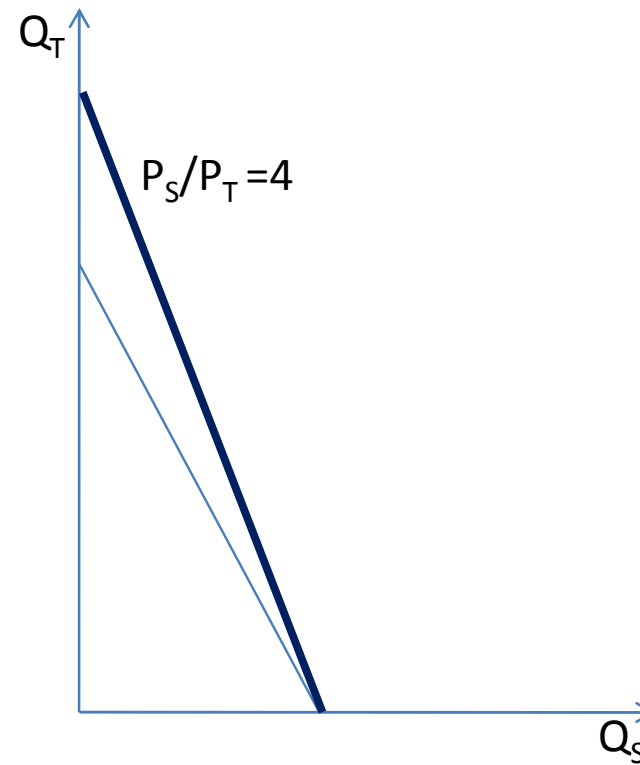
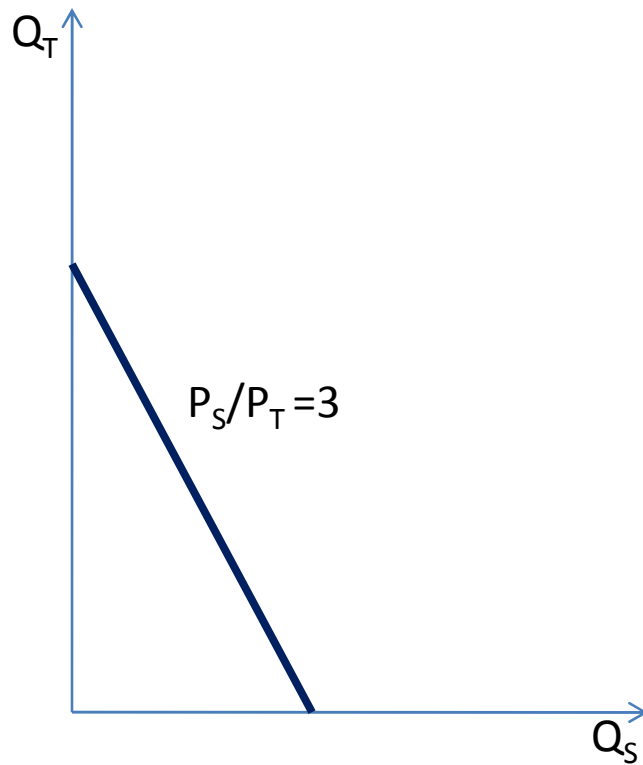
3. No money illusion

Nominal changes are not mistaken for real changes

We deal with **relative prices**
to guarantee that there is no money illusion.

Note that rationality (assumption 1) already implies that there is no money illusion.

