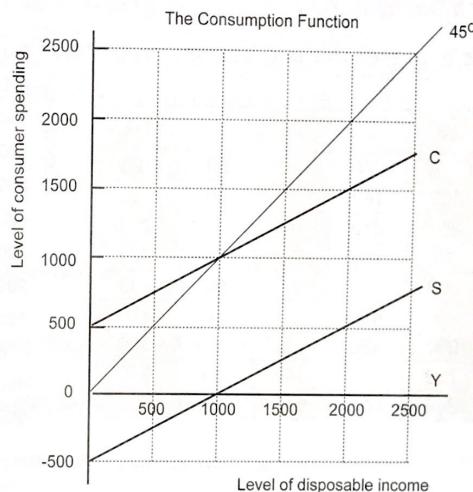


Consumption function 1

Refer to the data and the graph below. Assume no government or overseas sectors.

- What level of consumption (C) occurs in this economy if disposable income (Yd) is 1000; 2000?
- Explain the significance of the 45° line.
- From the data, write the equation for the consumption function.
- What is the breakeven point?
- What level of saving (S) occurs in this economy if disposable income is 500?
- What does the savings (S) function represent?
- Define the marginal propensity to consume (MPC).
- a) Calculate the MPC when disposable income increases from 500 to 1000.
b) Calculate the MPC when disposable income increases from 1500 to 2000.
- Calculate the APC for:
a) $Y = 500$; b) $Y = 1500$ c) $Y = 2500$
- Label or shade the area of the diagram where no saving is occurring.
- Is the slope of the savings function determined by APC, MPS, or APS? Explain.
- Why must the $MPC + MPS$ always equal 1.
- What will happen to the equilibrium level of income for this hypothetical economy if consumers become more thrifty and save more of their income?
- Illustrate what will happen to the consumption and savings functions if: consumer expectations improve; the savings ratio rises.

Disposable income (Yd)	Consumer spending (C)	Saving (S)
0	500	-500
500	750	-250
1000	1000	0
1500	1250	250
2000	1500	500
2500	1750	750



Consumption function 2

From the table below, plot the household consumption (C) and savings (S) levels at each level of disposable income (Yd). Choose your scales and label the axes carefully (expenditures on consumption and saving on the vertical axis, and disposable income on the horizontal axis). Include a 45° line to help see where expenditures are equal to incomes.

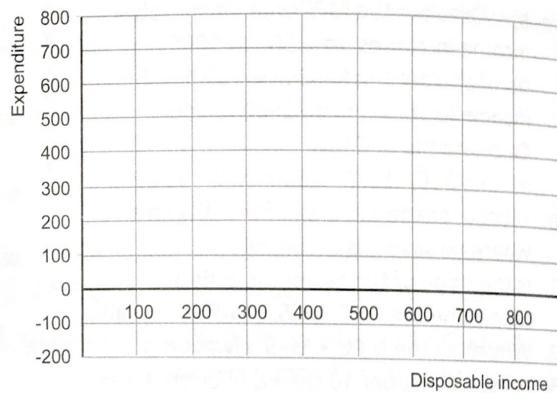
Level	Yd	C	S
a	0	60	-60
b	100	120	-20
c	200	180	20
d	300	240	60
e	400	300	100
f	500	360	140

- Label the section of the savings function where disposable income is less than consumption expenditure (dis-saving), and the part of the function where saving is positive.
- Calculate the Average Propensity to Consume (APC) at Y_d levels a, c and e.
- Calculate the Average Propensity to Save (APS) at Y_d levels a, c and e.
- What happens to APC and APS as income rises? Explain.
- Calculate the Marginal Propensity to Consume (MPC) at levels b, d and f.
- Calculate the Marginal Propensity to Save (MPS) at levels b, d and f.
- Determine the equations for the consumption and the savings functions.
- What determines the slopes of these lines?
- List the determinants of consumption. Illustrate what happens if the MPC increases.
- Draw new consumption and saving functions on your graph. The C function should be $C = 60 + 0.7Y$. What will the S function be? Explain how these lines are different from the functions you graphed initially.

