AS.180.102 (04): Elements of Microeconomics

Chapter 3 - Interdependence and Gains from Trade

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Problem Set Grading Policy

- ALL assignment submissions be submitted as ONE FILE.
- The file must be a PDF
- If you do not submit as one file you will not get any credit and you will get a 0
- Grading
  - 100 - Complete and high quality work
  - 80 - Complete work lacking quality (missing precision)
  - 50 - Not good or incomplete work (You did the bare minimum for multiple questions)
  - 0 - You turned in nothing or did not turn in correctly
- As this is graded on completion and effort it is your responsibility to review solution set and rubrics to understand where you need to improve ahead of exams.

Questions from last week?

Outline

- These slides will cover chapter 3, "Interdependence and the Gains from Trade."

Main Takeaway

Specialization and trade can make everyone better off due to **comparative advantage**.

Absolute advantage

Absolute advantage

The ability to produce more of a good given a fixed quantity of inputs.

We have two restaurants, Stu's Steakhouse and Sandie's Salads. Both of them can produce two dishes: salads and steaks.

Given 1000 minutes of labor time, they can produce the following amounts of each dish:

Restaurant	Steaks	Salads
Stu's Steakhouse	100	20
Sandie's Salads	200	100

What is their cost, in minutes, to produce steak and salads?

Absolute advantage

Assume that there is a constant transferability from one dish to the other:

- Draw the production possibility frontiers for the two restaurants
  - Who has the absolute advantage in producing steaks?
  - Who has the absolute advantage in producing salads?

Restaurant	**Steaks**	**Salads**
Stu's Steakhouse	100	20
Sandie's Salads	200	100

Comparative advantage

Before we discuss comparative advantage, let's think about the opportunity cost of each firm for each dish:

1. What are the slopes of the two PPFs?
2. What is Stu's opportunity cost for producing steaks and salads?
3. What is Sandie's opportunity cost for producing steaks and salads?

In other words: what is the *trade-off* that each restaurant faces as they change their production from one dish to another?

Comparative advantage

Comparative advantage

The ability to produce a good at a lower opportunity cost.

The **opportunity cost** of producing salads is the amount of steaks they could have produced with the same input.

A restaurant has a **comparative advantage** in producing steaks compared to their competitor if their opportunity cost of producing salads is lower.

Comparative advantage

1. Can a firm have an absolute advantage in both goods?
2. Can a firm have a comparative advantage in both goods?
3. What is the relationship between the comparative advantage in good A and good B?

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3. What is the relationship between the comparative advantage in good A and good B?

The comparative advantage in producing good A is the *inverse* of the comparative advantage in producing good B.

If the comparative advantage in good A is high, the comparative advantage for good B must be low.

Comparative advantage

Since most customers like to order a salad with their steak, Sandie and Stu both want to offer both salads and steaks (not necessarily 1-to-1).

- If both spend half their resources on each dish, what is their output?

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Restaurant	**Steaks**	**Salads**
Stu's Steakhouse	50	10
Sandie's Salads	100	50
Total output	150	60

Possible trade

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- Sandie produces 2 fewer steaks, and 1 more salad

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Restaurant	**Steaks**	**Salads**
Stu's Steakhouse	55	9
Sandie's Salads	98	51
Total output	153	60

Possible trade

What trade would leave them both better off?

Possible trade

What trade would leave them both better off?

Say Stu trades 3 steaks to Sandie in exchange for one salad:

Restaurant	Steaks	Salads
Stu's Steakhouse	52	10
Sandie's Salads	101	50

They both have the same amount of salads as before, but more steaks - they are each better off

Should they continue to specialize?

Price of trade

We just asserted a trade that would make both parties better off in terms of the amount of each dish.

- How can we know both parties will agree to the trade?

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- How can we know both parties will agree to the trade?

This is determined by the price of each good. In the example we gave, the "price" of one salad was 3 steaks.

1. What if the price of 1 salad was 3.5 steaks?
2. What if the price of 1 salad was 1 steak?
3. What if the price of 1 salad was 6 steaks?

Price of trade

The first example would still leave both parties better off, but the second two would not.

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We are not ready yet to discuss where prices come from, but we do have a general rule:

Rule

For trade to make both parties better off, the price must lie between the two opportunity costs.

Discussion questions

Should Tom Brady wash his car?

Should the United States trade with other countries?

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Main Takeaway

Due to comparative advantage, specialization and trade can leave everyone participating better off

Another example

Joseph can peel a pound of potatoes in 10 minutes and wash a load of dishes in 15. Mary can do both of these tasks twice as fast.

Which person should do more of which task?

A final example

Joseph can peel a pound of potatoes in 10 minutes and wash a load of dishes in 15. Mary can also wash the dishes in 15 minutes, but it takes here only 5 minutes to peel the potatoes.

1. What is each person's opportunity cost of peeling potatoes?
2. Who has an absolute advantage in washing the dishes?
3. Who has a comparative advantage in washing the dishes?
4. If the two workers try and split up the tasks in an advantageous way, who will do more of which job?

A final example (cont.)

Joseph can peel a pound of potatoes in 10 minutes and wash a load of dishes in 15. Mary can also wash the dishes in 15 minutes, but it takes here only 5 minutes to peel the potatoes.

Think about the price of peeling potatoes in terms of washing dishes. What is the maximum price at which a trade could leave both workers better off? What is the minimum price?

Final notes

Going forward:

- Read the textbook, in particular the highlighted vocab and the key concepts (Anki and other flashcard apps are great to learn these)
- Do the practice problems
- There are no tricks — the practice problems from the book will be excellent preparation for the exams, quizzes, and homeworks
- Quiz 2 is due Monday