BUSS1040 - Economics for Business Decision Making

Lecture 1: Key Concepts and comparative advantage

Reading: NW Chapter 1 and 4

THE UNIVERSITY OF SYDNEY

Our Canvas site is the hub that contains all the information and learning materials that you need for BUSS1040

Challenge! Can you find the Canvas pages for the following content?

- Assessment information
- Teaching team information and weekly consultation schedule
- Lecture slides and related exercises
- Links to tutorial quizzes
- Ed discussion forum
- Class announcements
- General resources to help you thrive in the university.

1. Before lecture: read textbook chapters
2. During lecture: understand, think about examples, ask questions
3. After lecture: attempt tutorial questions and practice questions
4. During tutorial: discuss with tutor and classmates, complete quiz
5. Outside class: share your knowledge with family and friends. Find people and tools to help you stay on track and fight procrastination.

Success!

- Peer Assisted Study Sessions (PASS) are available for BUSS1040
- PASS are extra study sessions facilitated by senior students who have excelled in this subject.
- Many students find this unit challenging, and PASS can help students get through difficult subjects.
- Regular attendance in PASS can help you stay motivated, meet other students, and improve your grades.
- Regardless of your background, you can benefit from the skills and understanding gained from attending PASS.
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What is economics?

- *"Economics can be defined in a few different ways. It's the study of scarcity, the study of how people use resources and respond to incentives, or the study of decision-making. It often involves topics like wealth and finance, but it's not all about money. Economics is a broad discipline that helps us understand historical trends, interpret today's headlines, and make predictions about the coming years."*

- Economics is the study of choice under scarcity.
  - Scarcity is faced by consumers, businesses, government, countries, and so on.
- Key issues that need to be addressed in an economy are:
  - (a) what to produce;
  - (b) how to produce it; and
  - (c) who should get what is made.

What is economics?

- In a modern economy, these 3 questions are typically resolved in the 'market'.
- A **market** is a place where buyers and sellers of a particular good or service meet.
  - Markets can look quite different, from a traditional bazaar to an online trading site.
- Even in market economy, governments play a critical role in markets, for example, by imposing taxes and regulations.
- Our focus is on the behaviour of individuals (consumers, firms, government) in markets.

What is economics?

Micro: deals with individual households, firms, industries and markets focuses on

- relative prices
- allocation of output, employment etc.

Macro: deals with the economy as a whole, including both the financial and real sides. Focus on

- the overall price level
- aggregate (i.e. total) output
- aggregate employment and
- unemployment
- interest rates and exchange rates

Topic 1: Introduction and Key Concepts

- Start with some key ideas in economics
  - Choice under scarcity
  - Opportunity cost
  - Gains from exchange/trade
- Familiarize with the tools and the way of thinking of economists
  - Marginal analysis
  - Correlation vs causation
  - *Ceteris Paribus*
  - Math referesher – on your own (Chapter 2)

➔ Chapter 1 and 4 of NW Book. (& 2 on your own)

➔ Review Questions in Tutorial 2.

Basic Economic Questions

- **Scarcity:** resources are limited, so that not all wants and needs can be met
  - For example, if I use my money to buy one product, then I cannot use it to buy something else

- Because of scarcity, any choice involves a trade-off or **opportunity cost**
  - Opportunity cost = what we give up when we make that choice, or "the value of the next best foregone alternative".
  - This concept applies to **any resource** used when making a choice: how an individual spends their time and other resources

Opportunity cost

› Examples of opportunity cost:

- On Saturday night you decide to watch a movie on TV with your flatmate but you could have also accepted a babysitting job for $25/hour.

  - What´s the opportunity cost of spending your time (2 hours) watching a movie on a Saturday night?

Opportunity cost

Examples of opportunity cost:

- Elizabeth prefers to spend Saturday afternoon walking. Her next best choice would have been to sleep, and her third best choice is to go swimming.
  - Therefore, if Elizabeth goes for a walk, the opportunity cost of going for a walk is sleeping – her best foregone opportunity.
  - The option of swimming is not relevant here, because it is not the next best opportunity.
- *Q: What is the opportunity cost to you of attending this lecture?*

Opportunity cost

- Opportunity costs include both **explicit costs** and **implicit costs**.
  - Explicit costs are costs that involve direct payment (or, in other words, costs that would be considered as costs by an accountant).
  - Implicit costs are opportunities that are foregone that do not involve an explicit cost.

Opportunity cost

- Example:
  - Stephen decides to go to university, and his next best option is to work at a construction site and earn $80K over the year.
    - Total opportunity cost = explicit costs + implicit costs
    - The explicit costs are those that Stephen must directly pay to go to university, such as student fees, the cost of textbooks, and so on. Lets say that it costs $20k a year to go to university.
    - The implicit costs are the opportunities that Stephen must forgo – that is, working at the construction site and earning $80K.
    - The total opportunity cost is thus $100k a year.

Opportunity cost

- Opportunity cost does not include unrecoverable or **sunk costs**.
  - For example, a business spent $100m on an advertising campaign last year and needs to decide whether to keep the campaign going for another year.
  - It *cannot* recoup the money (or the effort) spent on last year's campaign by deciding to stop the campaign now
  - Thus $100m=sunk cost, not part of the total opportunity cost of continuing the campaign now.

Opportunity cost

Exercise

John decided to go to a concert with his friends on a Thursday night and had trouble getting up on Friday morning to attend his important work meeting.

John's employer pays him $400 for attending each important meeting. This payment is not refundable.

If John misses the meeting, he will feel bad about his lack of responsibility, and the psychological cost of this guilt is valued at $150.

Additionally, if John misses the meeting, he will have to spend 3 hours over the weekend catching up on the missed work. If he does not miss the meeting, he would use those 3 hours to relax and watch his favorite TV show, which he values at $200.

What is John's opportunity cost of missing the meeting?

A. $0
B. $350 = 150 + 200
C. $550 = 400 + 150
D. $750 = 400 + 150 + 200
E. I have no idea

Marginal analysis

- **Marginal** means additional or extra. We use the term repeatedly in economics.
  - Marginal benefit
    - The additional benefit received from consuming an extra unit of something.
  - Marginal cost
    - The additional cost incurred through buying one more unit of something).

Marginal analysis

- Marginal analysis is useful as it allows us to examine the behaviour of individuals in market.
  - Compare marginal benefit (MB) of an activity with Marginal cost (MC)
    - ➔if MB of an activity is greater than its MC, an agent is better off doing the activity;
    - ➔ if the MB <MC, they are worse off if they do the activity.
  - **Decision making is thinking at the margin**.