Expenditure model - a graphical analysis

Refer to the table and income / expenditure axes below.

Y_d	C	S	I	C+I
0	70	-70	50	120
100	140	...	50	...
200	210	-10	...	260
300	280	20	50	330
400	...	50	50	400
...	420	80	50	470
600	490	540
700	...	140	50	610
800	630	170	50	...



- Calculate the missing cells in the table, and graph the C, S, I, C+I and 45° lines.
- Calculate the marginal propensities to consume (MPC) and (MPS).
- Determine the equation for the consumption function.
- Shade in the area which represents 'dis-saving'.
- What is the equilibrium level of income for this economy?
- State what would happen in this economy if the level of investment rose from its current level (50) to a higher level (70).

The multiplier

Assume that a country had a GDP of \$200 million, and was initially in macroeconomic equilibrium, with aggregate savings and aggregate investment equal at \$25 million.

- Using the table over, show how an autonomous increase of investment of \$10 million would bring about increased levels of aggregate income, consumption and savings during the first five time periods. Assume that the MPC is 0.8.
- Calculate the 'final' effect on GDP of the new autonomous investment. What is the size of the multiplier in this case?
- In one sentence, state how your answers to questions 1 and 2 would change if the MPS increased to 0.25.

		$Y = C + S$
Time period		assume $MPC = 0.8$
new I (\$10)	1 creates new Y	\$10.00 = +
	2	= +
	3	= +
	4	= +
	5	
after 5 time periods		$\Sigma Y = \Sigma C + \Sigma S$
		= +

figures in \$ millions

4. Assume the marginal propensity to tax in this economy was 0.2, and the marginal propensity to import was 0.1. Recalculate the final effect that the autonomous increase in investment has had on the economy. Is the effect smaller or larger than the answer you calculated in question 2? Explain.

Multiple choice

For each of the questions below, choose the best alternative.

1. Aggregate expenditure is defined as:
 - a. the sum of consumption and investment expenditure undertaken by private households, firms and government.
 - b. the total amount that firms and households plan to spend on goods and services at each level of income.
 - c. the sum of consumer expenditure, firms' expenditure on capital items, government expenditure, and expenditure on net exports.
 - d. expenditure on new capital equipment to produce final goods and services in the future.
2. Which of the following factors is LEAST likely to affect the amount of business investment at any time?
 - a. the level of real interest rates.
 - b. the level of nominal interest rates.
 - c. the current level of corporate profit.
 - d. changes in business expectations.
3. Which combination of the following factors is most likely to increase the level of durable consumption?
 - i an increase in interest rates.
 - ii an increase in asset prices, such as housing.
 - iii depreciation of the Australian dollar.
 - iv positive expectations about economic growth.
 - a. i and ii.
 - b. ii and iii.
 - c. i and iii.
 - d. ii and iv.

4. If Australian imports are elastic with respect to GDP, which of the following results is more likely?
- a two per cent rise in GDP will bring about a one per cent increase in import volumes.
 - a two per cent rise in GDP will bring about a two per cent increase in import volumes.
 - a two per cent rise in GDP will bring about a four per cent increase in import volumes.
 - a two per cent rise in imports will result in a four per cent GDP increase.
5. If, in a particular period of time, $Y = 4000$, $C = 3000$, $S = 1000$ and $I = 800$, then
- there will be no change in the level of income in the next period.
 - the amount of income earned in the next period will increase.
 - the amount of income earned in the next period will be the same.
 - aggregate output produced in the next period will fall.
6. If the level of investment exceeds the level of saving, it is likely that
- the level of investment cannot be sustained because there are insufficient funds available from the savings pool.
 - the level of income in the economy will rise in the near future.
 - unsold stock (inventories) will increase.
 - the level of saving will fall during the next period.
7. For the consumption function expressed by the equation $C = 80 + 0.8Y$, the marginal propensity to save (MPS) is, so the multiplier is
- 20; 1.25.
 - 0.2; 5
 - 0.2; 4
 - 0.8; 1.25
8. Which of the following statements about the consumption function is correct?
- APC falls, and MPC rises as disposable income (Y_d) rises.
 - APC rises as Y_d rises; MPC does not change.
 - APC falls as Y_d rises; MPC does not change.
 - both APC and MPC fall as Y_d rises.
9. The 45° line in the Keynesian expenditure model of income analysis
- shows all points where aggregate expenditure equals aggregate output.
 - shows the point of equilibrium national output.
 - shows all points where real GDP equals the value of production.
 - shows all equilibrium levels of aggregate expenditure.
10. The slope of the consumption function is determined by:
- the marginal propensity to invest.
 - the marginal propensity to consume.
 - the top marginal tax rate.
 - the spending multiplier.
11. If the value of the investment multiplier is 5, an autonomous increase in
- income of \$10 will result in investment increasing by \$50.
 - investment of \$10 will result in income increasing by \$60.
 - investment of \$10 will result in consumption increasing by \$50.
 - consumption of \$10 will result in investment increasing by \$40.
12. Which of the following would cause an increase in the value of the overall multiplier?
- an increase in the terms of trade index.
 - a reduction in income tax rates.
 - a rise in the marginal propensity to save.
 - an increase in investment spending.

