Foreign Exchange Exposure

Name:	Danny Saban	**Attempt:**	2	**Out of:**	21
Quiz Started:	Mar 01, 1998 11:01	**Quiz Finished:**	Mar 01, 1998 11:11	**Time Spent:**	10 min., 48 sec.
Student Finished 1 hr., 49 min., 12 sec. ahead of the 120 min. Time Limit.					

This set of questions should get you thinking about the currency exposure issues faced by companies with overseas investments.

Please note:
1. Please be sure to **Submit** the quiz...otherwise it remains "in process" indefinitely, with the clock ticking away!
2. After submitting the quiz, you will get feedback on your results, but *only* for those questions that you've answered.

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Question 1 (1 marks)

FASB-52, the accounting standard governing US companies' currency exposure, differentiates between the functional currency and the reporting currency.

Remember hearing about it? Now comes the test. You, as a consultant, are talking with your client. She is the Treasurer of a Fit-Tech, a U.S. MNC which has an overseas assembly plant for high-tech "sports radios." The company sources the components in the U.S. and sells the assembled radios in the U.S. The plant is located in Hong Kong. Now, which currency should be the **functional** currency for the plant? The **reporting** currency?

0%	1.	HK Dollar & U.S. Dollar
0%	2.	Hong Kong Dollar & Hong Kong Dollar
0%	3.	U.S. Dollar & Hong Kong Dollar
100%	4.	U.S. Dollar & U.S. Dollar **Since the parent company is a U.S. company, the reporting currency has to be the dollar. And the plant's operations are a direct and integral component of the parent company's operations, therefore the functional currency is the dollar too.**
0%	5.	All the combinations are fine.

Score: 1.0

Override Mark:
Comments:

Question 2 (1 marks)

Accounting measures of foreign exchange exposure are concerned with the choice of exchange rates for the preparation of consolidated financial statements, for a company that has subsidiaries abroad. The basic choice, in converting the foreign-currency value of those subsidiaries into the home currency, is whether to use the *current* exchange rate or the *historic* exchange rate that existed at the time the asset or liability was acquired.

Can you match up the three prevalent methods of translation?

Current/noncurrent method	a. All positions (except equity) are translated at the current rate.
Monetary/nonmonetary method	b. Assets and liabilities with maturities of one year or less are translated at the current rate, and those with longer maturities at the historic rate.
All-current method	c. Financial assets and liabilities are translated at the current rate and nonfinancial assets and liabilities at an historic rate.

Current/noncurrent method --> *a* **Incorrect**
Correct Answer: b

Monetary/nonmonetary method --> *c* Correct

All-current method --> *b* **Incorrect**
Correct Answer: a

Score: 0.0

This is all or nothing!

Override Mark:
Comments:

Question 3 (1 marks)

Hercules, the US-based specialty chemicals company, has bought a company in Britain. This subsidiary does mainly local business, and its "functional currency" is the British pound. At the time of this example, the pound traded at $1.50 (USD per GBP).

Management of the Delaware-based parent company is concerned with the possible effect of a depreciation or appreciation of the GBP against the dollar on the value of their equity investment in the UK. They are aware that there are different conventions for the translation of foreign-currency assets and liabilities into dollars. In particular, they have asked you to evaluate the effect on the sub of a change in the exchange rate from 1.50 to 1.55.

If the exchange rate changed, what would be the new value of Hercules (UK)'s assets, assuming the monetary/nonmonetary method were used?

Hercules (UK) Ltd (in millions)	GBP
Assets	
Cash	8
Accounts receivable	15
Inventory	23
Property	44
Total Assets	90
Liabilities	
Accounts payable	16
Short term bank debt	11
Long term debt	23
Net worth	40
Total Liabilities	90

0% 1. $137.3 million

100% 2. $136.15 million

Hercules (UK) Ltd		Before	After
	GBP	USD	USD
Exchange rate ($ per GBP)		1.5	1.55
			Mon/nonmon
Assets			
Cash	8	12	12.4
Accounts receivable	15	22.5	23.25
Inventory	23	34.5	34.5
Property	44	66	66
Total Assets	90	135	136.15

0% 3. $139.50 million *0%* 4. None of the above. **Score: 1.0**

Override Mark:
Comments:

Question 4 (1 marks)

Continuing with the Hercules example, if the exchange rate of the pound changed from $1.50 to $1.55, and Hercules adopted the current/noncurrent method of translation, what would be the effect on the parent's net equity investment in the UK subsidiary?