Correlation and causation

- **Correlation** – an association between two or more factors whereby the factors are observed to be increasing/decreasing together or moving in opposite directions.
- **Causation** – a change in one variable brings about, or causes, a change in another variable.
  - Economic theory, providing a framework for how the world works, allows us to distinguish between correlation and causation.
- **Correlation does NOT imply a causation**

  https://www.youtube.com/watch?v=lbODqslc4Tg

Ceteris paribus

- In the real world, many things change at the same time (prices, income, tastes, taxes, and so on).

- To isolate the impact of one factor, economists examine the impact of one change at a time, holding everything else constant – this is called **ceteris paribus** (or 'other things equal').
  - If we are interested in the impact of the change in the price of a good on the quantity demanded, we analyse this holding income, and any other relevant variables constant.

Production possibility frontier (PPF)

› A PPF graphs the output that an individual (or a country) can produce *with a particular set of resources*.

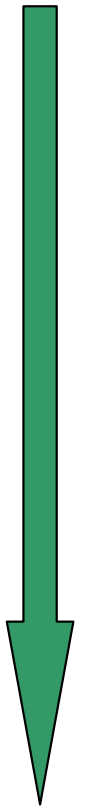
› A **country's PPF** shows all the combinations of goods and services that a country can produce *given its resources and its current state of technology*.

- Note that if the country does not trade with others, the PPF also describes the country's consumption choices.

PPF: an example

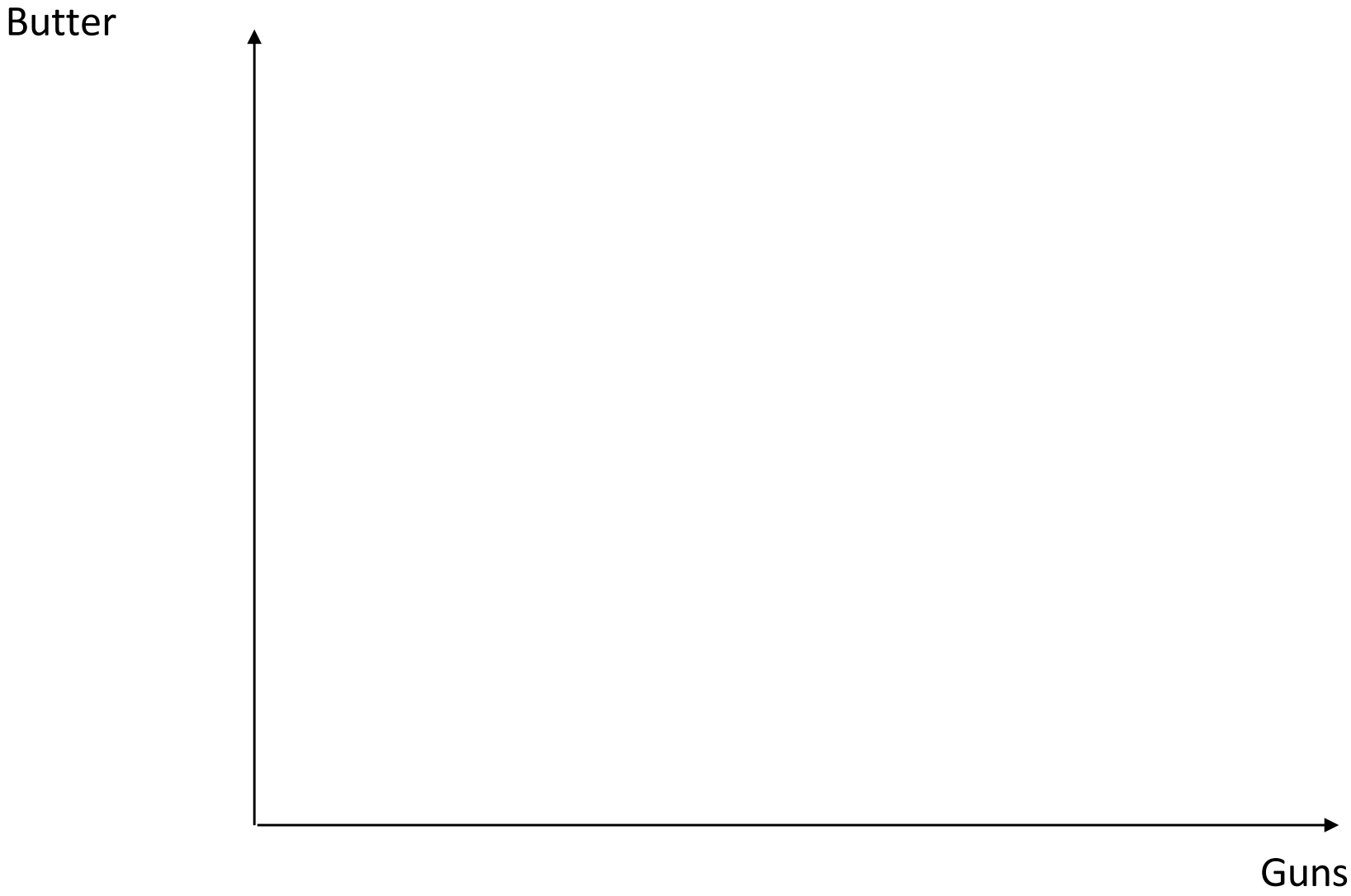
Suppose a country can only produce 2 goods, guns and butter.
With its resources, it can produce the following

