Part 3

Final Review

Final Exam

- 28 Apr, 9 am
  - Comprehensive
  - Consumer theory (lecture 1-4) accounts for 10%-15%
- Open book
  - Communication is not allowed
- Platforms
  - Examplify (ExamSoft) for the exam
  - Zoom for invigilation
- Type of questions
  - MCQ: about 30%
  - Short answer/fill in the blank: about 70%

Examplify

- Examplify does not require internet connection during the exam
  - Internet is needed when downloading and submitting the exam
- Check the minimum system requirement
  - https://examsoft.force.com/etcommunity/s/article/Examplify-Minimum-System-Requirements
  - If you do not have a suitable computer, let me know asap
  - Although iPad is supported, use a computer if possible
- Download and install Examplify
  - At www.examsoft.com/nus
- Login to Examplify
  - See instruction https://wiki.nus.edu.sg/pages/viewpage.action?pageId=187598203

Examplify Cont'

- Attend a CIT briefing on Examplify via Zoom in week 13
  - Check the schedule here https://wiki.nus.edu.sg/display/DA/Common+Briefing+Sessions
  - Briefing is required for those who have not used Examplify before
- Take practice exams
  - https://wiki.nus.edu.sg/display/DA/Practice+Exams
- Our exam is a "secure" exam
  - Full lockdown of your computer
- Comprehensive guide for Examplify by CIT
  - https://wiki.nus.edu.sg/display/DA/Examplify+Assessment+-+Student

Zoom

- Multiple Zoom meetings will be created for invigilation
  - The meetings will be recorded
- Install Zoom on a second device
  - Phone, iPad, or a second computer
  - Webcam and audio on the second device should be working
  - Find a way to mount your phone/iPad
- Internet connection is needed on the second device throughout the exam
- Webcam should record you and your working area
  - No virtual background is allowed

Zoom Cont’

- “Waiting room” will be enabled
  - The invigilator will admit you to the meeting after verifying your identity
  - You will need to show your student card
- The invigilator will make announcements via Zoom
  - Exam password will be given out on Zoom
- Mute yourself on Zoom
  - But do not switch off the sound on your second device
- Communicate with your invigilator using Chat
  - And the “raise hand” function
- CIT guide for Zoom proctoring (for students)
  - https://wiki.nus.edu.sg/pages/viewpage.action?spaceKey=THES&title=Proctoring+with+Zoom

Short Answer Questions

- Essentially the same as our structured questions
- On Examplify, they are called “essay” questions
- Type your answers in the text box given
- There are some formatting options in the text box
  - But no equation editor
- No default character limit (I can set the character limit)

Fill in the Blank Questions

- Similar to our structured question
  - There is a character limit (cannot be adjusted) for each blank
  - Solution should not be too long
- Example
  - A question with 4 blanks
  - The equation of the budget line is __(1)__. The tangency condition is = __(2)__. The optimal basket is x= __(3)__, y= __(4)__.

How to type equations?

- You will need to type simple equations
- Do not worry about superscript, subscript, or making everything italic
- Examples

$P_x x^A + P_y y^A$	PxxA+PyyA
$U(x,y) = \sqrt{x} + y$	U(x,y)=sqrt(x)+y
$Q = L^2 K$	Q=L^2K
$MRS_{x,y} = \frac{y}{x+1}$	MRSx,y=y/(x+1)

How to show workings?

- For FITB questions
  - No need to show workings
  - The solution is either a equation/number
  - Or short explanation (1-2 sentences)
- For short answer questions
  - Show the key equations/steps
  - Do not show the steps for solving/simplifying equations

Other Logistics

- Consultation hours (via Zoom)
  - 16-17 April: 3 pm to 5 pm
  - 21, 23-24, 27 April: 2:30 pm to 5 pm
- Final practice problems (with solution) will be posted on LumiNUS in week 13
- Grade change deadline
  - 5:30 pm, 27 Apr
- I will not answer emails after 5:30 pm on 27 Apr

Our Topics

- Consumer Theory (Lecture 1-Lecture 4)
- Exchange (lecture 5-Lecture 6)
  - Pareto efficiency
  - Competitive equilibrium
  - First Welfare Theorem
  - Walras' law
- Production and Cost minimization (Lecture 7-Lecture 9)
  - Production function
  - Demand functions for inputs
  - Short-run and long-run cost functions
  - Relationship between short run and long run

Our Topics Cont'

- Perfect competition (Lecture 10-Lecture 11)
  - Firm's supply curve
  - Short-run equilibrium
  - Long-run equilibrium
  - Long-run market supply curve

Homework 2 Question 1 c)

