

International economics (2023–2024)

Nikolas A. Müller-Plantenberg*

11 January 2024, 12.00

Surname: _____

First name: _____

ID or passport number: _____

Question	Points	Obtained
1	8	
2	8	
3	8	
4	8	
5	8	
Total	40	

Instructions

The exam consists of **five questions**.

In total, it is possible to obtain up to **40 points**.

Duration of exam: **1 hour and 20 minutes** (= 2 minutes per point or 16 minutes per question).

*E-mail: nikolas.mullerpl@uam.es. Address: Faculty of Economics and Business Administration, Universidad Autónoma de Madrid, 28049 Madrid, Spain.

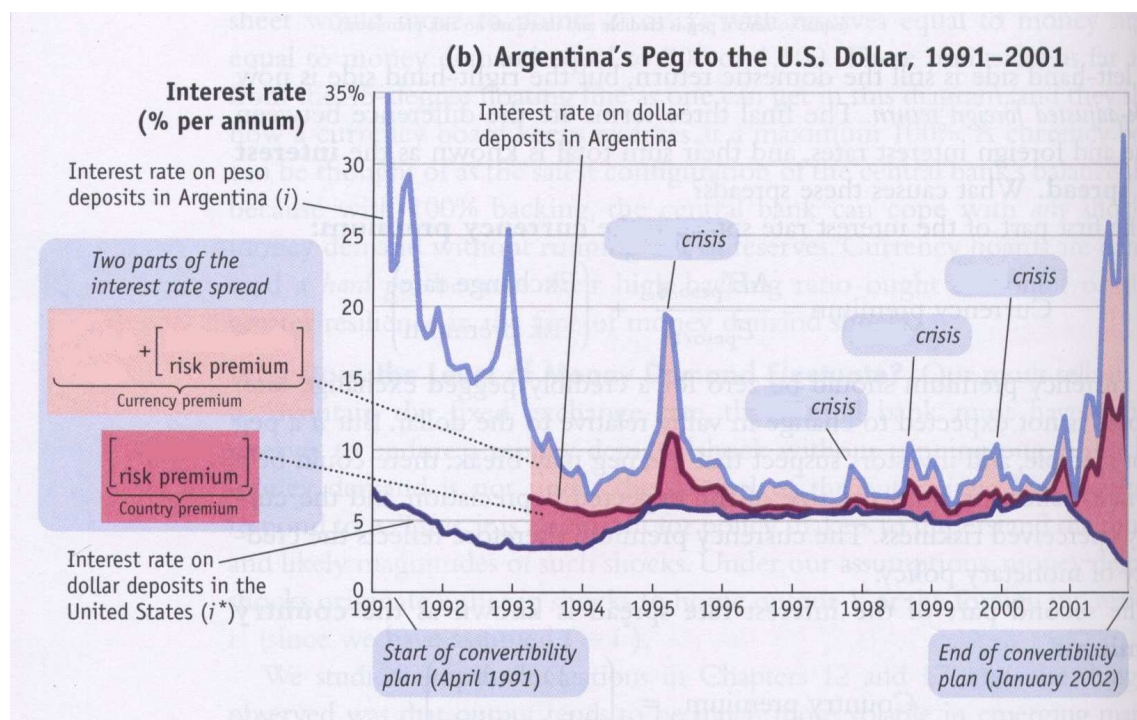


Figure 1: Argentina: currency and country premiums. Source: Feenstra and Taylor (2008).

1. Please consider figure 1, which shows the interest rates on peso and dollar deposits in Argentina and the interest rate on dollar deposits in the United States during Argentina's peg to the US dollar from 1991 to 2001. Now answer the following questions:
 - (a) The peg of the Argentine peso to the US dollar was based on the convertibility plan that was in place from April 1991 to January 2002. Under what name is Argentina's exchange rate arrangement in this period also known? [1]

- (b) Which two components does the currency premium (that is the difference between the interest rates of peso and dollar deposits in Argentina) consist of? [2]
- (c) What does the country premium (that is, the difference between the interest rates of dollar deposits in Argentina and the United States) cover. [1]
- (d) In the graph, we see that interest rates in Argentina rose during the 1990s whenever there were currency crises in other parts of the world (a phenomenon called "contagion"). What could be the reason? [1]
- (e) Which four crises does figure 1 refer to? Please state the names of the crises together with the corresponding years. [2]
- (f) Please state the uncovered interest parity relation (UIP) in its original, exact form and show how it can be simplified by applying logarithms to both sides of the equation. [1]