	Guns	Butter
A	0	25000
B	100	24000
C	200	22000
D	300	18000
E	400	13000
F	500	0

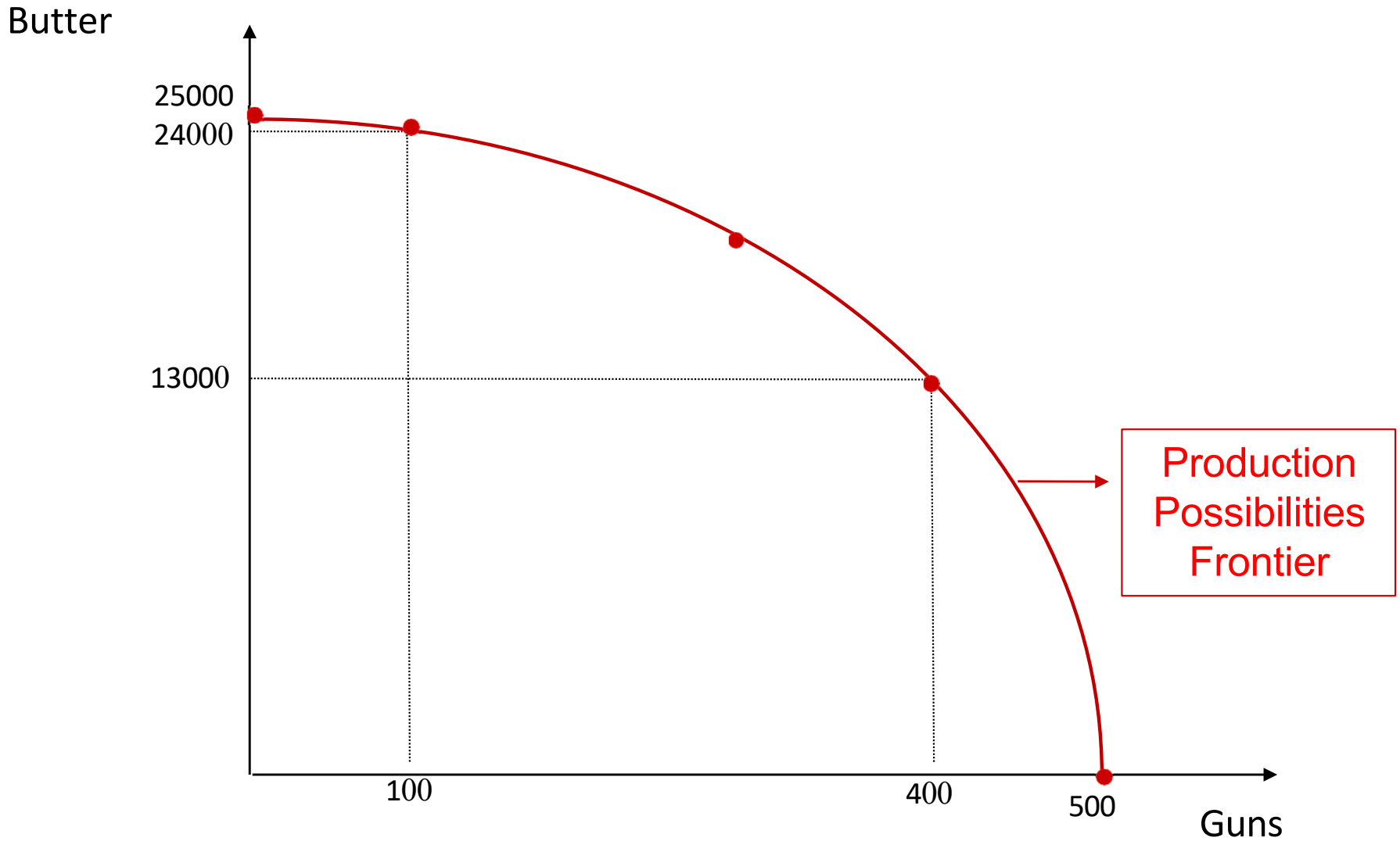


Increasing opportunity cost of guns

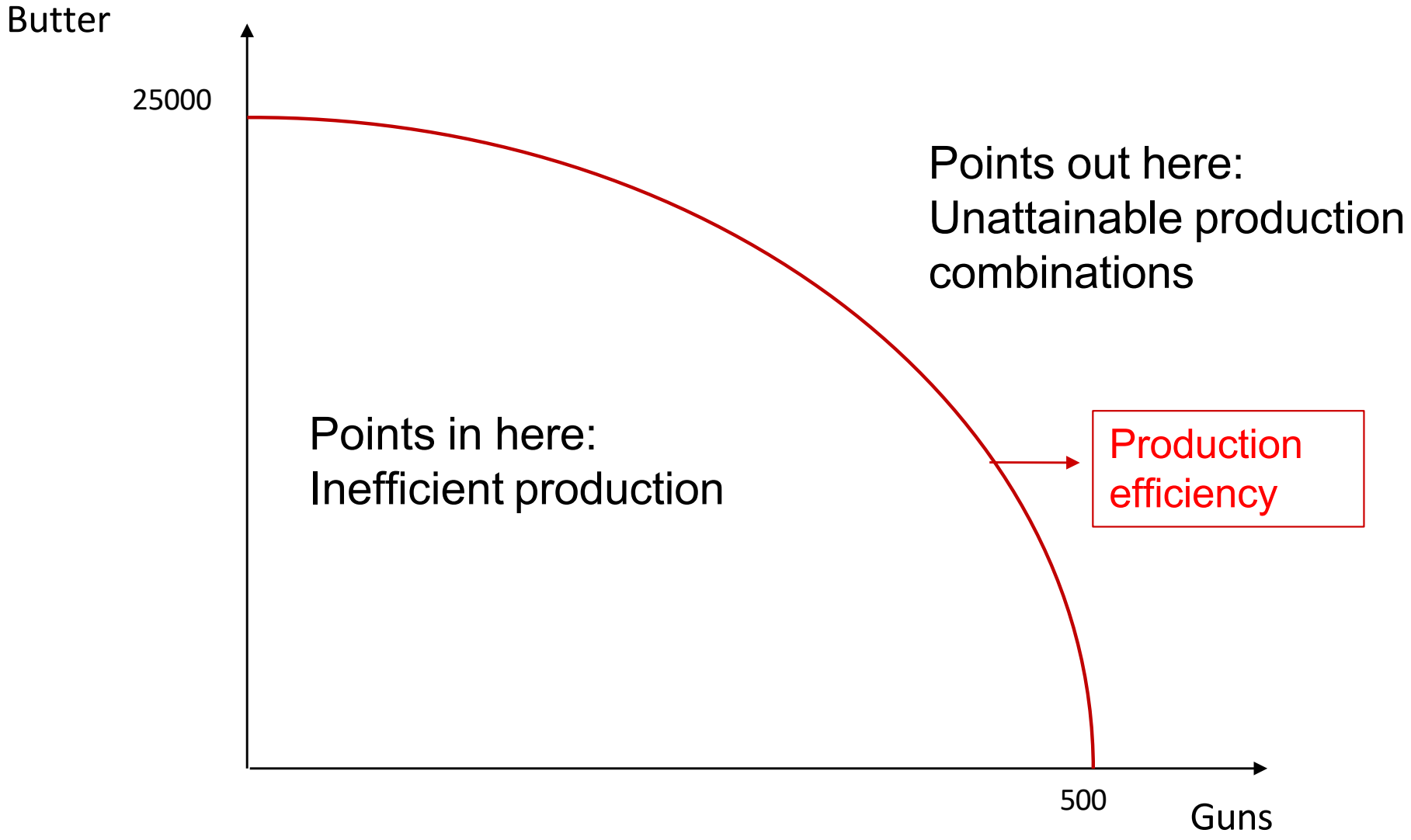
Production Possibilities Frontier



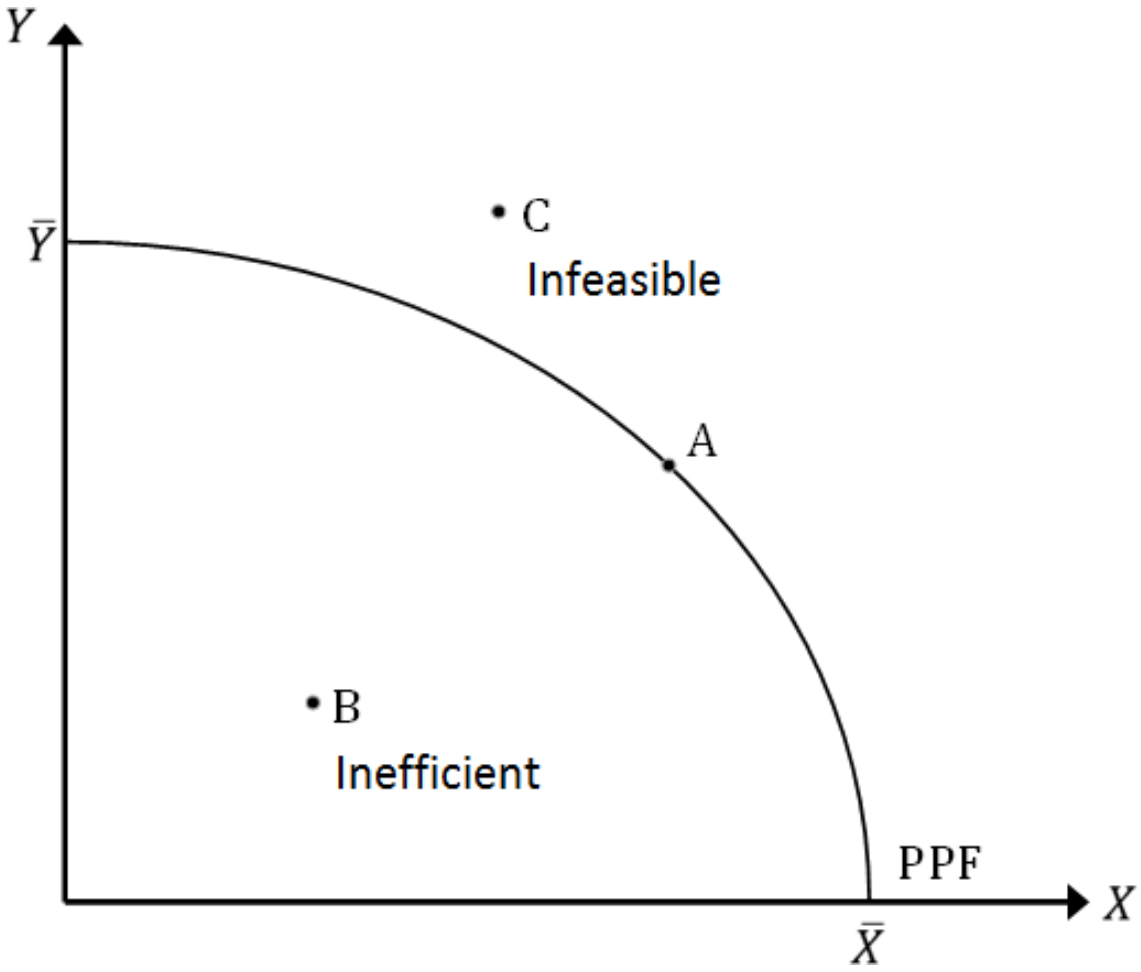