13. Suppose that real GDP equals \$700 billion while full employment real GDP equals \$800 billion. To close this gap, the government should
 - a. increase its spending by \$25 billion if the MPC is 0.80.
 - b. increase its spending by \$30 billion if the MPC is 0.70.
 - c. increase its spending by \$20 billion if the MPC is 0.75.
 - d. increase its spending by \$15 billion if the MPC is 0.80.
14. Macroeconomic equilibrium in Australia occurs when
 - a. total spending equals total output.
 - b. government spending equals government tax revenue.
 - c. imports equal exports.
 - d. savings equal investment.
15. Assume that the government increases its spending by \$9 billion. If the MPS is 0.4, what will be the total increase in income?
 - a. \$9 billion
 - b. \$10 billion
 - c. \$22.5 billion
 - d. \$2.5 billion

Extended responses

Each of the questions below should be answered in 2-3 pages of writing. Include diagrams and examples where appropriate. Pay attention to the allocation of marks when writing your answer.

1. a. Explain why private investment expenditure is more volatile than consumption spending. [10 marks]
b. Explain how TWO of the following events would be expected to affect aggregate consumption in Australia? [5 + 5 marks]
 - i. a rise in interest rates.
 - ii. the level of disposable income falls during a contraction.
 - iii. an increase in mining investment in Australia.
2. a. How would a fall in the real interest rate affect the demand for non-durable and durable consumer goods? [10 marks]
b. Explain how TWO of the following events may affect aggregate private investment in Australia? [5 + 5 marks]
 - i. a fall in interest rates.
 - ii. the level of disposable income falls during the early stages of a downturn.
 - iii. levels of corporate profit are the highest in the past three years.
3. a. In a series of monetary policy decisions, the Reserve Bank of Australia (RBA) cut interest rates from 4.75% in 2010 to 2% in 2015. Discuss the likely effects of lower interest rates on consumption and investment spending. [10 marks]
b. Over the year to September, 2020, new business investment in Australia declined by 1.4 per cent. Using an appropriate model, explain how this decline would have affected the Australian economy. [10 marks]

4. Using the Keynesian Cross model, describe the concept of macroeconomic equilibrium and explain how changes in investment and savings can alter the equilibrium level of income. [20 marks]
5. In recent years, Australia has experienced considerable investment in solar energy and power storage (battery) facilities.
 - a. Discuss the importance of investment (in general) to the Australian economy and explain the factors that can influence the total amount of investment spending in Australia. [10 marks]
 - b. Use the aggregate expenditure model, and refer to the multiplier process , to demonstrate and explain the likely effect of the increased solar energy investment on the Australian economy. [10 marks]
6. a. Draw a Keynesian cross diagram to show the effects of a rise in autonomous expenditure if the economy is initially below full employment. [10 marks]
b. Explain how the 'marginal propensity to withdraw' affects the outcome of a rise in autonomous expenditure. [10 marks]