Market Forces and Growth

ECON201 - Winter, '24

Tom Boesche

UMD

4 January 2024

This Lecture

- Last lecture, we saw that government inventions (UI & minimum wage) can have unintended consequences.

- Today, we will examine three types of government intervention: Price controls, taxation, and growth policy.

- We will see that price controls are rarely a good idea, taxation is difficult, and growth policy is powerful.

Outline

Outline

1. Market Forces and Policy
2. Production and Growth

1. Price Controls
2. Tax Incidence

Types of Price Controls

1. **Price ceilings:**

   Legislated *maximal* prices sellers and buyers are allowed to agree upon.

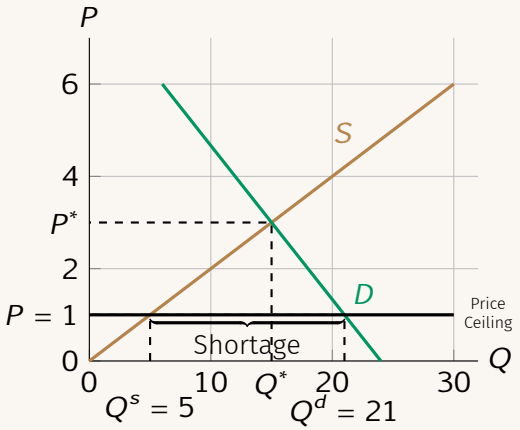
2. **Price floors:**

   Legislated *minimal* prices sellers and buyers are allowed to agree upon.

Let's look at each type in turn!

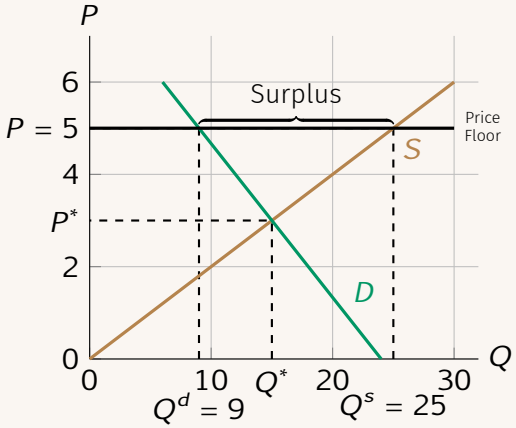
Price Ceilings

- **Example:**
  Rent controls.
- Buyers commonly lobby for price ceilings (want lower prices).
- If set above the equilibrium price, price ceilings have no effect.
- If set below the equilibrium price, a price ceiling is said to *bind*.
- **Effects of binding price ceilings:**
  Shortage → Rationing (e.g. lines, corruption, etc).



Price Floors

- **Examples:**
  Minimum wage, milk price.
- Sellers commonly lobby for price floors (want higher prices).
- If set below the equilibrium price, price floors have no effect.
- If set above the equilibrium price, a price floor is said to *bind*.
- **Effects of binding price floors:**
  Surplus → inefficiency/waste



Price Controls: Evaluation

- Price controls distort prices, the signal which equalizes supply and demand.
- Policy objectives can be achieved more efficiently by redistribution, while leaving the market mechanism intact.
- **Example:** Rent control vs. wage subsidies / vouchers.
- As always, there may be other policy objectives which contradict alternative instruments. For instance, anonymity or decentralization.

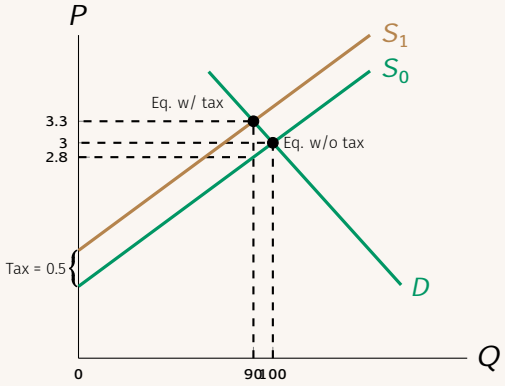
Outline

Steps of Analysis

- Taxes are a policy alternative to price controls.
- To analyze the effects of taxes, we use the same steps as when we analyze changes in demand or supply:
  i. Does the tax affect demand or supply?
  ii. Which way does the relevant curve shift?
  iii. How does this change the equilibrium price and quantity?
- Let's go through some examples:

Taxes on Sellers

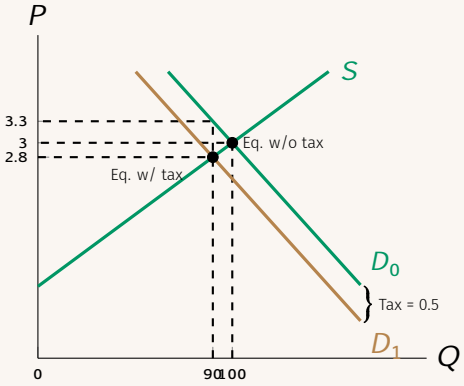
- Taxes on sellers affect supply.
- Shift supply up by amount of tax. (here: $0.50.)
- Thus, equilibrium price increases and quantity decreases.
- Who pays? Both sellers and buyers.



Taxes on Buyers

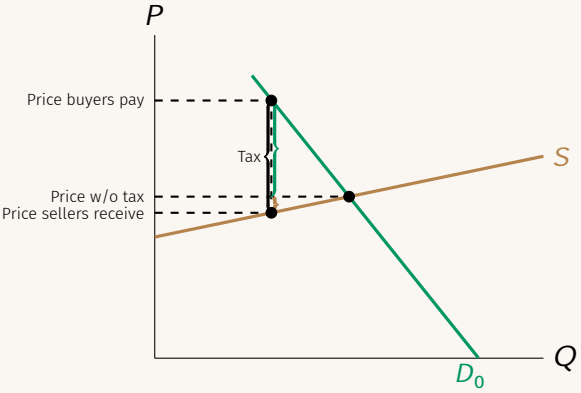
- Taxes on buyers affect demand.
- Shift demand down by amount of tax. (here: $0.50.)
- Thus, both equilibrium price and quantity decrease.
- Who pays? Both buyers and sellers.

→ The market implications of taxes on buyers and sellers are equivalent.



Elasticity and Taxes

- Who pays which share of the tax burden depends on elasticity, not legal incidence.
- The **less elastic** side of the market will bear a **greater share** of the tax burden.
- Reversely, the side of the market which finds it easier to substitute away will be less affected by the tax.



Implications

- This discussion implies that:
  i. Taxes on necessities will mostly affect buyers, all else equal.
  ii. Taxes on luxury goods will mostly affect sellers, all else equal.
- **Examples:**
  i. Tobacco.
  ii. Luxury yachts.

Outline

Outline

Economic Growth

- Growth rates vary greatly across countries and over time.
- Even small differences in the growth rate can make big differences to living standard in the long run.
- Why do some countries grow faster than others?
- **Productivity:** The quantity of goods and services produced from one unit of labor.

Outline

1. Market Forces and Policy

2. Production and Growth

1. An Overview

2. Determinants of Productivity

3. Growth Policies

Resources and Physical Capital

- Intuitively, if an economy has plentiful **natural resources** (e.g. land, minerals), no need for imports to produce. Good?

- However, not a necessary or sufficient condition for productivity.
  See Japan vs. Russia.

- **Physical capital** are the tools that workers use to produce more.

- Advantage over natural resources: Capital goods are themselves produced.

Human Capital and Technology

- **Human capital:** Knowledge and skills which workers acquire through education, training, and experience.
- Hard to measure because intangible but, undeniably, important.
- **Technological Knowledge:** Society's understanding of the best ways to produce goods and services.
- Examples: The Haber process, the internet, advanced data processing.

Outline

1. Market Forces and Policy

2. Production and Growth

1. An Overview

2. Determinants of Productivity

3. Growth Policies

Investment Policy

- Saving and investment maintain and increase the capital stock.
- Growth policy can encourage/force savings (e.g. Singapore: 49% savings rate).
- But, capital has **diminishing marginal product**. Each additional unit increases output by less.
- Thus, cannot sustain growth rates purely via capital accumulation.
- Explains **catch-up effect:** Growing quickly is easiest when you have little capital.

Institutions

- Markets can lead to a more efficient use of resources by matching resources with skills, fostering specialization and division of labor.
- *Property rights* and enforceable contracts are crucial for markets to work.
- Moreover, the division of labor works best when each party can plan ahead.
- Thus, efficient courts, a stable constitution and transparent governance are all beneficial to growth by removing obstacles to market forces.