Production Possibilities Frontier



Production Possibilities Frontier



PPF



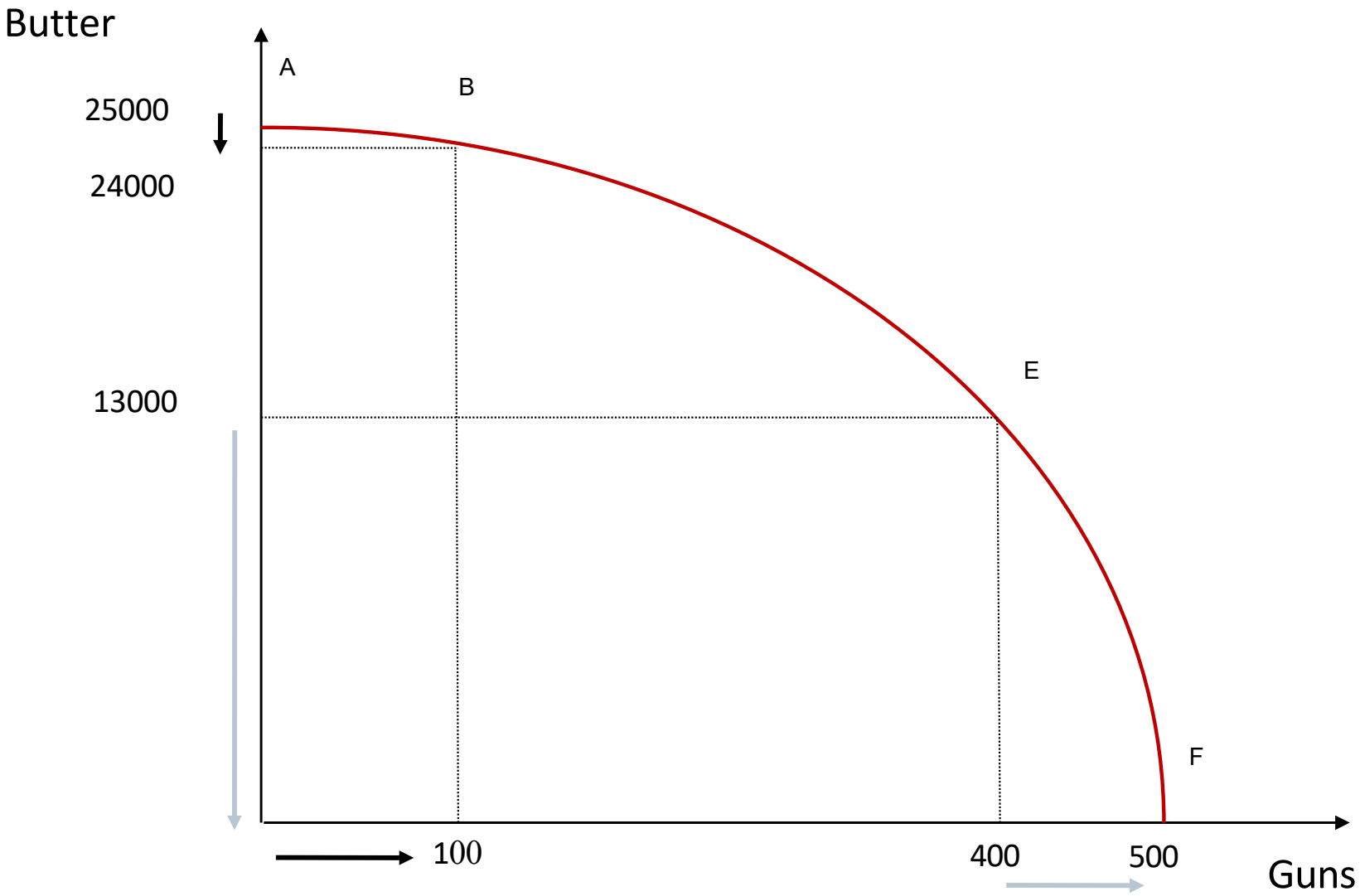
The production possibility frontier (PPF) traces out combinations of the quantity of two goods (X and Y) that can be produced if all resources are used.

