Chapter 2

Macroeconomics: getting started

Suggested solutions for end-of-chapter 'Review the basics'

1 What is the difference between economic growth and economic fluctuations?

Suggested solution:
Economic growth refers to the upward trend in real GDP, reflecting expansion of the economy over time. In contrast, economic fluctuations (or business cycles) refer to swings in real GDP that lead the economy to deviate from its long-term growth trend.

2 What is potential GDP?

Suggested solution:
Potential GDP refers to the long-term trend value of real GDP.

3 What does the PPC represent and why is it important?

Suggested solution:
The PPC is a curve showing the maximum possible combinations of sustainable (or normal, or efficient) production of two goods, given the economy's resources and level of technology. Its slope (its outward bow) reflects increasing opportunity costs.

[Note to instructors: This textbook differs from others. Normal, target or trend output is on the PPC. Thus economies can overheat and move beyond normal production; that is, move temporarily outside this PPC. The position of the PPC is affected by institutions, culture, laws and incentive structures. These affect how much output a given amount of inputs can normally produce. The PPC here does not refer to maximum production in a frictionless economy with perfect knowledge and optimal institutions. In a macroeconomics course, the two goods should represent investment and consumption goods respectively; that is, properly represent total output and thus foreshadow Chapter 4's account of raising the I share to shift the PPC outwards faster.]

Suggested solutions for end-of-chapter 'Questions and problems'

1 Suppose the Australian economy is currently at the trough of a business cycle. What is the relationship between real and potential GDP? Is it likely that real GDP will stay in this relative position for a long period of time (say, 10 years)? Explain briefly.

Suggested solution:
Potential GDP refers to the long-term trend value of GDP. Deviations of real GDP from potential GDP reflect 'short-term' economic fluctuations (or business cycles). It is rare for the real GDP to stay at the trough end of a business cycle for an extended period of time, but the post-GFC malaise has already lasted several years, especially in parts of Europe.

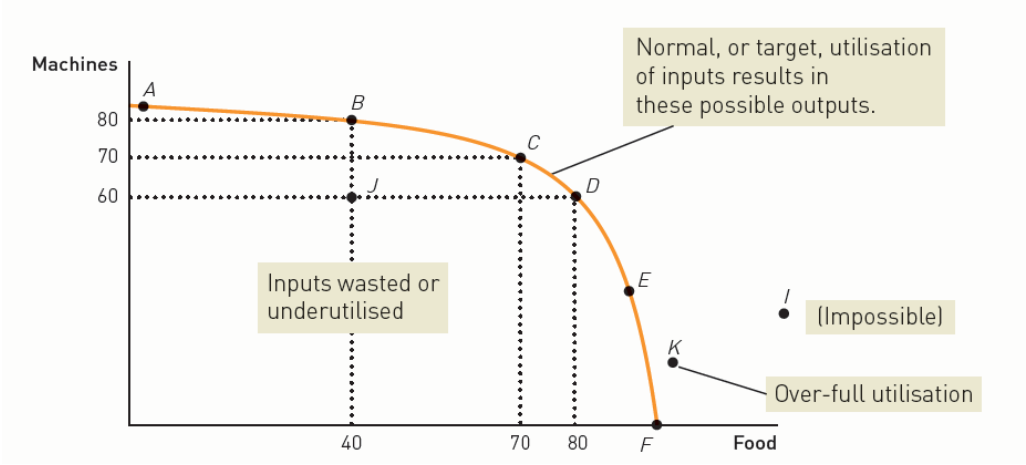
2 Browse this week's newspapers and list several economics topics that are examples of macroeconomic issues. Which of the issues are related to economic growth? Which of these issues are related to economic fluctuations and which are related to economic policy?

Suggested solution:
There will never be a shortage of relevant news items.

3 Suppose that people start retiring at a later age because medical technology improves. How does this affect the economy's potential GDP? Why might the government want to encourage later retirement?

Suggested solution:
Encouraging people to retire at an older age increases the size of the labour force, which raises potential GDP. The PPC will be further out than otherwise. From the government's perspective, it increases trend income per capita and permits cuts in income support for the old or the sick. It also increases the tax base needed to support government spending on aged care in the future.

Use the following figure to answer questions 4–7.



4 Suppose the economy is at point *C* on the PPC. The output of machines is 70 and the output of food is 70. The production mix moves to *D*, where the output mix is 60 machines and 80 units of food.

a. In moving from C to D, the opportunity cost of gaining 10 units of food is _____ machines.

b. In moving from C to D, the opportunity cost of gaining each unit of food is _____ machines.

Suggested solution:

a. 10 machines
b. 1 machine

5 Suppose the economy is at point *D* on the PPC. The output of machines is 60 and the output of food is 80. The production mix moves to *E*, where the output mix is 35 machines and 90 units of food.

a. In moving from *D* to *E*, the opportunity cost of gaining 10 units of food is _____ machines.

b. In moving from *D* to *E*, the opportunity cost of gaining each unit of food is _____ machines.

c. Compare these answers with the answers to problem 4. As the economy moves to the right along its PPC, what is happening to the opportunity cost of producing food?

Suggested solution:

a. 25 machines
b. 2.5 machines
c. As the economy moves to the right along its PPC, the opportunity cost of producing food is increasing.

6 Suppose an economy is inside its PPC and there is a policy that can push the economy towards the PPC by increasing the production of machines or food. (Chapters 6 and 7 give examples of such a policy.) When inside the PPC, it is

possible to make more of one thing (machines) without being required to make less of something else (food). (See *J* and *B* in the graph.) Does this mean that the policy to produce more machines has no opportunity cost?

Suggested solution:
If an economy is inside its PPC, then it can produce more of one good without giving up the production of another good. In this case, resources are inefficiently allocated, and increasing production of either good will not entail opportunity cost as it is described in questions 5 and 6. [A sophisticated student may counterargue that moving vertically to *B* sacrifices the alternative of moving horizontally to *D*.]

7 Suppose the economy moves from *J* to *C*. The economic gain to society would include:
- **a.** the extra output
- **b.** the financial saving to the government (fewer unemployment payments and greater taxes collected now that resources are fully employed)
- **c.** the wellbeing associated with greater employment and prosperity (less crime, family breakdown etc.)
- **d.** both (a) and (c)
- **e.** all of the above.

(This question is a bit of a challenge.)

Suggested solution:
This suits class discussion, as the answer is debatable. Probably (d) is better than (e). [Option (b) merely refers to changes in the financial position of the government relative to the private sector: there is no obvious extra net gain to society as a whole. Some of the new output is merely redistributed towards the government. 'The government is better off' does not imply that 'society is better off'. Some could argue that (c) involves social costs, not narrowly defined (material) economic costs, and even economists may disagree here.]