

YLEISEN TENTIN TENTTILOMAKE - GENERAL EXAM FORM

Opiskelija täyttää / Student fills in

Opiskelijan nimi / Student name: Click here to enter text.	Opiskelijanumero / Student number: Click here to enter text.
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Opettaja täyttää / Lecturer fills in

Opintojakson koodi / The code of the course: 721346A	
Opintojakson (tentin) nimi / The name of the course or exam: Intermediate macroeconomics	
Opintopistemäärä / Credit units: 6 Mikäli kyseessä on välikoe, opintopistemääräksi täytetään 0 op. 0 ECTS Credits is used for mid-term exams.	
Tiedekunta / Faculty: Oulu Business School	
Tentin pvm / Date of exam: 13.3.2019	Tentin kesto tunteina / Exam in hours: 3 h
Tentaattori(t) / Examiner(s): Matti Koivuranta	Sisäinen postiosoite / Internal address: Matti Koivuranta, OyKKK
Tentissä sallitut apuvälineet / The devices allowed in the exam: <input checked="" type="checkbox"/> Funktiolaskin / Scientific calculator <input type="checkbox"/> Ohjelmoitava laskin / Programmable calculator <input type="checkbox"/> Muu tentissä sallittu materiaali tai apuvälineet. Tarkenna alla. / Other material or devices, allowed in the exam. Specify below. Click here to enter text. <input type="checkbox"/> Tentissä ei ole sallittua käyttää apuvälineitä / The devices are not allowed in the exam	
Muut tenttiä koskevat ohjeet opiskelijalle (esimerkiksi kuinka moneen kysymyksen opiskelijan tulee vastata) / Other instructions for students e.g. how many questions he/she should answer: All questions should be answered	

INTERMEDIATE MACROECONOMICS 721346A

3. Exam 13.3.2019

Matti Koivuranta

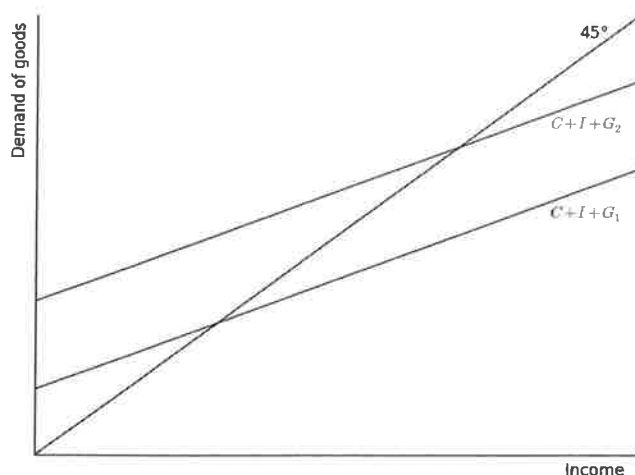
1. Assume a household utility function $U(c, c')$ which depends on current consumption c and future consumption c' . Utility function has the usual properties, e.g. it is increasing in both arguments and has decreasing marginal utilities. The periodic budget constraints of the household are

$$\begin{aligned}c + s &= y \\c' &= (1 + r)s + y',\end{aligned}$$

where s is savings, r is real interest rate, y is current income and y' is future income.

- a) What is the lifetime budget constraint of the household?
 - b) Draw the lifetime budget constraint of the household and some indifference curves. Label the axis and the slope of the budget constraint.
 - c) Show algebraically that optimal consumption bundle is characterized by equality of gross real interest rate and marginal rate of substitution (i.e. $MRS_{c,c'} = 1 + r$)
 - d) Analyze graphically how an increase in current income y affects current consumption c of a household which is initially a lender.
2. a) What does *Ricardian equivalence* mean?
b) What is meant by *double coincidence of wants* and how is it related to functions of money?
c) What does *neutrality* of money mean?

3. The figure below is sometimes used to argue that the total government expenditure multiplier should be higher than unity. In the figure the government spending increases from G_1 to G_2 and the total demand curve shifts up by exactly the same amount.



- a) What does the government expenditure multiplier mean and why is it greater than unity in the figure?
- b) What mechanisms of general equilibrium models are omitted in the above argument and how do the omissions affect the conclusions about the magnitude of the government expenditure multiplier?