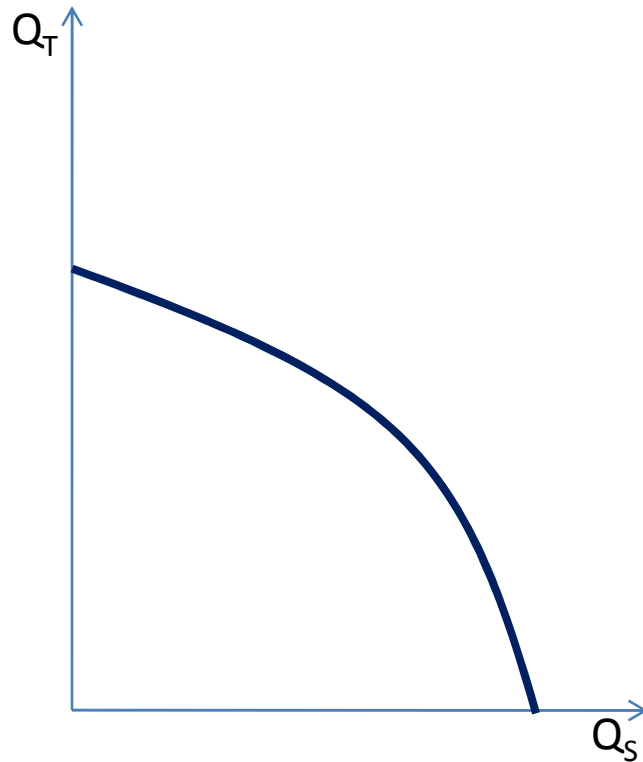
Relative prices & price line



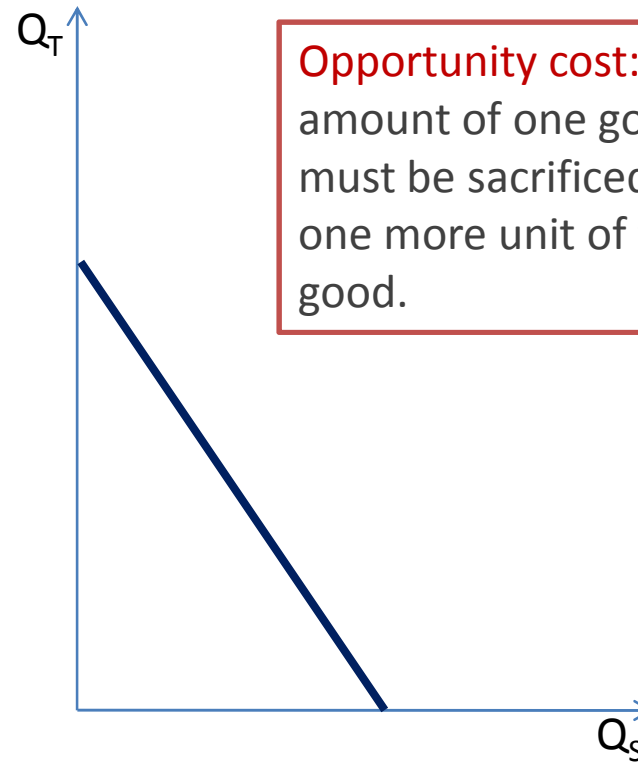
4. Factor endowments and technology are fixed

Full employment

PPF & Opportunity cost



Increasing opportunity cost
(concave)



Constant opportunity cost

Opportunity cost: The amount of one good that must be sacrificed to obtain one more unit of the other good.

Opportunity cost is the value of next best alternative when a decision is made; it's what is given up.

