

Universität Siegen

Fakultät III – Wirtschaftswissenschaften
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Exam "International Financial Markets"
Summer Semester 2013
(2nd Exam Period)

Solution

Available time: 60 minutes

For your attention:

1. The exam is made up of 8 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. Answers written in **pencil** will **not** be scored.
3. Additional materials you may use for the exam: a non-programmable calculator.
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	Sum	Mark
Points achievable	20	13	6	6	45	
Points achieved						

Problem 1: International Parities

- a) Please briefly interpret the economic content of the following equations. (It is sufficient to give the names of these equations.) [7 points]

$$(I) \quad e^e = e \cdot \frac{1 + i}{1 + i^f}$$

$$(II) \quad e^F = e^e$$

$$(III) \quad \frac{e^e}{e} = \frac{1 + \frac{dP}{P}}{1 + \frac{dP^f}{P^f}}$$

Solution:

- (i) Uncovered interest rate parity
(1) (0.5) (1)
- (ii) Expectations theory of the forward rate
(1.5) (1)
(or: forward rate is equal to expected spot rate)
(1) (1) (0.5)
- (iii) Expected relative PPP
(0.5) (0.5) (1)

- b) We are given the following statistics about the euro and the dollar (all percentage rates are annual rates):

	€	\$
Inflation	? %	5 %
One-year interest rate	8 %	4 %
Spot exchange rate [€/\$]		?
Expected exchange rate in one year [€/\$]		?
One-year forward exchange rate [€/\$]		0.80

Please replace the question marks with appropriate answers. In each case, please make clear which of the equations mentioned in a) you use. [13 points]

Solution:

$$e^F = e^e \quad (1) \quad (\text{or: (I)})$$

$$0.80 = e^e \quad (2)$$

$$e^e = e \cdot \frac{1 + i}{1 + i^f} \quad (1) \quad (\text{or: (II)})$$

$$0.80 = e \cdot 1.08 / 1.04 \quad (3)$$

$$e = 0.77 \quad (1)$$

$$\frac{e^e}{e} = \frac{1 + \frac{dP}{P}}{1 + \frac{dP^f}{P^f}} \quad (1) \quad (\text{or: (III)})$$

$$0.80 / 0.77 = (1 + dP / P) / (1 + 0.5) \quad (3)$$

$$dP / P = 0.091 \quad (\text{or: } 9\%) \quad (1)$$

Problem 2: International currency

A currency is said to be international if it is used considerably outside the country where it is legal tender.

a) Please name the three functions of money. [3 points]

Solution:

- store of value (1)
- unit of account (1)
- medium of exchange (1)

b) Please name two benefits associated with the international use of a currency. [4 points]

Solution:

- (i) Exchange rate stability (2)
- (ii) Financial institutions' earnings (2)
- (iii) Seigniorage (2)
- (iv) Financing of balance-of-payments deficits (2)
- (v) Cost of invoicing (2)

Maximum of 4 points!

c) Briefly explain one of the benefits mentioned in b). [6 points]

Solution:

(i) Exchange rate stability

If many international transactions are denominated in one country's currency, (3)
then the tendency of that currency to be subject to substantial swings in its value is reduced. (3)

(ii) Financial institutions' earnings

When more financial transactions are executed through the issuing country's financial institutions, (3)
this increases their earnings (3)

(iii) Seigniorage revenue

Because currency does not bear any interest, (3)
the issuing country earns seigniorage on claims to it held by nonresidents.(3)

(iv) Financing of balance-of-payments deficits

International currency status facilitates a country's capability to finance balance-of-payments deficits. (6)

(v) Cost of invoicing

With international currency status, it is more likely for international trade and financial transactions to be denominated in the domestic currency. (3)

This reduces the costs of exchange. (3)

Problem 3: Financial Accounts

The following questions refer to the tables on pp 6 and 7. The tables show data for the euro area for the 3rd quarter 2009.

- a) By which position can we identify on p. 6 whether a sector was a deficit unit or a surplus unit? [2 points]

Solution:

Net lending / net borrowing (2)

- b) By which position can we identify on p. 7 whether a sector was a deficit unit or a surplus unit? [2 points]

Solution:

Changes in net financial worth due to transactions (2)

- c) In which amount did the "General government" raise funds, i. e. take new liabilities? [2 points]

Solution: 84.7 (2)



