

Universität Siegen

Fakultät III – Wirtschaftswissenschaften Univ.-Prof. Dr. Jan Franke-Viebach

Exam "Aggregate Economic Accounting Systems"
Winter Semester 2017-18
(1st Exam Period)

Solution

Available time: 60 minutes

For your attention:

1. The exam is made up of 7 pages (including this cover page). Please check and see if the exam you are holding is **complete**.
2. For your answers, use the designated spaces. Should these not suffice, use the backside of the pages. Please do not use a **pencil**.
3. Additional materials you may use for the exam: a non-programmable calculator. (Smart phones and mobile **phones** are **not** allowed!)
4. ATTENTION: The names for variables have the same meaning as in the lecture. Insofar as you also use the same symbols for the variables as we did in the lecture you will not have to define these any further.

Question	1	2	3	4	5	Sum	Mark
Points achievable	10	13	10	17.5	9.5	60	
Points achieved							

Problem 1: Production: What It Includes and Excludes

In principle, indicators of aggregate production do not include non-market goods and services provided by private households.

a) Why not? [3 points]

Solution: difficult to measure (3)

b) Please name and explain one exception to this principle. [7 points]

Solution:

(A) Production of goods for own consumption

(1) (1)

Reason: important role in developing countries

(2)

→ important for international comparisons

(2) (1)

or:

(B) Housing provided by homeowners to themselves

(1) (1)

Reason: (i) rate of homeownership varies between countries

(2)

→ important for international comparisons

(2) (1)

or: (ii) long-term upwards trend in home ownership

(2)

→ important for intertemporal comparisons

(2) (1)

Problem 2: Calculation of Indices

Consider an economy that produces and consumes ugly and nice shirts:

	Period 1		Period 2	
	Quantity	Price	Quantity	Price
Ugly shirts	100	5.0	300	5.0
Nice shirts	100	20.0	200	25.0

- a) For period 2, please calculate the index of the value of production in current prices (V_2). Please show the calculation, not just the result.

[6 points]

$$V_2 =$$

Solution:

$$V_2 = \frac{\overset{(0.5)}{300} \times \overset{(0.5)}{5.0} + \overset{(0.5)}{200} \times \overset{(0.5)}{25.0}}{\underset{(0.5)}{100} \times \underset{(0.5)}{5.0} + \underset{(0.5)}{100} \times \underset{(0.5)}{20.0}} = \frac{1500 + 5000}{500 + 2000} = \frac{6500}{2500} = 2.6 \quad (2)$$

- b) In statistical practice, the index of the production volume for period 2 is obtained by dividing the value index by a certain price index.

b₁ What is the name of that price index?

[1 point]

Solution: Paasche index (1)

- b₂ For the above data, please calculate that price index. Please show the numbers from the table in your calculation.

[6 points]

$$P_2 =$$

Solution:

$$P_{P_2} = \frac{\overset{(0.5)}{200} \times \overset{(0.5)}{25.0} + \overset{(0.5)}{300} \times \overset{(0.5)}{5.0}}{\underset{(0.5)}{200} \times \underset{(0.5)}{20.0} + \underset{(0.5)}{300} \times \underset{(0.5)}{5.0}} = \frac{5,000 + 1,500}{4,000 + 1,500} = \frac{6,500}{5,500} = 1.1818 \quad (2)$$

Problem 3: Illegal Economy and Underground Economy

a) What is the principle of treating illegal and underground production activities in GDP? [3 points]

Answer: included in GDP
(3)

b) Underground activities.

b₁ Please give a general definition of underground activities. [3 points]

Answer: legal activities, carried out illegally
(1) (1) (1)

or: not declared to tax system; or: not declared to social security system

b₂ Please give an example of an underground activity. [2 points]

Answer: repair work paid in cash
(1) (1)

b₂ How are underground activities determined? [2 points]

Answer: estimated (2)

Problem 4: Quadruple Entry of Financial and Non-Financial Transactions

a) Household H is employed by corporation C, a producer/supermarket. All of H's economic relations are with C. For each of the following transactions, please make four entries ("quadruple entries") in the financial and non-financial accounts below. Please assume that all transactions pass through the agents' bank accounts. (You do not have to calculate the balancing items.)

(I) H receives a salary of 4 000 from C.

(II) H consumes 3 000 in products from C.

(III) For 200, H buys shares in C.

(IV) H pays off 800 of the debt contracted with C the year before.

(V) C pays H a dividend of 20.

[10 points]

Accounts of household H

H: Non-financial transactions	
Uses	Resources
Consumption	Salaries
Interest	Dividend
Balancing item	

Accounts of corporation C

C: Non-financial transactions	
Uses	Resources
Salaries	Output
Dividend	Interest
Balancing item	

H: Financial transactions	
Change of assets	Change of liabilities
Bank account	Loans
Shares	
	Balancing item

C: Financial transactions	
Change of assets	Change of liabilities
Bank account	Shares
Loans	
	Balancing item

Exam WS 2017-18: "Aggregate Economic Accounting Systems" (1st Exam Period)**Solution:** (0.5) points per entry**Accounts of household H**

H: Non-financial transactions	
Uses	Resources
Consumption (II) 3 000	Salaries (I) 4 000
Interest	Dividend (V) 20
Balancing item	

Accounts of corporation C

C: Non-financial transactions	
Uses	Resources
Salaries (I) 4 000	Output (II) 3 000
Dividend (V) 20	Interest
Balancing item	

H: Financial transactions	
Change of assets	Change of liabilities
Bank account (I) 4 000 (II) - 3 000 (III) - 200 (IV) - 800 (V) 20	Loans (IV) - 800
Shares (III) 200	Balancing item

C: Financial transactions	
Change of assets	Change of liabilities
Bank account (I) - 4 000 (II) 3 000 (III) 200 (IV) 800 (V) - 20	Shares (III) 200
Loans (IV) - 800	Balancing item

b) We look at the "balancing item" of the accounts of household H.

b₁ What is the name of the balancing item of the non-financial account? [1.5 points]**Answer:** net lending/net borrowing
(1) (0.5)b₂ What is the name of the balancing item of the financial account? [1.5 points]**Answer:** net lending/net borrowing
(1) (0.5)

c) In the financial account of any agent, there are basically two types of financial transactions.

c₁ Please name these two types of financial transactions. [2 points]

Answer: - counterparts to non-financial transactions
 (0.5) (0.5)
 - purely financial transactions
 (0.5) (0.5)

c₂ In how far do they have different implications for the financial position of an agent? [2.5 points]

Answer:

Non-financial transactions affect net lending/net borrowing (2)

while purely financial transactions do not (0.5)

Problem 5: Saving

a) What is the difference between gross saving and net saving? [2 points]

Answer: consumption of fixed capital (or: depreciation)
 (1) (1)

b) What is the reason for a negative value of net saving? [3.5 points]

Answer: Consumption exceeds disposable income
 (1) (1) (0.5) (1)

c) How can negative net saving be financed? [4 points]

Answer: by disposing of assets or by incurring liabilities
 (1) (1) (1) (1)