

CHAPTER 26:

INTERNATIONAL FINANCE

26-1

a. Expected Spot Rate = $\$0.13 * (1.03/1.35) = 0.0992$

b. Expected spot rate in 2 years = $\$0.13 * (1.03/1.35)^2 = 0.0757$

c. Expected Spot rate if inflation rate drops to 20% = 0.0851

26-2

Country	Inflation Rate	Expected Change	Actual Change
China	12.10%	8.30%	3.35%
Indonesia	20.60%	14.76%	4.96%
Malaysia	10.10%	6.63%	2.39%
Singapore	1.30%	-1.48%	-4.08%
S. Korea	2.40%	-0.39%	-3.39%
Japan	2.00%	-0.78%	-2.96%
Taiwan	2.90%	0.10%	0.41%
Thailand	6.60%	3.56%	2.10%
Philippines	11.00%	7.39%	8.71%
India	10.10%	6.63%	11.90%
United States	2.80%	0.00%	

There is a high correlation between the expected and actual change. The three countries which had currencies that strengthened against the dollar also had inflation rates lower than the United States.

26-3

a. Forward Rate = $\$ 0.85 (1.05/1.035) = 0.8623$

b. If the actual forward contract is \$ 0.84, I would sell the forward contract and borrow Swiss francs.

Now

1. Borrow 1 Swiss Franc
2. Buy \$ 0.85 and invest at 5%
3. Sell a forward contract

At $t = 1$

1. Collect on Dollar Loan: $\$ 0.85 (1.05) = \0.89
2. Convert dollars to Swiss francs at $\$ 0.84$ per franc: $\$ 0.8925/\$0.84 = 1.06$
3. Repay the dollar loan with 5% interest: $\$ 1.00 (1.05) = \1.05

The arbitrage profit is $\$ 0.0125$

26-4

Forward Rate = Spot Rate $(1 + \text{Domestic Rate}) / (1 + \text{Overseas Rate})$

$$1.55 = 1.56 (1.05) / (1+r)$$

Solve for r ,

$$r = (1.55/1.56) * (1.05) - 1 = 4.33\%$$

26-5

a.

Country	Exchange Rate	1-year Interest Rate	Expected Spot Exchange Rate
Canada	0.73	0.0557	\$0.73
France	0.21	0.055	\$0.20
Germany	0.71	0.0395	\$0.68
Italy	0.06	10.75%	\$0.05
Japan	0.99	2.35%	\$0.97
UK	1.56	6.69%	\$1.46
United States	1	5.00%	

b. The inflation rates may be different from anticipated. There might also be trading noise and speculation that causes the actual exchange rates to vary from expected rates.

26-6

a.

Year	CF In DM	Expected \$/DM	CF in \$
0	-15000	\$ 0.6500	\$ (9,750)
1	1350	\$ 0.6563	\$ 886
2	1485	\$ 0.6626	\$ 984
3	1634	\$ 0.6689	\$ 1,093
4	1797	\$ 0.6754	\$ 1,214
5	1977	\$ 0.6819	\$ 1,348
6	2174	\$ 0.6884	\$ 1,497
7	2392	\$ 0.6950	\$ 1,663
8	2631	\$ 0.7017	\$ 1,846
9	2894	\$ 0.7085	\$ 2,050
10	3183	\$ 0.7153	\$ 2,277

b. You might want to adjust this discount rate to reflect differences in inflation (if the analysis is done in the local currency) or differences in risk (exchange rate, political..)

I would not adjust the cost of capital for the Limited if I were doing the analysis in dollars, since I think that the Limited's investors are likely to be internationally diversified and can take care of exchange rate risk.

If I were doing the analysis in DM, I would use a cost of capital of approximately 11%:

$$1.12 \cdot (1.04/1.05) - 1 = 10.93\%$$

c. NPV (in dollar terms, using 12% cost of capital) = (\$2,132.11)

d. NPV (in DM terms, using 10.93% cost of capital) = (3,278 DM)

26-7

Yes. It does not mean, however, that they should demand a premium for these risks. It is possible that this risk, if allowed to flow through to the firm's investors, may be diversifiable risk. It should then not affect discount rates or project choice. Alternatively, if the investors are unable to diversify this risk, the exchange rate and political risk should be factored into the analysis.

26-8

No. I would expect the private firm to be more cautious because its owners have to bear the exchange rate and political risk of investing in China. The publicly traded firm, on the other hand, can afford to view these risks as diversifiable and assume that its investors will not be impacted seriously by this risk. These differences would show up as differences in discount rates.

26-9

a.

Year	CF (Yuan)	\$/Yuan	CF (\$)
0	-1,600	\$0.12	\$(188.24)
1	-800	\$0.11	\$(86.55)
2	-1,000	\$0.10	\$(99.50)
3	150	\$0.09	\$13.73
4	300	\$0.08	\$25.25
5	500	\$0.08	\$38.69
6	650	\$0.07	\$46.26
7	800	\$0.07	\$52.36
8	900	\$0.06	\$54.17
9	1,000	\$0.06	\$55.35
10	1,100	\$0.05	\$56.00
11	1,210	\$0.05	\$56.65
12	1,331	\$0.04	\$57.30
13	1,464	\$0.04	\$57.97
14	1,611	\$0.04	\$58.66
15	1,772	\$0.03	\$59.34

b. I would use a cost of capital of 11.5% (in dollar terms) to discount this project. The premium of 1.5% reflects the higher risk of investing in China.

- c. NPV (in dollar terms, at 11.5%) = (\$115.30)
d. It should not matter. If the discount rate is also in Yuan, the net present value should be the same.

26-10

- a. A weak dollar means that the U.S. dollar is less valuable compared to other major currencies.
b. American consumers are hurt by a weak dollar since prices of imported goods would be expensive in terms of dollars. Foreign businesses may also be hurt because their products are less competitive.
c. American exports benefit from a weak dollar since their products are more competitive.

26-11

Yes, the stock price should react to the higher earnings since the increase in earnings is a real gain.

26-12

The spot rate of dollars per yen should go down because the yen would depreciate against the dollar according to the purchasing power parity theory.

26-13

The currency of the country with trade deficits would be more likely to depreciate because the depreciation would increase the price advantage of this country's product and reduce the deficits.

26-14

Futures contracts do not have the non-performance risk or the default risk while the forward contracts have this type of risk.

26-15

The daily settlement reduces the amount of loss due to default risk for futures contracts.

26-16

The current spot rate for DM per dollar = $1/0.65 = 1.5385$

26-17

Since $\text{£}0.43 = \text{DM}$ and $\text{DM } 1 = \$.65$
then $\text{£}1 = \$ 0.65/0.43 = \1.5116

26-18

Assume that we have \$1.0,

Step 1: buy DM with \$: $\$1.0 = \text{DM } 1.5385 (= 1 / 0.65)$;

Step 2: buy ¢G with DM = $\text{¢G}0.6615 (= 1.5385 * 0.43)$

Step 3: buy \$ with $\text{¢G} = \$ 1.0254 (= 0.6615 * 1.55)$

The net profit for each dollar invested = $\$1.0254 - \$1.00 = \$0.0254$

26-19

The interest rate in the U.S. = $(1 + 7\%) * 105.61 / 106.5 - 1 = 6.106\%$

The forward rate between dollar and DM:

$$\$1 = \text{DM}1.5285 * (1 + 7.25\%) / (1 + 6.106\%) = \text{DM } 1.5450$$