

Economic Growth

A nation will experience economic growth if any of the below factors improves by:

- improves its technology
 - improves its human capital
 - discovers or procures more natural resources
 - expands its capital via investment
 - expands its labor force
 - ex) women enter the work force rather than stay at home to care for the children, or retirement age increases, causing more workforce available
 - *in the short run*, more workers lead to increase in real GDP per capita
 - *in the long run*, only the increase in productivity leads to increase in GDP per capita
- **technology** : understanding of the best ways to produce goods
 - scientific advances
 - investing in research and development (R&D), which is creating new technologies and preparing them for practical use
 - conducted by governments and some agencies are the government's
 - paid for by the private sector
 - **physical capital** : input that used to be output
 - increased through investment spending
 - from (a) domestic households thus domestic savings, or (b) foreign capital
 - amount of I spending depends on financial systems with regulations determined by governments
 - building infrastructure (roads, power lines, ports, information networks)
 - basic: clean water supply and disease control (provided by gov.)
 - **human capital** : knowledge, training, expending of technology, etc.
 - increased through education (secondary and higher) that could be offered by the government's policy
 - **natural resources** : renewable and nonrenewable resources
 - **productivity** : amount of goods and services produced for each hour of a worker's time
 - may be used to determine the standard of living
 - depends on the level of physical capital, human capital, and technology

convergence hypothesis : states that differences in real GDP per capita among different countries tend to decrease over time because countries that originally began with lower real GDP per capita tend to have higher growth rates over the course of years

rule of 70 / 72 : number of years for variable to double = 70 (or 72) / annual growth rate of variable
 ex) with interest rate of 5%, it takes $70/5 = 14$ years for the money to double
 OR with interest ate of 5%, it takes $72/5 = 14.4$ years for the money to double

International Trade

Comparative advantage: the advantage in production in terms of lower opportunity cost

[output method]

[input method]

	wine per hr	cheese per hr
France	10 units	20 units
U.S.	20 units	60 units

	min per wine	min per cheese
France	6 min	3 min
U.S.	3 min	1 min

U.S. has absolute advantage over both wine and cheese

**The graphs above can be changed to an opportunity cost per production:

	wine OC	cheese OC
France	2 cheese	1/2 wine
U.S.	3 cheese	1/3 wine

France has comparative advantage in wine because it has lower opportunity cost (2 cheese as opposed to 3 cheese in the U.S.)

U.S. has comparative advantage in cheese because it has lower opportunity cost (1/3 wine as opposed to 1/2 wine in France)

Advantages of Trades :

- for consumers : lower price, greater variety and quantity of goods & services
- for producers : cheaper raw materials, greater foreign market
- for nation : greater total output using the same amount of resources

Balance of payments: current accounts (CA) and financial accounts (FA)

CA	FA
$CA = S - I = X - M$ = trade balance + services balance + transfers - eg. merchandise, services, income receipts, net unilateral transfers Market trade balance ■ Surplus: exports > imports <ul style="list-style-type: none"> • net foreign wealth is increasing • high national savings relative to investment ■ Deficit: exports < imports <ul style="list-style-type: none"> • net foreign wealth is decreasing • low national savings relative to investment 	= foreign purchases of home assets - home purchases of foreign assets - inflow/credits (+) <ul style="list-style-type: none"> ○ ex) foreigners loan to domestic citizens by acquiring domestic assets - outflow/debits (-) <ul style="list-style-type: none"> ○ ex) domestics loan to foreign citizens by acquiring foreign assets - official international reserve assets (government bonds, currency, gold) <ul style="list-style-type: none"> ○ credits: official reserve assets sold to foreign central banks ○ debits: official reserve assets purchased by domestic central banks

Balance of Payment = CA + FA

If CA is positive, FA is negative; if CA is negative, FA is positive.

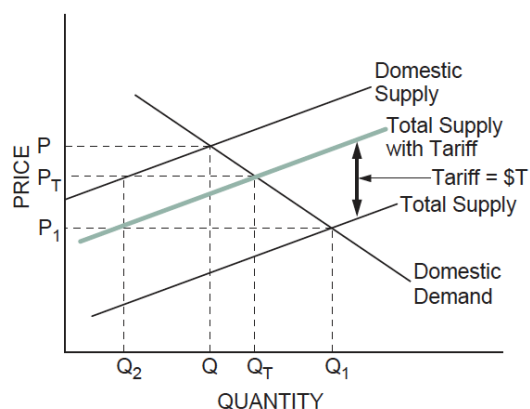
Why do the current account and capital account balance out?

In the case of a current account deficit and capital account surplus, the amount of money the world gets from domestic deficit goes to investment in the capital account. Foreigners would use the money earned from the main country along with extra currency (outflow from main country=negative) from their reserves to invest.

