ECON2030 - Microeconomic Policy

Tutorial 1: Introduction and Welfare Foundations

Tutor: Francisco Tavares Garcia

ECON2030 – Tutorial 01

Who's your Tutor?
Francisco Tavares Garcia

Born in 1986 in Ourinhos,
São Paulo state, Brazil

2004 – 2008

Bachelor of Computer Science

2008 – 2012

Supervisor at Procter & Gamble

2009 – 2011

MBA - FGV

2012 – 2018

Built and ran a Hostel

2021 – current

Bachelor of Economics - UQ

Assessments

Assessment Task	Due Date	Weighting	Learning Objectives
Report Written assessment	TBC. 22 Aug 13:00:00; 12 Sep 13:00:00; 3 Oct 13:00:00; 17 Oct 13:00:00; 7 Nov 13:00:00	100% 4 Assessments	1, 2, 3

Written assessment

Type: Report
Learning Objectives Assessed: 1, 2, 3
Due Date: TBC. 22 Aug 13:00:00; 12 Sep 13:00:00; 3 Oct 13:00:00; 17 Oct 13:00:00; 7 Nov 13:00:00
Weight: 100%
4 Assessments
Task Description:

- There will be 4 written assessment tasks (The first assessment is split into two submissions). Each assessment will contribute to 25% of your final mark; making up at total of 100%.
- A maximum of 700 words, including all words, footnotes, text of tables and diagrams, headings, and in-text references (but excluding your reference list). Any text more than 700 words (excluding reference list) WILL NOT BE MARKED.
- Font Times New Roman, 12pt.
- No abstract required.
- Any referencing style may be used as long as you are consistent throughout.
- Submit via Turnitin prior to deadlines.

Criteria & Marking:
UQ Students: Please access the profile from Learn.UQ or mySI-net to access marking criteria held in this profile.
Submission:
The assignment must be submitted electronically via TurnitIn.

Tutorial 1: Introduction and Welfare Foundations

I need HELP!!!

- Consultation Monday to Wednesday!!

(both tutors and Ian)

TIME	MON	TUE	WED	THU	FRI
9-10					
10-11		Francisco https://uqz.zoom.us/j/3181814065	Anthony https://uqz.zoom.us/j/3439804920		
11-12			Eamonn https://uqz.zoom.us/j/5544015177		
12-1			LECTURE		
1-2					
2-3	Anthony https://uqz.zoom.us/j/3439804920		Ian In-Person: Room 39 -615 Online: https://uqz.zoom.us/j/84303246947		
3-4					
4-5					

- i.mackenzie@uq.edu.au – for academic questions
- econ2030@uq.edu. – for admin questions

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AUSTRALIA

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Chat – unavailable

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For immediate risk:

UQ Campus Security
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Off-campus emergency
📞 000 (24/7)

Crisis support

For urgent mental health support:

UQ Counselling and Crisis Line
📞 1300 851 998 (24/7)

Text a Crisis Counsellor
📞 0488 884 115 (4.30pm-8am)

Tutorial 1: Introduction and Welfare Foundations

ECON 2030: Tutorial 1

Introduction and Welfare Foundations

1 THE ROLE OF GOVERNMENT

What arguments can be put for government subsidies for university students? Are these positive or normative arguments?

Public Economics

- ▶ Be careful about positive and normative statements:
  - ▶ Positive: analysis of the consequences of a policy, sometimes unintended (what is)
  - ▶ comparison of gains vs. losses (what should be)
- ▶ "the government deficit is due to funding health care"
- ▶ "the government should pay for health care"

Chapters 2 and 3 present the analytical tools used by public finance economists. Chapter 2 focuses on the tools of positive analysis, which deals with statements of cause and effect. The question here is how economists try to assess the impacts of various government policies. However, we want to determine not only the effects of government policies, but whether or not they produce results that are in some sense good. This is the role of normative analysis, which requires an explicit ethical framework, because without one, it is impossible to say what is good. Chapter 3 covers this ethical framework.

Source: Harvey, R., & Gayer, T. (2013). *Public finance*. McGraw-Hill Higher Education.

1 THE ROLE OF GOVERNMENT

What arguments can be put for government subsidies for university students? Are these positive or normative arguments?

The following are some arguments for subsidising university students.

Normative
(i) University students are poor.

Positive statements that can be tested
(ii) University students generally cannot borrow against investing in human capital.
(iii) University education provides benefits to the economy as well as to the students.

An argument against subsidies is that university students will usually be well off over their lifetime. This is a positive statement. If true, it may be argued (normatively) that those who are temporarily poor should not be subsidised. Of course, the converse may also be argued (normatively).

2 Different Types of Social Welfare Functions

Imagine a simple economy with only two people, Lisa and John.

a) One possible social welfare function takes the following additive form $W = U_L + U_J$, where U_L and U_J and are the utilities of Lisa and John respectively. Graph some social indifference curves for this welfare function, placing Lisa's utility on the x-axis. How would you describe the relative importance assigned to each person's utility?

b) A slight generalization of the welfare function in (a) is the weighted-additive welfare function. One example is $W = 2U_L + U_J$. Graph the social indifference curves for this W. How would you describe the relative importance assigned to each person's utility?

c) Draw a regular shaped (i.e., smooth, concave) utility possibilities curve and graphically show how the optimal solution differs between these welfare functions.

d) What is the main weakness of the additive utilitarian social welfare function?