- Consumer A's utility function is

$$U^A = x^A - 2y^A$$

- Consumer B's utility function is

$$U^B = x^B y^B$$

- The contract curve is

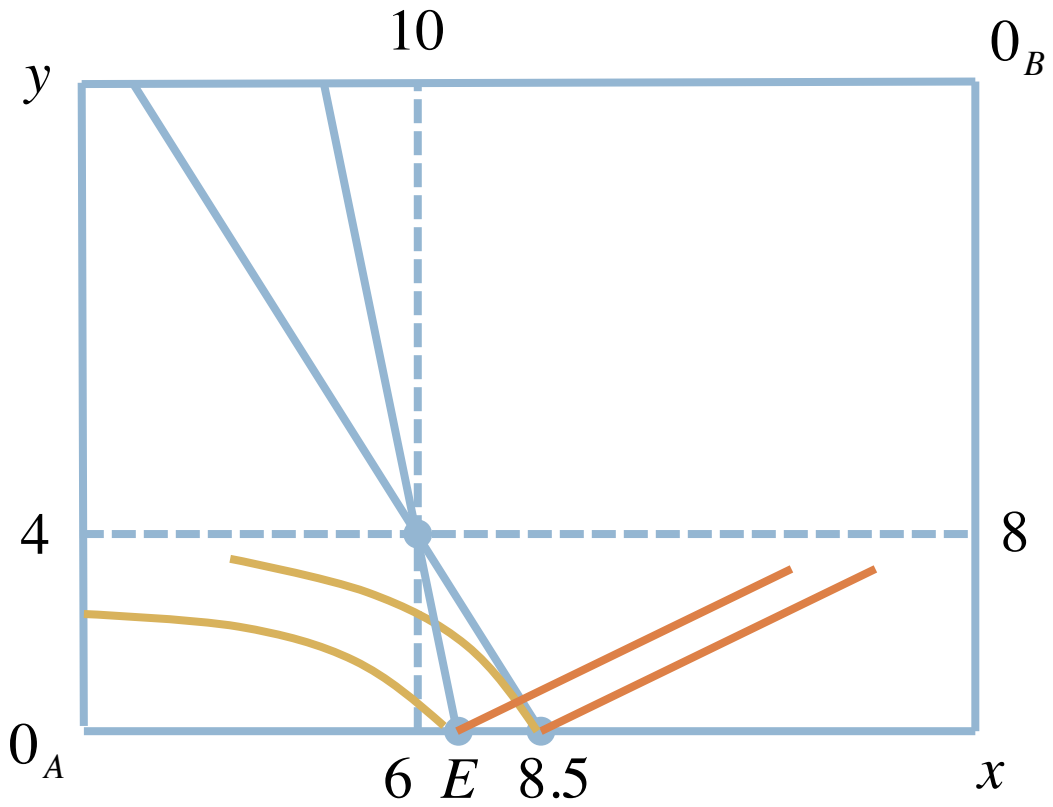
$$y^A = 0$$

  - When A consumes *y*, A can give B some *y* and both will be better off
  - When A does not consume *y*, if A consumes more *x*, B will be worse off, if B consumes more *x*, A will be worse off

Homework 2 Question 1 d)

- Why do we need to assume the equilibrium allocation is a tangency point?
- Equilibrium is not unique in this question
- There are more than one equilibrium prices and more than one equilibrium allocations
- Only one equilibrium allocation is a tangency point
- It is possible to have more than one equilibrium in the economy

Homework 2 Question 1 d) Cont'



Point E is also an equilibrium

At point E, the budget line is not tangent to the indifference curve of consumer B

Homework 2 Question 2 b)

- There are 3 consumers and 2 goods
- If

$$x_1^A + x_1^B - \omega_1^A - \omega_1^B = 0, \quad x_2^A + x_2^B - \omega_2^A - \omega_2^B = 0$$

- The Walras' Law becomes

$$P_1(x_1^C - \omega_1^C) + P_2(x_2^C - \omega_2^C) = 0$$

- But this does not mean

$$x_1^C - \omega_1^C = 0, \quad x_2^C - \omega_2^C = 0$$

Homework 2 Question 2 b) Cont'

- If the markets for the two goods are in equilibrium, does it mean

$$x_1^C - \omega_1^C = 0, \quad x_2^C - \omega_2^C = 0$$

- No!
- When the two markets are in equilibrium, the aggregate net demand for each good is 0

$$x_1^A + x_1^B + x_1^C - \omega_1^A - \omega_1^B - \omega_1^C = 0, \quad x_2^A + x_2^B + x_2^C - \omega_2^A - \omega_2^B - \omega_2^C = 0$$

Review Question 1 (Fill in the blank)

- A profit-maximizing firm in a perfectly competitive market currently produces at an output level where its short-run average total cost curve is upward sloping. Does it imply that the firm is earning positive profit (Answer “Yes” or “No”) _(1)_ ? This is because _(2)_ .

Review Question 2 (Short answer)

- Two perfectly competitive markets have the same demand curves. Every firm's *LAC* curve is U-shaped. The minimum efficient scale for firms in market 1 is higher than the minimum efficient scale for firms in market 2. The minimum level of the *LAC*, however, is the same for firms in market 1 and market 2.
- a) Are the long-run equilibrium prices the same in the two markets? Why?
- b) Which market has more firms in the long run equilibrium? Why?

Solution for Review Question 2

Checklist

- Take care of your physical and mental health
- Install Examplify on your computer and learn how to use it
- Install Zoom on a second device
  - Get a phone/iPad stand if necessary
- Let me know asap if you do not have
  - A computer to run Examplify/a second device for Zoom/internet
- Prepare the materials for the exam
  - Consider making a cheat sheet
- Study