

Questions *Macroeconomics* (with answers)

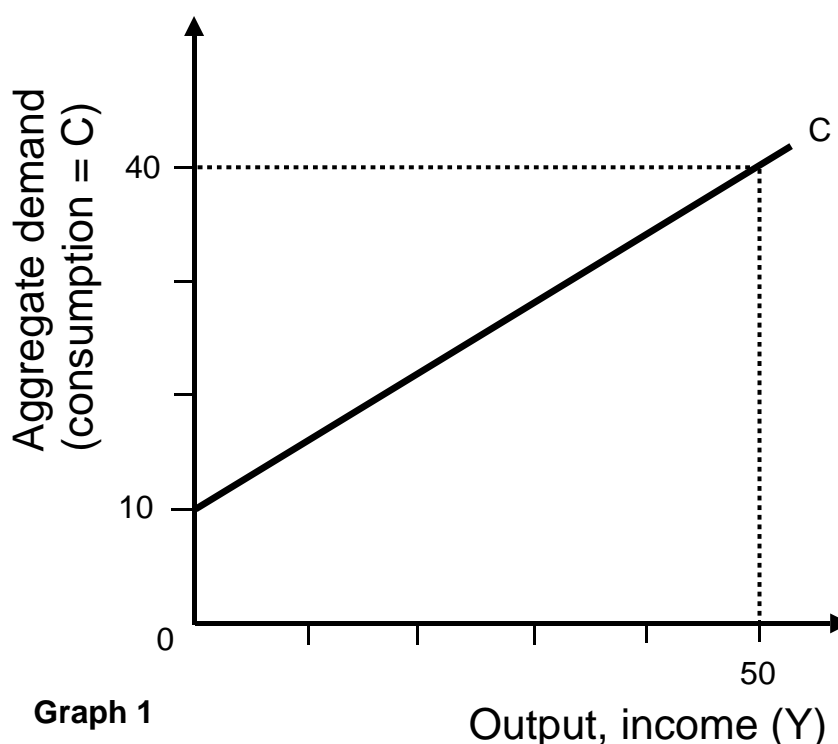
6 Aggregate Demand (Keynesian Model)

This exercise is based on the following source:

Stephen Dobson and Susan Palfreman: Introduction to Economics, Oxford University Press, Oxford / New York 1999, ISBN 978-0-19-877565-2, pp. 207 to 234

1 Consumption, investment and saving (neither government nor foreign trade)

A consumption function
(→ Questions 1.1 - 1.10)



Questions 1.1 - 1.10

Q 1.1

General form of the consumption function: $C = a + bY$.
Calculate the numbers of a and b according to graph 1?

Q 1.2

Explain the difference between autonomous and induced consumption.

Q 1.3

Explain the marginal propensity to consume (MPC).

Q 1.4

What happens to the consumption-line C in graph 1 if

- a rises;
- b rises?

Q 1.5

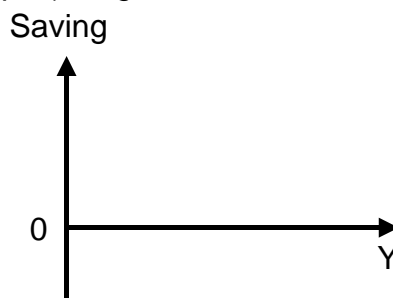
Compare the consumption functions in two different countries by using a graph:

- Country A: $C = 0.8Y$
- Country B: $C = 0.6Y$

Q 1.6

Y is the sum of $C + S$ (= saving). If $C = a + bY$, then $S = -a + (1-b)Y$.

Draw the saving function in a graph (using for a and b the numbers according to Q 1.1):



Q 1.7

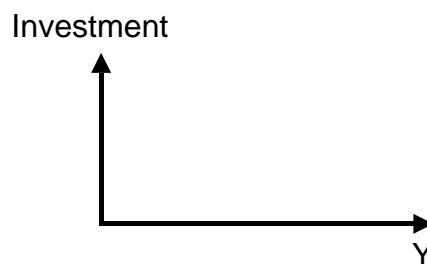
How much is the marginal propensity to save (MPS) (Q 1.6)?

Q 1.8

Explain why the sum of MPC and MPS equals to 1.

