Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

Week 1 - Introduction

Guillem Riambau. Introduction to Economic Analysis

NUS - EC1101E

January 17, 2020

Guillem Riambau. Introduction to Economic Analysis

Introduction	Logistics	Opp.	cost	PPF	Comp.	Adv.	Remarks
			Wel Ecor	come	to s!		

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Economi	CS				

- What is economics?
 - \$\$? Much beyond money and stock markets
 - Study of allocation of scarce resources
 - \Rightarrow Study of human choice But where's the link?
- What can economics explain?
- Why is it useful?

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Economi	CS				

- What is economics?
- What can economics explain?
 - Why a Latte in Starbucks is 5 times more expensive than a Kopi-C Kosong
 - Why Fair Price charges you a different price in Bukit Timah than in Pasir Ris for the exact same good
 - Why owners of the local shop next door treat you much better than Starhub customer service
 - Why two identical HDB flats (same floor level, same design, same size, etc. etc.), at the exact same street, just opposite of each other, may have a price difference of \$25,000
 - Why the price of Durian keeps growing over time even if the quality does not increase
 - What's the most efficient (cheaper) way to increase school attendance in developing countries details here
 - Why highly educated women in the US are willingly taking lower wages than their male counterparts details here

• Why is it useful?

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Economi	CS .				

- What is economics?
- What can economics explain?
- Why is it useful?
 - Understand human behavior generally
 - Understand phenomena around us
 - Tools to improve your own self and the world around you
 - (hopefully it'll help you better allocate your time!)

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Todav					

- Opportunity cost & Tradeoffs
- Production Possibilities Frontier
- Efficiency
- Comparative Advantage
- but, first, some logistics!

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
1					
Logistics					

- Weeks 1-6: Guillem RIAMBAU. Microeconomics.
 - Midterm: Week 8, Thursday, March 12, 6.30 8.30pm, at FASS LT11. Note: Tutorials up to week 7, including.
- Weeks 7-13: FENG Ying. Macroeconomics.
 - Final: Wednesday, May 6, 9–11a.m. Details here
- e-Exam: You will need to download "NUS LockDown" browser. Details later in the course.

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Grades b	reakdown				

- Pre-Lecture LumiNUS Quizzes (6%)
- Post-Lecture LumiNUS Quizzes (9%)
- Tutorials (attendance and participation) & in-lecture quizzes (10%)
- Midterm Exam (Micro Lectures 1-6, Tutorials to week 7) (37.5%)
- Final Exam (Macro Lectures 7-13) (37.5%)

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Tutorials					

- TW04. Thursday 9:00 a.m. AS2-0510
- TW01. Friday 1:00 p.m. AS7-0101
- TW02. Friday 2:00 p.m. AS7-0101
- TW03. Friday 3:00 p.m. AS7-0101
- Problem sets and questions will be posted on LumiNUS at least one week in advance (so next Monday first set)

We start tutorials on week 2. Due to CNY, they will take place on week 3, Tuesday Jan 28 Click here for details

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
More log	istics				

- Office Hours: Tuesdays 10.30am 12pm, AS2-06-07 (Weeks 1-6)
- Pre-lecture quizzes: open one week before lecture, until the night before lecture
- Post-lecture quizzes: open right after lecture, until the following Monday (10 days)
- Slides
 - Summary/Guiding slides posted the day before lecture
 - Extensive slides posted after lecture

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Readings	and podca	ists			

- Principles and Applications of Economics (International Edition) by Marc Lieberman and Robert E. Hall. Sixth Edition. (LH) Older editions are fine. Buy a second-hand copy from your seniors.
- The Undercover Economist by Tim Harford (TUE). (eBook available at NUS Library here) The Undercover Economist Strikes Back by Tim Harford (TUESB).
- Podcast and other readings all in LumiNUS, in particular in the "Readings" section

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Today					

- Opportunity cost & Tradeoffs
- Production Possibilities Frontier
- Efficiency
- Comparative Advantage

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

Are IG and Facebook free?



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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
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What else could you be doing instead?

- Exercise in the gym
- Hang out with friends
- Reading a book
- Tutoring
- ...