Patents

- *Patents* grant temporary monopoly rights to inventors.
- Thus, the patent system rewards the inventors of useful products, and incentivize potential inventors to invest in innovation.
- Such rights are important as knowledge is a *public good*, i.e. once discovered, an idea can be used by anyone.
- The government invests directly into research and dissemination of technological knowledge. Especially important in early development.
- For late stage innovation, patents may be preferable as the size of the reward is determined by the market demand for the product.

Education

- *Human capital* can be increased by education.
- Education has *positive externalities*: Not only improves the student's productivity but improves society's pool of knowledge.
- Opportunity cost of education are wages which could be earned instead.
- *Brain drain* describes the emigration of highly educated workers from poor countries to richer ones.

Health and Nutrition

- Healthier people are more productive for longer.
- The government can invest in health care, food safety standards, and sport facilities to nurture a healthy workforce.
- Healthy nutrition is especially important for children and teenager, providing another reason for the government to run or subsidize school (meals).
- Causality goes both ways: Better health $\Leftrightarrow$ higher productivity.

Population Growth

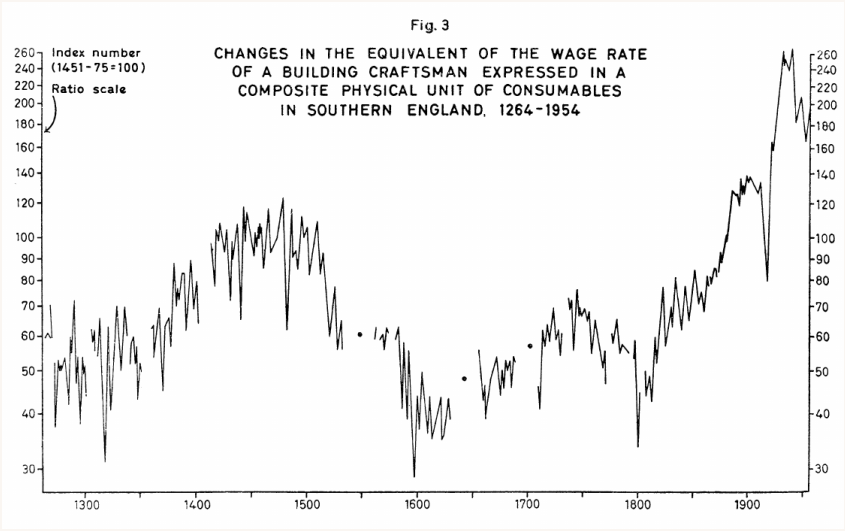
- Population growth has two effects:
  i. Larger labor force.
  ii. More consumers.

- Rapid population growth makes it difficult to provide enough capital for all workers. Schooling is more expensive.

- Moreover, large families have fewer resources to invest in each child $\rightarrow$ less human capital

- Malthus and the Plague.

Population Growth



Source: Phelps-Brown and Hopkins (1956)

Free Trade

- International trade has similar benefits to any market.
- With more trade, greater division of labor and specialization is possible.
- Some products are only profitable with a large enough market.
- Open economies do not need to reinvent the wheel: Take advantage of foreign productivity and technology.

Foreign Direct Investment

- Another source of new capital is *foreign direct investment (FDI).* Essentially, foreign savings finance domestic capital.

- **Example:** U.S. auto plant in Mexico.

- Developing countries often pursue policies to attract FDI. Foreign investors benefit from diminishing marginal product.

- The World Bank and the International Monetary Fund (IMF) are two institutions encouraging such flows of capital.

Conclusion

- Price controls lead to (wasteful) shortages or surpluses.
- In a market, any tax is borne by both sellers and buyers. Distribution depends on relative elasticity.
- Growth depends on capital, human capital, and technological knowledge.
- Strong institutions, education, and an open economy sustain economic growth.
- **Next (after review/exam):** How the financial system allocates savings to investments.

References I

Phelps-Brown, EH and Hopkins, Sheila V. (1956). 'Seven Centuries of the Prices of Consumables, Compared with Builders' Wage-Rates'. *Economica* 23 (92), pp. 296–314.