2 DIFFERENT TYPES OF SOCIAL WELFARE FUNCTIONS

Imagine a simple economy with only two people, Lisa and John.

a) One possible social welfare function takes the following additive form $W = U_L + U_J$, where U_L and U_J and are the utilities of Lisa and John respectively. Graph some social indifference curves for this welfare function, placing Lisa's utility on the x-axis. How would you describe the relative importance assigned to each person's utility?
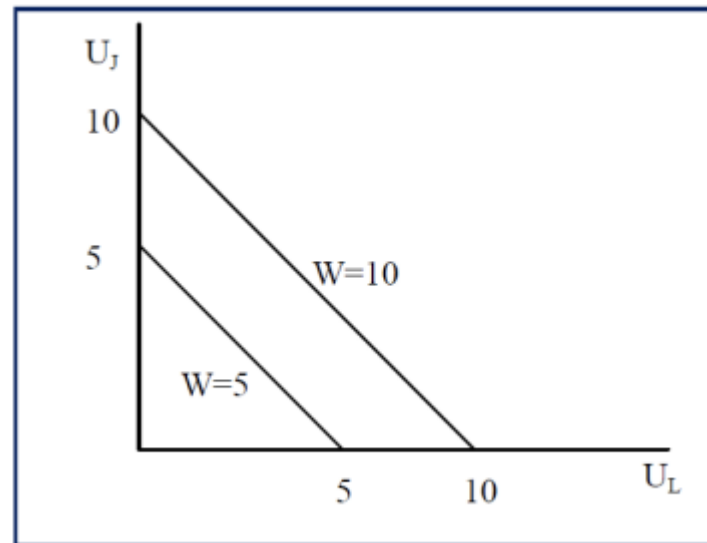
Lisa and John are equally important.

b) A slight generalization of the welfare function in (a) is the weighted-additive welfare function. One example is $W = 2U_L + U_J$. Graph the social indifference curves for this W. How would you describe the relative importance assigned to each person's utility?
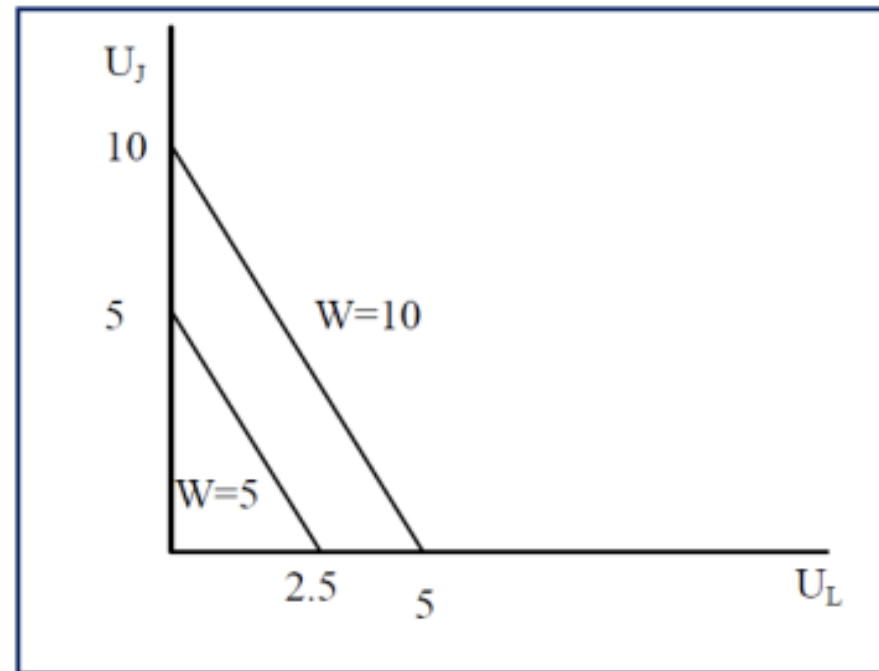
Here, Lisa's utility generates 2x more welfare than John's, so her utility is twice as important.