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
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What else could you be doing instead?

- Exercise in the gym
- Hang out with friends
- Reading a book
- 🖙 Tutoring 🖘
- ...

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
0		Is it free?)		Ø

- $\bullet\,$ Suppose you use IG/FB 3 hours per week
- Suppose one hour tutoring yields \$50

Then...

Each week you are giving up \$150 by using IG/FB This is what we call the ${\bf opportunity\ cost}$

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Opportur	nity cost				

Opportunity cost

The opportunity cost of any choice/activity is what we must forego when we make that choice/activity

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

One example: opp. cost of going to the movies



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
One exan	nple: opp.	cost of goi	ng to the	e movies	



(2 hours)

- What's the opportunity cost for you of going to watch the movie?
- What's the opportunity cost for a surgeon of going to watch the movie?

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

One example: opp. cost of going to the movies



(2 hours)

- For you
 - \$ ticket: \$10
 - Best alternative: $2 \times \$50 = \100
- Opportunity cost = \$110

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

One example: opp. cost of going to the movies



(2 hours)

- For you
 - \$ ticket: \$10 Explicit cost (\approx actual payment)

Why is this an opportunity cost?

• Best alternative: $2 \times $50 = 100 Implicit cost (\approx what you give up)

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
One exan	nple: opp.	cost of goi	ng to the	e movies	



(2 hours)

For a surgeon

- \$ ticket: \$10
- Best alternative: (surgery) $2 \times \$4,000 = \$8,000$

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Example taken: tonsils surgery, which lasts \sim 45 minutes. Standard charges in private hospitals are between \$3,800 and \$5,200 for the surgeon only. Data taken from the Ministry of Health, links here and here.

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
One exam	ple: going	g to the mo	vies		



(2 hours)

- For a surgeon
 - \$ ticket: \$10
 - Best alternative: (surgery) $2 \times \$4,000 = \$8,000$
- Opportunity cost = \$8,010

Example taken: tonsils surgery, which lasts \sim 45 minutes. Standard charges in private hospitals are between \$3,800 and \$5,200 for the surgeon only. Data taken from the Ministry of Health, links here and here.

more examples

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Productio	าท				

- Summary
 - Opp. cost: what you give up in order to do something
 - All of your decisions entail an opportunity cost
- Next:
 - What increases production?
 - How much can we produce?
 - How do we (societies) decide what to produce?
 - Who should do what?

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
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Factors of production

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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

Factors of production



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Factors of production



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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
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Factors c	of productic	n			



Natural resources Physical space Physical capital Machines buildings, computers,... People (their time) Ability and willingness to combine resources to produce

Human capital Skills

Know-how

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Producti	on				

- \bullet What increases production? \checkmark
- I How much can we produce? So
- How do we (societies) decide what to produce?
- Who should do what?

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Productio	on and opp	. cost			

- Unfortunately, there are limits to how much we can produce
- (Virtually) all production carries an opportunity cost
- $\bullet~$ To \uparrow production of A \Rightarrow must \downarrow production of B

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



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Introduc	ction	Logisti	cs	Opp. cost		PPF	Comp	Adv.	Remark	
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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks


Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



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Introduc	tion	Logistic		Орр	. cost		PPF	Comp.	Adv.	Remarks
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Introducti	on	Logistic		Орр.	cost		PPF	Comp.	Adv.	Remarks
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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
The Prod	uction Pos	ssibilities Fr	ontier		



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
The Proc	luction Pos	sibilities Fr	ontier		







Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
The Proc	luction Pos	sibilities Fr	ontier		







Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
The Proc	luction Pos	sibilities Fr	ontier		







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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



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Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Efficienc	/				

Efficient production

A firm, an industry, or an entire economy is productively efficiently if it *cannot* produce more one good without pulling resources from the production of any other good.

HW: Can you define what a productively inefficient economy is?



Efficient allocation of goods

An allocation of goods is efficient if we *cannot* make one agent better off without making another agent worse off.



