

Exercise walk-through

Banking and the Expansion of the Money Supply ■ 4.4

eXercise

You must be able to

- explain **fractional reserve banking** 部分准备金银行 and the role of **required reserves** 法定准备金
- use the **money multiplier** 货币乘数 $\left(\frac{1}{\text{reserve ratio}} \right)$
- trace how a new deposit expands the money supply

Method — Fractional reserve banking

A bank keeps only a **fraction** of deposits as **required reserves** and lends out the rest.

Method — The money multiplier

$$\text{money multiplier} = \frac{1}{\text{reserve ratio}}.$$

Method — Deposit expansion

A new deposit is lent, spent, re-deposited, lent again... so the money supply grows by up to (deposit $\times$ multiplier). With a reserve ratio of 0.10, the multiplier is 10.

Practice 2.1 ■ 1 mark

State what fractional reserve banking means.

Solution 2.1

Method: Fractional reserve banking

Worked steps

banks keep only a fraction of deposits as reserves and lend the rest **B1**.

Practice 2.2 ■ 2 marks

The reserve ratio is 0.20. Find the money multiplier.

Solution 2.2

Worked steps

$$\frac{1}{0.20} = 5 \text{ (M1) (A1)}.$$

Practice 2.3 ■ 1 mark

State what happens to the money supply when a bank lends out its excess reserves.

Solution 2.3

Method: Fractional reserve banking

Worked steps

it increases (the loans become new deposits elsewhere) **B1**.

Exam-style 3.1 ■ 1 mark

The money multiplier is

A the reserve ratio

B $\frac{1}{\text{reserve ratio}}$

C $1 - \text{reserve ratio}$

D $(\text{reserve ratio})^2$

Solution 3.1

A the reserve ratio

B $\frac{1}{\text{reserve ratio}}$



C $1 - \text{reserve ratio}$

D $(\text{reserve ratio})^2$

Worked steps

B.

Exam-style 3.2 ■ 1 mark

A lower reserve requirement makes the money multiplier

A smaller

B larger

C zero

D negative

Solution 3.2

A smaller

B larger



C zero

D negative

Worked steps

B.

Exam-style 3.3 ■ 1 mark

The reserve ratio is 0.10 and a new \$2000 deposit is made.

- (a) Find the money multiplier.
- (b) Find the maximum increase in the money supply.

Solution 3.3

Method: Deposit expansion

Worked steps

$$(a) \frac{1}{0.10} = 10 \text{ (B1)}. (b) 2000 \times 10 = \$20\,000 \text{ (M1) (A1)}.$$