

CHAPTER 1 RANGER SUPPLY COMPANY

Motivation for international business

Ranger Supply Company is a large manufacturer and distributor of office supplies. It is based in London but sends supplies to firms throughout the United Kingdom. It markets its supplies through periodic mass mailings of catalogues to those firms. Its clients can make orders over the phone, and Ranger ships the supplies upon demand. Ranger has had very high production efficiency in the past. This is attributed partly to low employee turnover and high morale, as employees are guaranteed job security until retirement.

Ranger already holds a large proportion of the market share in distributing office supplies in the United Kingdom. Its main competition in the United Kingdom comes from one UK firm and one French firm. The British firm, located in Scotland, has a small share of the UK market but is at a disadvantage because of its distance. The British firm's marketing and transportation costs in the UK market are relatively high.

Although Ranger's office supplies are somewhat similar to those of its competitors, it has been able to capture most of the UK market because its high efficiency enables it to charge low prices to retail stores. It expects a decline in the aggregate demand for office supplies in the United Kingdom in future years. However, it anticipates strong demand for office supplies in Europe and in the US over the next several years. Ranger's executives have begun to consider exporting as a method of offsetting the possible decline in domestic demand for its products.

1. Ranger Supply Company plans to attempt penetrating either the US market or the Eastern European market through exporting. What factors deserve to be considered in deciding which market is more feasible?
2. One financial manager has been responsible for developing a contingency plan in case whichever market is chosen imposes export barriers over time. This manager proposed that Ranger should establish a subsidiary in the country of concern under such conditions. Is this a reasonable strategy? Are there any obvious reasons why this strategy could fail?

CHAPTER 2 MAPLELEAF PAPER COMPANY

Assessing the effects of changing trade barriers

MapleLeaf Paper Company is a Canadian firm that produces a particular type of paper not produced in the United States. It focuses most of its sales in the United States. In the past year, for example, 180,000 of its 200,000 rolls of paper were sold to the United States, and the remaining 20,000 rolls were sold in Canada. It has a niche in the United States, but because there are some substitutes, the US demand for the product is sensitive to any changes in price. In fact, MapleLeaf has estimated that the US demand rises (declines) 3% for every 1% decrease (increase) in the price paid by US consumers, other things held constant.

A 12% tariff had historically been imposed on exports to the United States. Then on 2 January, a free trade agreement between the United States and Canada was imple-

mented, eliminating the tariff. MapleLeaf was ecstatic about the news, as it had been lobbying for the free trade agreement for several years.

At that time, the Canadian dollar was worth \$0.76. MapleLeaf hired a consulting firm to forecast the value of the Canadian dollar in the future. The firm expects the Canadian dollar to be worth about \$0.86 by the end of the year and then stabilize after that. The expectations of a stronger Canadian dollar are driven by an anticipation that Canadian firms will capitalize on the free trade agreement more than US firms, which will cause the increase in the US demand for Canadian goods to be much higher than the increase in the Canadian demand for US goods. (However, no other Canadian firms are expected to penetrate the US paper market.) MapleLeaf expects no major changes in the aggregate demand for paper in the US paper industry. It is also confident that its only competition will continue to be two US manufacturers that produce imperfect substitutes for its paper. Its sales in Canada are expected to grow by about 20% by the end of the year because of an increase in the overall Canadian demand for paper and then remain level after that. MapleLeaf invoices its exports in Canadian dollars and plans to maintain its present pricing schedule, since its costs of production are relatively stable. Its US competitors will also continue their pricing schedule. MapleLeaf is confident that the free trade agreement will be permanent. It immediately begins to assess its long-run prospects in the United States.

1. Based on the information provided, develop a forecast of MapleLeaf's annual production (in rolls) needed to accommodate demand in the future. Since orders for this year have already occurred, focus on the years following this year.
2. Explain the underlying reasons for the change in the demand and the implications.
3. Will the general effects on MapleLeaf be similar to the effects on a US paper producer that exports paper to Canada? Explain.

CHAPTER 3 GRETZ TOOL COMPANY

Using international financial markets

Gretz Tool Company is a large German-based multinational corporation with subsidiaries in eight different countries. The parent of Gretz provided an initial cash infusion to establish each subsidiary. However, each subsidiary has had to finance its own growth since then. The parent and subsidiaries of Gretz typically use Deutsche Bank when possible to facilitate any flow of funds necessary.

1. Explain the various ways in which Deutsche Bank could facilitate Gretz's flow of funds, and identify the type of financial market where that flow of funds occurs. For each type of financing transaction, specify whether Deutsche Bank would serve as the creditor or would simply be facilitating the flow of funds to Gretz.
2. Recently, the British subsidiary called on Deutsche Bank for a medium-term loan and was offered the following alternatives:

Loan denominated in	Annualized rate
British pounds	13%
US dollars	11%
Canadian dollars	10%
Japanese yen	8%

What characteristics do you think would help the British subsidiary determine which currency to borrow?

CHAPTER 4 BRUIN AIRCRAFT LTD

Factors affecting exchange rates

Bruin Aircraft Ltd is a designer and manufacturer of airplane parts. Its production plant is based in Ireland. About one-third of its sales are exports to the United Kingdom. Though Bruin invoices its exports in euros, the demand for its exports is highly sensitive to the value of the British pound. In order to maintain its parts stock at a proper level, it must forecast the total demand for its parts, which is somewhat dependent on the forecasted value of the pound. The treasurer of Bruin was assigned the task of forecasting the value of the pound (against the euro) for each of the next five years. He was planning to request from the firm's chief economist forecasts on all the relevant factors that could affect the pound's future exchange rate. He decided to organize his worksheet by separating demand-related factors from supply-related factors, as illustrated by the headings below:

Factors that can affect the value of the pound	Check (<input type="checkbox"/>) here if the factor influences the euro demand for pounds	Check (<input type="checkbox"/>) here if the factor influences the supply of pounds for sale
------------------------------------------------	---------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------

Help the treasurer by identifying the factors in the first column and then checking the second or third (or both) columns. Include any possible government-related factors and be specific (tie your description to the specific case background provided here).

