

## Chapter 10 Savings, Investment Spending, and the Financial System

Suggested Problems: Problems – 1, 2, 14, 16

**1. Given the following information about the closed economy of Britannia, what is the level of investment spending and private savings, and what is the budget balance? What is the relationship among the three? Is national savings equal to investment spending? There are no government transfers.**

$$\begin{array}{ll} \text{GDP} = \$1,000 \text{ million} & \text{T} = \$50 \text{ million} \\ \text{C} = \$850 \text{ million} & \text{G} = \$100 \text{ million} \end{array}$$

In a closed economy, investment spending is equal to GDP minus consumer spending minus government purchases of goods and services. In Britannia, investment spending is \$50 million:

$$I = \text{GDP} - C - G$$

$$I = \$1,000 \text{ million} - \$850 \text{ million} - \$100 \text{ million} = \$50 \text{ million}$$

Private savings is equal to disposable income (income net of taxes—and recall that there are no government transfers) minus consumer spending. In Britannia, private savings is \$100 million:

$$\text{Private savings} = \text{GDP} - T - C = \$1,000 \text{ million} - \$50 \text{ million} - \$850 \text{ million} = \$100 \text{ million}$$

The budget balance is equal to tax revenue minus government purchases of goods and services. In Britannia, the government is running a budget deficit of \$50 million:

$$\text{Budget balance} = T - G = \$50 \text{ million} - \$100 \text{ million} = -\$50 \text{ million}$$

National savings is the sum of private savings and the budget balance; that is, it is \$100 million – \$50 million = \$50 million. So investment spending does equal national savings.

**2. Given the following information about the open economy of Regalia, what is the level of investment spending and private savings, and what are the budget balance and capital inflow? What is the relationship among the four? There are no government transfers. (Hint: capital inflow = the value of imports (IM) minus the value of exports (X).)**

$$\begin{array}{ll} \text{GDP} = \$1,000 \text{ million} & \text{C} = \$850 \text{ million} \\ \text{T} = \$50 \text{ million} & \text{G} = \$100 \text{ million} \\ \text{X} = \$100 \text{ million} & \text{IM} = \$125 \text{ million} \end{array}$$

2. In an economy with capital inflows or outflows, investment spending is equal to GDP minus consumer spending minus government purchases of goods and services plus capital inflow, the value of imports minus the value of exports. In Regalia, investment spending is \$75 million:

$$I = (\text{GDP} - C - G) + (\text{IM} - \text{X}) \quad I = (\$1,000 \text{ million} - \$850 \text{ million} - \$100 \text{ million}) + (\$125 \text{ million} - \$100 \text{ million}) \quad I = \$50 \text{ million} + \$25 \text{ million} = \$75 \text{ million}$$

Private savings and the budget balance are measured in the same way regardless of whether or not there are capital inflows or outflows. (Again, recall that there are no government transfers.) In Regalia, private savings is \$100 million and the budget balance

is  $-\$50$  million (that is, the government is running a deficit of  $\$50$  million):

Private savings =  $GDP - T - C = \$1,000 \text{ million} - \$50 \text{ million} - \$850 \text{ million} = \$100 \text{ million}$

Budget balance =  $T - G = \$50 \text{ million} - \$100 \text{ million} = -\$50 \text{ million}$

An economy will experience a positive capital inflow equal to the difference between imports and exports when imports exceed exports; it will experience a capital outflow (a negative capital inflow) equal to the difference between imports and exports when exports exceed imports. Regalia has a positive capital inflow equal to  $\$25$  million:

Capital inflow =  $IM - X = \$125 \text{ million} - \$100 \text{ million} = \$25 \text{ million}$

Investment spending must equal the sum of private savings, the budget balance, and

the capital inflow. In Regalia, we can see that this relationship holds among the four:  $I =$

Private savings + Budget balance + Capital inflow =  $\$75 \text{ million}$

**14. Which of the following are examples of investment spending, investing in financial assets, or investing in physical assets?**

- a. Rupert Moneybucks buys 100 shares of existing Coca-Cola stock.**
- b. Rhonda Moviestar spends  $\$10$  million to buy a mansion built in the 1970s.**
- c. Ronald Basketballstar spends  $\$10$  million to build a new mansion with a view of the Pacific Ocean.**
- d. Rawlings builds a new plant to make catcher's mitts.**
- e. Russia buys  $\$100$  million in U.S. government bonds.**

a. When Rupert Moneybucks buys 100 shares of existing Coca-Cola stock, he is investing in a financial asset. He has a paper claim that entitles him to future income from Coca-Cola. It is not an example of investment spending because it does not add to the stock of physical capital in the economy.

b. When Rhonda Moviestar spends  $\$10$  million to buy a mansion built in the 1970s, she is investing in a physical asset; she has bought something that she has the right to use or to dispose of as she wishes. It is not an example of investment spending because it does not add to the stock of physical capital in the economy—the mansion was pre-existing.

c. When Ronald Basketballstar spends  $\$10$  million to build a new mansion with a view of the Pacific Ocean, he has engaged in investment spending because he has added to the amount of housing in the economy.

d. When Rawlings builds a new plant to make catcher's mitts, it has engaged in investment spending because it has added to the economy's stock of physical capital.

e. When the government of Russia buys  $\$100$  million in U.S. government bonds, it has invested in a financial asset. The Russian government has a paper claim on the United States that entitles it to future income. It is not an example of investment spending because it does not add to the stock of physical capital in either economy.

**16. What are the important types of financial intermediaries in the U.S. economy? What are the primary assets of these intermediaries, and how do they facilitate investment spending and saving?**

Mutual funds, pension funds, life insurance companies, and banks are the most important types of financial intermediaries in the U.S. economy. Mutual funds are companies that buy stocks of other companies (the mutual funds companies' primary assets) and resell shares of the portfolio composed of those stocks to individual investors. Pension funds are a type of mutual fund that hold financial assets of other companies (the pension funds' primary assets) and sell shares to individual savers for retirement income. A life insurance company also holds financial assets (the life insurance company's primary assets) and sells policies that guarantee a payment to a policyholder's beneficiary when the policyholder dies. A bank makes loans to individuals and corporations (the bank's primary assets) and accepts deposits from the public that are payable on demand. By either reducing risk through diversification (mutual funds, pension funds), reducing risk through insurance (life insurance companies), lowering transaction costs (mutual funds, pension funds), or providing liquidity (banks), these financial intermediaries facilitate savings and investment spending.