

Universität Siegen

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Exam "International Financial Markets"
Summer Semester 2012
(1st Exam Period)

Solution

Available time: 60 minutes

For your attention:

1. The exam is made up of 11 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	5	Sum	Mark
Points achievable	12	13	12	10	13	60	
Points achieved							

Problem 1: Financial systems

- a) We usually distinguish between "market-based" and "bank-based" financial systems. Please briefly explain these systems. [6 points]

Solution:

- Market-based:
 - (i) suppliers and seekers of funds (0.5)
 - (ii) make contracts (0.5)
 - (iii) directly (or: direct finance) (2)

- Bank-based:
 - (i) financial intermediaries (0.5)
 - (ii) step in between (or: indirect finance) (2)
 - (iii) non-financial fund suppliers and seekers (0.5)

or: fund seekers and suppliers both make a contract with a financial intermediary (3)

- b) The following table shows data on the financing structure of non-financial corporations for 2009 (all data are expressed as percentages of GDP). Can you find evidence that the USA have a more market-based system in comparison to the euro area? Please briefly explain your answer. [6 points]

	Liabilities from bank loans	Stocks	Liabilities from debt securities
United States	22	106	20
Euro area	52	55	8

Solution:

- stocks and bonds (1)
are more important (1)
in the USA than in the euro area (1)
- as they represent direct contracts between fund seekers and suppliers, (2)
this indicates that the USA have a more market-based system than the euro area (1)

Problem 2: Financial Accounts

- a) A financial deficit is the outcome of mismatches of economic transactions in the goods market. Please define a financial deficit by one of these mismatches.

[3 points]

Solution:

- purchases (1)
exceed (1)
sales (1)
- or: spending (1) exceeds (1) income (1)
- or: investment (1) exceeds (1) saving (1)

- b) The following questions refer to the table on p.5. The table shows data for the euro area for the 3rd quarter 2009.

- b₁ By which position can we identify whether a sector was a deficit unit or a surplus unit? [2 points]

Solution:

Changes in net financial worth due to transactions (2)

- b₂ By what amount did the "Households" raise funds? [2 points]

Solution: 19 (2)

- b₃ What was the most important form of new liabilities of the "Households"? By what amount? [3 points]

Solution:

- Loans (or: long-term loans) (2)
- 14 (or: 16) (1)

c) Was the sector "Rest of the World" a net debtor or a net creditor of the euro area at the end of the 3rd quarter of 2009? [3 points]

Solution:

The question cannot be answered from the table (1.5 points)

because the position "net worth" is missing (1.5 points)

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
2011 Q4								
Opening balance sheet, liabilities								
Total liabilities		6,728	25,413	32,611	14,627	6,865	9,323	14,987
Monetary gold and special drawing rights (SDRs)								
Currency and deposits			30	23,561	33	0	262	2,802
Short-term debt securities			94	639	71	1	749	229
Long-term debt securities			827	4,585	2,803	32	6,013	2,874
Loans		6,180	8,580		3,430	308	1,741	3,138
<i>of which: Long-term</i>		5,821	6,093		1,883	116	1,431	
Shares and other equity		7	11,955	2,529	8,069	382	6	5,485
Quoted shares			3,142	348	181	97	0	
Unquoted shares and other equity		7	8,813	1,114	2,658	283	6	
Mutual fund shares				1,067	5,230			
Insurance technical reserves			35	336	71	1	6,039	1
Other accounts payable and financial derivatives			505	3,591	1,226	220	104	552
Net financial worth ¹⁾	-1,529	11,820	-9,217	1,033	558	-150	-5,574	
Financial account, transactions in liabilities								
Total transactions in liabilities		19	93	676	-11	-9	129	-78
Monetary gold and SDRs								
Currency and deposits			0	728	0	0	11	-107
Short-term debt securities			-9	65	-4	0	-36	16
Long-term debt securities			14	-39	40	0	88	-20
Loans		14	6		-23	-11	62	-32
<i>of which: Long-term</i>		16	8		35	1	59	
Shares and other equity		0	29	26	38	1	0	67
Quoted shares			3	4	1	0	0	
Unquoted shares and other equity		0	26	8	80	1	0	
Mutual fund shares				14	-43			
Insurance technical reserves			0	0	0	3	0	
Other accounts payable and financial derivatives			4	52	-104	-63	5	-1
Changes in net financial worth due to transactions ¹⁾	32	66	4	49	5	-24	-69	-32
Other changes account, liabilities								
Total other changes in liabilities		-20	205	-54	317	54	-155	343
Monetary gold and SDRs								
Currency and deposits			0	30	0	0	0	-13
Short-term debt securities			1	5	4	0	1	28
Long-term debt securities			0	10	16	-2	-132	72
Loans		-2	0		12	0	1	36
<i>of which: Long-term</i>		-2	1		7	0	1	
Shares and other equity		0	221	-120	277	3	0	157
Quoted shares			154	-20	8	0	0	
Unquoted shares and other equity		0	67	-11	-13	3	0	
Mutual fund shares				-89	281			
Insurance technical reserves			0	0	0	58	0	
Other accounts payable and financial derivatives			-18	-17	21	7	-4	63
Other changes in net financial worth ¹⁾	100	66	73	-6	-148	-32	146	-93
Closing balance sheet, liabilities								
Total liabilities		6,726	25,710	33,233	14,932	6,910	9,298	15,252
Monetary gold and SDRs								
Currency and deposits			29	24,319	33	0	274	2,683
Short-term debt securities			86	710	71	1	714	272
Long-term debt securities			841	4,556	2,859	30	5,968	2,925
Loans		6,191	8,586		3,419	297	1,804	3,142
<i>of which: Long-term</i>		5,835	6,102		1,926	117	1,491	
Shares and other equity		7	12,205	2,435	8,385	386	6	5,709
Quoted shares			3,300	333	191	97	0	
Unquoted shares and other equity		7	8,905	1,111	2,725	287	6	
Mutual fund shares				992	5,469			
Insurance technical reserves			35	336	71	1	6,100	1
Other accounts payable and financial derivatives			492	3,626	1,142	164	96	530
Net financial worth ¹⁾	-1,398	11,952	-9,139	1,076	415	-206	-5,496	

Source: ECB.