CHAPTER 5 CRYSTAL LTD

Using currency futures and options

Crystal (UK) Ltd is a major importer of crystal from the United States. The crystal is sold to prestigious retail stores throughout the United Kingdom. The imports are denominated in dollars (\$). Every quarter, Crystal needs \$500 million. It is currently attempting to determine whether it should use currency futures or currency options to hedge imports three months from now, if it will hedge at all. The spot rate of the dollar is £0.625. A three-month futures contract on the pound is available for £0.60 per unit. A call option on the pound is available with a three-month expiration date and an exercise price of £0.625. The premium to be paid on the call option is £0.01 per unit.

Crystal is very confident that the value of the dollar will rise to at least £0.63 in three months. Its previous forecasts of the dollar's value have been very accurate. The management style of Crystal is very risk-averse. Managers receive a bonus at the end of the year if they satisfy minimal performance standards. The bonus is fixed, regardless of how high above the minimum level one's performance is. If performance is below the minimum, there is no bonus, and future advancement within the company is unlikely.

1. As a financial manager of Crystal, you have been assigned the task of choosing among three possible strategies: (1) hedge the £ position by purchasing futures, (2) hedge the £ position by purchasing call options, or (3) do not hedge. Offer your recommendation and justify it.
2. Assume the previous information that was provided, except for this difference: Crystal has revised its forecast of the dollar to be worth £0.58 three months from now. Given this revision, recommend whether Crystal should: (1) hedge the \$ position by pur-

chasing futures, (2) hedge the £ position by purchasing call options, or (3) not hedge. Justify your recommendation. Is your recommendation consistent with maximizing shareholder wealth?

CHAPTER 6 HULL IMPORTING COMPANY

Effects of intervention on import expenses

Hull Importing Company is a UK-based firm that imports small gift items and sells them to retail gift shops across the United Kingdom. About half of the value of Hull's purchases comes from the United States, while the remaining purchases are from Europe. The imported goods are denominated in the currency of the country where they are produced. Hull normally does not hedge its purchases.

In previous years, the euro and dollar fluctuated substantially against the pound (although not by the same degree). Hull's expenses are directly tied to these currency values because all of its products are imported. It has been successful because the imported gift items are somewhat unique and are attractive to UK consumers. However, Hull has been unable to pass on higher costs (due to a weaker pound) to its consumers, because consumers would then switch to different gift items sold at other stores.

1. Hull expects that the European Central Bank will increase interest rates, and that Europe's inflation will not be affected. Offer any insight on how the euro's value may change and how Hull's profits would be affected as a result.
2. Hull used to closely monitor government intervention by the Fed (the US central bank) on the value of the dollar. Assume that the Fed intervenes to strengthen the dollar's value with respect to the pound by 5%. Would this have a favourable or unfavourable effect on Hull's business?

CHAPTER 7 ZUBER AG

Using covered interest arbitrage

Zuber AG is a Swiss-based MNC that has been aggressively pursuing business in Eastern Europe since the Iron Curtain was lifted in 1989. Poland has allowed its currency's value to be market determined. The spot rate of the Polish zloty is SFr 0.5. Poland also has begun to allow investments by foreign investors, as a method of attracting funds to help build its economy. Its interest rate on one-year securities issued by the federal government is 14%, which is substantially higher than the 5% rate currently offered on one-year Swiss Treasury securities.

A local bank has begun to create a forward market for the zloty. This bank was recently privatized and has been trying to make a name for itself in international business. The bank has quoted a one-year forward rate of SFr 0.49 for the zloty. As an employee in Zuber's international money market division, you have been asked to assess the possibility of investing short-term funds in Poland. You are in charge of investing SFr 10 million over the next year. Your objective is to earn the highest return possible while maintaining safety (since the firm will need the funds next year).

Since the exchange rate has just become market determined, there is a high probability that the zloty's value will be very volatile for several years as it seeks its true equilibrium value. The expected value of the zloty in one year is \$0.40, but there is a high degree of uncertainty about this. The actual value in one year may be as much as 40% above or below this expected value.

1. Would you be willing to invest the funds in Poland without covering your position? Explain.
2. Suggest how you could attempt covered interest arbitrage. What is the expected return from using covered interest arbitrage?
3. What risks are involved in using covered interest arbitrage here?
4. If you had to choose between investing your funds in Swiss Treasury bills at 5% or using covered interest arbitrage, what would be your choice? Defend your answer.

CHAPTER 8 FLAME FIXTURES LTD

Business application of purchasing power parity

Flame Fixtures Ltd is a small UK business in Armagh that produces and sells lamp fixtures. Its costs and revenues have been very stable over time. Its profits have been adequate, but Flame has been searching for means of increasing profits in the future. It has recently been negotiating with an Argentine firm called Corón Company, from which it will purchase some of the necessary parts. Every three months, Corón Company will send a specified number of parts with the bill invoiced in Argentine pesos. By having the parts produced by Corón, Flame expects to save about 20% on production costs. Corón is only willing to work out a deal if it is assured that it will receive a minimum specified amount of orders every three months over the next ten years, for a minimum specified amount. Flame will be required to use its assets to serve as collateral in case it does not fulfil its obligation.

