

# 1. Comparative Advantage

ECON1101 • KC Notes

## 1.1 Ricardo's Model

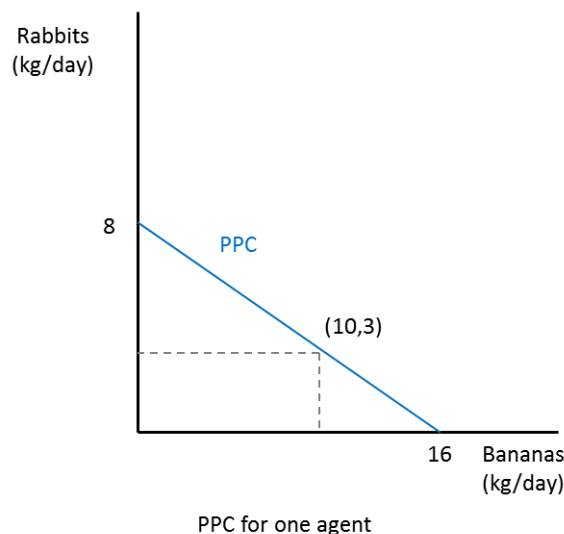
- Ricardo's **theory of comparative advantage** (1817), also known as 'magic four numbers'
- Assumes a model with:
  - Two possible activities, two individuals
  - No transaction costs or barriers to trade, e.g. transportation costs, tariffs

## 1.2 Definitions

- **Opportunity cost**: the value of the **next best alternative** to a particular action
- **Absolute advantage**: When someone is able perform an action (produce a good or service, or perform a given task) **with less resources** than another
- **Comparative advantage**: When someone's **opportunity cost** of performing an action is **lower** than another's

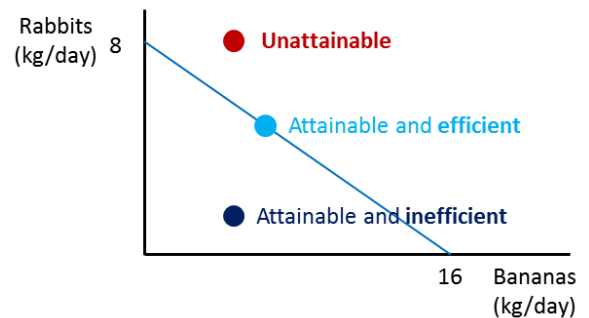
## 1.3 Production Possibility Curve (PPC)

- **PPC**: graph representing all maximum output possibilities of two goods, given a set of inputs/resources (e.g. time) if they are used efficiently.
- **Slope = opportunity cost** (of gaining a certain resource):
- $OC_{bananas} = \frac{\text{loss in rabbits}}{\text{gain in bananas}} = \frac{8 \text{ rabbits}}{16 \text{ bananas}} = \frac{1}{2} \text{ rabbit}$
- $OC_{rabbits} = \frac{\text{loss in bananas}}{\text{gain in rabbits}} = \frac{16 \text{ bananas}}{8 \text{ rabbits}} = 2 \text{ bananas}$
- **Slope is downwards** to represent **scarcity**, and **straight** as production is proportional to time



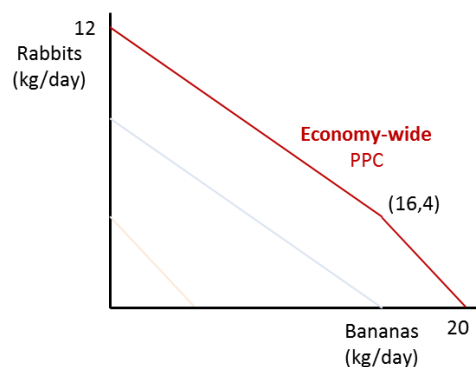
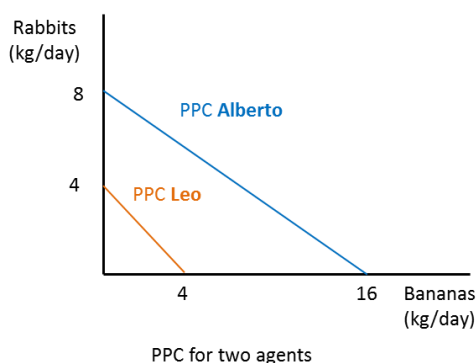
## POINTS ON THE PPC