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Producti	on				

- \bullet What increases production? \checkmark
- $\bullet\,$ How much can we produce? $\checkmark\,$
- 🖙 How do we (societies) decide what to produce? 👒
- Who should do what?

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

How do we (societies) decide what to produce?

- Realm of normative economics
- Tradeoffs today vs. today:
 - Save more lives vs. produce more goods?
 - Build more roads vs. support the arts?
- Tradeoffs today vs. tomorrow:
 - Doctors attending patients vs. doctors developing medicines?
 - Produce more games today vs. develop new technologies for tomorrow?
- Complex process of decision-making
- Most societies: markets & government

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Producti	on				

- \bullet What increases production? \checkmark
- How much can we produce? \checkmark
- \bullet How do we (societies) decide what to produce? \checkmark
- 🖙 Who should do what? 🛛 🖘

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

Comparative advantage



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks

Comparative advantage



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Comporati	ua advant				

Comparative advantage





▶ details

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Who chou	uld da wha	+2			
	liu uo wila	IL!			

- Bernadette has *absolute* advantage in both ironing and cooking
- However, they both gain if Howard does either of the tasks.
- In particular, Bernadette grains from Howard focusing on one of the tasks!
- How so?

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Howard c	hould iron				



- For each meal, Bernadette gives up ____ shirts
- For each meal, Howard gives up ____ shirts

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
	معيدا الماريح				



- For each meal, Bernadette gives up 1 shirt
- For each meal, Howard gives up 3 shirts
- Howard's opp. cost is larger
- Howard has a *comparative* advantage on shirts
- $\bullet \Rightarrow \mathsf{Bernadette} \ \mathsf{should} \ \mathsf{cook}, \ \mathsf{Howard} \ \mathsf{should} \ \mathsf{iron} \ \mathsf{shirts}$

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
One examp	ble				









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Specialization?



Week 1 – Introduction

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
	l -				

One example



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
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One example




Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
~					
One exar	nple				



Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Summary					

- Specialization always improves well-being ...
- ... as long as terms of trade acceptable to both
 - Howard pays at most 3 shirts for 1 meal
 - Bernadette accepts at least 1 shirt for 1 meal
- Terms of trade \in [1,3] (anything between 1–3 shirts per meal)
- HW: Why? Think about opp. cost

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Remarks					

- Some practice questions
- All decisions involve a tradeoff (opp. cost)
- There's a limit to what we can produce (scarcity)
- Production depends on what economy has (labour, tech., capital, entrepreneurship)
- Trade benefits: Even *least* productive agents/countries should always produce

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
NI . I	D				
Next day	: Demand	and Supply			

- Readings & resources
 - LH Chapter 3: Supply and Demand
 - Harford (TUE) Chapter 2: What Supermarkets Don't Want You to (here)
 - (videos) McGlasson: Market Prologue; Demand; Change in Demand vs Change in Quantity Demanded; Supply; Market Equilibrium. All here

Introduction	Logistics	Opp. cost	PPF	Comp. Adv.	Remarks
Reminde	rs				

- Pre-lecture quiz **exceptionally** open till next Thursday at 11.59pm
- Post-lecture quiz open till next Thursday at 11.59pm
- Tutorials for materials this week on Tuesday 28 January
- See you next Friday! (or on Office Hours)

Practice questions

- Pareto efficiency: click here
- Economy vs. Business class click here
- Production possibilities https://www.click.here
- MOE click here

back to remarks





Why do some teachers at MOE quit their stable, secure, well-paid jobs?

back to questions

Capuchin monkeys

Watch this video first.



Is this an efficient allocation?



Why are business class / first class tickets so much more expensive than economy class tickets?

- Example: SGP Sydney SGP
 - $\bullet \ \, {\rm Economy} \sim \800
 - $\bullet~$ Business \sim \$3,000
 - $\bullet~\mbox{First}\sim$ \$8,000
- $\bullet\,$ Space of one business seat \sim 3-4 economy seats
- Productivity of a CEO for the company for one day > \$2,000

back to questions

Can an increase that affects <u>only</u> farming productivity increase production of laptops? (for example, getting a new stock of fancy tractors)



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- To fully understand the final allocation of all scarce available goods....
- ...we need to understand all choices people make that will make those goods available for them

▶ but what about health? ▶ back to slides



Opportunity cost

- Why are the \$10 you pay a opportunity cost?
- Because you're also giving up something you could use that money for, e.g.
 - Investing it
 - Buying dinner
 - Buying a gift
 - etc.