The price of the parts will change over time in response to the costs of production. Flame recognizes that the cost to Corón will increase substantially over time as a result of inflation in Argentina. Therefore, the price charged in Argentine pesos likely will rise substantially every three months. However, Flame feels that, because of the concept of purchasing power parity (PPP), its dollar payments to Corón will be very stable. According to PPP, if Argentine inflation is much higher than UK inflation, the Argentine peso will weaken against the pound by that difference. Since Flame does not have much liquidity, it could experience a severe cash shortage if its expenses are much higher than anticipated.

The demand for Flame's product has been very stable and is expected to continue that way. Since the UK inflation rate is expected to be very low, Flame likely will continue pricing its lamps at today's prices (in pounds). It believes that by saving 20% on production costs it will substantially increase its profits. It is about ready to sign a contract with Corón Company.

1. Describe a scenario that could cause Flame to save even more than 20% on production costs.
2. Describe a scenario that could cause Flame to actually incur higher production costs than if it simply had the parts produced in the United Kingdom.
3. Do you think that Flame will experience stable pound outflow payments to Corón over time? Explain. (Assume that the number of parts ordered is constant over time.)
4. Do you think that Flame's risk changes at all as a result of its new relationship with Corón Company? Explain.

CHAPTER 9 WHALER PUBLISHING LTD

Forecasting exchange rates

Whaler Publishing Ltd specializes in producing textbooks in the United Kingdom and marketing these books to foreign bookshops who sell English language texts. Its sales are invoiced in the currency of the country where the textbooks are sold. The expected revenues from books sold to foreign bookshops are shown in Exhibit 1.

Whaler is comfortable with the estimated foreign currency revenues in each country. However, it is very uncertain about the pound revenues to be received from each country. At this time (which is the beginning of Year 16), Whaler is using today's spot rate as its best guess of the exchange rate at which the revenues from each country will be converted into pounds at the end of this year (which implies a zero percentage change in the value of each currency). Yet, it recognizes the potential error associated with this type of forecast. Therefore, it desires to incorporate the risk surrounding each currency forecast by creating confidence intervals for each currency. First, it must derive the annual percentage change in the exchange rate over each of the last 15 years for each currency to derive a standard deviation in the percentage change of each foreign currency. By assuming that the percentage changes in exchange rates are normally distributed, it plans to develop two ranges of forecasts for the annual percentage change in each currency: (1) one standard deviation in each direction from its best guess to develop a 68% confidence interval, and (2) two standard deviations in each direction from its best guess to develop a 95% confidence interval. These confidence intervals can then be applied to today's spot rates to develop confidence intervals for the future spot rate one year from today.

The exchange rates at the beginning of each of the last 16 years for each currency (with respect to the pound) are shown here:

Beginning of Year	Australian \$	Canadian \$	New Zealand \$	United States \$
1	0.68	0.53	0.56	0.49
2	0.59	0.54	0.51	0.59
3	0.62	0.49	0.55	0.52
4	0.62	0.46	0.58	0.49
5	0.60	0.46	0.53	0.45
6	0.64	0.45	0.52	0.42
7	0.61	0.46	0.45	0.52
8	0.53	0.44	0.40	0.62
9	0.49	0.43	0.35	0.69
10	0.45	0.41	0.26	0.86

Exhibit 1 Expected revenues from textbooks sold to foreign bookshops

Foreign Bookshops in	Local Currency	Today's Spot Exchange Rate	Expected Revenues from Bookshops This Year
Australia	Australian dollars (A\$)	£0.41	A\$38,000,000
Canada	Canadian dollars (C\$)	£0.49	C\$35,000,000
New Zealand	New Zealand dollars (N\$)	£0.34	N\$33,000,000
United States	Dollars (\$)	£0.54	\$34,000,000

Beginning of Year	Australian \$	Canadian \$	New Zealand \$	United States \$
11	0.37	0.39	0.27	0.69
12	0.36	0.39	0.28	0.68
13	0.39	0.44	0.36	0.53
14	0.46	0.45	0.34	0.55
15	0.42	0.46	0.32	0.63
16	0.41	0.47	0.32	0.52

The confidence intervals for each currency can be applied to the expected book revenues to derive confidence intervals in pounds to be received from each country. Complete this assignment for Whaler Publishing Ltd, and also rank the currencies in terms of uncertainty (degree of volatility). Since the exchange rate data provided are real, the analysis will indicate: (1) how volatile currencies can be, (2) how much more volatile some currencies are than others, and (3) how estimated revenues can be subject to a high degree of uncertainty as a result of uncertain exchange rates. (If you use a spreadsheet to do this case, you may want to retain it, since the case in the following chapter is an extension of this case.)

CHAPTER 10 WHALER PUBLISHING LTD

Measuring exposure to exchange rate risk

Recall the situation of Whaler Publishing Ltd from the previous chapter. Whaler needed to develop confidence intervals of four exchange rates in order to derive confidence intervals for pound cash flows to be received from four different countries. Each confidence interval was isolated on a particular country.

Assume that Whaler would like to estimate the range of its aggregate pound cash flows to be generated from other countries. A computer spreadsheet should be developed to facilitate this exercise. Whaler plans to simulate the conversion of the expected currency cash flows to pounds, using each of the previous years as a possible scenario (recall that exchange rate data are provided in the original case in Chapter 9). Specifically:

1. Determine the annual percentage change in the spot rate of each currency for a given year. Calculate the standard deviation and calculate the confidence interval for each revenue by applying the percentage change standard deviation to the expected value. So if the prediction for a currency's value is £0.50 and the standard deviation is 5% then the 95% confidence interval is $1.96 \times 2\% = 3.92\%$ or 4% above and below the expected value or £0.48 to £0.52. Recall that today's spot rates are assumed to be as in Exhibit 1.
2. Calculate the overall standard deviation by calculating the correlation of the percentage changes in the exchange rates and using the following matrix:

	A\$	C\$	NZ\$	\$
A\$	1.00			
C\$		1.00		
NZ\$			1.00	
\$				1.00

Use the 'portfolio calculator.xls' in support software (hint: you can set the returns to 0 as you are only interested in the combined standard deviation). Compare the worst case scenario using the joint standard deviation with the worst case scenario by looking at the total of the individual worst cases for each currency. Comment on the difference.

