

20 CONSUMPTION AND INVESTMENT

OVERVIEW

1. Consumption is expenditure by consumers and typically accounts for 65 percent of gross domestic product.
2. The consumption function is a direct relation that tells how much is consumed at each level of income.
3. The marginal propensity to consume is the amount that consumption changes when income changes by one dollar.
4. Saving is the part of income that is not spent for consumption or taxes.
5. The saving function is a direct relation that tells how much is saved at each level of income.
6. The marginal propensity to save is the amount that saving changes when income changes by one dollar.
7. Since each extra dollar is either spent or saved, the marginal propensity to consume plus the marginal propensity to save is equal to one.
8. Investment is the purchase of new capital by business and typically accounts for 15 percent of GDP.
9. The amount of investment depends on the interest rate. At high interest rates, a firm can choose between saving money at the high interest rate or using the money to buy capital goods. It will not buy the capital goods unless the capital good earns more than the firm can earn at the interest rate. The higher the interest rate, the fewer the capital goods which pay a return higher than the interest rate. As the interest rate falls, more and more capital goods will pay more than the interest rate and will be purchased. Thus there is an inverse relation between investment and the interest rate.

MATCHING

- | | | | | |
|-------|----|--------------------------------|----|---------------------------------------------------------------------------|
| _____ | 1. | consumption function | a. | that part of income not spent for consumption or on taxes |
| _____ | 2. | marginal propensity to consume | b. | the change in saving when income changes by one dollar |
| _____ | 3. | saving | c. | spending by business for new plant, equipment, and inventories |
| _____ | 4. | saving function | d. | the relationship between the level of income and the level of consumption |
| _____ | 5. | marginal propensity to save | e. | the relationship between the level of income and the level of saving |
| _____ | 6. | dissaving | f. | the amount consumption changes when income changes by one dollar |
| _____ | 7. | investment | g. | when consumption is greater than income |

TRUE-FALSE

- _____ 1. The marginal propensity to consume is usually larger than one.
- _____ 2. The sum of the marginal propensity to consume and the marginal propensity to save is one.
- _____ 3. When income rises, consumption also rises.
- _____ 4. When income rises, we can compute the amount that consumption rises if we know the MPC.
- _____ 5. When the interest rate rises, investment also rises.

PROBLEMS

1. a. Given the following information, find the marginal propensity to consume.

Y	C	MPC	S	MPS	MPC + MPS
0	100	-		-	-
100	175				
200	250				
300	325				
400	400				
500	475				
600	550				
700	625				
800	700				

- b. Using the information given above and the fact that $Y = C + S$, find saving.
 c. Use the saving information to find the MPS.
 d. Find the sum of MPC and MPS.
2. a. Suppose that at zero income, \$40 is consumed. If the MPC is .8, how do we find consumption at $Y = 100$? The MPC tells how much C goes up if Y goes up by \$1. In this case C goes up \$.80. If Y goes up \$1 and C goes up \$.80, how much does C go up if Y goes up \$100? \$80. Eighty dollars added to the \$40 already consumed leaves consumption of \$120 at the \$100 level of income. Using this process, fill in the rest of the table at $MPC = .8$.

	MPC = .8	MPC = .9
Y	C	C
0	40	40
100	120	
200		
300		
400		
500		

- b. Change the MPC to .9 and find consumption again.
 c. How does the increase in the MPC affect consumption?
-
- 3.a. Suppose that income rises from 500 to 600 and the MPC is .7. How much will consumption rise? _____
- b. Suppose that the income rises from 500 to 600 and the MPC is .8. How much will saving rise? _____

IN THE NEWS

1. Consumption is the total expenditure on goods and services by consumers. The usual economic assumption is that consumption depends on the level of income. But studies suggest that wealth plays a role in determining consumption.
 - a. Can you find a reason why wealth would affect consumption? _____

 - b. What other determinants can you suggest that might affect how consumers spend? _____

2. Investment is thought to depend on the interest rate. Yet studies of investment do not find a prominent role for the interest rate. Firms claim that the investment decision depends on expectations of future sales and expectations of how technology is changing.
 - a. How would expectations of future sales affect investment? _____
 - b. How would expectations of how technology is changing affect investment? _____

3. Economists claim that consumption and income are directly related. This means that when one goes up, so does the other. In 1957, GDP was \$683 billion and consumption was \$414 billion. But in the next year, GDP fell to \$681 billion, and consumption rose to \$418 billion. These figures are all in real terms.

