

# HW 6

Sunday, September 5, 2021 2:18 AM



ECN 360  
Homework...

Chasop Tonge

Spot  
Buy  
Sell  
Buy  
Sell  
Buy  
Buy  
Buy

ECN 360  
Homework 6  
Due: 12/7/2021

**Directions:** Answer each question on your own choice of paper. Please be neat! Submit your homework via email to me at: [cdougl@umich.edu](mailto:cdougl@umich.edu) A .pdf is preferred, though any file works in practice.

1. Use the information in the following table on Switzerland's 1998 international transactions to answer the questions below (amounts are in millions of U.S. dollars).

Balance of Payments Account	Amount
Merchandise imports	\$92,871 $\Delta 988$ debit
Merchandise exports	\$93,859 $\Delta 11277$ debit
Services imports	\$15,406 $\Delta 16018$ credit
Services exports	\$26,683 $\Delta 3736$ debit
Investment income receipts	\$43,720
Investment income payments	\$27,702
Unilateral transfers	-\$3,736

- a. Is Switzerland running a trade deficit or surplus in terms of goods? If so, how much?
- b. What is the size of the current account?  $16018 - 11277 - 3736 = 995$   $\Delta 7$  Million Credit
- c. Did Switzerland become a larger international creditor during 1998?

Yes

2. A bicycle manufactured in the United States costs \$175. Using the exchange rates listed in Table 13.1, what would the bicycle cost in each of the following countries? Table 13.1 is included at the end of this homework in case you do not have a copy of the book. Use the Spot exchanges rates from the table in answering this question.

3.0238	Peso	Argentina 529.165	7	9
1.5923	BRL	Brazil 278.625	6	
1.0055	C\$	Canada 175.9625	8	
7.7973	HKD	Hong Kong 136.5275	8	
42.7600	Rs	India 7483	2	
10.2058	Mexico	Mexico 1786.015	6	
64.4550	Peso	Philippines 7779.625	7	8

3. What is the cross rate implied by the following quotes:

- a. C\$/\\$ = 1.5613, \\$/€ = 1.0008; C\$/€ = ?  $1.5613 \times 1.0008 = 1.5625$
- b. ¥/\\$ = 124.84, \\$/£ = 1.5720; ¥/£ = ?  $124.84 \times 1.5720 = 196.2485$
- c. SF/\\$ = 1.4706, C\$/\\$ = 1.5613; SF/C\\$ = ?  $1.4706 \div 1.5613 = 0.9419$

$$\frac{C\$}{\$} \times \frac{\$}{€} = \frac{C\$}{€}$$

$$\frac{\$}{\$} \div \frac{C\$}{\$} = \frac{\$}{\$} \times \frac{\$}{C\$} = \frac{\$}{C\$}$$

$$\frac{\$}{\text{£}} \div \frac{\text{£}}{\text{€}} = \frac{\$}{\text{€}} \times \frac{\text{€}}{\text{£}} = \frac{\$}{\text{£}}$$

1

£ in London is £2.50 which is \$2.38095 in Paris & \$2.411 in New York

Sell your £ for \$ in New York; Sell your \$ for £ in Paris; Sell £ for £ in London

4. Suppose £1 = \$2.4110 in New York, €1.050 = \$1 in Paris, and £ = €2.50 in London.

- If you begin by holding £1, then how could you profit from these exchange rates? (Hint: Calculate the cross-exchange rates and then "buy low and sell high")
- Ignoring transaction costs, what is your arbitrage profit per pound initially traded?

$$\text{£} - \$2.411 = \text{£} 2.53155 = \text{£} 1.0126 \quad \text{you make } \underline{\text{£}.0126 \text{ per £}}$$

i or 1.26%

5. Suppose you are the treasurer of a firm importing calculators from Japan. You must pay ¥62,500,000 in 90 days. The current spot rate is \$0.005 per yen. But you expect the yen to appreciate against the dollar over the next 90 days and buy a call option contract on the yen. The premium on the option is \$0.0002 per yen and the striking price is 0.0055. Recall that Yen option contracts are sold in blocks of ¥6,250,000 per contract (see chapter 13 of the book).

- How many contracts do you need? What is the dollar cost of the contracts you need?
- If the spot rate in 90 days is 0.0052, do you exercise the option or let it expire?
- What was your dollar gain or loss from holding the option contract?
- If the spot rate in 90 days is 0.0057, do you exercise the contract or let it expire? What was your dollar gain or loss from holding the option contract in this case?

A. You need 10 contracts to hedge ¥62,500,000. [\$312,500]

↓ this trade costs you \$12,500

B. You buy spot at let the contract expire

C. You lost the premium paid of \$12,500

D. You exercise your option at get ¥62,500,000 at \$0.0055/¥  
, the strike provided by the writer.

\* this is a discount of  $\frac{1}{2} (\$0.0057 - \$0.0055)$  per ¥ i or  
\$0.0002 per ¥

as you are buying ¥62,500,000 i your discount in total  
is \$(62,500,000 x 0.0002) = \$12,500.

is  $(\$62,500,000 \times 0.0002) = \$12,500$ .

\* At expiry the exchange rate is at the break even price so you net \$0 as the premium you paid is equal to your discount.

TABLE 13.1 Foreign-Exchange

		Spot	Bid/ Spr
<b>Europe</b>			
Czech Rep.	(Koruna)	14.5313	20
Denmark	(DKr)	4.7062	05
Hungary	(Forint)	144.256	14
Norway	(NKr)	5.0794	77
Poland	(Zloty)	2.0285	27
Russia	(Rouble)	23.2128	10
Slovakia	(Koruna)	19.1411	28
Sweden	(SKr)	5.9637	62
Switzerland	(SFr)	1.0212	21
Turkey	(Lira)	1.1868	81
UK (0.5009) <sup>1</sup>	(£)	1.9965	91
Euro (0.6308) <sup>1</sup>	(Euro)	1.5832	8
SDR	—	0.6118	—
<b>Americas</b>			
Argentina	(Peso)	3.0238	2
Brazil	(R\$)	1.5923	5
Canada	(C\$)	1.0055	0
Mexico	(New Peso)	10.2058	1
Peru	(New Sol)	2.8498	—
USA	(\\$)	—	—
<b>Pacific/Middle East/Africa</b>			
Australia	(A\$)	1.0288	—
Hong Kong	(HK\$)	7.7973	—
India	(Rs)	42.7600	—
Indonesia	(Rupiah)	9148.00	—
Iran	(Rial)	9143.00	—
Israel	(Shk)	3.4100	—
Japan	(Y)	106.735	—
Kuwait	(Dinar)	0.2657	—
Malaysia	(M\$)	3.2445	—
New Zealand	(NZ\$)	1.3120	—
Philippines	(Peso)	44.4550	—
Saudi Arabia	(SR)	3.7495	—
Singapore	(SS)	1.3535	—
South Africa	(R)	7.5500	—
South Korea	(Won)	1013.85	—
Taiwan	(T\$)	30.3560	—
Thailand	(Baht)	33.3150	—
U A E	(Dirham)	3.6729	—

1=exchange rates are foreign currency price of the dollar