Opportunity cost of attending the lecture

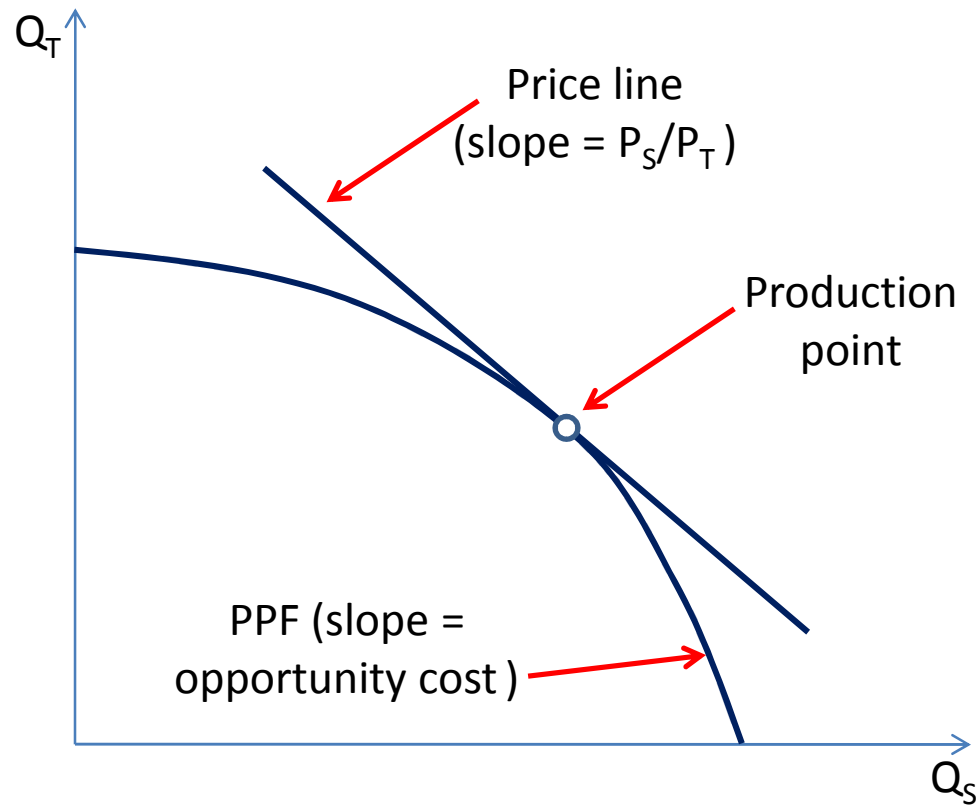


5. Perfect competition

There are *no externalities*
in production and consumption

When no externalities, then
social cost = opportunity cost

Externality: A cost or benefit arising from any activity which doesn't accrue to the person carrying on the activity.



Perfect competition guarantees that market prices = social (opportunity) costs of production.

6. Factors are perfectly mobile

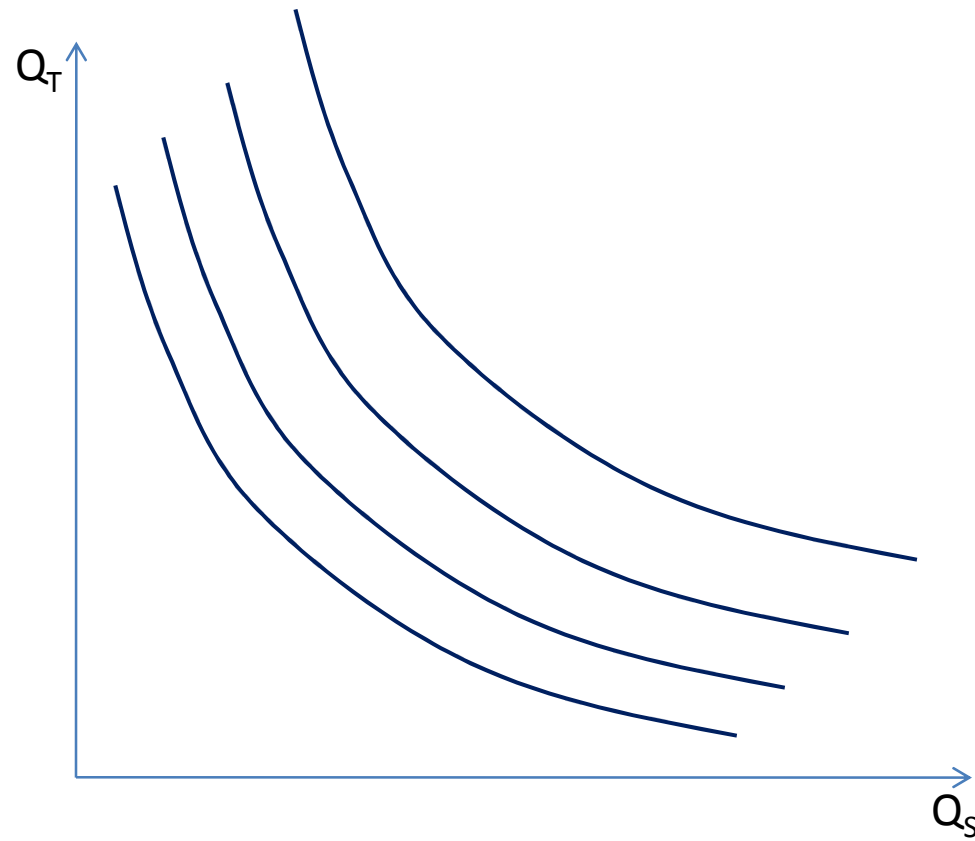
factors are homogeneous
and costlessly mobile between industries within a country
but are immobile between countries

Implies LONG-RUN

For labor, perfect mobility may require the passage of a generation.