c) Draw a regular shaped (i.e., smooth, concave) utility possibilities curve and graphically show how the optimal solution differs between these welfare functions.
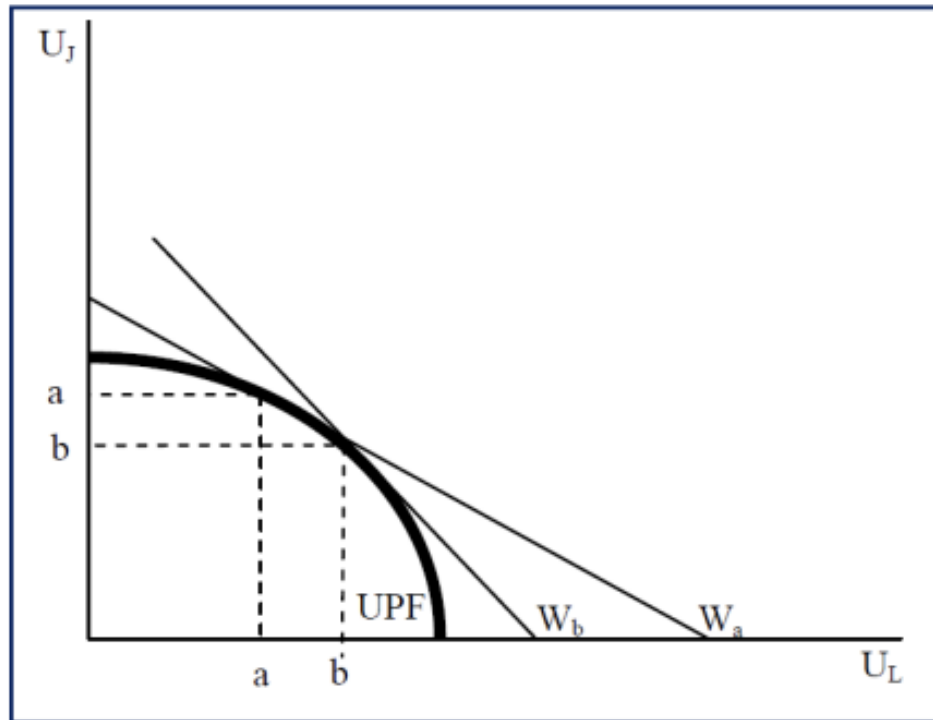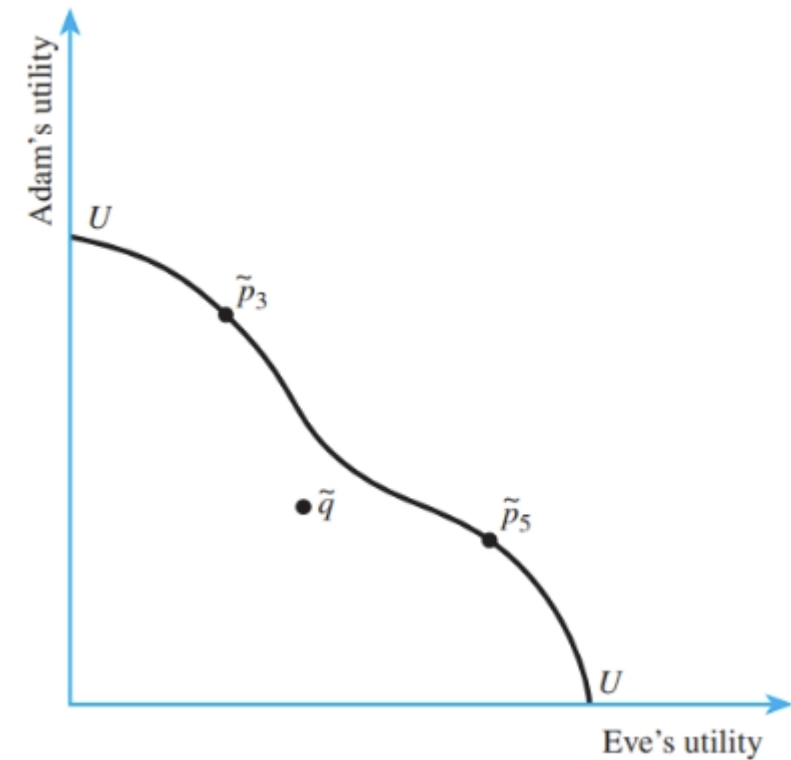

Figure 3.10

Utility possibilities curve

The utility possibilities curve shows the maximum feasible amount of one person's utility given the other person's utility level. Points on the curve are Pareto efficient, whereas points within the curve are not.

Source: Harvey, R., & Gayer, T. (2013). *Public finance*. McGraw-Hill Higher Education.

d) What is the main weakness of the additive utilitarian social welfare function?

The main weakness is that distribution plays no role; only total welfare matters.

3 USING SWFS— A NUMERICAL EXAMPLE

The economy under consideration has three people (a, b, and c) in it and there are five possible government policies that can be implemented. The table below shows the utilities of the three people as a result of the different policies.

Policy	U_a	U_b	U_c
1	50	50	50
2	40	50	60
3	10	100	100
4	60	50	50
5	70	40	30

a) How are the policies ranked by the Rawlsian social welfare function?

b) How are the policies ranked by the additive Utilitarian social welfare function?

Social welfare function

- ▶ a function reflecting society's views on how the utilities of its members affect the well-being of society as a whole.
- ▶ $W = F(U_1, U_2, ..., U_n)$
  - ▶ $W = U_1^a U_2^b$
  - ▶ Utilitarian $W = U_1 + U_2$
  - ▶ Rawlsian: $W = min(U_1, U_2)$
- ▶ social indifference curves
- ▶ Objective: to maximise W w.r.t utility possibility curve
- ▶ $U_X = 50\sqrt{I_X}; U_Y = 100\sqrt{I_Y}$. For a Utilitarian welfare function, what is the distribution of total income for $150 when welfare is utilitarian?