Back to slides

Youth unemployment (below 25 y.o.)



Spain Spain: Youth unemployment rate from 1998 to 2018



Spain: Mismatch \rightarrow young people are overqualified \rightarrow inefficient allocation of productive resources

Singapore data here Spain data here

Week 1 – Introduction

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Subhas prefers more apples to fewer apples Lisa prefers more apples to fewer apples There are 3 apples in total





Subhas prefers more apples to fewer apples Lisa prefers more apples to fewer apples There are 3 apples in total



Is this an efficient allocation?

Subhas prefers more apples to fewer apples Lisa prefers more apples to fewer apples There are 3 apples in total



Is this an efficient allocation?



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Week 1 – Introduction

Subhas is indifferent towards durians Lisa prefers more durians to fewer durians There are 3 durians in total





Subhas is indifferent towards durians Lisa prefers more durians to fewer durians There are 3 durians in total





Is this an efficient allocation?

Subhas is indifferent towards durians Lisa prefers more durians to fewer durians There are 3 durians in total



Is this an efficient allocation? X

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Interventions done by J-PAL (Jameel Poverty Action Lab – MIT) in order to increase school attendance in Kenya:

- Textbook provision
- Deworming (intestinal parasite worms)
- Grants to school committees
- Training for teachers
- Incentives for teachers based on student test scores and dropout rates

Increasing school attendance

Interventions done by J-PAL (Jameel Poverty Action Lab – MIT) in order to increase school attendance in Kenya:

- Textbook provision
- **Deworming (intestinal parasite worms)**
- Grants to school committees
- Training for teachers
- Incentives for teachers based on student test scores and dropout rates

back to slides

Deworming by far the most cost-effective (cheap and increases attendance dramatically) Details here More details here Even more details here

Why are highly educated women willing to take lower salaries than men?

US MBA study with surveys. 1,600 participants.

- "What is your expected salary after the MBA?"; "How many days per month are you willing to travel for work?"; etc.
- 800 participants Answers made public (names included)
- 800 participants \longrightarrow Answers kept private
- Are there any differences? Yes for unmarried women
 - Expected annual salary: 18K lower
 - Travel for work: \downarrow 7 days/month
- Some women downplay their ambitions
- Unmarried women less likely to negotiate salaries or promotions probably because of a desire to succeed in the dating market

back to slides

"Acting Wife": The Impacts of Gender Norms and Women's Relationship Status on Career Ambitions in the United States, by Leonardo Bursztyn, Thomas Fujiwara, and Amanda Pallais (2016) You can listen to NPR's **3-minute** podcast on this research here (or read the transcript of the podcast)

Tutorials Week 3

TW04. Tuesday 28 9:00 a.m. AS2-0509 & Thursday 30 9:00 a.m. AS2-0510
TW01. Tuesday 28 8:00 a.m. AS2-0509 & Friday 31 1:00 p.m. AS7-0101
TW02. Tuesday 28 7:00 p.m. AS2-0509 & Friday 31 2:00 p.m. AS7-0101
TW03. Tuesday 28 6:00 p.m. AS2-0509 & Friday 31 3:00 p.m. AS7-0101

back to slides

Production capabilities in one afternoon

Berna	adette	Hov	vard	
Shirts	Meals	Shirts	Meals	
0	10	6		
1	9	0	0	
-	8	5	1/3	
2	-	4	2/3	
3	1	3	1	
4	6	3	4/2	
5	5	Ζ	4/3	
6	1	1	5/3	
0	4	0	2	
(3			
8	2			
9	1	► back	► back to slides	
10	0	► back t	b slides 2	

Afterthoughts



back to slides

Why are students always the first ones to take on the streets?



Why do protesters in Hong Kong demonstrate on weekends?



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