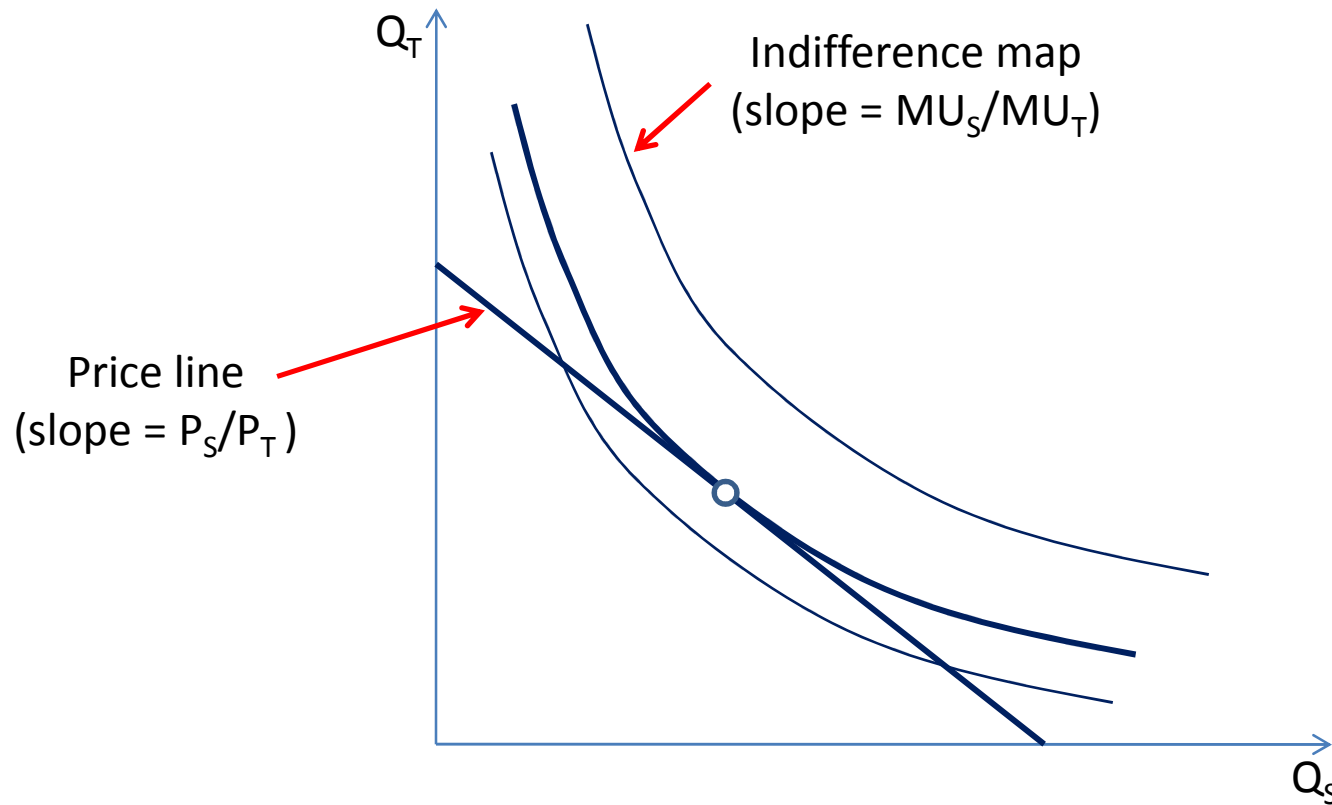
For capital, perfect mobility requires depreciation, followed by new investments.

Indifference map



Indifference curves

- Person-specific
- Downward sloping
- Convex (love of variety, declining marginal utility)
- Do not intersect
- Higher curves reflect higher utility



Consumer maximizes utility subject to budget constraint.

