You have 60 minutes to complete this part of the exam. The total number of credits for all questions is equal to 60. That implies that, as a rule of the thumb, you should spend 1 minute to gain one credit.

You may use a pocket calculator.

Good luck!

Question 1 (6 credits)

Enter the following transactions into Germany's balance of payments.

a. A German company sells 200 cars in the US: 4 Mio.€
b. German tourists spend 200 Mio. € on vacation in Spain.
c. A German bank runs a call center in Ireland to service German clients who pay 1 Mio. € for this service.
d. Germany pays development aid to other countries: 5 Mio. €
e. A German company makes interest payments to a French bank: 1 Mio. €
f. A Greek investor buys a house in Berlin: 1.5 Mio €.

Question 2 (8 credits)

The table below lists the local currency prices of Big Macs in 2 countries and the exchange rates (x-rates) of the 2 currencies against the US dollar. In the US, the BigMac costs 4.8$.

Country	local_price	dollar_x-rate	PPP x-rate	over- under valuation in %
Argentina	33.0 Peso	14.0 Peso/$	x_1	x_3
Brazil	13.5 Real	2,5 Real/$	x_2	x_4

For the two countries: calculate

- the purchasing power parity of the local currency against the US dollar and
- the over- or undervaluation in %. (add an "o" for over valuation and a "u" for undervaluation)

x_1 $\frac{33 \text{ Pesos}}{4{,}8\ \$} = 6{,}875 \frac{\text{Pesos}}{\$}$ $\qquad \frac{33 \text{ Pesos}}{14 \frac{\text{Pesos}}{\$}} = 2{,}3571\ \$$

x_2 $\frac{13{,}5 \text{ Real}}{4{,}8\ \$} = 2{,}8125 \frac{\text{Real}}{\$}$

Minus indicates undervalued

x_3 $\frac{(6{,}875 - 14)}{14} = 50{,}9\ \%$ undervalued

Positiv indicates overvalued

x_4 $\frac{(2{,}8125 - 2{,}5)}{2{,}5} = 12{,}52\ \%$ overvalued

Question 3 (6 credits) (Slide 127 – 129)

Why can there be deviations from Absolute Purchasing Power Parity (APPP)? Give three reasons (with short explanations).

1) Not every country has the same basket of goods / demand structure
2) Include tariffs and non-tariff barriers to trade / Transport costs
[3) Differences in preferences]
4) Non-tradeable goods

Question 4 (6

Describe three possible risks [illegible] phase of a processing plant. Assign a grade of severity and probability of occ[illegible]h risk identified. Which respective mitigation possibilities do you see?

Question 5 (4 credits)

Why is the US Dollar involved in almost all foreign exchange market transactions?

The US-Dollar is a „vehicle currency"
-> It reduces the amount of markets to (n-1)
-> This makes the markets more liquid and reduces transaction costs
=> As a result, it is cheaper to carry out 2 transactions in liquid markets than one transaction in an illiquid market
=> Reasons: US holds global trust & confidence in its ability to pay its obligations

Question 6 (4 credits)

The spot rate is 0.9 EUR/USD, the 3-months dollar interest rate is 6%, the 3-month euro interest rate is 2%. Calculate the 3-months forward rate.

per annum

100 $ → (0,015) → 101,5 $

100 $ → (0,9 €/$) → 90 €

90 € → (0,005) → 90,45 €

90,45 € / 101,5 $ ⇒ Forward Rate

(0,02 : 4)

interest rate €

3-Month is 1/4 of a year

Question 7 (4 credits)

Can you provide an economic explanation for the fact that the forward rate of the Euro (price notation) is higher than the spot rate whenever the euro interest rate is higher than the dollar interest rate?

Question 8 (4 credits)

You need to buy 100,000 SFR. Given the quotes below, would you rather buy SFR directly or indirectly? Why?

SFR/EUR : 1.10

USD/EUR : 1.08

SFR/USD : 1.03

direct

100 000 SFR : 1,10 SFR/€ = 90 909,09 €

indirect

90 909,09 € · 1,08 $/€ · 1,03 SFR/$ = 101.127,27 SFR

Convert into $

Convert into SFR

higher value

indirect way better

100 € · 1,10 SFR/€ = 110 SFR

100 € · 1,08 · 1,03 = 111,24 SFR ⇒ indirect way better

1,1124

Question 9 (6 credits)

Some commentators argue that Italy needs to depreciate in "real terms" vis-á-vis Euro member states such as the Netherlands or Germany. Would such a real depreciation be possible in a currency union? Short explanation.

This is the Balassa-Samuelson Effect (=> appreciation)
Slide 138 It is possible, however, the Balassa-Samuelson Effect looks at it in the case of economic growth (≙ catching up), which leads to the appreciation

Question 10 (6 credits)

What is the relationship between uncovered interest parity (UIP) and covered interest parity (CIP)?

UIP = dealing with an expected return
↳ forecasting rates
=> the exchange rate risk is uncovered
(no forward trades etc.)

Question 11 (6 credits)

Calculate the effective exchange rate of the Euro.

Period	1999-1	1999-2	1999-3
Exchange rates (fx/EUR)			
USD	1.21	1.24	1.23
JPY	131	125	117
Trade shares (in %)			
US	66	68	75
JP	34	32	25

Index Exchange Rate

	1999-1	1999-2	1999-3
	100	$\frac{1,24}{1,21} \cdot 100 = 102,48$	$\frac{1,23}{1,21} \cdot 100 = 101,65$
	100	$\frac{125}{131} \cdot 100 = 95,42$	$\frac{117}{131} \cdot 100 = 89,31$

Trade Volume as weighted average

1999-1	100
1999-2	$102,48 \cdot 68\% + 95,42 \cdot 32\% = 100,22$ ↑A
1999-3	$101,65 \cdot 75\% + 89,31 \cdot 25\% = 98,56$ ↓D