Q 1.9

Investment (I) is dependent on the interest rate and on the expectations of future profits, but not on income. Illustrate this in a graph:



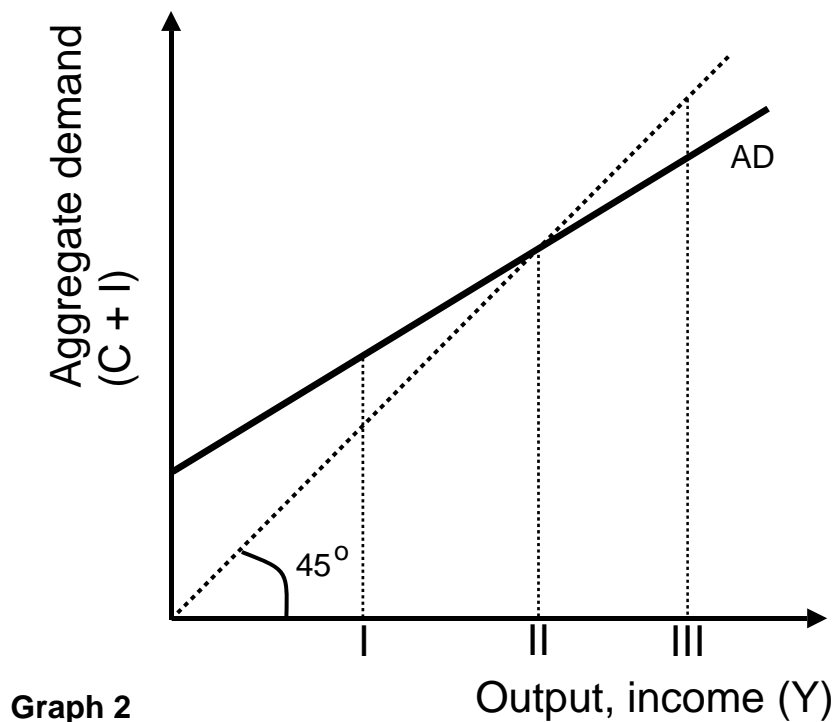
Q 1.10

How does graph 1 look like if aggregate demand = $C + I$

Assume that $I = 10$

Determination of Y and the multiplier

(→ Questions 1.11 - 1.20)



Questions 1.11 - 1.20

Q 1.11

Explain the 45°-line in graph 2 (x- and y-axis have the same scale.).

Q 1.12

Where is the equilibrium in graph 2?

Q 1.13

Ist the equilibrium-Y also the full-employment-Y?

Q 1.14

In graph 2, I rises. Illustrate the new equilibrium and the multiplier.

Q 1.15

Choose in graph 2 a point of disequilibrium and explain the tendency to equilibrium.

Q 1.16

During a recession, a country wants to get a higher Y (+ 600). By how much must rise investing if the multiplier is 2.4?

Q 1.17

Multiplier* = $\frac{1}{1 - \text{MPC}}$ (MPC = Marginal propensity to consume)

Calculate the multiplier if the consumption function is as follows: $C = 5 + 0.75Y$

* (The multiplier is the result of such a geometric progression: $1 + b + b^2 + b^3 + \dots + b^n$)

Q 1.18

Calculate the multiplier if the marginal propensity to save (MPS) is 0.26.

Q 1.19

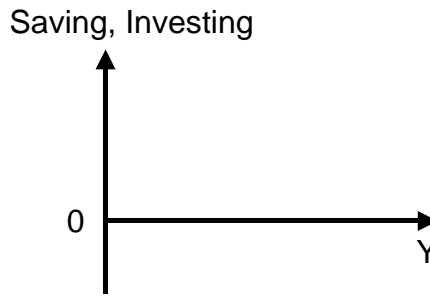
Two different consumption functions:

- Consumption function I: $C = 10 + 0.8Y$
- Consumption function II: $C = 10 + 0.7Y$

In which case is the multiplier larger?

Q 1.20

In equilibrium, injections (investing) equal withdrawals (saving). Illustrate this in a graph as follows:



Assumptions:

$$S = -a + (1-b)Y$$

I depends on interest rates and on expectations, not on Y.

2 Aggregate demand with government (but without trade)

Questions 2.1 - 2.3

Q 2.1

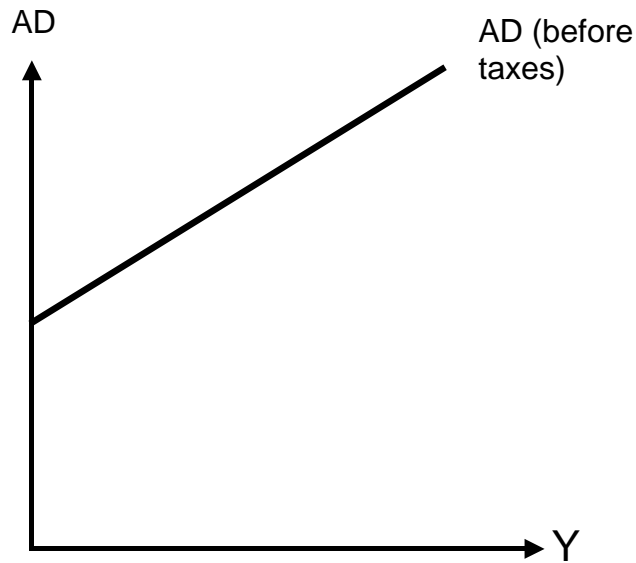
Government spending (G) is part of AD and is dependent on political decisions, not on Y. How must be changed graph 2 (page 3) if we add G?