CHAPTER 11 BLACKBIRD COMPANY

Forecasting exchange rates and the hedging decision

This case is intended to illustrate how forecasting exchange rates and hedging decisions are related. Blackbird Company imports goods from New Zealand and plans to purchase NZ\$800,000 one quarter from now to pay for imports. As the treasurer of Blackbird, you are responsible for determining whether and how to hedge this payables position. Several tasks will need to be completed before you can make these decisions. The entire analysis can be performed using LOTUS or Excel spreadsheets.

- Your first goal is to assess three different models for forecasting the value of NZ\$ at the end of the quarter (also called the future spot rate, or FSR):
- Using the forward rate (FR) at the beginning of the quarter. Using the spot rate (SR) at the beginning of the quarter.

Exhibit 2 Historical data for analysis

Quarter	Spot Rate of NZ\$ at Beginning of Quarter	90-Day Forward Rate of NZ\$ at Beginning of Quarter	Spot Rate of NZ\$ at End of Quarter	Last Quarter's inflation differential	Percentage change in NZ\$ over Quarter
1	£0.1717	£0.1757	£0.1748	-0.05%	1.76%
2	0.1748	0.1769	0.1766	-0.46	1.05
3	0.1766	0.1776	0.2025	0.66	14.66
4	0.2025	0.2042	0.2196	0.94	8.46
5	0.2196	0.2212	0.2332	0.58	6.20
6	0.2332	0.2348	0.2458	0.23	5.40
7	0.2458	0.2471	0.2675	0.02	8.82
8	0.2675	0.2684	0.2785	1.26	4.12
9	0.2785	0.2794	0.2995	0.86	7.51
10	0.2995	0.3013	0.2954	0.54	-1.35
11	0.2954	0.2978	0.2941	1.00	-0.46
12	0.2941	0.2966	0.3410	1.09	15.97
13	0.3410	0.3441	0.3258	0.78	-4.47
14	0.3258	0.3287	0.2924	0.23	-10.25
15	0.2968	0.2994	0.2876	0.71	-3.11
16	0.2876	0.2900	0.3036	1.18	5.58
17	0.3036	0.3063	0.2856	0.70	-5.95
18	0.2856	0.2883	0.2769	-0.31	-3.05
19	0.2769	0.2783	0.2893	0.62	4.49
20	0.2893	0.2904	0.3184	0.87	10.05
21 (Now)	0.3184	0.3177	to be forecasted	0.28	(to be forecasted)

- Estimating the historical influence of the inflation differential during each quarter on the percentage change in the NZ\$ (which leads to a forecast of the FSR of the NZ\$).

The historical data to be used for this analysis are provided in Exhibit 2.

1. Use regression analysis to determine whether the forward rate is an unbiased estimator of the spot rate at the end of the quarter.
2. Use the simplified approach of assessing the signs of forecast errors over time. Do you detect any bias when using the FR to forecast? Explain.
3. Determine the average absolute forecast error when using the forward rate to forecast.
4. Determine whether the spot rate of the NZ\$ at the beginning of the quarter is an unbiased estimator of the spot rate at the end of the quarter using regression analysis.
5. Use the simplified approach of assessing the signs of forecast errors over time. Do you detect any bias when using the SR to forecast? Explain.
6. Determine the average absolute forecast error when using the spot rate to forecast. Is the spot rate or the forward rate a more accurate forecast of the future spot rate (FSR)? Explain.
7. Use the following regression model to determine the relationship between the inflation differential (called *DIFF* and defined as the US inflation minus New Zealand inflation) and the percentage change in the NZ\$ (called PNZ\$):

$$PNZ\$ = b_0 + b_1DIFF$$

Once you have determined the coefficients b_0 and b_1 , use them to forecast PNZ\$ based on a forecast of 2% for *DIFF* in the upcoming quarter. Then, apply your forecast for PNZ\$ to the prevailing spot rate (which is £0.34) to derive the expected FSR of the NZ\$.

8. Blackbird plans to develop a probability distribution for the FSR. First, it will assign a 40% probability to the forecast of FSR derived from the regression analysis in the previous question. Second, it will assign a 40% probability to the forecast of FSR based on either the forward rate or the spot rate (whichever was more accurate according to your earlier analysis). Third, it will assign a 20% probability to the forecast of FSR based on either the forward rate or the spot rate (whichever was less accurate according to your earlier analysis).

Fill in the table that follows:

Probability	FSR
40%	
40	
20	

9. Assuming that Blackbird does not hedge, fill in the following table.

Probability	Forecasted Pound Amount Needed to Pay for Imports in 90 Days
40%	
40	
20	

10. Based on the probability distribution for the FSR, use the table that follows to determine the probability distribution for the real cost of hedging if a forward contract is used for hedging (recall that the prevailing 90-day forward rate is £0.3177).

Probability	Forecasted Pound Amount Needed if Hedged with a Forward Contract	Forecasted Amount Needed if Unhedged	Forecasted Real Cost of Hedging Payables
40%			
40			
20			

11. If Blackbird hedges its position, it will use either a 90-day forward rate, a money market hedge, or a call option. The following data are available at the time of its decision.