Problem 3: Transnational integration of financial markets

- a) Please name two types of barriers which separate a country's financial markets from foreign financial markets. Give an example for each type of barrier. [4 points]

Solution:

- natural barriers (1)

example: cultures; distances (1)

- state-created barriers (1)

example: restrictions for foreign participants; (1)
different tax treatment of domestic and foreign asset income

- barriers created by national market participants

example: cartels; (1)
restrictive access conditions to financial infrastructure.

MAXIMUM of 4 points !

b) In the beginning of the 1990s, the German unification led to a strong increase in German interest rates. As German financial markets were highly integrated with financial markets of other Western European countries, the latter experienced positive and negative effects.

b₁ What did the lenders/investors from these other Western European countries do? Did they benefit or suffer? [3.5 points]

Solution:

- lenders/investors: (i) shifted funds to Germany (2)
- (ii) benefited from higher interest rates
(1) (0.5)

b₂ What happened to interest rates in these countries? [1 point]

Solution:
increased (1)

b₃ What did the borrowers from these other Western European countries do? Did they benefit or suffer? [3.5 points]

Solution:

- borrowers: (i) reduced their borrowings (2)
- (ii) suffered from the higher rates
(1) (0.5)

Problem 4: Cross rates in the forex market

- a) We are given the following mid-point quotes between the US-dollar (\$), the Swiss Franc (SFr) and the Japanese Yen (¥):

0.9119 [\$/€], 1.5971 [SFr/\$], 128.17 [Y/\$] .

Please calculate the exchange rate of the Yen in terms of the Swiss Franc (if we are in Switzerland, this is just the direct quote of the Yen). Please clearly show your way of calculation and indicate the dimension of the resulting rate.

[3 points]

Solution:

$$\begin{array}{ccccccc} & (0.5) & & & & & \\ \frac{1.5971}{128.17} & = & 0.0125 & \left[\frac{\text{SFr}}{\text{¥}} \right] & & & \\ (0.5) & & (1) & (1) & & & \end{array}$$

- b) We are given the following bid and ask rates of the euro and the Swiss Franc against the US Dollar.

1.1610 - 1.1615 [\$/€],

1.4100 - 1.4120 [SFr/\$].

We want to calculate the bid rate of the euro in terms of the Swiss Franc, [SFr / €].

- b₁ Indicate the two transactions needed to change from euros to Swiss Francs with the help of arrows (→). [2 points]

Solution:

Euro → dollar → Swiss Francs
(0.5) (1) (0.5)

b₂ Which of the rates given above do we need to calculate the bid rate of the euro in terms of Swiss Francs? [2 points]

Solution:

1.1610	1.4100
(1)	(1)

b₃ Please use the rates from b₂ to calculate the bid rate of the euro in terms of Swiss Francs? [3 points]

$$1.4100 \cdot 1.1610 = 1.6370 \left[\frac{\text{SFr}}{\text{€}} \right]$$

(3)

Problem 5: Currency Option

We look at the second line of the following table:

Devisenoptionen

24.06.	1 Mon.	3 Mon.	6 Mon.	1 Jahr
EUR/USD Call	2,29	4,00	5,67	8,09
EUR/USD Put	2,29	4,05	5,72	8,00
EUR/GBP Call	1,17	2,05	2,93	4,02
EUR/GBP Put	1,17	2,07	2,93	3,94
EUR/JPY Call	2,78	4,77	6,63	9,13
EUR/JPY Put	2,83	4,97	7,03	10,09

Alle Prämien in Prozent vom Euro-Betrag;
 Mittelkurse; Basis: Am. Dollar 1,401; Brit. Pfund 0,849; Jap. Yen

a) What does the expression EUR/USD mean? [2 points]

Solution:

- EUR: indicates that the euro is the traded (or: quoted) currency (1)
- USD: indicates that the US dollar is the pricing currency (1)

b) Suppose that the contract volume is 50,000 [€]. Please calculate the price of a 6-month call in terms of USD. [4 points]

Solution:

$$\begin{array}{rcccl}
 0.0567 \text{ [$/€]} & \times & 50,000 \text{ [€]} & = & 2835 \text{ [\$]} \\
 (1) \quad (0,5) & & (0,5) \quad (0,5) & & (1.5)
 \end{array}$$

- c) We look at the position of a "long call". What are the rights and what are the obligations from this position if it is a European-style option? [7 points]

Solution:

- rights:

- (i) buy 50,000 euros
(1) (0,5) (0,5)

- (ii) after 6 months (or: at maturity)
(1)

- (iii) at the price of 1.401 [\$/€] (or: at the strike price)
(1)

- obligations:

- (i) pay 2835 euros (or: the premium) upfront
(0.5) (0.5) (0.5)

- (ii) pay the amount of 70,050 euros if he exercises the option
(0.5) (0.5) (0.5)