- Point A is attainable, as is B. Point C is unattainable given current technology and resources.
- Production efficiency is achieved at A, as at Point A, it is not possible to produce more X without producing less Y (and vice versa).
- Point B is not efficient, as at Point B, more X can be produced keeping the amount of Y the same (and vice versa).

The shape of the PPF

- Notice that the slope of this PPF increases as we move down along it. Or, in words, the PPF is concave → Why is that?
  - If we produce no guns but only butter (point A) and then decide to produce 100 guns, how much butter do we need to give up?
  - But if instead we were producing the bundle E, what'd then be the opportunity cost of producing 100 additional guns?
  - Here, the opportunity cost of each good is increasing in the level of output of that good

PPF and Opportunity Cost

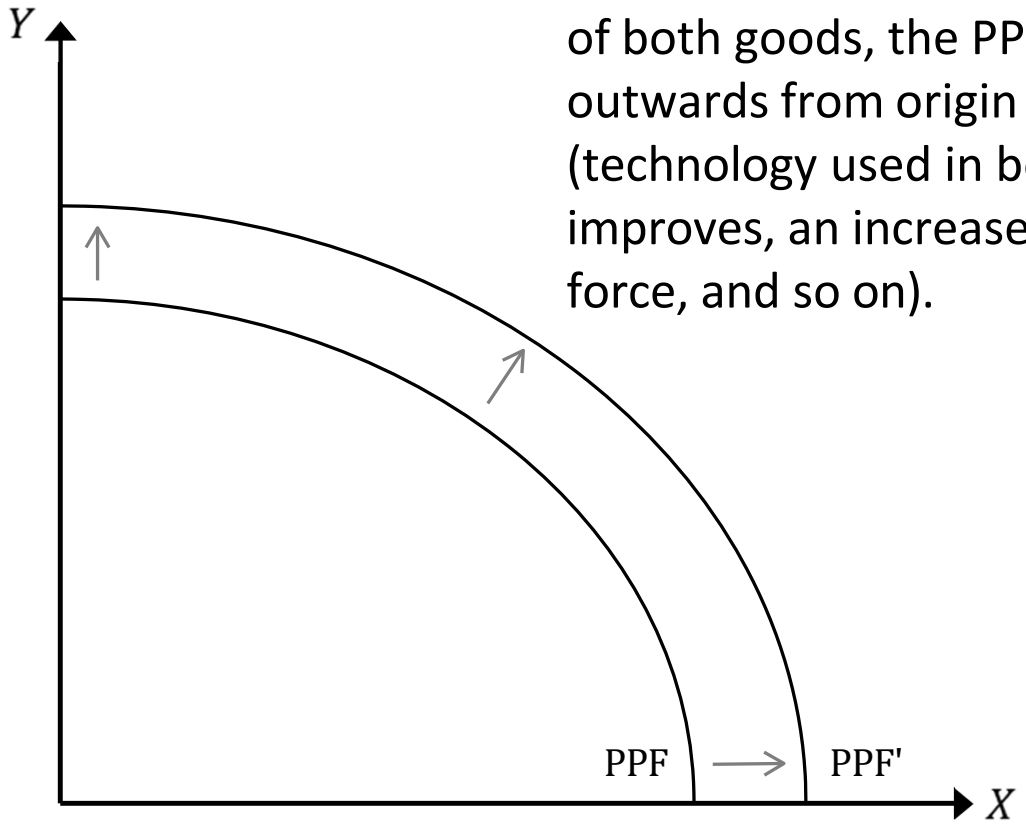


The shape of the PPF

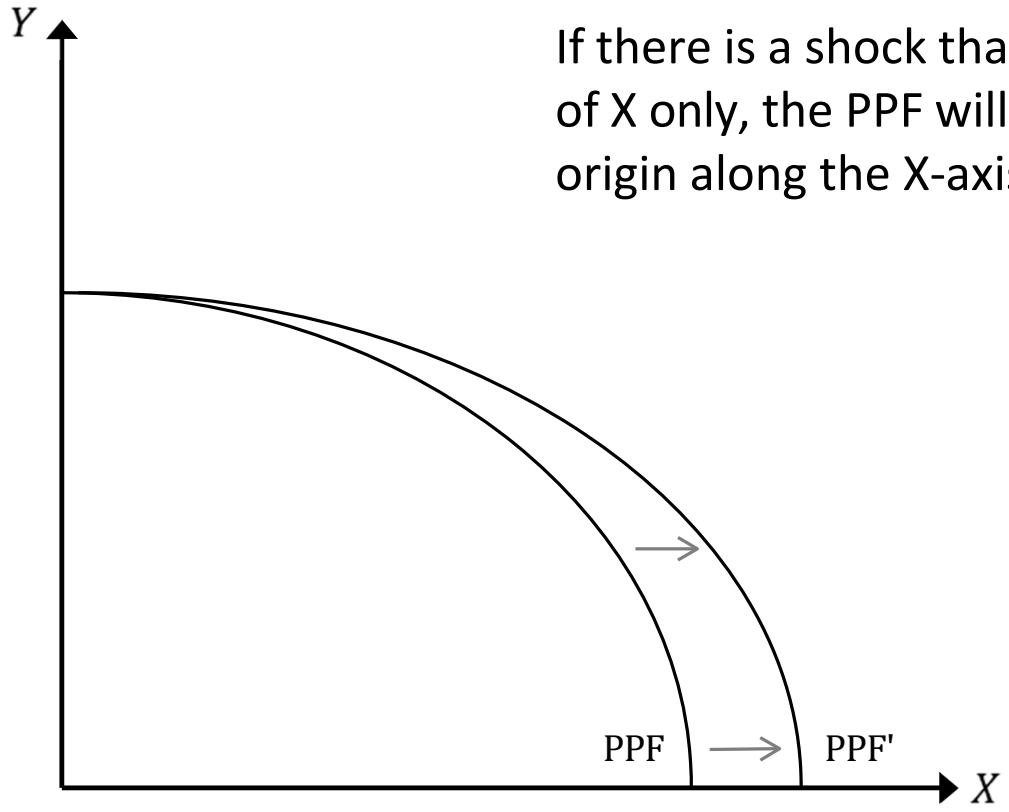
- If either the amount of resources available or the state of technology changes, the shape of the PPF can also change.
  - An improvement of technology could *shift the curve out* (if it improves productivity for both goods) or *rotate the PPF out or up* (if the new technology only improves production for one of the goods).