- 90-day US borrowing rate = 2.5%
- 90-day US investing rate = 2.3%
- 90-day New Zealand borrowing rate = 2.4%
- 90-day New Zealand investing rate = 2.1%
- Call option on NZ\$ has a premium of £0.01 per unit.
- Call option on NZ\$ has an exercise price of £0.60.

Determine the probability distribution of dollars needed for a call option if used (include the premium paid) by filling out the following table:

Probability	FSR	Pounds Needed to Pay for Payables
40%		
40		
20		

12. Compare the forward hedge to the money market hedge. Which is superior? Why?
13. Compare either the forward hedge or the money market hedge (whichever is better) to the call option hedge. If you hedge, which technique should you use? Why?
14. Compare the hedge you believe is the best to an unhedged strategy. Should you hedge or remain unhedged? Explain.

CHAPTER 12 MADISON LTD

Assessing economic exposure

The firm imports from Canada and expects that the Canadian dollar will consistently depreciate over the next several years. Over time, its forecasts have been very accurate. The Finance Director paid little attention to the forecasts, stating that regardless of how the Canadian dollar changed, future earnings would be more stable under the proposed operational structure. She also was constantly reminded of how the strengthened Canadian dollar in some years had adversely affected the firm's earnings. In fact, she was somewhat concerned that she might even lose her job if the adverse effects from economic exposure continued.

1. Would a revised operational structure at this time be in the best interests of the shareholders? Would it be in the best interests of the Managing Director?
2. How could a revised operational structure possibly be feasible from the Managing Director's perspective but not from the shareholders' perspective? Explain how the firm might be able to ensure that the Vice President will make decisions related to economic exposure that are in the best interests of the shareholders.

CHAPTER 13 BLUES CORPORATION

Capitalizing on the opening of eastern European borders

Having done business in the United States for over 50 years, Blues Corporation has an established reputation. Most of Blues' business is in the United States. It has a subsidiary in Germany, which produces goods and exports them to other European countries. Blues Corporation produces many consumer goods that could possibly be produced or marketed in Eastern European countries. The following issues were raised at a recent executive meeting. Offer your comments about each issue.

1. Blues Corporation is considering shifting its European production facility from Germany to Poland. There are two key factors motivating this shift. First, the labour cost is lower in Poland. Second, there is an existing facility (currently government owned) in Poland that is for sale. Blues would like to transform the facility and use its technology to increase production efficiency. It estimates that it would need only one-fourth of the workers in that facility. What other factors deserve to be considered before the decision is made?
2. Blues Corporation believes that it could penetrate the Eastern European markets. It would need to invest considerable funds in promoting its consumer goods in Eastern Europe, since its goods are not well known in that area. Yet, it believes that this strategy could pay off in the long run because Blues could underprice the competition. At the current time, the main competition consists of businesses that are perceived to be inefficiently run. The lack of competitive pricing in this market is the primary reason for Blues Corporation to consider marketing its product in Eastern Europe. What other factors deserve to be considered before a decision is made?
3. Blues Corporation is currently experiencing a cash squeeze because of a reduced demand for its goods in the United States (although management expects the demand in the United States to increase soon). It is currently near its debt capacity and prefers not to issue stock at this time. Blues Corporation will purchase a facility in Eastern Europe or implement a heavy promotion programme in Eastern Europe only if it can raise funds by divesting a significant amount of its US assets. The market values of its assets are temporarily depressed, but some of the executives think an immediate move is necessary to fully capitalize on the Eastern European market. Would you recommend that Blues Corporation divest some of its US assets? Explain.

CHAPTER 14 NORTH STAR COMPANY

Capital budgeting

This case is intended to illustrate that the value of an international project is sensitive to various types of input. It also is intended to show how a computer spreadsheet format can facilitate capital budgeting decisions that involve uncertainty.

This case can be performed using an electronic spreadsheet such as Excel. The following present value factors may be helpful input for discounting cash flows:

Years from Now	Present Value Interest Factor at 18%
1	0.8475
2	0.7182
3	0.6086
4	0.5158
5	0.4371
6	0.3704

For consistency in discussion of this case, you should develop your computer spreadsheet in a format somewhat similar to that in the Capital Budgeting chapter, with each year representing a column across the top. The use of a computer spreadsheet will significantly reduce the time needed to complete this case.

North Star Company is considering establishing a subsidiary to manufacture clothing in Singapore. Its sales would be invoiced in Singapore dollars (S\$). It has forecasted net cash flows to the subsidiary as follows:

Year	Net Cash Flows to Subsidiary
1	S\$ 8,000,000
2	10,000,000
3	14,000,000
4	16,000,000
5	16,000,000
6	16,000,000

These cash flows do not include financing costs (interest expenses) on any funds borrowed in Singapore. North Star Company also expects to receive S\$30 million after taxes as a result of selling the subsidiary at the end of Year 6. Assume that there will not be any withholding taxes imposed on this amount.

The exchange rate of the Singapore dollar is forecasted in Exhibit 3 based on three possible scenarios of economic conditions.

Exhibit 3 Three scenarios of economic conditions

End of Year	Scenario I: Somewhat Stable S\$	Scenario II: Weak S\$	Scenario III: Strong S\$
1	£0.6703	£0.6649	£0.6811
2	0.6757	0.6486	0.6973
3	0.6595	0.6432	0.7189
4	0.6703	0.6324	0.7459
5	0.6811	0.6324	0.7622
6	0.6595	0.6216	0.7838

The probability of each scenario is shown below:

	Somewhat Stable S\$	Weak S\$	Strong S\$
Probability	60%	30%	10%

50% of the net cash flows to the subsidiary would be remitted to the parent, while the remaining 50% would be reinvested to support ongoing operations at the subsidiary. North Star Company anticipates a 10% withholding tax on funds remitted to the United States.