3 USING SWFs— A NUMERICAL EXAMPLE

The economy under consideration has three people (a, b, and c) in it and there are five possible government policies that can be implemented. The table below shows the utilities of the three people as a result of the different policies.

| Rawlsian	Min	Policy	U_a	U_b	U_c	Total	Utilitarian
1st	50	1	50	50	50	150	3rd
3rd	40	2	40	50	60	150	3rd
5th	10	3	10	100	100	210	1st
1st	50	4	60	50	50	160	2nd
4th	30	5	70	40	30	140	5th

a) How are the policies ranked by the Rawlsian social welfare function?

b) How are the policies ranked by the additive Utilitarian social welfare function?

4 Deriving and using the utility possibilities curve

Suppose Tonya and Derek are the only two people in a pure exchange economy. Coffee (C) and sugar (S) are the only two commodities, and both are measured in kilograms. Tonya's utility function is $U = 2(\min(C, S))$. Derek's utility function is $U = 3(C + S)$. Initially Tonya has 12 kilograms of coffee and no sugar, while Derek has 12 kilograms of sugar and no coffee.

a) Draw some of Tonya's indifference curves, including the one for her initial endowment. On a separate diagram do the same for Derek. Place sugar on the x-axis and coffee on the y-axis.
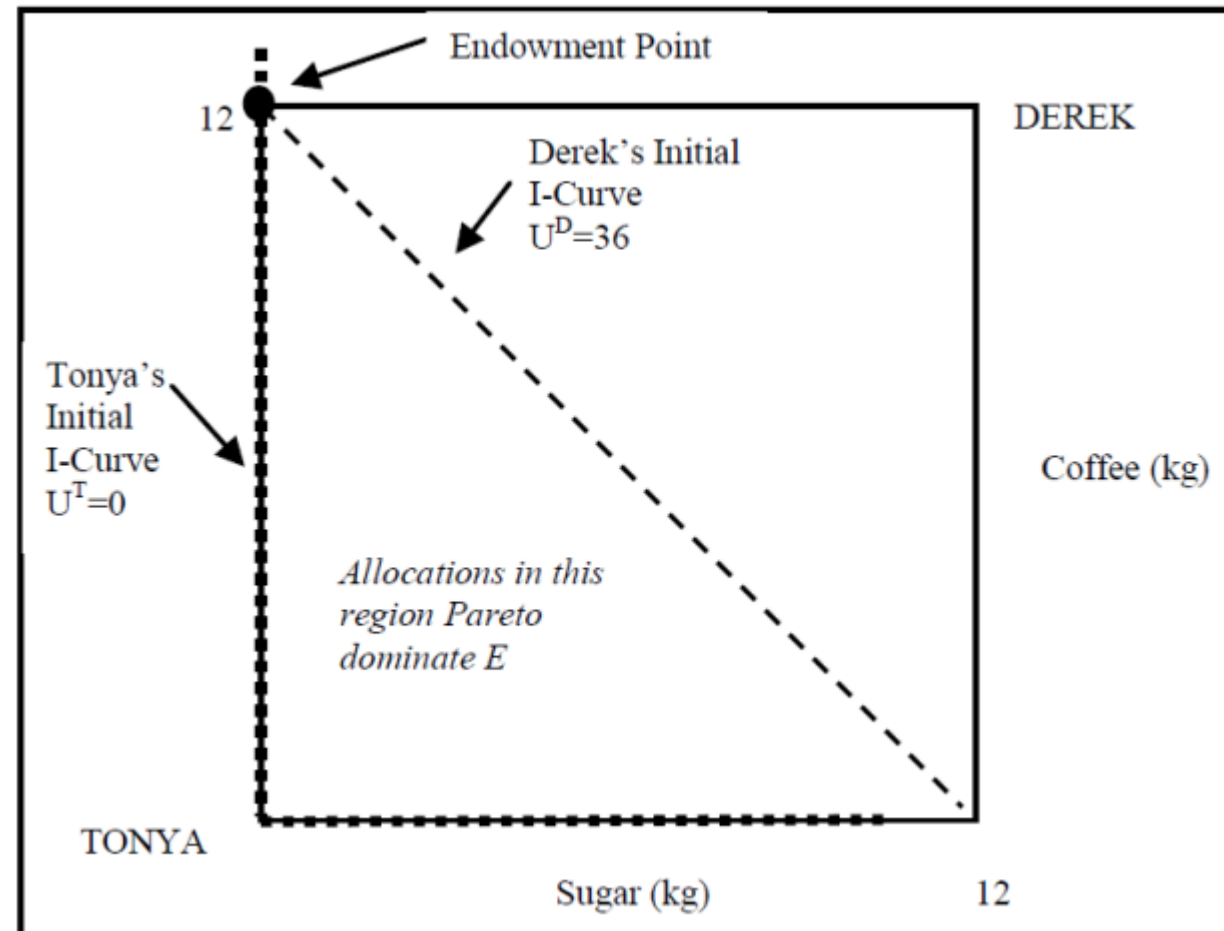
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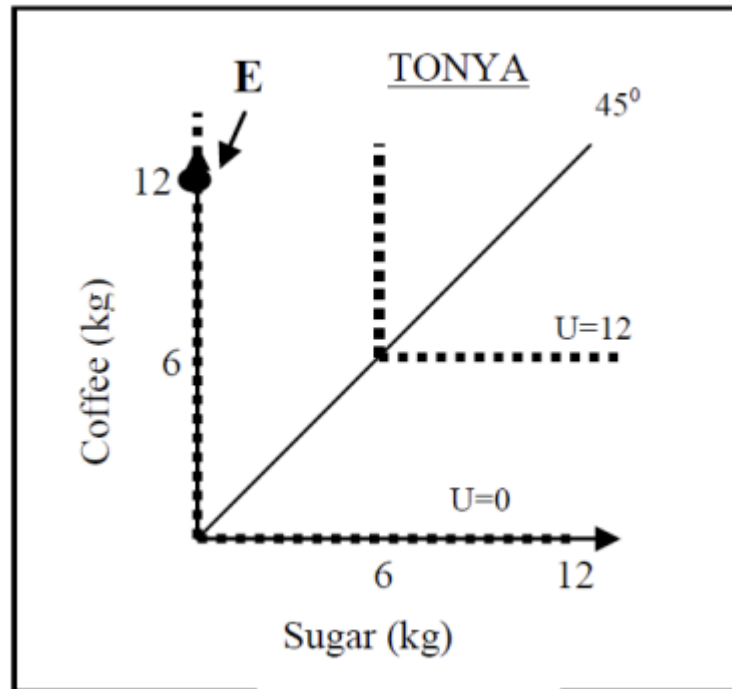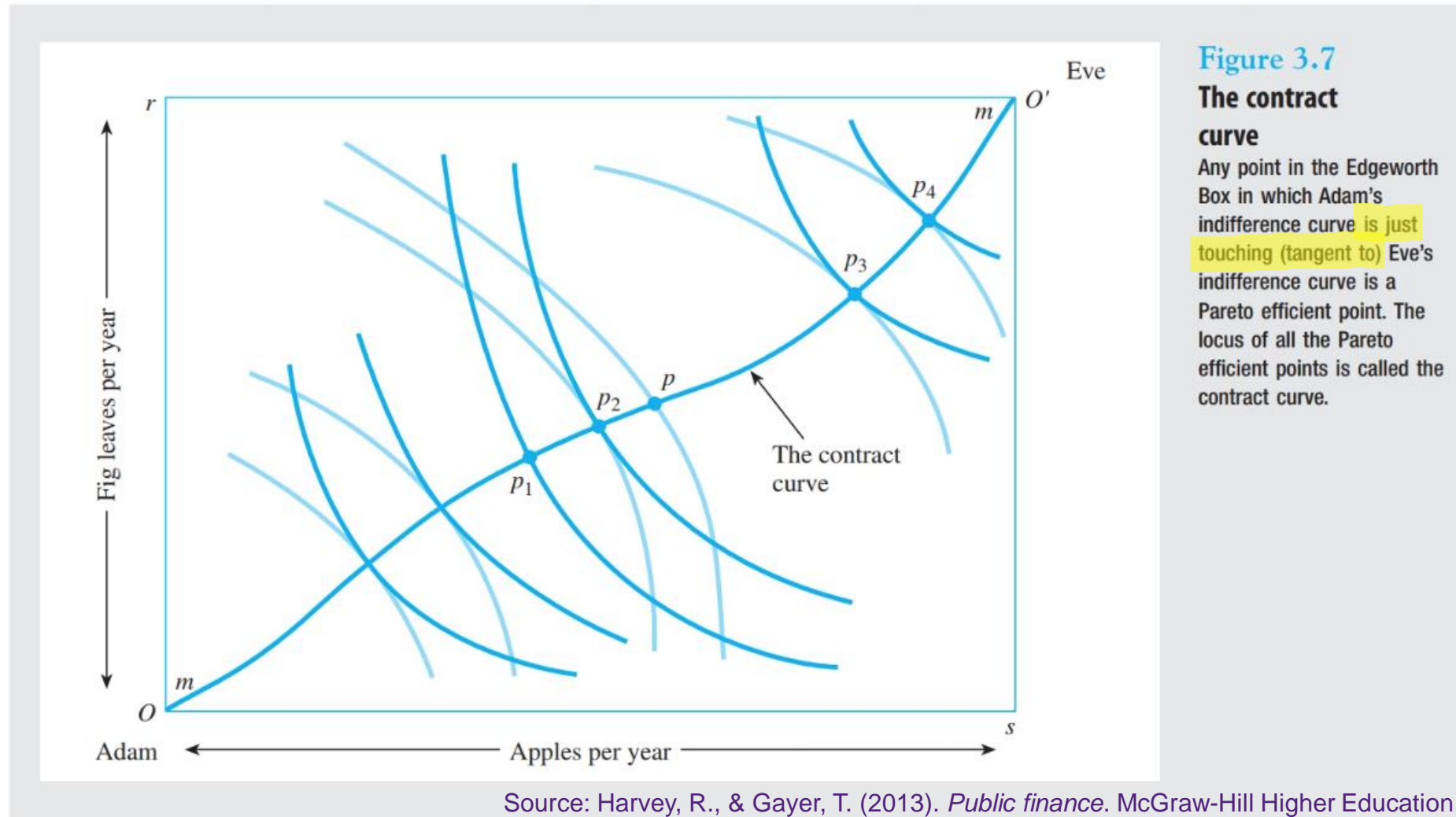