Changes in the PPF

With a shock that boosts the production of both goods, the PPF will shift outwards from origin along both axes (technology used in both industries improves, an increase in the labour force, and so on).



Changes in the PPF



If there is a shock that boosts the production of X only, the PPF will shift outwards from origin along the X-axis only.

PPF: Important to remember

- The slope of the PPF is the **opportunity cost** of producing an additional unit of a good in terms of the other.

- It depends on the country's productive resources (labour, capital, land, etc.) **and** the current state of technology.

The gains from trade

- A basic tenant of economics is that trade *can* make everyone better off.

  - Trade = economic interaction
  - Trade helps allocate goods to those who value them most. This is the **gains from exchange**.
  - Gains from exchange = Improvements in income, production or satisfaction owing to the exchange of goods or services

Gains from trade

- A simple example (with consumers):
  - Suppose Baz owns a bicycle he rarely rides and thus he values little, say at $10.
  - Chloe would like to have a bike. She is 'willing to pay' (i.e, values a bike) at $100.
  - If Baz sells the bike to Chloe for $40, then:
    - Chloe is better off because she gets a $100 value bike for $40
    - Baz is better off because he gets $40 when he only valued the bike at $10.
  - This trade is **Pareto improving** –both agents are better off.
    - Provided the price is between $10 and $100 both parties can be made better off by trading the bike

Gains from trade

- Key here is that exchange is ***voluntary***
  - Leaves both parties better off
  - Whether the Pareto improving trade is weak or strong depends on the valuations of each of the parties
  - How much individuals benefit will depend on the terms under which trade occurs:
    - a higher price suits the seller, a lower price the buyer.

- Trade also allows people to take advantage of **gains from specialization**, reducing overall costs of producing and increasing output.
  - related to “comparative advantage” in production

Gains from trade

- Consider economy when Rob can only wash clothes and Matt can only cook.
  - gains from trade, allows each to consume a new good
- When each can perform both tasks, but Robert can only cook at great cost and Matt can only wash clothes with a substantial effort.
  - specialising lowers cost, can make both better off
- ***But what if one party is better at producing both services?***

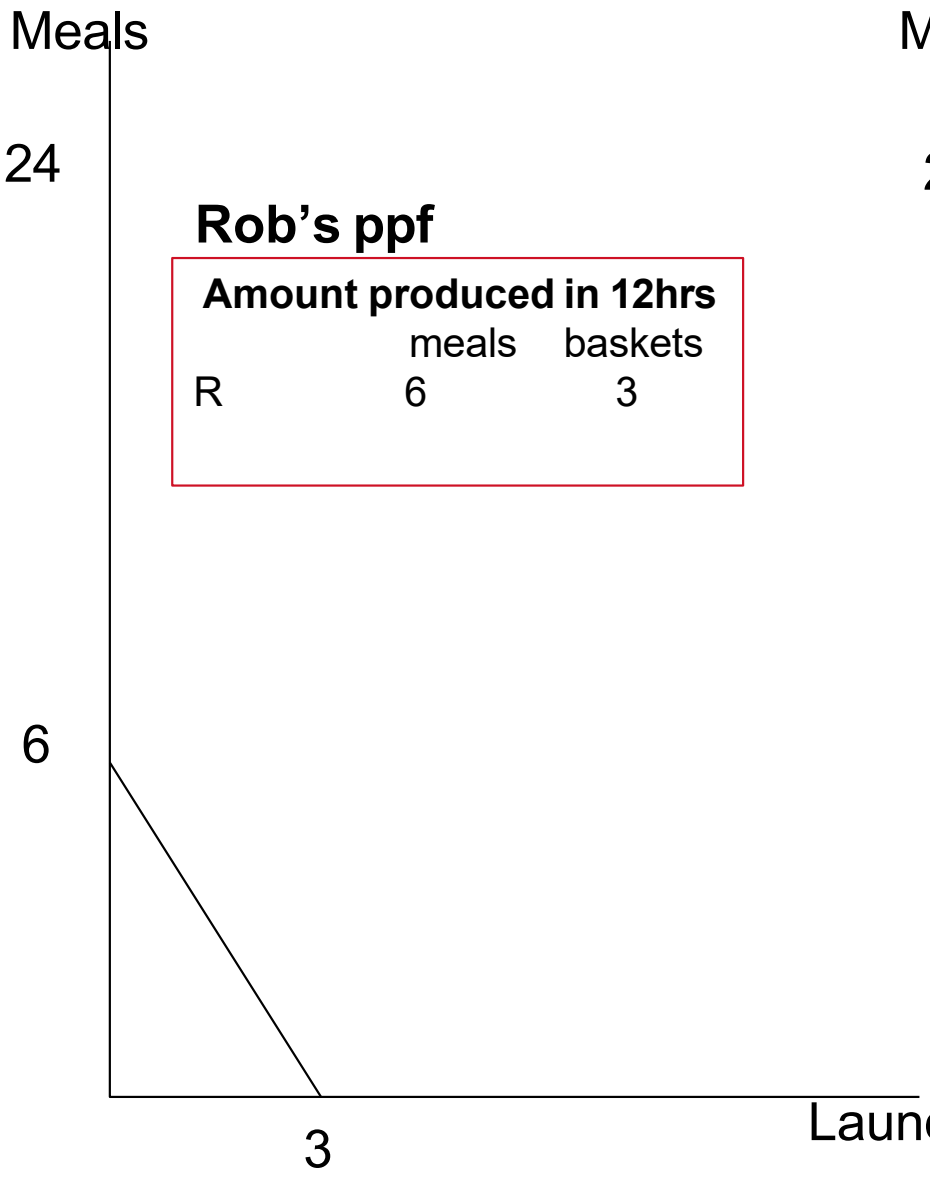
Gains from trade

	Hours needed for 1 meal	Hours needed for 1 basket	=> **Amount produced in 12hrs meals**	**Amount produced in 12hrs baskets**
R	2	4	6	3
M	1/2	3	24	4

If both do not trade they consume on their PPF

Proposed trade: Rob does 1.5 baskets of laundry for Matt.
Matt cooks 5 meals for Rob.