EURO AREA ACCOUNTS

3.1 Integrated economic and financial accounts by institutional sector (EUR billions)

Uses	Euro area	Households	Non-financial corporations	Financial corporations	General government	Rest of the world
2009 Q3						
External account						
Exports of goods and services						442.2
Trade balance ¹⁾						-21.9
Generation of income account						
Gross value added (basic prices)						
Taxes less subsidies on products						
Gross domestic product (market prices)						
Compensation of employees	1,067.9	110.4	675.4	52.6	229.5	
Other taxes less subsidies on production	26.2	4.8	14.2	3.5	3.8	
Consumption of fixed capital	354.2	98.2	198.4	11.5	46.1	
Net operating surplus and mixed income ¹⁾	565.1	286.6	246.3	33.8	-1.7	
Allocation of primary income account						
Net operating surplus and mixed income						
Compensation of employees						4.7
Taxes less subsidies on production						
Property income	625.3	33.7	222.3	308.2	61.2	91.2
Interest	382.6	31.4	60.6	229.4	61.1	54.0
Other property income	242.7	2.3	161.6	78.7	0.0	37.2
Net national income ¹⁾	1,874.5	1,533.9	109.7	32.5	198.5	
Secondary distribution of income account						
Net national income						
Current taxes on income, wealth, etc.	238.2	200.9	32.3	4.8	0.3	1.2
Social contributions	410.1	410.1				1.1
Social benefits other than social transfers in kind	446.4	1.4	15.8	31.1	398.0	0.8
Other current transfers	178.2	67.8	24.3	42.8	43.3	7.2
Net non-life insurance premiums	41.4	30.7	9.1	0.9	0.7	1.0
Non-life insurance claims	41.2			41.2		0.5
Other	95.6	37.1	15.2	0.7	42.6	5.6
Net disposable income ¹⁾	1,850.5	1,386.2	62.6	42.2	359.4	
Use of income account						
Net disposable income						
Final consumption expenditure	1,774.9	1,303.9			471.0	
Individual consumption expenditure	1,589.6	1,303.9			285.7	
Collective consumption expenditure	185.3				185.3	
Adjustment for the change in the net equity of households in pension fund reserves	15.0	0.1	0.6	14.3	0.0	0.0
Net saving/current external account ¹⁾	75.6	97.2	62.1	27.9	-111.6	4.2
Capital account						
Net saving/current external account						
Gross capital formation	434.1	139.9	225.4	11.4	57.3	
Gross fixed capital formation	443.2	138.2	236.3	11.3	57.4	
Changes in inventories and acquisitions less disposals of valuables	-9.1	1.7	-10.9	0.1	0.0	
Consumption of fixed capital						
Acquisitions less disposals of non-produced non-financial assets	-0.2	-2.3	0.8	0.1	1.1	0.2
Capital transfers	34.1	7.8	1.0	1.9	23.4	3.5
Capital taxes	6.7	5.5	0.2	1.0		0.0
Other capital transfers	27.4	2.4	0.8	0.9	23.4	3.5
Net lending (+)/net borrowing (-) (from capital account) ¹⁾	-2.6	59.8	50.5	27.1	-139.9	2.6
Statistical discrepancy	0.0	-0.1	0.1	0.0	0.0	0.0

Sources: ECB and Eurostat.

1) For details of the calculation of the balancing items, see the Technical Notes.