7. Community preferences are consistent

Condorcet Paradox

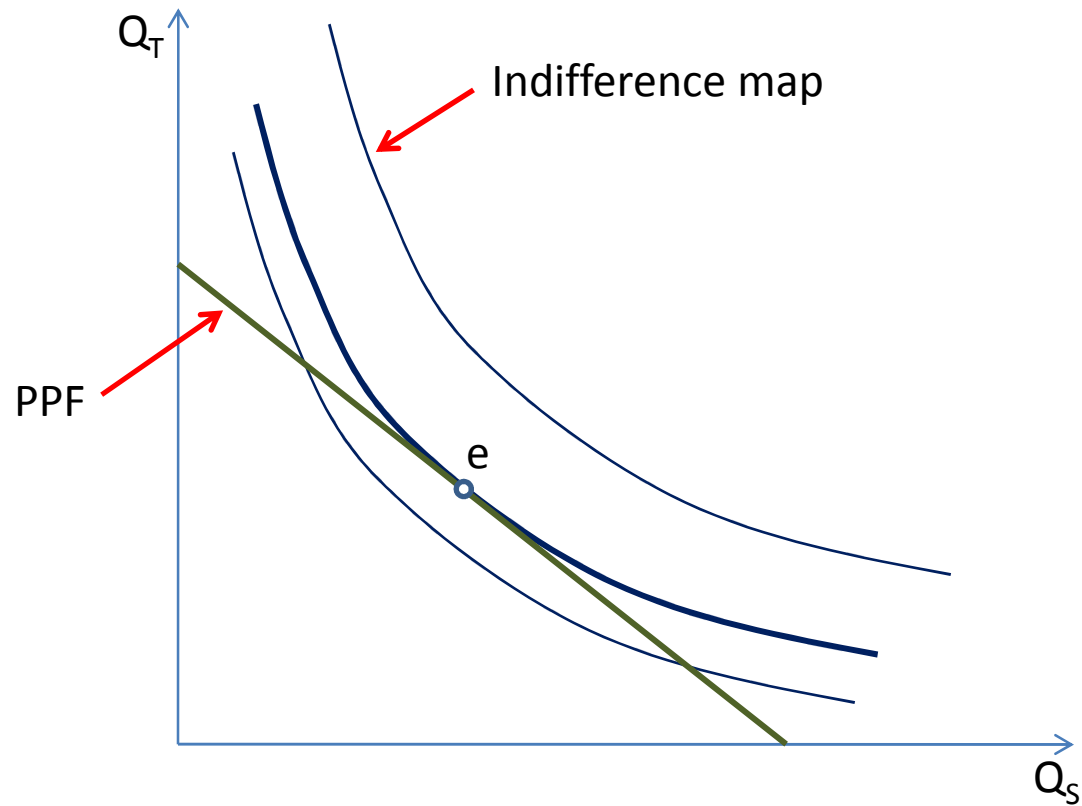
Order of preference	1	2	3
Gago	A	B	C
Samo	B	C	A
Rubo	C	A	B

Community preferences $A > B$; $B > C$; $C > A$

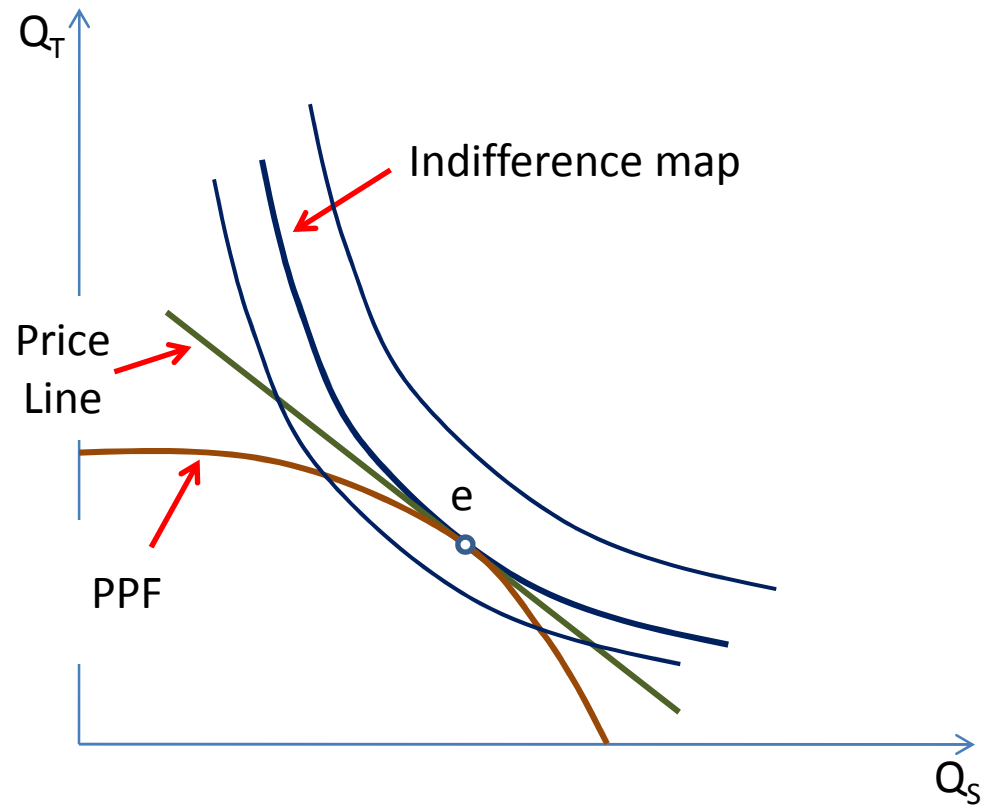
Community demand doesn't depend on income distribution:

- 1) preferences are identical,
- 2) If relative prices are unchanged, an increase in income will not affect the ratio of consumption.

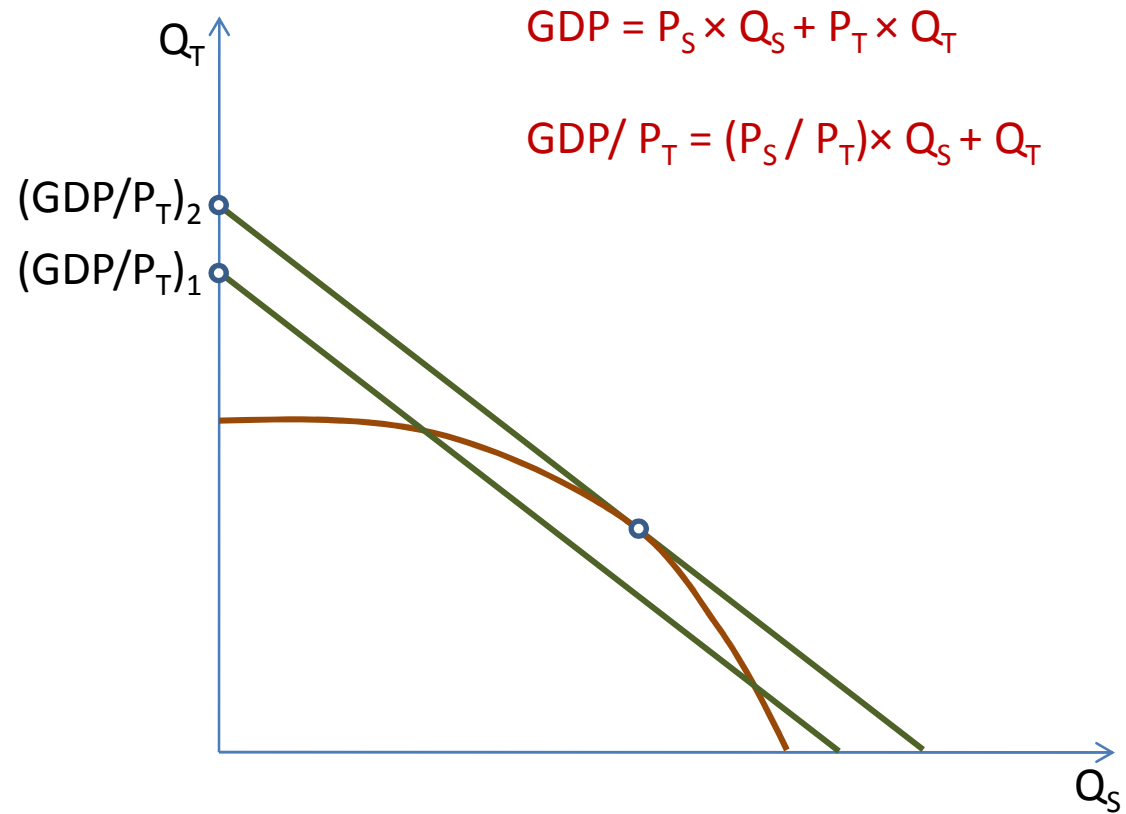
Model solution



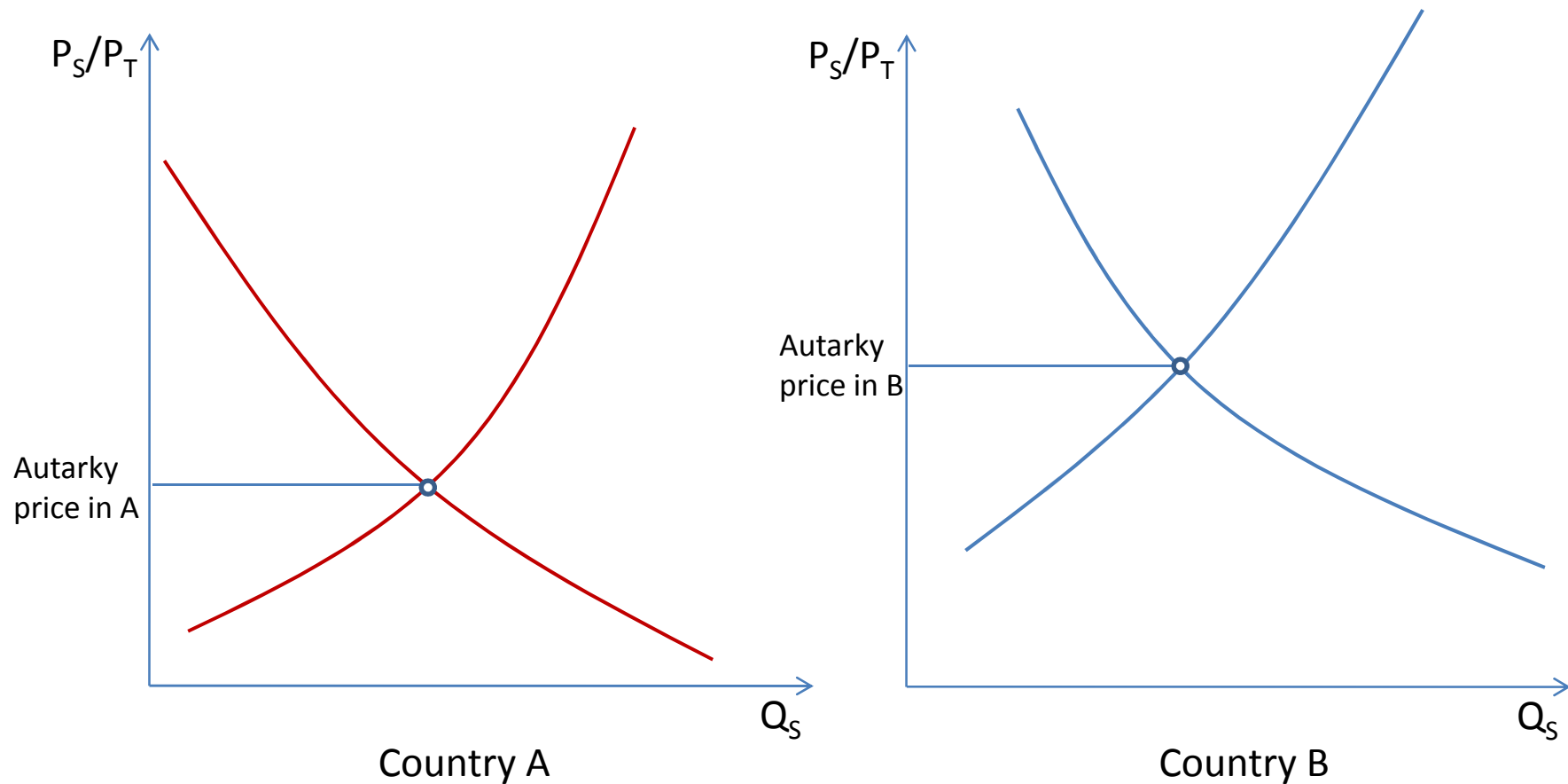
Model solution



Real GDP



National supply & demand



In autarky country A's relative price of S is lower, and of T is higher.
 In free trade A will export S to B, and will import T from B.

Thank you and enjoy.

But remember

Learning is an opportunity.

You use it or lose it.