The initial investment (including investment in working capital) by North Star in the subsidiary would be S\$40 million. Any investment in working capital (such as accounts receivable, inventory, etc.) is to be assumed by the buyer in Year 6. The expected salvage value has already accounted for this transfer of working capital to the buyer in Year 6. The initial investment could be financed completely by the parent (£20 million, converted at the present exchange rate of £0.68 per Singapore dollar to achieve S\$30 million). North Star Company will go forward with its intentions to build the subsidiary only if it expects to achieve a return on its capital of 18% or more.

The parent is considering an alternative financing arrangement. With this arrangement, the parent would provide £10 million (S\$15 million), which means that the subsidiary would need to borrow S\$15 million. Under this scenario, the subsidiary would obtain a 20-year loan and pay interest on the loan each year. The interest payments are S\$1.6 million per year. In addition, the forecasted proceeds to be received from selling the subsidiary (after taxes) at the end of six years would be S\$20 million (the forecast of proceeds is revised downward here because the equity investment of the subsidiary is less; the buyer would be assuming more debt if part of the initial investment in the subsidiary were supported by local bank loans). Assume the parent's required rate of return would still be 18%.

1. Which of the two financing arrangements would you recommend for the parent? Assess the forecasted *NPV* for each exchange rate scenario to compare the two financing arrangements and substantiate your recommendation.
2. In the first question, an alternative financing arrangement of partial financing by the subsidiary was considered, with an assumption that the required rate of return by the parent would not be affected. Is there any reason why the parent's required rate of return might increase when using this financing arrangement? Explain. How would you revise the analysis in the previous question under this situation? (This question requires discussion, not analysis.)
3. Would you recommend that North Star Company establish the subsidiary even if the withholding tax is 20%?
4. Assume that there is some concern about the economic conditions in Singapore, which could cause a reduction in the net cash flows to the subsidiary. Explain how Excel could be used to re-evaluate the project based on alternative cash flow scenarios. That is, how can this form of country risk be incorporated into the capital budgeting decision? (This question requires discussion, not analysis.)
5. Assume that North Star Company does implement the project, investing \$10 million of its own funds with the remainder borrowed by the subsidiary. Two years later, a US-based corporation notifies North Star that it would like to purchase the subsidiary. Assume that the exchange rate forecasts for the somewhat stable scenario are appropriate for Years 3 through 6. Also assume that the other information already provided on net cash flows, financing costs, the 10% withholding tax, the salvage value, and the parent's required rate of return is still appropriate. What would be the

minimum dollar price (after taxes) that North Star should receive to divest the subsidiary? Substantiate your opinion.

CHAPTER 15 KING LTD

Country risk analysis

King Ltd, a UK firm, is considering the establishment of a small subsidiary in Bulgaria that would produce food products. All ingredients can be obtained or produced in Bulgaria. The final products to be produced by the subsidiary would be sold in Bulgaria and other Eastern European countries.

King Ltd is very interested in this project, as there is little competition in that area. Three high-level managers of King Ltd have been assigned the task of assessing the country risk of Bulgaria. Specifically, the managers were asked to list all characteristics of Bulgaria that could adversely affect the performance of this project. The decision as to whether to undertake this project will be made only after this country risk analysis is completed and accounted for in the capital budgeting analysis. Since King Ltd has focused exclusively on domestic business in the past, it is not accustomed to country risk analysis.

1. What factors related to Bulgaria's government deserve to be considered?
2. What country-related factors can affect the demand for the food products to be produced by King Ltd?
3. What country-related factors can affect the cost of production?

CHAPTER 16 SABRE COMPUTER CORPORATION

Cost of capital

Sabre Computer Corporation is a UK-based company that plans to participate in joint ventures in Brazil and in Hungary. Each joint venture involves the development of a small subsidiary that helps produce computers. Sabre's main contributions are the technology and a few key computer components used in the production process. The joint venture in Brazil specifies joint production of computers with a Brazilian company owned by the government. The computers have already been ordered by educational institutions and government agencies throughout Brazil. Sabre has a contract to sell all the computers it produces in Brazil to these institutions and agencies at a price that is tied to inflation. Given the potentially high and volatile inflation levels in Brazil, Sabre wanted to assure that the contracted price would adjust to cover rising costs over time.

The venture will require a temporary transfer of several managers to Brazil plus the manufacturing of key computer components in a leased Brazilian plant. Most of these costs will be incurred in Brazil and will therefore require payment in pesos. Sabre will receive 30% of the revenue generated (in pesos) from computer sales. The Brazilian partner will receive the remainder.

The joint venture in Hungary specifies joint production of personal computers with a Hungarian computer manufacturer. The computers will then be marketed to consumers throughout Eastern Europe. Similar computers are produced by some competitors, but Sabre believes it can penetrate these markets because its products will be competitively priced. Although the economies of the Eastern European countries are expected to be somewhat stagnant, demand for personal computers is reasonably strong. The computers will be priced

in Hungary's currency, the forint, and Sabre will receive 30% of the revenue generated from sales.