EURO AREA
STATISTICS

Euro area
accounts

3.1 Integrated economic and financial accounts by institutional sector (cont'd)
(EUR billions)

Liabilities	Euro area	Households	Non-financial corporations	MFIs	Other financial intermediaries	Insurance corporations and pension funds	General government	Rest of the world
2009 Q3								
Opening balance sheet, liabilities								
Total liabilities		6,407.6	23,202.6	31,800.3	11,966.9	6,295.3	7,955.9	13,330.0
Monetary gold and special drawing rights (SDRs)								
Currency and deposits			25.4	22,696.3	30.1	0.0	253.7	2,531.8
Short-term debt securities			293.2	727.0	75.8	9.7	1,010.9	246.3
Long-term debt securities			512.3	4,523.0	2,343.6	30.5	4,960.4	2,771.4
Loans		5,735.3	8,375.4		2,722.4	267.5	1,307.0	2,968.9
<i>of which: Long-term</i>		5,363.9	5,894.4		1,838.5	84.4	1,094.2	-
Shares and other equity			10,694.2	2,784.5	6,572.5	423.6	4.5	4,336.3
Quoted shares			2,802.8	450.0	113.0	141.4	0.0	-
Unquoted shares and other equity		6.3	7,891.4	1,065.6	2,338.5	281.3	4.5	-
Mutual fund shares				1,268.9	4,121.0			-
Insurance technical reserves		33.8	331.8	65.1	0.8	5,353.9	0.4	-
Other accounts payable and financial derivatives			632.2	2,970.3	1,004.3	221.7	210.2	419.0
Net financial worth ¹⁾	-1,497.3	10,753.6	-8,542.1	823.6	210.7	-155.0	-4,588.1	475.3
Financial account, transactions in liabilities								
Total transactions in liabilities		31.2	-22.2	-645.2	166.5	58.1	84.7	6.7
Monetary gold and SDRs								
Currency and deposits			0.0	-660.7	-3.0	0.0	-5.2	-56.4
Short-term debt securities			8.1	-42.8	-1.9	-1.3	41.7	5.1
Long-term debt securities			12.3	40.2	20.2	2.2	67.9	1.3
Loans		24.3	-72.9		1.4	-7.7	6.4	-17.2
<i>of which: Long-term</i>		32.4	-10.1		-5.0	0.2	6.5	-
Shares and other equity			47.7	-6.6	171.7	0.2	0.8	76.7
Quoted shares			9.7	5.3	1.4	0.1	0.0	-
Unquoted shares and other equity		0.0	38.0	-3.0	-30.9	0.1	0.8	-
Mutual fund shares				-8.9	201.3			-
Insurance technical reserves		0.1	0.7	1.8	0.0	65.2	0.0	-
Other accounts payable and financial derivatives		6.8	-18.1	23.0	-21.9	-0.4	-26.9	-2.8
Changes in net financial worth due to transactions ¹⁾	-2.6	59.7	50.6	45.1	-19.1	1.0	-139.9	2.6
Other changes account, liabilities								
Total other changes in liabilities		-3.3	1,150.2	170.2	312.9	144.5	67.0	205.1
Monetary gold and SDRs								
Currency and deposits			0.0	-109.3	0.0	0.0	0.0	-27.5
Short-term debt securities			-1.9	-4.0	-1.1	0.0	-1.0	7.0
Long-term debt securities			10.5	18.8	-0.2	-0.1	75.6	45.0
Loans		-2.9	6.0		-26.6	-0.2	-0.2	-30.1
<i>of which: Long-term</i>		-1.9	2.9		6.3	0.0	-0.2	-
Shares and other equity			1,136.3	230.5	324.7	53.7	0.0	222.1
Quoted shares			456.6	140.2	36.8	34.6	0.0	-
Unquoted shares and other equity		0.1	679.7	97.6	55.2	19.1	0.0	-
Mutual fund shares				-7.3	232.8			-
Insurance technical reserves		0.0	0.0	0.0	0.0	93.3	0.0	-
Other accounts payable and financial derivatives		-0.4	-0.8	34.3	16.1	-2.2	-7.4	-11.3
Other changes in net financial worth ¹⁾	-28.1	461.2	-491.2	-40.3	51.0	1.1	-9.8	80.0
Closing balance sheet, liabilities								
Total liabilities		6,435.5	24,330.6	31,325.3	12,446.4	6,498.0	8,107.6	13,541.8
Monetary gold and SDRs								
Currency and deposits			25.4	21,926.3	27.1	0.0	248.5	2,447.9
Short-term debt securities			299.4	680.2	72.8	8.4	1,051.6	258.4
Long-term debt securities			535.2	4,582.0	2,363.7	32.6	5,103.9	2,817.7
Loans		5,756.6	8,308.5		2,697.2	259.6	1,313.2	2,921.5
<i>of which: Long-term</i>		5,394.4	5,887.2		1,839.9	84.5	1,100.5	-
Shares and other equity			11,878.2	3,008.4	7,068.9	477.5	5.3	4,635.2
Quoted shares			3,269.2	595.5	151.1	176.1	0.0	-
Unquoted shares and other equity		6.4	8,609.1	1,160.3	2,362.8	300.5	5.3	-
Mutual fund shares				1,252.7	4,555.0			-
Insurance technical reserves		33.9	332.5	66.9	0.8	5,512.4	0.4	-
Other accounts payable and financial derivatives			638.6	2,951.4	1,061.6	215.9	207.5	384.7
Net financial worth ¹⁾	-1,528.0	11,274.5	-8,982.7	828.4	242.6	-153.0	-4,737.8	461.2

Source: ECB.

Problem 4: Money and monetary aggregates

- a) Money can take a physical form: cash. Next to this it can take another form: please precisely define this other form of money. [3 points]

Solution:

Bank deposits usable for immediate payments
(0.5) (1) (1) (0.5)

- b) The European Central Bank analyzes several monetary aggregates (M 1, M 2, ...). All of these have three features in common. Please briefly describe one of these common features. [3 points]

Solution:

- liabilities of the MFIs resident in the euro area
(1) (1) (1)
- liabilities vis-à-vis non-MFIs resident in the euro area
(1) (1) (1)
- liabilities are denominated in euros
(1) (0.5) 1.5)