0% 1. Gain more than $1 million

100% 2. Gain less than $1 million

Hercules (UK) Ltd		Before	*After*
	GBP	USD	USD
Exchange rate ($ per GBP)		1.5	1.55
			Curr/Noncurr
Assets			
Cash	8	12	12.4
Accounts receivable	15	22.5	23.25
Inventory	23	34.5	35.65
Property	44	66	66
Total Assets	90	135	137.3
Liabilities			
Accounts payable	16	24	24.8
Short term bank debt	11	16.5	17.05
Long term debt	23	34.5	34.5
Net worth	40	60	60.95

So **gain $0.95 million**

0% 3. Lose more than $1 million *0%* 4. Lose less than $1 million. **Score: 1.0**

Override Mark:
Comments:

Question 5 (1 marks)

Continuing again with the Hercules example, if the exchange rate of the pound changed from $1.50 to $1.55, and Hercules adopted the all-current method of translation, what would be the tranlation gain/loss to the parent?

0% 1. $1.35 million gain

0% 2. $1.35 million loss

100% 3. $2 million gain

Hercules (UK) Ltd		Before	After	After	After
	GBP	USD	USD	USD	USD
Exchange rate ($ per GBP)		1.5	1.55	1.55	1.55
			Curr/Noncurr	Mon/nonmon	All current
Assets					
Cash	8	12	12.4	12.4	12.4
Accounts receivable	15	22.5	23.25	23.25	23.25
Inventory	23	34.5	35.65	34.5	35.65
Property	44	66	66	66	68.2
Total Assets	90	135	137.3	136.15	139.5
Liabilities					
Accounts payable	16	24	24.8	24.8	24.8
Short term bank debt	11	16.5	17.05	17.05	17.05
Long term debt	23	34.5	34.5	35.65	35.65
Net worth	40	60	60.95	58.65	62
Total Liabilities	90	135	137.3	136.15	139.5
Translation gain (loss)			0.95	-1.35	2

0% 4. $2 million loss *0%* 5. None of the above **Score: 1.0**

Override Mark:
Comments:

Question 6 (1 marks)

Which of the following facts, if true, will indicate that the local currency should be the functional currency

for a foreign subsidiary of a U.S. company?

50% 1. The cash flow is primarily in the local currency.
1 & 3 are correct; 2, 4 & 5 are indicators that the dollar should be the functional currency.

-50% 2. The products are sold primarily in the U.S. and the sales contracts are denominated in dollars.

50% 3. The expenses, like labor and materials, are denominated primarily in the local currency.
1 & 3 are correct; 2, 4 & 5 are indicators that the dollar should be the functional currency.

-50% 4. The operating funds come primarily from the parent company.

-50% 5. High volume of intracorporate transactions.

Score: 1.0

Override Mark:
Comments:

Question 7 (1 marks)

You work at American Standard. The company has a subsidiary in Ireland that sells its products locally. Suppose that at the start and at the end of the fiscal year your Irish subsidiary had current assets of 1 million Irish pounds, fixed assets of 2 million pounds and current liabilities of 1 million pounds. There are no long-term liabilities. If the pound depreciated during that year from $1.50 to $1.30, what is the FASB-52 translation gain(loss) to be included in your company's equity account?

0% 1. A gain of $400,000.

100% 2. A loss of $400,000.
All three items will be influenced by the Irish pound depreciation. Specifically, the current assets will decrease by $200,000 ($0.2 * 1,000,000), the fixed assets will decrease by $400,000 and the current liabilities will also decrease by $200,000. The net outcome is a loss of $400,000.

	IRP	USD	USD	
	Before	Before	After	Difference
Exchange rate	1	1.5	1.3	
Assets				
Current	1	1.5	1.3	-0.2
Fixed	2	3	2.6	-0.4
Total Assets	3	4.5	3.9	-0.6
Liabilities			0	0
Current	1	1.5	1.3	-0.2
Long term	0	0	0	0
Net worth	2	3	2.6	-0.4
Total liab & net worth	3	4.5	3.9	-0.6

0% 3. A loss of $600,000.

0% 4. A loss of $200,000.

0% 5. A gain of $200,000.

0% 6. No gain, no loss.

0% 7. None of the above.

Score: 1.0

Override Mark:
Comments:

Question 8 (1 marks)

Economic exposure is based on the extent to which currency changes change

0% 1. The value of the firm's balance sheet assets and liabilities.

100% 2. The market value of the firm.