Total of question 1: [8]

1	Current account	a	Goods		<i>CA</i>	
		b	Services			
		c	Income	i		Work
				ii		Net foreign assets
		d	Net unilateral transfers			
2	Capital account	a	Capital transfers			
		b	Not-produced, non-financial assets			
3	Financial account	a	Foreign direct investment		Δe_t^{HF}	
		b	Portfolio investment	i	Equity	
				ii	Bonds	
				i	Trade credits	
				ii	Loans	
				iii	Money	
		c	Other investment		$\Delta b_t^{\text{HF}} - \Delta B_t^{\text{FH}}$	
		d	Official reserves		Δm_t^{HF}	
					ΔB_t^{HF}	

Table 1: Balance of payments structure.

2. Table 1 summarizes the structure of the balance of payments (both in published and analytical form). Use this classification and table 2 to show how the following balance of payments transactions affect the balances of payments and the national income identities of Spain (ESP), France (FRA) and Portugal (PRT).

- (a) The Spanish subsidiary of the French car manufacturer Renault in Valladolid, Spain, exports newly produced cars to Portugal. [3]
- (b) A Spanish household buys government bonds of France from a Portuguese investor. [3]
- (c) The Spanish household receives interest payments on the French government bonds that it bought from the Portuguese investor. [2]

Total of question 2: [8]

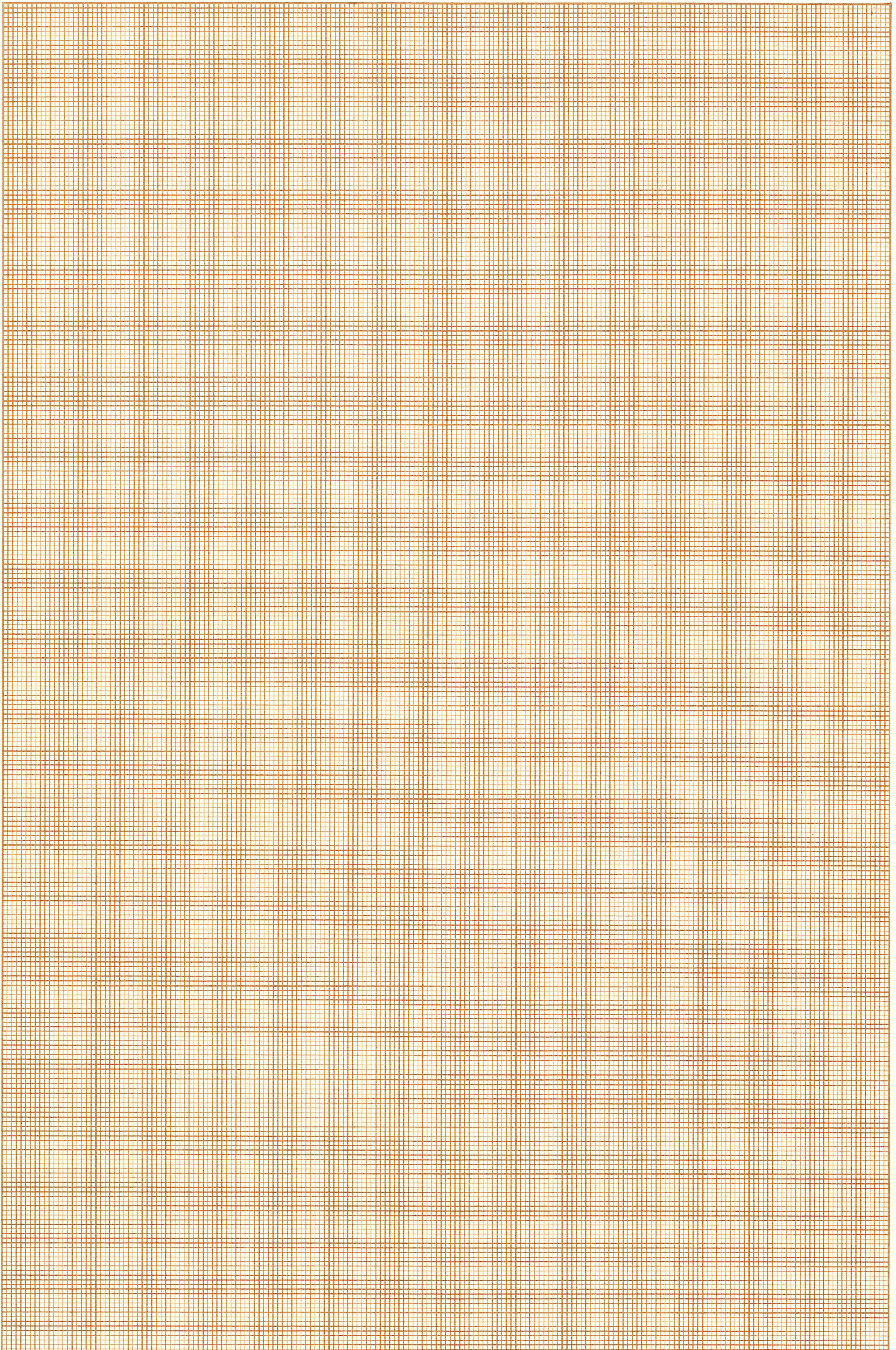
Transaction	1			2			3		
Country	ESP	FRA	PRT	ESP	FRA	PRT	ESP	FRA	PRT
Variable									
1 a)									
1 b)									
1 c) (i)									
1 c) (ii)									
1 d)									
2 a)									
2 b)									
3 a)									
3 b) (i)									
3 b) (ii)									
3 c) (i)									
3 c) (ii)									
3 c) (iii)									
3 d)									
Y									
Y^E									
CA									
Y^P									
Y^E									
TB									