- **Attainable**: any combination of goods that **can be produced** using available resources (on, or below and to the left of the PPC)
- **Unattainable**: any combination of goods that **cannot be produced** using available resources (above and to the right of the PPC)
- **Inefficient**: any combination of goods for which, with available resources, **allow an increase in the production of one good** w/o reduction of the production of the other (below and to the left of the PPC)
- **Efficient**: any combination of goods for which, with available resources, **do not allow an increase in the production of one good** w/o reduction of the production of the other (on the PPC)



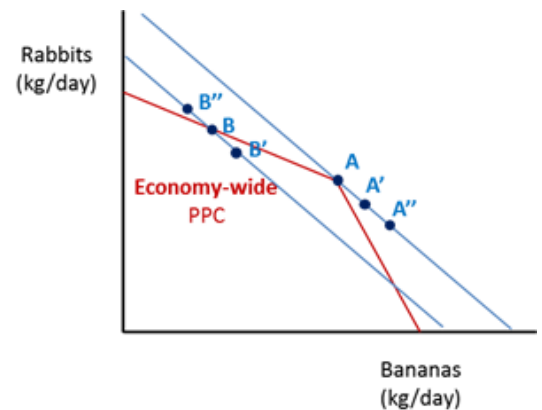
## 1.4 Principle of Comparative Advantage

- Everyone can do better when each agent (person, country) specialises in the activity where their **opportunity cost is the lowest** (and **have a comparative advantage in**)
  - It does not matter if someone has an absolute advantage in both activities.
- **Low-hanging fruit principle**: when expanding the production of any good, first employ **resources with the lowest opportunity cost** and after turn to those with higher OC
- Below left, we have the following situation:
  - Alberto has the **absolute advantage in producing both rabbits and bananas**
  - Alberto has the **comparative advantage in producing bananas**
    - $OC_{bananas} = \frac{1}{2}, OC_{rabbits} = 2$
  - Leo has **comparative advantage in producing rabbits**
    - $OC_{rabbits} = 1, OC_{bananas} = 1$
- Leo should prioritise rabbits, Alberto bananas. We form **an economy-wide PPC** (right)
  - The point (16, 4) is when Leo cannot make any more rabbits, and Alberto cannot make any more bananas. It curves **outward** because people with less opportunity cost specialise in **their production** first.



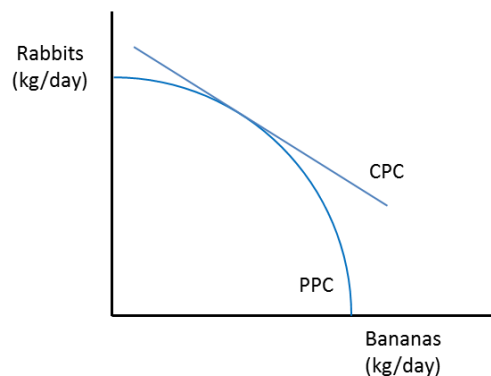
## 1.5 International Trade and the CPC

- If an economy is open, **agents can trade** and achieve more consumption possibilities
- **Consumption Possibility Curve**: All possible combinations of two goods that the economy can feasibly consume when **open to international trade**
- Below, we can exchange 1 rabbit for 1 banana – we can construct lines A and B achieve more possibilities
  - At point B, we can trade at sell bananas to go up the curve, and vice versa.
  - At point A, the line guarantees the maximum amount of consumption – **is the CPC**



## 1.6 Many-Agent Economy

- PPC becomes a smooth curve as each person has different opportunity cost, with CPC being a tangent to the curve



## 1.7 Shifts in the PPC

1. Increase in **infrastructure** (factories, equipment)
2. Increase in **productive** resources (population, labour force that increase economic growth)
3. Advancements in **technology** and investments/improvements in **education, IT, communication, research and development**

## 1.8 Classic Critiques to the Model

1. No **psychological costs**, people enjoy doing a variety of tasks
2. No **transaction costs**, including negotiation, transportation, import quotas or tariffs
3. Specialisation requires expertise and education, which **becomes a sunk cost that cannot be recovered if the need for good or service decreases**
4. No **preferences, social norms** (political or religious) that can prevent trade