

Exercise session #3 - Consumption, savings and investment

Problem 1 - Application of theories of consumption function; Holman 50/1

When the disposable income of Novak family was 200,000 CZK/year they have spend 150,000 - i.e. their average propensiy to consume (APC) was 0.75. On the other hand, when heir disposable income has increased to 300,000, their consumption has only increased to 200,000 - i.e. their APC was now 0.67. Explain this using

1. Theory of Keynesian consumption function
2. Life-cycle hypothesis
3. Permanent income hypothesis

Problem 2 - Application of life-cycle hypothesis; D&F 357/6ab

The United States, during he 1980's, found its rate of personal saving to be particularly low. It also, during that time, had a demographic blip - the baby-boomer generation, then in its late twenties to early thirties.

1. Does the life-cycle hypothesis suggest a reason that these two facts might be connected?
2. What does this hypothesis suggest we should see as this generation ages?

Problem 3 - Effect of increase in interest rate for net borrower, M 460/1

In the lecture, we have used Fisher model to explain the effect of an increase in the interest rate for the consumer who was net saver. Suppose that consumer is a net borrower. How does this alter the analysis. What can you tell about the differences in the income and substitution effect between the two types of consumers?

Problem 4 - Fisher model of consumption I; M 460/2

Gurgen and Marek both obey the two-period Fisher model of consumption. Gurgen earns \$100 in the first period and \$100 in the second period. Marek earns nothing in the first period and \$ 210 in the second period. Both of them borrow or lend at interest rate r .

- You observe both Gurgen and Marek consuming \$100 in the first period and \$100 in the second period. What is the interest rate r ?

- Suppose the interest rate increases. What will happen to Gurgun's consumption in the first period? Is Gurgun better off or worse off than before the interest rate rise?
- What will happen to Marek's consumption in the first period when the interest rate increases? Is Marek better off or worse off than before the interest rate increase?

Problem 5 - Fisher model of consumption II; M 460/3

We have seen the analysis for the case when consumer can save and borrow at the same interest rate r . Consider now that consumer can save at rate r_s and borrow at rate r_b where $r_s < r_b$.

- What is the consumer's budget constraint in the case that he consumes less than his income in period one?
- What is the consumer's budget constraint in the case that he consumes more than his income in period one?
- Graph the two budget constraints and find all the combinations of first-period and second-period consumption the consumer can choose.
- Add consumer's indifference curves. Show three possible outcomes - one in which the consumer saves, one in which the consumer borrows and one in which he neither saves or borrows.
- What determines first period consumption in each of the three cases?

Questions for review:

Lecture 3: Consumption:

- **Keynesian consumption function:** What were Keynes's three conjectures about the consumption function? Write down the formal notation of consumption function that satisfies all three Keynes's conjectures. Describe empirical evidence that was consistent with Keynes's conjectures. Describe empirical evidence that was inconsistent with Keynes's conjectures.
- **Fisher's model of intertemporal choice:** How would you define intratemporal and intertemporal budget constraint? What is the effect of change in income within the framework of Fisher model? What is the effect of change in interest rate within the framework of Fisher model? Explain income effect. Explain substitution effect. Explain implications of Fisher model for the identification of determinants of consumption.
- **Life-cycle model:** What is the basic idea behind the life-cycle model? How does life-cycle model explain contradictory evidence concerning consumption behavior?
- **Permanent income hypothesis:** Explain difference between permanent and transitory income. Which one determines the level of consumption and why? How does permanent-income model explain contradictory evidence concerning consumption behavior?
- **Random walk hypothesis:** What is random walk (give definition or simple explanation)? Why are changes in consumption unpredictable if consumers act according to permanent income hypothesis and have rational expectations?
- **Behavioral theories of consumption:** Give an example in which somebody exhibits time-inconsistent preferences (other than on the lecture). What implications has the "pull of instant gratification" for the behavior of aggregate consumption.
- Summarize determinants of the current level of consumption.