Note: The trade rate is given.



Rob's ppf

Amount produced in 12hrs

	meals	baskets
R	6	3

Matt's ppf

Amount produced in 12hrs

	meals	baskets
M	24	4

Gains from trade

Without trade | *With trade*

	Prod. and cons	Prod	Trade	Cons	Gains from trade
Rob	4 meals 1 basket				
Matt	12 meals 2 baskets				

(*as an example*)

Prod = production (quantity of goods produced)

Cons = consumption (quantity of goods consumed)

Gains from trade

Without trade *With trade*

	Prod. and cons	Prod	Trade	Cons	Gains from trade
Rob	4 meals 1 basket	0 meals 3 baskets			
Matt	12 meals 2 baskets	18 meals 1 basket			

(as an example)

Gains from trade

Without trade *With trade*

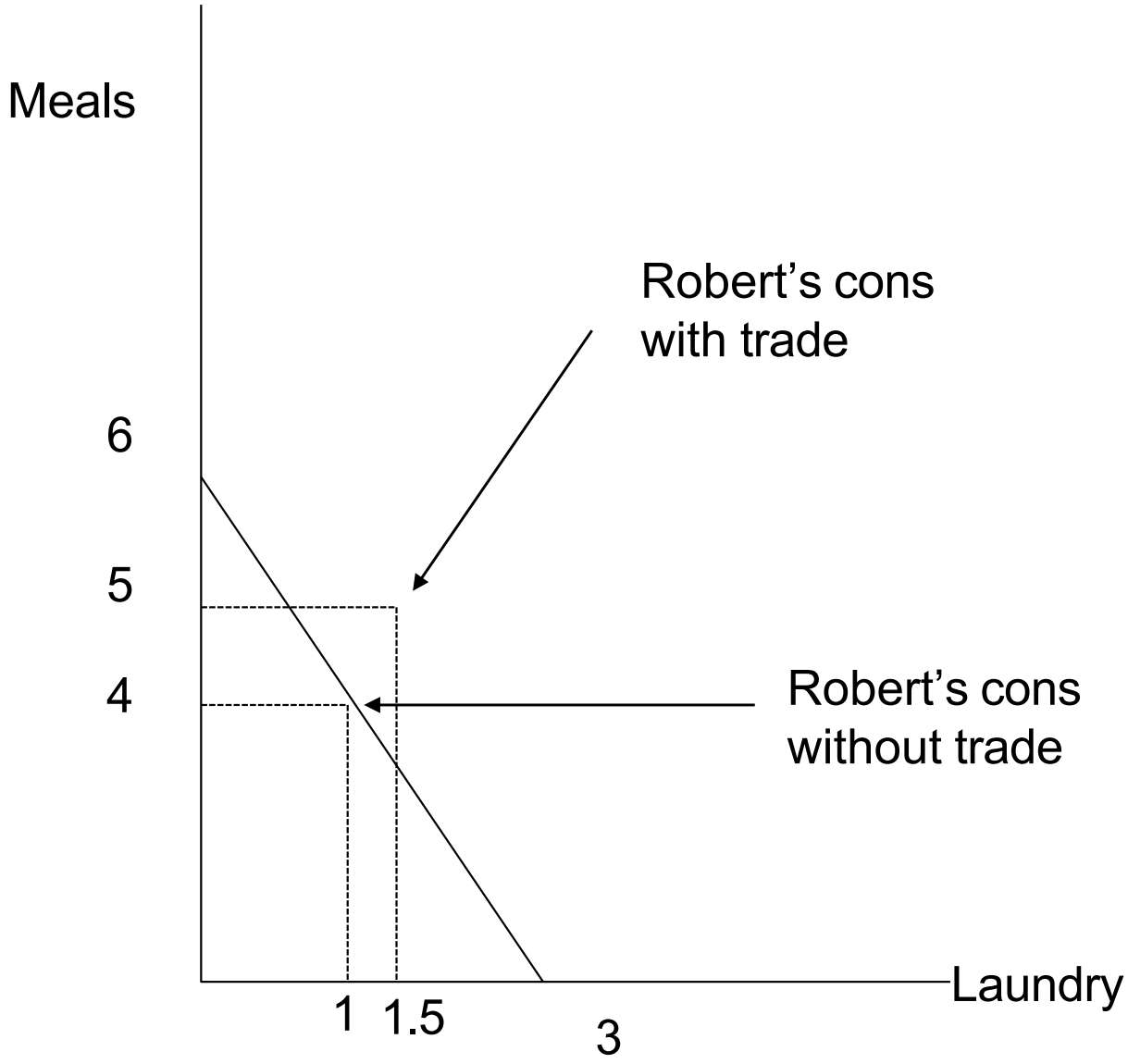
	Prod. and cons	Prod	Trade	Cons	Gains from trade
Rob	4 meals 1 basket	0 meals 3 bask	gets 5 meals for 1.5 bask		
Matt	12 meals 2 baskets	18 meals 1 basket	gives 5 meals for 1.5 bask		