Table 2: Balance of payments transactions.

3. (a) i) Using the notation from class, show how it is possible to calculate how much wine the home country can produce with its available hours, L . [1]
- ii) If the country produces cheese with its available hours, L , and exchanges all the cheese for wine, how much wine would it obtain? [2]
- iii) Under what condition is it better for the country to produce cheese and exchange it for wine, rather than producing wine directly. [1]
- (b) i) What is a stock-flow equation? [1]
- ii) State two examples of stock-flow equations that we have seen in the international macroeconomics part of the course. [1]
- iii) In the following table, you can see values of a flow variable f_t during ten time periods. Please use the graph paper on the following page to plot in separate graphs the time series of the flow variable and the stock variable, respectively. [2]

Time (t)	0	1	2	3	4	5	6	7	8	9	10
Flow variable (f_t)		+2	+1	-3	-4	-2	+1	+2	+0	-3	-2
Stock variable (s_t)	+5										

Total of question 3: [8]



4. Consider the economies of scale model of international trade given in the following equations: [8]

$$Q = S \left(\frac{1}{n} - b(P - \bar{P}) \right), \quad (1)$$

$$C = F + cQ, \quad (2)$$

$$\pi(Q) = PQ - C, \quad (3)$$

$$\frac{d\pi(Q)}{dQ} = 0, \quad (4)$$

$$AC = \frac{C}{Q}, \quad (5)$$

$$P = AC, \quad (6)$$

$$P = \bar{P}. \quad (7)$$

Interpret each of the equations above in economic terms and explain their relevance. Also indicate which of the variables are endogenous and exogenous, respectively.

Total of question 4: [8]

5. We have seen in class that even though countries' current account imbalances can be quite large, they rarely exceed 5 or 10 percent of GDP for the large economies; that is, they do not "explode". [8]

At the same time, we have seen that real exchange rates do not move too far away from purchasing power parity (PPP) either; that is, $0.2 \leq Q_t \leq 5$ or, equivalently, $-1.6 \leq q_t \leq 1.6$.

Using the framework of the currency flow model, explain why both the current account balance and the real exchange rate, even though they may fluctuate or oscillate strongly, do not move too far away from zero over time. Which main mechanism is at work here?

(Please be as "technical" as you can when providing your answer.)

Total of question 5: [8]

References

Feenstra, Robert and Alan M. Taylor. *International Economics*. Worth Publishers, Gordonsville, VA, 2008.