0% 3. Nominal future cash flows.
Unlike accounting exposure, economic exposure is based on the extent to which is the value of the firm--as measured by the present value of the its expected future cash flows--will change in response to exchange rate changes. Def.1 is the defintion for accounting exposure. Def. 3 is irrelevant.

0% 4. All of the above.

0% 5. None of the above.

Score: 0.0

Override Mark:
Comments:

Question 9 (1 marks)

Which of the following statements are true about the real exchange rate?

25% 1. If the changes in the nominal exchange rate are fully offset by changes in the relative price levels between the two countries, then the real exchange rate does not change.
1,2,3 & 4 are all true. All these statements about sums the definition of the real exchange rate and its importance.

25% 2. Real exchange rate changes are more significant than the changes in nominal exchange rates when firms are examining exchange rate risks.

25% 3. Changes in the real exchange rates signal changes in relative prices.
1,2,3 & 4 are all true. All these statements about sums the definition of the real exchange rate and its importance.

25% 4. A change in the real exchange rate also means a deviation from PPP.
1,2,3 & 4 are all true. All these statements about sums the definition of the real exchange rate and its importance.

-100% 5. None of the above.

Score: 0.8

Override Mark:
Comments:

Question 10 (1 marks)

Psion, the British PDA manufacturer, is concerned about its loss of competitiveness vis-a-vis its US competitors. The company understands that it is a change in the *real exchange rate* that counts in determining changes in international competitiveness.

During the past year, the U.S. rate of inflation was 3%, the British inflation was 5%. The spot rate one year ago was 1 pound = $1.5. Now it is up to $1.65. What is the change in the real exchange rate?

0%	1.	An appreciation of 10.00% for the pound.
100%	2.	An appreciation of 12.14% for the pound.
0%	3.	An appreciation of 7.90% for the pound. **The correct calculation is as follows:** **real exchange rate = nominal exchange rate * ((1 + local inflation rate)/(1 + foreign inflation rate)) = 1.65 * 1.05 / 1.03 = 1.68** **That, compared with the old spot rate of $1.5, is an appreciation of 12.14% for the pound.**
0%	4.	An appreciation of 16.67% for the pound.
0%	5.	None of the above.

Score: 0.0

Override Mark:
Comments:

Question 11 (1 marks)

When we try to decide the magnitude of a firm's foreign exchange risks, we need to look at all of the following aspects EXCEPT:

0% 1. Where is the company selling its products?

0% 2. Who are the company's key competitors?

0% 3. What is the price elasticity of the demand for its products?

0% 4. Where is the company producing?

0% 5. Where are the company's inputs coming from?

0% 6. How are the company's inputs or outputs priced?

100% 7. None of the above--every aspect should be examined closely.
In sum, if a company's sale occurs overseas and/or if its competitors are foreign companies and/or if the demand is very elastic and/or if the company is producing out of the country and/or if the the company's inputs are from abroad, then the company faces considerable foreign exchange risks.

Score: 1.0

Override Mark:
Comments:

Question 12 (1 marks)

The European bulk chemicals industry pays an estimated 79% of its oil-based feedstock in dollars. According to an analyst's report, its costs are likely to decline because of the drop in the price of oil combined with the sharp decline in the value of the dollar. What is the likely impact on the European chemical industry's profits of the dollar decline? Will it now be more competitive in world markets relative to its American counterpart?

0% 1. The profits will go up and the European chemical industry will become more competitive. **Profit changes are decided by two factors: costs and revenues. Since the product is bulk chemicals, which are low- margin, mature, commodity-like products, they will tend to be sold at a single world dollar price. So revenues, in dollar terms, are likely to be unaffected.**

Feedstock costs are 79% dollars and 21% local European currencies. Other costs are also likely to be in European currencies. Since the European currencies have risen (the dollar falling), a portion of the European companies' costs have increased relative to their American competitors. This makes them less competitive and puts a squeeze on profitability.

0% 2. The profits will go up and the industry will be less competitive.

0% 3. The profits will be down and the industry will be more competitive.

100% 4. The profits will be down and the industry will be less competitive.

0% 5. The impacts are indeterminate.

Score: 0.0

Override Mark:
Comments:

Question 13 (1 marks)

The Quickie Manufacturing Company, a US-based producer of brooms, mops and other home cleaning tools, has a plant in Mexico. The facility's entire output is to be exported, mostly to the United States. The plant's capacity is approximately 2 million units per annum. With an average selling price of $5 per unit, the annual revenue from this investment equals $10 million.