1. Assume that Sabre plans to finance most of its investment in the Brazilian subsidiary by borrowing Brazilian real and to finance most of its investment in the Hungarian subsidiary by borrowing forint. The cost of financing is influenced by the risk-free rates in the respective countries and the risk premiums on funds borrowed. Explain how these factors will affect the relative costs of financing both ventures. Address this question from the perspective of the subsidiary, not from the perspective of Sabre's parent.
2. Will the joint venture experiencing the higher cost of financing (as determined in the previous question) necessarily experience lower returns to the subsidiary? Explain.
3. The Hungarian subsidiary has a high degree of financial leverage. Yet, the parent's capital structure is mostly equity. What will determine whether the creditors of the Hungarian subsidiary charge a high-risk premium on borrowed funds because of the high degree of financial leverage?
4. One Sabre executive has suggested that since the cost of debt financing by highly leveraged Hungarian-owned companies is about 14%, its Hungarian subsidiary should be able to borrow at about the same interest rate. Do you agree? Explain. (Assume that the chances of the subsidiary's experiencing financial problems are the same as those for these other Hungarian-owned firms.)
5. There is some concern that the economy in Hungary could become inflated. Assess the relative magnitude of an increase in inflation on: (1) the cost of funds, (2) the cost of production, and (3) revenue from selling the computers.

CHAPTER 17 ULTRA DIGITAL RADIO LTD

Long-term financing

Ultra Digital Radio Ltd is a UK-based company that produces digital radios. Three years ago, Ultra established a production facility in the United States, since it sells digital radios there. Ultra has excess capacity there and will use that facility to produce the digital radios that are to be marketed in Singapore. The digital radios will be sold to distributors in Singapore and invoiced in Singapore dollars (S\$). If the exporting programme is very successful, Ultra Company will probably build a facility in Singapore, but it plans to wait at least ten years. Prior to this exporting programme, Ultra decided to develop a hedging strategy to hedge any cash flows to the UK parent. Its plan is to issue bonds to finance the entire investment in the exporting programme. Virtually all expenses associated with this programme are denominated in pounds. Yet, the revenue generated by the programme is denominated in Singapore dollars. Any revenue above and beyond expenses is to be remitted to the United Kingdom on an annual basis. Aside from the exporting programme, the US subsidiary will generate just enough in cash flows to cover expenses and therefore will not be remitting any earnings to the parent. Ultra is considering three different ways to finance the programme for ten years:

Issue ten-year, Singapore dollar-denominated bonds at par value; coupon rate = 11%.

Issue ten-year, pound-denominated bonds at par value; coupon rate = 14%.

Issue ten-year, US dollar-denominated bonds at par value; coupon rate = 11%.

1. Describe the exchange rate risk if Ultra finances with Singapore dollars.
2. Describe the exchange rate risk if Ultra finances with pounds.

3. Describe the exchange rate risk if Ultra finances with US dollars.

CHAPTER 18 RYCO CHEMICAL COMPANY

Using countertrade

Ryco Chemical Company produces a wide variety of chemical products that are sold to manufacturing firms. Some of the chemicals used in its production process are imported from Concellos Chemical Company in Brazil. Concellos uses some chemicals in its production process that are produced by Ryco (although Concellos has historically purchased these

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chemicals from another UK chemical company rather than from Ryco). The Brazilian real has been depreciating continuously against the pound, so Concellos' cost of obtaining chemicals is always rising. Concellos will probably pay twice as much for these chemicals this year because of the weak real. It probably will attempt to pass on most of its higher costs to its customers in the form of higher prices. However, it may not always be able to pass on higher costs from a weak real. Its competitors make all their chemicals locally, and their costs are directly tied to Brazil's inflation. Its competitors sell all their goods locally. This year, Concellos planned to charge Ryco a price in real that was substantially above last year's price.

Representatives from Ryco are flying to Brazil to discuss its trade problems with Concellos. Specifically, Ryco wants to avoid its exposure to the high inflation rate in Brazil. This adverse effect is somewhat offset by the consistent decline in the value of the real, which allows Ryco to obtain more real with a given amount of dollars every year. However, the offset is not perfect, and Ryco wants to create a better hedge against Brazilian inflation.

1. Describe a countertrade strategy that could reduce Ryco's exposure to Brazilian inflation.
2. Would Concellos be willing to consider this strategy? Is there any favourable effect on Concellos that may motivate it to accept the strategy?
3. Assume that both parties agree on countertrade. Why would the cost of obtaining imports still rise over time for Concellos? Would Concellos earn lower profits as a result?

CHAPTER 19 FLYER COMPANY

Composing the optimal currency portfolio for financing

As treasurer for Flyer Company, you must develop a strategy for short-term financing. The firm, based in the United States, currently has no transaction exposure to currency movements. Assume the following data as of today:

Currency	Spot Exchange Rate	Annualized Interest Rate
Australian dollar	\$0.75	13.0%
British pound	1.70	12.5
Canadian dollar	0.86	11.0
Japanese yen	0.006	8.0
Mexican peso	0.17	11.5
New Zealand dollar	0.60	7.0
Singapore dollar	0.50	6.0
South African rand	0.16	9.0
US dollar	1.00	9.0
Venezuelan bolivar	0.0008	12.0

our forecasting department has provided you with the following forecasts of the spot rates one year from now:

	Strong \$ Scenario	Stable \$ Scenario	Weak \$ Scenario
Australian dollar	\$0.66	\$0.76	\$0.85
British pound	1.58	1.73	1.83
Canadian dollar	0.85	0.85	0.91
Japanese yen	0.0055	0.0062	0.0072
Mexican peso	0.14	0.173	0.18
New Zealand dollar	0.53	0.59	0.63
Singapore dollar	0.45	0.48	0.52
South African rand	0.15	0.155	0.17
US dollar	1.00	1.00	1.00
Venezuelan bolivar	0.00073	0.00079	0.00086

The probability of the strong dollar scenario is 30%, the probability of the stable dollar scenario is 40%, and the probability of the weak dollar scenario is 30%. Based on the information provided, prescribe the composition of the portfolio that would achieve the minimum expected effective financing rate based on each of the following risk preferences:

1. *Risk-neutral* Focus on minimizing the expected value of your effective financing rate, without any constraints.
2. *Balanced* Borrow no more than 25% in any foreign currency.