$$U = 2(\min(C, S))$$
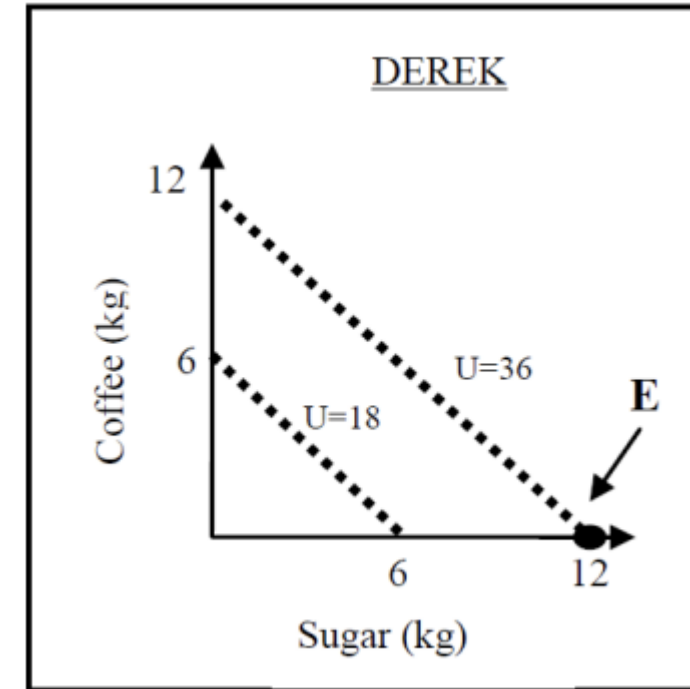
$$U = 3(C + S)$$

b) In an appropriately dimensioned Edgeworth box diagram, illustrate the initial endowment allocation for this economy along with initial indifference curves for Tonya and Derek. Is the initial endowment allocation Pareto efficient? Why or why not? If not, what allocations Pareto dominate the endowment allocation?
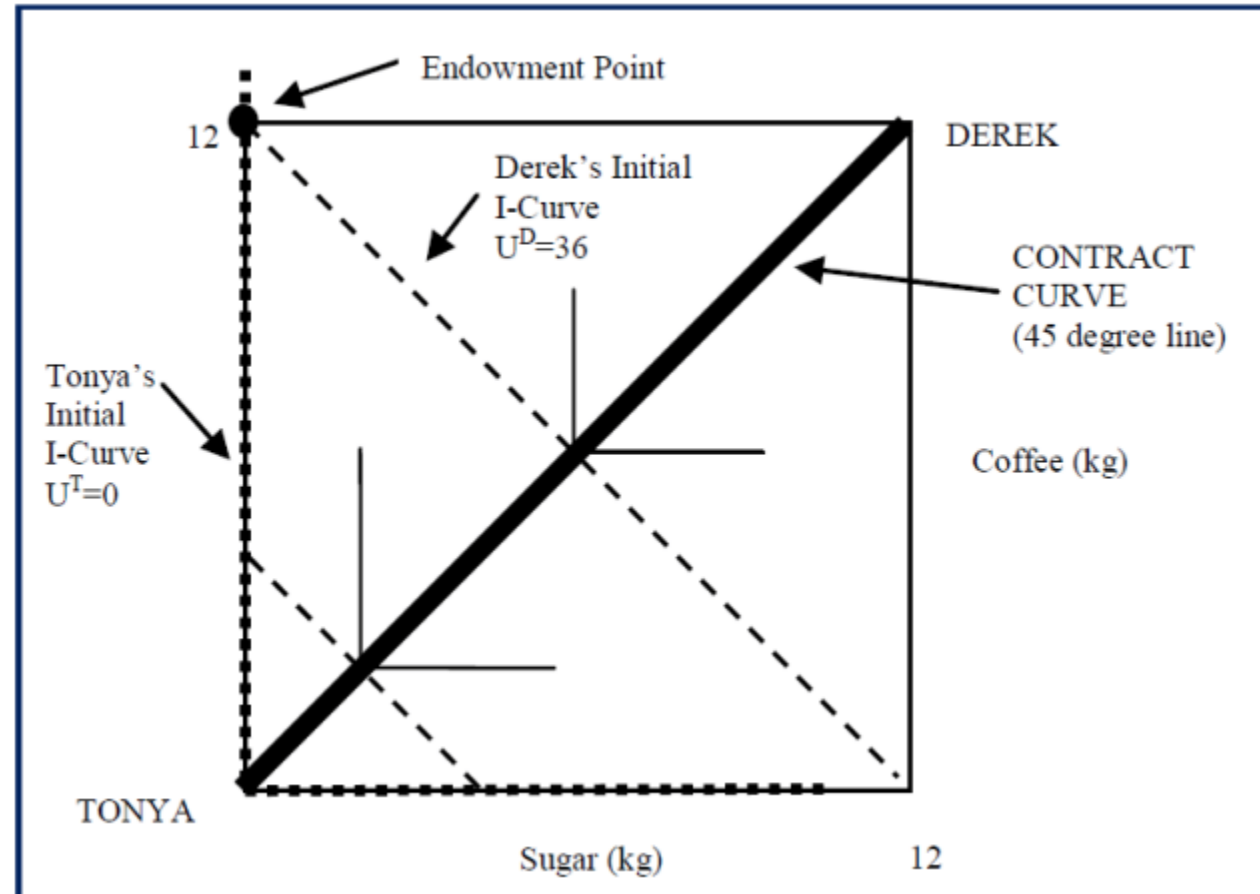