Quickie's management is concerned about the possible effects of a currency devaluation on the value of their investment in Mexico. Not only could a fall in the peso reduce the book value of the subsidiary, but past experience suggests that local suppliers tend to raise their prices following a devaluation.

Because all sales are outside Mexico, the $10 million figure is not expected to vary with the peso/dollar exchange rate. At the present rate of exchange (8.4 New Pesos per US dollar), the dollar cost of local production equals $3 per unit. Taking into account increased local costs, a devaluation of 10% is expected to lower unit costs by $0.15, while a 15% devaluation will reduce these costs by an additional $0.075. Suppose a devaluation of either 10% or 15% is likely with respective probabilities of 40% and 20% (the probability of no change is 40%). Depreciation at the current exchange rate equals $1 million annually, and the local tax is 40%.

First, what will the annual dollar profit be if no devaluation occurs? Second, what is the *expected value* of annual after-tax dollar cash flows, given the currency scenarios described above?

100% 1. A profit of $1.8 million; an expected cash flow of $2.898 million.

0% 2. A profit of $2.4 million; an expected cash flow of $2.626 million.

0% 3. A profit of $1.8 million; an expected cash flow of $2.626 million.

0% 4. A profit of $1.96 million; an expected cash flow of $1.968 million.

0% 5. A profit of $1.8 million; an expected cash flow of $2.626 million.

0% 6. A profit of $1.8 million; an expected cash flow of $1.968 million.
The case of no exchange rate rate change:
profit = (revenue - costs - depreciation) * (1-tax rate)
= (10 - 6 - 1) * 0.6 = $1.8 million.

Now the multi-scenario case:
the 10% depreciation case:
profits = (10 - 5.7 - 0.9)*0.6 = $2.04 million
the 15% depreciation case:
profits = (10 - 5.55 - 0.85)*0.6 = $2.16 million
(In other words, the operation benefits from a peso depreciation. This is because purchasing power parity does not hold, at least in the short run. If it did, local Mexican prices would fully offset the exchange rate change and the net cash flow impact would be entirely due to the tax effect of depreciation.)

The expected future cash flow is found by adding back depreciation and calculating the probability-weighted value:
E(profits) = (1.8+1)*0.4 + (2.04+.9)*0.4 + (2.16+.85)*0.2 = $2.898 million

100% 7. None of the above.

Score: 0.0

Override Mark:
Comments:

Question 14 (1 marks)

Under FASB-52 (Ruling No. 52 of the U.S. Financial Accounting Standards Board), for a foreign subsidiary whose functional currency is the local currency, inventory and fixed assets are translated at the:

0% 1. historical exchange rate in effect when the assets were purchased

100% 2. current exchange rate in effect on the statement date

0% 3. average exchange rate between statement dates

0% 4. a combination of the above

Score: 1.0

Override Mark:
Comments:

Question 15 (1 marks)

Under FASB-52 (Ruling No. 52 of the U.S. Financial Accounting Standards Board), for a foreign subsidiary whose functional currency is the U.S. dollar, inventory and fixed assets are translated at the:

100% 1. historical exchange rate in effect when the assets were purchased

0% 2. current exchange rate in effect on the statement date

0% 3. average exchange rate between statement dates

0% 4. a combination of the above

Score: 0.0

Override Mark:
Comments:

Question 16 (1 marks)

Under FASB-52 (Ruling No. 52 of the U.S. Financial Accounting Standards Board), for a foreign subsidiary whose functional currency is the local currency, the translation gain or loss affects:

0% 1. the income statement

100% 2. the balance sheet

0% 3. both

0% 4. neither

Score: 1.0

Override Mark:
Comments:

Question 17 (1 marks)

Under FASB-52 (Ruling No. 52 of the U.S. Financial Accounting Standards Board), for a foreign subsidiary whose functional currency is the U.S. dollar, the translation gain or loss affects:

0%	1. the income statement
0%	2. the balance sheet
100%	3. both
0%	4. neither

Score: 1.0

Override Mark:
Comments:

Question 18 (1 marks)

Sterling Chemical (STXX) manufactures seven commodity petrochemicals and chemicals for use primarily in the pulp and paper industry. A few years ago the company purchased a production facility in Britain: a new methanol and sodium chlorate processing plant. They started business and acquired fixed assets at the beginning of a year when the exchange rate for the pound was $1.5. The average exchange rate for the period was $1.40, the rate at the end of the period was $1.30 and the historical rate for inventory was $1.45. During the year, Sterling Ltd. had income of 20 million pounds(after tax), which went into retained earnings(i.e. no dividends were paid). Thus, retained earnings rose from 0 to 20 million pounds. Please refer to the exhibit below and answer this question: Under FASB-52, how will this income statement be translated into dollars under the assumption that the functional currency is the *pound sterling*?