Q 2.2

- Taxes (T) depend on income; they reduce income and consumption:
 $T = tY$ (t = Marginal propensity to tax, MPT)
 - The consumption function depending on disposable income: $C = a + b(Y-T)$
- Calculate the multiplier by substituting tY for T.

Q 2.3

This graph shows AD (C + I + G) before taxes. How must be changed the graph if we take into account taxes?



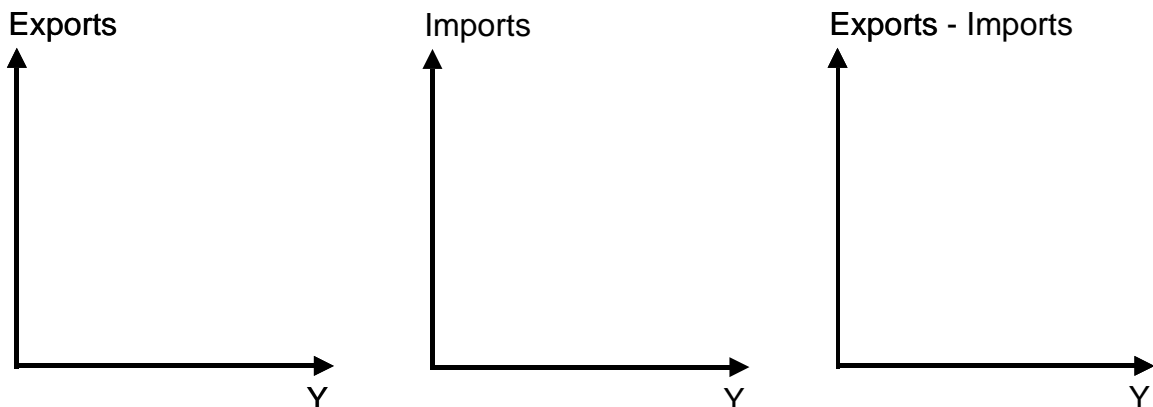
3 Aggregate demand with government and foreign trade

Questions 3.1 - 3.5

Q 3.1

- Exports (X) are part of AD and depend on incomes abroad, not on domestic Y.
- Imports (M) reduce AD and depend on Y:
 $M = mY$ (m = Marginal propensity to import, MPI)

Draw three graphs as follows:



Q 3.2

$$AD = C + I + G + (X - M)$$

$$C = a + b(Y - T)$$

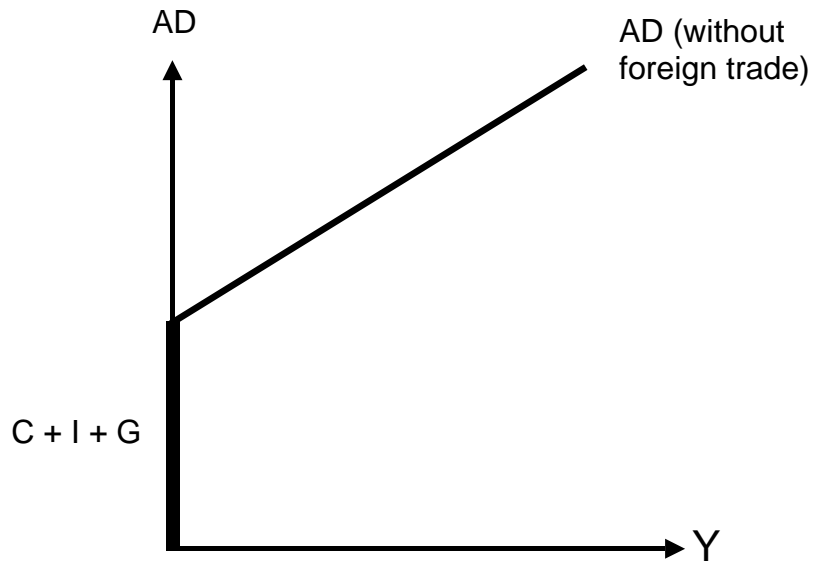
$$T = tY$$

$$M = mY$$

Substitute tY for T and mY for M and calculate the overall multiplier.

Q 3.3

How must be changed this graph if we take into account foreign trade?

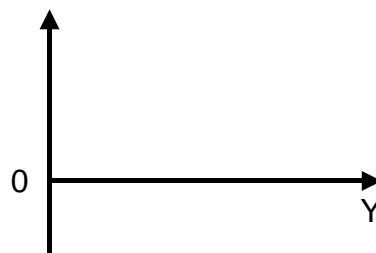


Q 3.4

The injections I , G and X do not depend on income, whereas the withdrawals S , T and M are dependent on income. Equilibrium exists if $I + G + X = S + T + M$.

Illustrate the equilibrium in an open economy in a graph:

Injections, withdrawals



Q 3.5

Rearranging the formula in Q 3.4, we get: $(I - S) + (G - T) + (X - M) = 0$

What can be concluded if $I > S$ and, simultaneously, $G > T$?

→ [Answers. Click here!](#)