3. *Conservative* Borrow at least 60% US dollars and no more than 10% of the funds from any individual foreign currency.
4. *Ultraconservative* Do not create any exposure to exchange rate risk.

Fill out the following table:

Risk Preference	Portfolio's Effective Financing Rate Based on:			Expected value of effective financing rate
	Strong \$ scenario	Stable \$ scenario	Weak \$ scenario	
Risk-neutral portfolio				
Balanced portfolio				
Conservative portfolio				
Ultraconservative portfolio				

Which portfolio would you prescribe for your firm? Why?

CHAPTER 20 ISLANDER CORPORATION

Composing the optimal currency portfolio for investing

As treasurer for the Islander Corporation, you must develop a strategy for investing the excess cash that will be available for the next year. The firm, based in the United States, currently has no transaction exposure to foreign currency movements. Assume the following data as of today:

Currency	Spot Exchange Interest Rate	Annualized Rate
Australian dollar	0.75	13.00
British pound	1.70	12.5
Canadian dollar	0.86	11.0
Japanese yen	0.006	8.0
US dollar	1.00	9.0

Your forecasting department has provided you with the following forecasts of the spot rates one year from now:

	Strong \$ Scenario	Somewhat Stable \$ Scenario	Weak \$ Scenario
Australian dollar	\$0.66	\$0.76	\$0.85
British pound	1.58	1.73	1.83
Canadian dollar	0.85	0.85	0.91
Japanese yen	0.0055	0.0062	0.0072
US dollar	1.00	1.00	1.00

The probability of the strong dollar scenario is 30%, the probability of the somewhat stable dollar scenario is 40%, and the probability of the weak dollar scenario is 30%.

Based on the information provided, prescribe the composition of the investment portfolio that would maximize the expected value of the effective yield for each of four possible risk preferences:

1. *Risk-neutral* Focus on maximizing the expected value of your effective yield, without any constraints.
2. *Balanced* Invest no more than 25% in any foreign currency.
3. *Conservative* Invest at least 50% of the funds in the US dollar and no more than 10% of the funds in any individual foreign currency.
4. *Ultraconservative* Do not create any exposure to exchange rate risk.

Fill out the following table:

Risk Preference	Forecasted Effective Yield for:			Expected value of effective financing rate
	Strong \$ scenario	Stable \$ scenario	Weak \$ scenario	
Risk-neutral portfolio				
Balanced portfolio				
Conservative portfolio				
Ultraconservative portfolio				

Which portfolio would you prescribe for your firm? Why? (You may find it helpful to draw bar charts that show the probability distribution of effective yields for each of the portfolios, placing one bar chart above another)

Additional Reading 1 REDWING TECHNOLOGY COMPANY

Assessing subsidiary performance

Redwing Technology Company is a US-based firm that makes a variety of high-tech components. Five years ago, it established subsidiaries in Canada, South Africa, and Japan. The earnings generated by each subsidiary as translated (at the average annual exchange rate) into US dollars per year are shown in Exhibit 4.

Each subsidiary had an equivalent amount in resources with which to conduct operations. The wage rates for the labour needed were similar across countries. The inflation rates, economic growth, and degree of competition were somewhat similar across countries.

The average exchange rates of the respective currencies over the last five years are disclosed below:

Years Ago	Canadian dollar	South African rand	Japanese yen
5	\$0.84	\$0.10	\$0.0040
4	0.83	0.12	0.0043
3	0.81	0.16	0.0046
2	0.81	0.20	0.0055
1	0.79	0.24	0.0064

The earnings generated by each country were reinvested rather than remitted. There were no plans to remit any future earnings either.

A committee of vice presidents met to determine the performance of each subsidiary in the last five years. The assessment was to be used to determine whether Redwing should be restructured to focus future growth on any particular subsidiary or to divest any subsidiaries that might experience poor performance. Since exchange rates of the related currencies were affected by so many different factors, the treasurer acknowledged that there was much uncertainty by so many different factors, the treasurer acknowledged that there was much uncertainty about their future direction. The treasurer did suggest, however, that last year's average exchange rate would probably serve as at least a reasonable guess of exchange rates in future years. He did not anticipate that any of the currencies would experience consistent appreciation or depreciation.

Exhibit 4 Translated dollar value of annual earnings in each subsidiary (in millions of \$)

Years Ago	Canada	South Africa	Japan
5	\$20	\$21	\$30
4	24	24	32
3	28	24	35
2	32	36	41
1	36	42	46

1. Use whatever means you think are appropriate to rank the performance of each subsidiary. That is, which subsidiary did the best job over the five-year period, in your opinion? Justify your opinion.
2. Use whatever means you think are appropriate to determine which subsidiary deserves additional funds from the parent to push for additional growth. (Assume no constraint on potential growth in any country.) Where would you recommend the parent's excess funds be invested, based on the information available? Justify your opinion.
3. Repeat question (2), but assume that all earnings generated from the parent's investment will be remitted to the parent every year. Would your recommendation change? Explain.
4. A final task of the committee was to recommend whether any of the subsidiaries should be divested. One vice president suggested that a review of the earnings translated into dollars shows that the performances of the Canadian and South African subsidiaries are very highly correlated. She concluded that having both of these subsidiaries did not achieve much in diversification benefits and suggested that either the Canadian or the South African subsidiary could be sold without forgoing any diversification benefits. Do you agree? Explain.