Sterling Ltd's Income Statement
(All figures in millions)

	Pounds Sterling
Revenue	120
Costs of goods sold	-50
Depreciation	-20
Other expenses, net	-10
Income before taxes	40
Income taxes	-20
Net income	20

100% 1. 28

The calculation is as follows:

	Pound Sterling	Rates used	U.S. Dollars
Revenue	120	1.4	168
Cost of goods sold	-50	1.4	-70
Depreciation	-20	1.4	-28
Other expenses,net	-10	1.4	-14
Income before taxes	40		56
Income taxes	-20	1.4	-28
Net income	20	1.4	**28**

0% 2. 20

0% 3. 23

0% 4. 25

Score: 1.0

Override Mark:

Comments:

Question 19 (1 marks)

Now consider Sterling Ltd's balance sheet. Under the assumption of the *pound sterling* being the functional currency, what is the amount of total liabilities plus equity after translation into U.S. dollars?

Sterling Chemical (Ltd) Balance Sheet
(In millions of pounds)

	Pounds Sterling
Assets	
Cash	100
Receivables	200
Inventory	300
Fixed assets, net	400
Total Assets, net	1,000
Liabilities	
Current liabilities	180
Long-term debt	700
Stockholder's equity	
Common stock	100
Retained earnings	20
Total liabilities plus equity	1,000

0% 1. 1,000

100% 2. 1,300

The detailed calculation is as follows:

	Pound Sterling(in mil.s)	Rates used	U.S. Dollars
Assets			
Cash	100	1.3	130
Receivables	200	1.3	260
Inventory	300	1.3	390
Fixed assets, net	400	1.3	520
Total Assets, net	1,000		1,300
Liabilities			
Current liabilities	180	1.3	234
Long-term debt	700	1.3	910
Stockholder's equity			
Common stock	100	1.5	150
Retained earnings	20		28
Translation adjustment			-22
Total liabilities plus equity	1,000		$1,300

0% 3. 1,400

0% 4. 1,200

Score: 1.0

Override Mark:

Comments:

Question 20 (1 marks)

Now consider Sterling Ltd's balance sheet. Under the assumption of *the U.S.Dollar* being the functional currency, what is the amount of total liabilities plus equity after translation into U.S. dollars?

	Pound Sterling(in mil.s)
Assets	
Cash	100
Receivables	200
Inventory	300
Fixed assets, net	400
Total Assets, net	1,000
Liabilities	
Current liabilities	180
Long-term debt	700
Stockholder's equity	
Common stock	100
Retained earnings	20
Total liabilities plus equity	1,000

0% 1. 1,000

0% 2. 1,300

0% 3. 1,400

100% 4. 1,425

The detailed calculation is as follows:

	Pound Sterling(in mil.s)	Rates used	U.S. Dollars
Assets			
Cash	100	1.3	130
Receivables	200	1.3	260
Inventory	300	1.45	435
Fixed assets, net	400	1.5	600
Total Assets, net	1,000		1,425
Liabilities			
Current liabilities	180	1.3	234
Long-term debt	700	1.3	910
Stockholder's equity			
Common stock	100	1.5	150
Retained earnings	20		131
Translation adjustment	-		-
Total liabilities plus equity	1,000		**$1,425**

Score: 1.0

Override Mark:

Comments:

Question 21 (1 marks)

Finally, what is the net income under the assumption of the dollar being the functional currency?

100% 1. 131

The detailed calculation is as follows:

	Pound Sterling	Rates used	U.S. Dollars
Revenue	120	1.4	168
Cost of goods sold	-50	1.45	-73
Depreciation	-20	1.5	-30
Other expenses,net	-10	1.4	-14
Foreign exchange gain			108
Income before taxes	40		159
Income taxes	-20	1.4	-28
Net income	20	1.4	**131**

From part III, we know that the "Retained Earnings" account is in the amount of $131 million, and that is also the net income figure, since no dividends were paid.

0% 2. 120

0% 3. 20

0% 4. 28

Score: 1.0

Override Mark:

Comments:

Quiz Mark Adjustment:

General Quiz Comments:

Total Score: 14.8 / 21 = 70.2%

Update Grade Cancel