$$U = 2(\min(C, S))$$
$$U = 3(C + S)$$

c) Draw the contract curve for this economy.

Figure 3.7
The contract curve
Any point in the Edgeworth Box in which Adam's indifference curve is just touching (tangent to) Eve's indifference curve is a Pareto efficient point. The locus of all the Pareto efficient points is called the contract curve.

Source: Harvey, R., & Gayer, T. (2013). *Public finance*. McGraw-Hill Higher Education.

c) Draw the contract curve for this economy.

$$U = 2(\min(C,S))$$
$$U = 3(C + S)$$

d) Represent/transcribe the allocations on the contract curve in/into a **carefully** labeled and numbered utility possibility curve diagram. Make sure you label the axes.
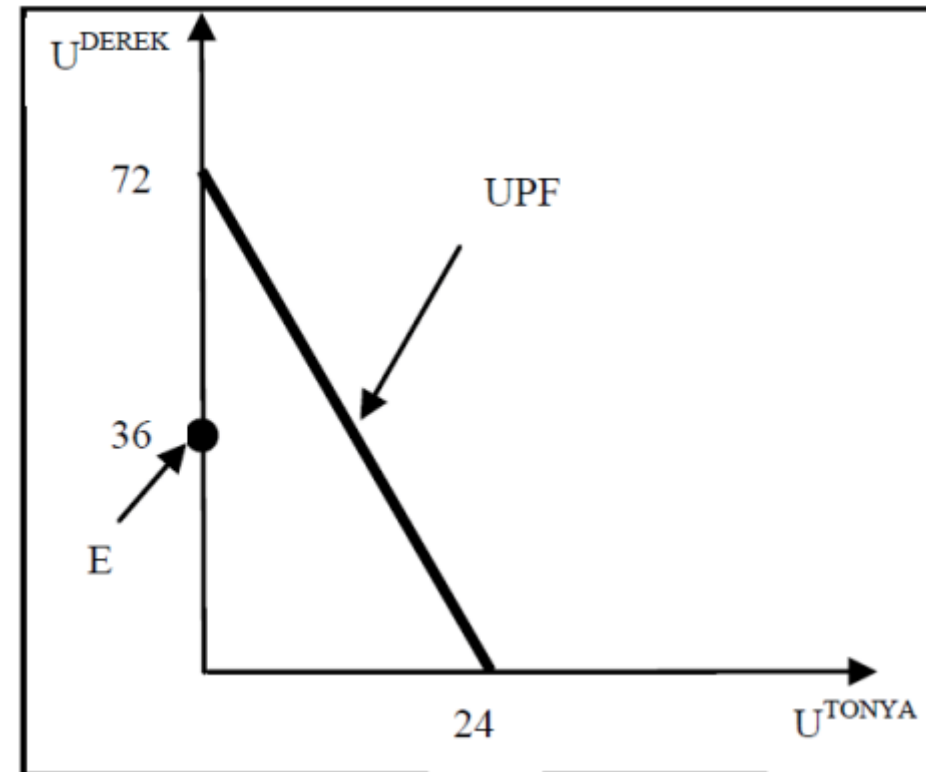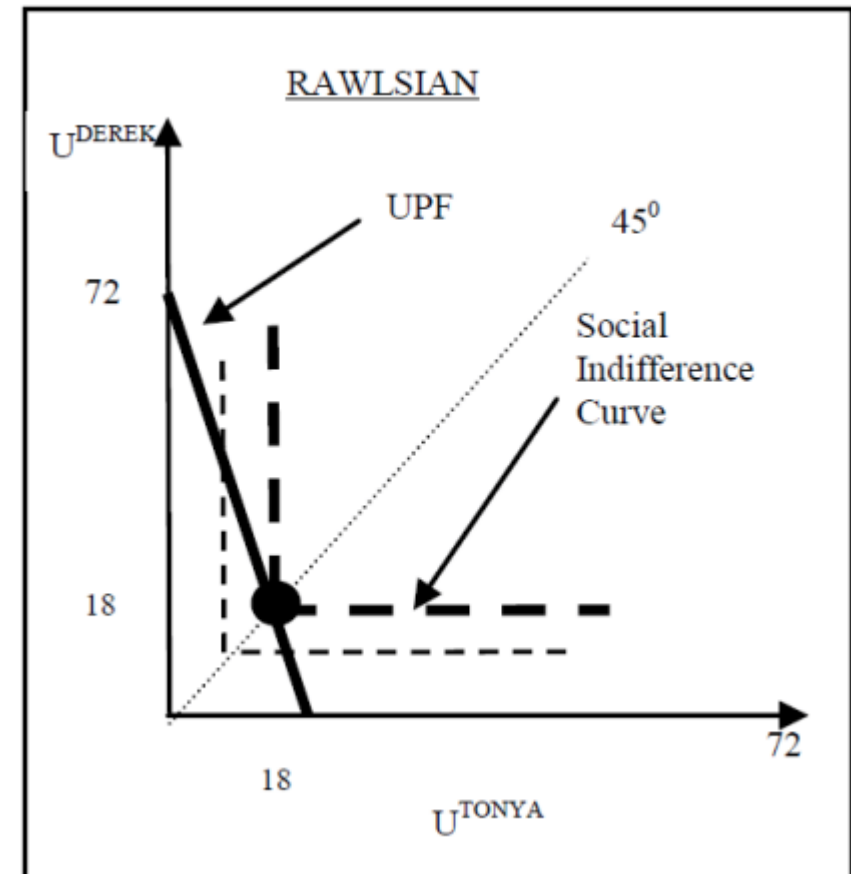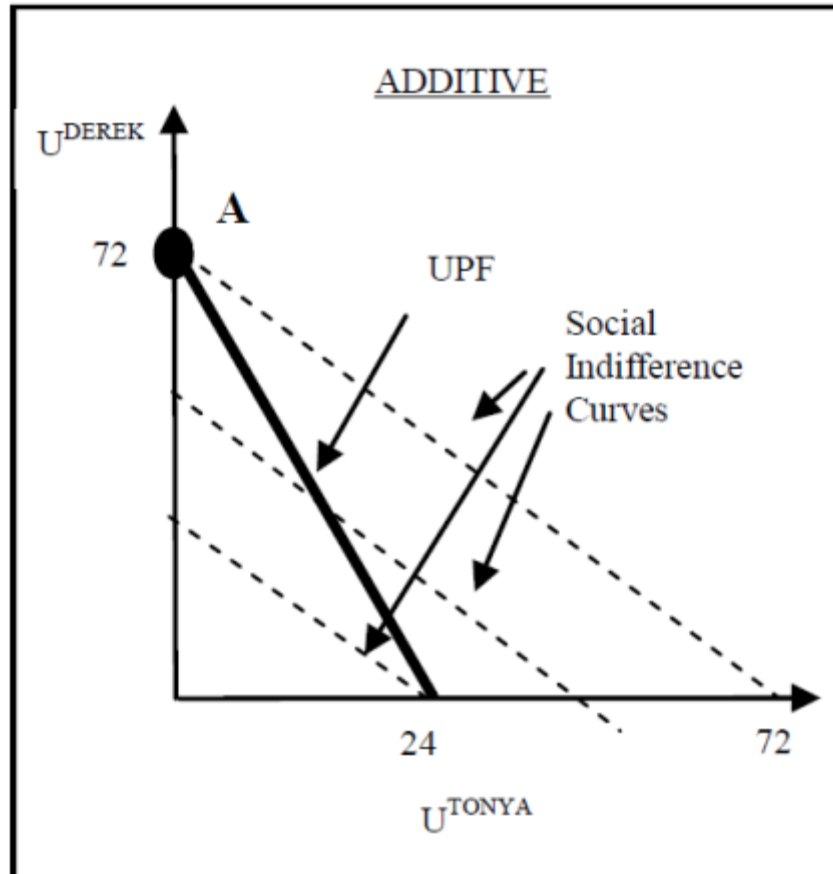

$$U = 2(\min(C, S))$$
$$U = 3(C + S)$$

e) Which point on the utility possibility curve is optimal if we use the

   i) additive utilitarian social welfare function?

   ii) Rawlsian social welfare function?

For each case, illustrate the optimal point by sketching some social indifference curves.

5 TRUE/FALSE

Evaluate whether the following statements are "true", "false" or "uncertain" and defend your answer. If you label a statement as "uncertain," be sure to state the circumstances when it is true and the circumstances when it is false.

a) A policy change increases social welfare if and only if, it represents a Pareto improvement.

This is FALSE.

Pareto efficient

An allocation of resources such that no person can be made better off without making another person worse off.

Source: Harvey, R., & Gayer, T. (2013). *Public finance*. McGraw-Hill Higher Education.

Thank you

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School of Economics

Reference
Harvey, R., & Gayer, T. (2013). *Public finance*. McGraw-Hill Higher Education.