How can consumption go up when income goes down? _____

4. Consumption expenditure is about 63 percent of GDP and seems to stay at this level. There are some variations but this percentage has not changed much in the last few years.
 - a. Is 63 percent the MPC? _____ Explain. _____

 - b. What information would we need to find MPC? _____

PRACTICE TEST

Circle the correct answer

1. The concept which shows how much of an extra dollar will go into extra consumption is known as the:
 - a. average propensity to save.
 - b. average propensity to consume.
 - c. marginal propensity to save.
 - d. marginal propensity to consume.

2. Find the correct relation.
 - a. $GDP + MPS = 100$ percent
 - b. $MPC + MPS = 100$ percent
 - c. $MPC + 1 = 100$ percent
 - d. $MPC - MPS = 100$ percent

3. Investment is business spending on:
 - a. resources.
 - b. capital goods.
 - c. stocks and bonds.
 - d. all of the above.

4. Consumption varies _____ with the level of income; investment varies _____ with the interest rate.
 - a. directly, inversely
 - b. inversely, directly
 - c. directly, directly
 - d. inversely, inversely

5. What if the MPC is $\frac{3}{4}$? The MPS is:
 - a. $\frac{4}{3}$.
 - b. $\frac{3}{4}$.
 - c. $\frac{2}{4}$.
 - d. $\frac{1}{4}$.

ANSWERS

Matching

1. d
2. f
3. a
4. e
5. b
6. g
7. c

True-False

1. F
2. T
3. T
4. T
5. F

Problems

1. a., b., c., d.

Y	C	MPC	S	MPS	MPC + MPS
0	100	-	-100	-	-
100	175	.75	-75	.25	1.0
200	250	.75	-50	.25	1.0
300	325	.75	-25	.25	1.0
400	400	.75	0	.25	1.0
500	475	.75	25	.25	1.0
600	550	.75	50	.25	1.0
700	625	.75	75	.25	1.0
800	700	.75	100	.25	1.0

2 a.,b.

Y	MPC = .8	MPC = .9
	C	C
0	40	40
100	120	130
200	200	220
300	280	310
400	360	400
500	440	490

c. The consumption function rises. At each Y, consumption is higher.

3.a. Suppose that income rises from 500 to 600 and the MPC is .7. How much will consumption rise? 70

b. Suppose that the income rises from 500 to 600 and the MPC is .8. How much will saving rise? 20

In the News

1. a. Wealth is stored up income. So the larger the store of wealth, the more there is to spend when desired. I Therefore more wealth should make more consumption.
- b. There are other determinants that may be important. The interest rate affects consumption. If the interest rate decreases, then people are willing to borrow more and spend more. So consumption might be inversely related to the interest rate. Consumer confidence and expectations have an important role in spending decisions too. If consumers are concerned about the future, they will not spend so much. The

- price level will not affect consumption because both the income and consumption in real terms.
2. a. A firm with high expectations will be willing to invest because it is sure that it can pay back what it owes. If the firm is uncertain about the future, it will be more conservative about borrowing and investing.
 - b. If a firm thinks that the technology is changing very quickly, it may want to wait until the next generation of technology comes along before it buys. If there just has been a major change in the technology, and there does not appear to be breakthroughs on the horizon, then it may be a good time to invest.
 3. The reason that income (GDP) fell was that investment went down. Consumers apparently felt that the decrease in income was just a temporary dip and kept on spending. This is a suggestion that considerations besides income affect the level of consumption.
 4. a. No, 63 percent is not the marginal propensity to consume. The 63 percent tells the average amount consumed out of GDP but does not tell how consumption changes as income changes.
 - b. To find the marginal propensity to consume, we would need to know how consumption changed when income changed.

Practice Test

1.d., 2.b., 3.b., 4.a., 5.d.