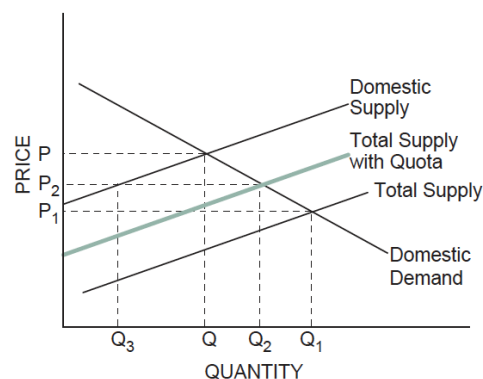
Trade barriers

[Tariff]

[Quota]



A tariff is a tax that is added to the cost of government on imports from other nations.



A quota is a trade restriction imposed by the imported goods from other nations.

Why are there trade barriers?

- 1) To protect domestic employment
- 2) To protect domestic consumers (safety reasons)
- 3) To protect and provide room for growth in infant industries
- 4) For national security
- 5) *To increase gov. revenue (for tariff only; in quota the revenue goes to the domestic producers)

Generally domestic producers gain from a trade barrier whereas consumers lose.

Foreign exchange market

Purchasing Power Parity (PPP) – a theory which states that the exchange rate between one currency and another is in equilibrium when their domestic purchasing powers at that rate of exchange are equivalent OR a bundle of goods should cost the same in one country and a second country once the exchange rate is taken into account

What is foreign exchange?

International transaction requires foreign exchange market, where people can purchase other nations' currency for trade. The foreign exchange rate could be either fixed or floating, depending on policies by different governments.

Exchange rate regime: rule governing policy towards the exchange rate

1) Fixed exchange rate

PROS

- certainty of the currency's future value
- commitment of not engaging in inflationary policies that could destabilize the exchange rate

CONS

- must keep large quantities of foreign currency that is low return investment
- must adopt exchange controls
- could lead to corruption

How to maintain a fixed exchange rate

- exchange market intervention and foreign exchange reserves
- monetary policy and interest rates
- foreign exchange controls

CASE (A) Target rate > market equilibrium rate (surplus)

- Purchase domestic currency with foreign exchange reserves of foreign currency → decrease supply of domestic currency
- Sell government bonds (contractionary monetary policy) → high interest rate → increase demand for domestic currency
- Enforce licenses for domestic consumers who want to purchase foreign currency (demand for foreign currency decreases, supply for domestic currency decreases)

CASE (B) Target rate < market equilibrium rate (shortage)

- Sell domestic currency for foreign currency to keep in reserves → increase supply of domestic currency
- Buy government bonds (expansionary monetary policy) → low interest rate → decrease demand for domestic currency
- Enforce licenses for foreign consumers who want to purchase domestic currency (demand for domestic currency decreases)

Devaluation: depreciation/reduction of the value of a currency due to a revision in a fixed exchange rate target (against *other currencies*)

- Higher exports, lower imports
- Eliminates surplus
- Increases aggregate demand, eliminates recessionary gap

Revaluation: appreciation/increase in value of a currency due to revision in a fixed exchange rate target (against *other currencies*)

- Lower exports, higher imports
- Eliminates shortage
- Decreases aggregate demand, eliminates inflationary gap

2) Floating exchange rate**PROS**

- leaves monetary policy available as an option
- no need to keep foreign exchange
- insulates recessions abroad

CONS

- creates uncertainty

MACROECONOMIC POLICY

Consider macroeconomic policy in an open economy with floating exchange rates

1. Lower interest rates

- Higher investment and consumption → increase in aggregate demand
- Decrease in demand for domestic currency → depreciation of domestic currency → increase in exports, decrease in imports → increase in aggregate demand

1. Higher interest rates

- Lower investment and consumption → decrease in aggregate demand
- Increase in demand for domestic currency → appreciation of domestic currency → decrease in exports, increase in imports → decrease in aggregate demand

Shifters of the FX market

- interest rate
- per capita GDP (income)
- price level
- consumer preferences

(a) Increase in USA interest rate

- Increase in demand for USD → USD appreciates → exports decrease, imports increase (market balance and current account deficit) → net exports decrease → aggregate demand decrease
- Decrease in investment and consumption → aggregate demand decrease

(b) Increase in USA per capita GDP (eg. government cut taxes)

- Increase in American's wealth → increase in demand for RMB → increase in supply for USD → RMB appreciates → USD depreciates → exports increase, imports decrease (market balance and current account surplus) → net exports increase → aggregate demand increase

(c) Increase in USA price level (inflation)

- Chinese products are cheaper relative → increase in demand for RMB → increase in supply of USD → USD depreciates, RMB appreciates

(d) Increased American preference for Chinese products (eg. US tourists like China)

- Increased demand for RMB → Increased supply for USD → RMB appreciates → USD depreciates → exports increase, imports decrease (market balance and current account surplus) → net exports increase → aggregate demand increase

vice versa for decreases