Gains from trade

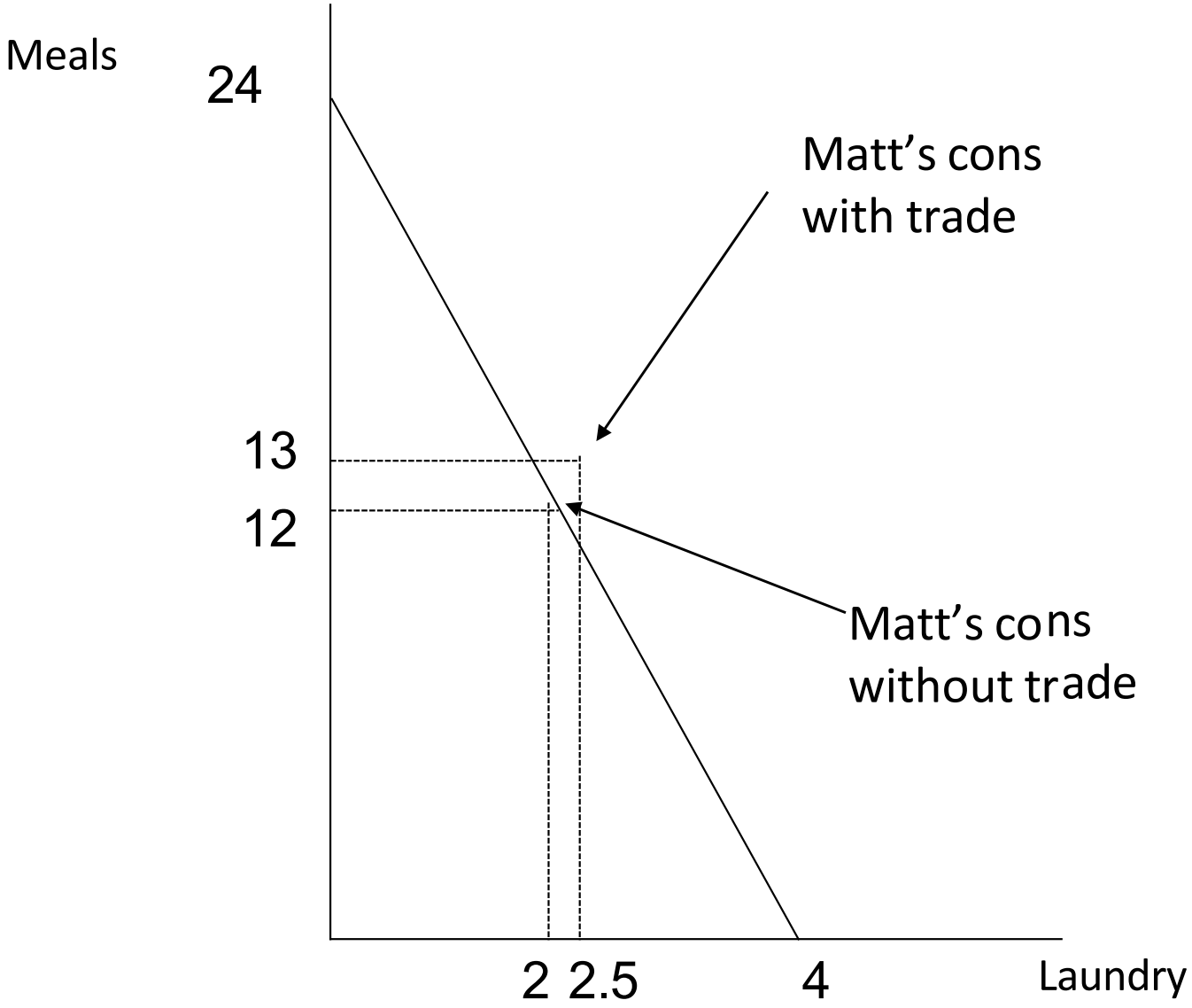
Without trade *With trade*

	Prod. and cons	Prod	Trade	Cons	Gains from trade
Rob	4 meals 1 basket	0 meals 3 bask	gets 5 meals for 1.5 bask	5 meals 1.5 bask	
Matt	12 meals 2 baskets	18 meals 1 basket	gives 5 meals for 1.5 bask	13 meals 2.5 bask	

Robert's PPF and consumption



Matt's PPF and consumption



Gains from trade

Without trade *With trade*

	Prod. and cons	Prod	Trade	Cons	Gains from trade
R	**4 meals** **1 basket**	0 meals 3 bask	gets 5 meals for 1.5 bask	**5 meals** **1.5 bask**	**1 meal** **0.5 bask**
M	**12 meals** **2 baskets**	18 meals 1 basket	gives 5 meals for 1.5 bask	**13 meals** **2.5 bask**	**1 meal** **0.5 bask**

End results: Both parties can consume outside of their ppf

Absolute and comparative advantage

- Party A has an **absolute advantage** over Party B in the production of a good if, for a given amount of resources, A can produce a greater number of that good than B.
- Party A has a **comparative advantage** over Party B in the production of a good if A's opportunity cost of producing that good is lower than B's opportunity cost of producing the same good.

Gains from trade

- Matt needs 3 hours to produce 1 basket. In that time she could produce 6 meals
  - opportunity cost of 1 basket is 6 meals
  - reflected in the slope of the ppf (-6)

- Robert's opportunity cost of 1 basket is 2 meals
  - slope of ppf -2

- Note, the opp cost for Matt of producing 1 meal is 1/6 baskets
  - it takes 30 minutes to make a meal, in that time would wash 1/6 a basket
- Also, opp cost for Robert of producing 1 meal is 1/2 baskets

Gains from trade

Opportunity cost of 1:

	Meals (in terms of baskets forgone)	Baskets (in terms of meals forgone)
R	1/2	2
M	1/6	6

- Producer with the lower opp cost has a comparative advantage in that good
  - Hence, Robert has a comparative advantage in laundry; Matt in cooking

- Note: as opp cost is the inverse for the other good it is impossible for a person to have a comparative advantage in both goods

Gains from trade

- Differences in opportunity costs of production create gains from specialisation and trade

- Each person specialises in the good in which they have a **comparative advantage**

- Because **economic pie increased** in size everyone can be better off
  - each party can obtain the good for a lower price than his/her opportunity cost
  - i.e. Robert buys each meal for 3/10 basket of laundry while his opportunity cost of cooking is 1/2 a basket of laundry.

Intuition underlying gains from trade

- Total output increases because trade allows parties to **specialise** in producing the good in which they have the lower opportunity cost.
  - With more output, both trading parties can potentially be made better off.
  - Trade creates an environment for specialization to be feasible, increasing the size of the economic pie.
  - This increase in output can potentially be shared so as to make everyone better off than without trade.

Intuition underlying gains from trade

- This concept is very general:
  - Trade is beneficial to individuals (and indeed countries) because it allows them to **specialize** in industries where they have the **comparative advantage**, and trade with others for things that would **cost** them more to produce personally.
  - Moreover, this principle holds **even if one party has the absolute advantage** in the production of both goods; what matters is the comparative advantages or opportunity costs of the parties.

Summary

- Key economic concepts
- **Economics** is the study of choice
  - how society deals with scarcity of resources
- Scarcity => **opportunity cost**
  - Reflected in Production Possibilities Frontier
- **Gains from trade**: everyone can be made better off through exchange of goods & services
  - Through specialization in production (based on comparative advantage), extra gains from trade are possible