AP MACROECONOMICS • EXERCISE SHEET

3.2 Multipliers

Name: _____ Class: _____ Date: _____ **Total: 11 marks**

Objective

Build the skills to answer exam questions on **multipliers**.

You must be able to:

- define the **marginal propensity to consume (MPC)** 边际消费倾向 and **to save (MPS)** 边际储蓄倾向, with $MPC + MPS = 1$
- calculate the **spending multiplier** $\dfrac{1}{1 - MPC} = \dfrac{1}{MPS}$
- explain why the **tax multiplier** is smaller in magnitude
- find the change in equilibrium real GDP from an initial change in spending or taxes

1 Worked examples

Study these first. Each one shows the method for a question type used later.

MPC and MPS

MPC is the fraction of extra income **spent**; MPS is the fraction **saved**; $MPC + MPS = 1$.

The spending multiplier

$$\text{multiplier} = \frac{1}{1 - MPC} = \frac{1}{MPS}.$$

A higher MPC gives a larger multiplier.

Change in GDP

$\Delta GDP = \text{multiplier} \times (\text{initial change in spending})$. With $MPC = 0.8$, the multiplier is $\dfrac{1}{0.2} = 5$.

2 Practice

2.1 If $MPC = 0.75$, find the MPS. [1]

2.2 Find the spending multiplier when $MPC = 0.8$. [2]

2.3 Using that multiplier, find the change in GDP from $10 billion of new spending. [2]

3 Exam-style questions

3.1 The spending multiplier is [1]

- **A** $\dfrac{1}{1 - MPC}$
- **B** $1 - MPC$
- **C** MPC
- **D** $\dfrac{MPC}{MPS}$

3.2 The tax multiplier is _____ the spending multiplier. [1]

- **A** larger than
- **B** smaller in magnitude than
- **C** exactly equal to
- **D** unrelated to

3.3 An economy has $MPC = 0.9$.

(a) Find the spending multiplier. [2]

(b) Find the change in GDP from a $5 billion rise in government spending. [2]

4 Go further

- work through the **3.2 Multipliers** lesson on the **Learn** page;
- read the **National Income and Price Determination** section of the AP Macroeconomics handout on the **Know** page.

Solutions

2.1 $MPS = 1 - 0.75 = 0.25$.

2.2 $\dfrac{1}{1-0.8} = \dfrac{1}{0.2} = 5$.

2.3 $\Delta GDP = 5 \times 10 = \$50$ billion.

3.1 **A**.

3.2 **B**.

3.3 (a) $\dfrac{1}{1-0.9} = \dfrac{1}{0.1} = 10$. (b) $\Delta GDP = 10 \times 5 = \$50$ billion.