CONCEPT CHECK

1. What is the purpose of the valuation using comparables?
2. If the valuation using comparables indicates the acquisition price is reasonable compared to other firms in the industry, does it establish that the acquisition is a good investment opportunity?

19.2 The Business Plan

While comparables provide a useful starting point, whether this acquisition is a successful investment for KKP depends on Ideko's post-acquisition performance. Thus, it is necessary to look in detail at Ideko's operations, investments, and capital structure, and to assess its potential for improvements and future growth.

Operational Improvements

On the operational side, you are quite optimistic regarding the company's prospects. The market is expected to grow by 5% per year, and Ideko produces a superior product. Ideko's market share has not grown in recent years because current management has devoted insufficient resources to product development, sales, and marketing. Conversely, Ideko has overspent on administrative costs. Indeed, Table 19.1 reveals that Ideko's current administrative expenses are 13,500/75,000 = 18% of sales, a rate that exceeds its expenditures on sales and marketing (15% of sales). This is in stark contrast to its rivals, which spend less on administrative overhead than they do on sales and marketing.

KKP plans to cut administrative costs immediately and redirect resources to new product development, sales, and marketing. By doing so, you believe Ideko can increase its market share from 10% to 15% over the next five years. The increased sales demand can be met in the short run using the existing production lines by increasing overtime and running some weekend shifts. However, once the growth in volume exceeds 50%, Ideko will definitely need to undertake a major expansion to increase its manufacturing capacity.

The spreadsheet in Table 19.3 shows sales and operating cost assumptions for the next five years based on this plan. In the spreadsheet, numbers in blue represent data that has been entered, whereas numbers in black are calculated based on the data provided. For example, given the current market size of 10 million units and an expected growth rate of 5% per year, the spreadsheet calculates the expected market size in years 1 through 5. Also shown is the expected growth in Ideko's market share.

TABLE 19.3 SPREADSHEET Ideko Sales and Operating Cost Assumptions

		Year	2005	2006	2007	2008	2009	2010
Sales Data		**Growth/Year**						
1 Market Size	(000 units)	5.0%	10,000	10,500	11,025	11,576	12,155	12,763
2 Market Share		1.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%
3 Average Sales Price	($/unit)	2.0%	75.00	76.50	78.03	79.59	81.18	82.81
Cost of Goods Data								
4 Raw Materials	($/unit)	1.0%	16.00	16.16	16.32	16.48	16.65	16.82
5 Direct Labor Costs	($/unit)	4.0%	18.00	18.72	19.47	20.25	21.06	21.90
Operating Expense and Tax Data								
6 Sales and Marketing	(% sales)		15.0%	16.5%	18.0%	19.5%	20.0%	20.0%
7 Administrative	(% sales)		18.0%	15.0%	15.0%	14.0%	13.0%	13.0%
8 Tax Rate			35.0%	35.0%	35.0%	35.0%	35.0%	35.0%

Note that Ideko's average selling price is expected to increase because of a 2% inflation rate each year. Likewise, manufacturing costs are expected to rise. Raw materials are forecast to increase at a 1% rate and, although you expect some productivity gains, labor costs will rise at a 4% rate due to additional overtime. The table also shows the reallocation of resources from administration to sales and marketing over the five-year period.

EXAMPLE 19.2

Production Capacity Requirements

Problem

Based on the data in Table 19.3, what production capacity will Ideko require each year? When will an expansion be necessary?

Solution

Production volume each year can be estimated by multiplying the total market size and Ideko's market share in Table 19.3:

	Year	2005	2006	2007	2008	2009	2010
Production Volume (000 units)							
1	Market Size	10,000	10,500	11,025	11,576	12,155	12,763
2	Market Share	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%
3	Production Volume (1 × 2)	1,000	1,155	1,323	1,505	1,702	1,914

Based on this forecast, production volume will exceed its current level by 50% by 2008, necessitating an expansion then.

Capital Expenditures: A Needed Expansion

The spreadsheet in Table 19.4 shows the forecast for Ideko's capital expenditures over the next five years. Based on the estimates for capital expenditures and depreciation, this spreadsheet tracks the book value of Ideko's plant, property, and equipment starting from its level at the beginning of 2005. Note that investment is expected to remain at its current level over the next two years, which is roughly equal to the level of depreciation. Ideko will expand its production during this period by using its existing plant more efficiently. In 2008, however, a major expansion of the plant will be necessary, leading to a large increase in capital expenditures in 2008 and 2009.

The depreciation entries in Table 19.4 are based on the appropriate depreciation schedule for each type of property. Those calculations are quite specific to the nature of the property and are not detailed here. The depreciation shown will be used for tax purposes.[1]

TABLE 19.4 SPREADSHEET

Ideko Capital Expenditure Assumptions

	Year	2005	2006	2007	2008	2009	2010
Fixed Assets and Capital Investment ($ 000)							
1	Opening Book Value	50,000	49,500	49,050	48,645	61,781	69,102
2	Capital Investment	5,000	5,000	5,000	20,000	15,000	8,000
3	Depreciation	(5,500)	(5,450)	(5,405)	(6,865)	(7,678)	(7,710)
4	Closing Book Value	49,500	49,050	48,645	61,781	69,102	69,392

[1] Firms often maintain separate books for accounting and tax purposes, and they may use different depreciation assumptions for each. Remember that because depreciation affects cash flows through its tax consequences, tax depreciation is more relevant for valuation.

Working Capital Management

To compensate for its weak sales and marketing efforts, Ideko has sought to retain the loyalty of its retailers in part by maintaining a very lax credit policy. This policy affects Ideko's working capital requirements: For every extra day that customers take to pay, another day's sales revenue is added to accounts receivable (rather than received in cash). From Ideko's current income statement and balance sheet (Table 19.1), we can estimate the number of days of receivables:

$$\text{Accounts Receivable Days} = \frac{\text{Accounts Receivable (\$)}}{\text{Sales Revenue (\$/yr)}} \times 365 \text{ days/yr}$$

$$= \frac{18{,}493}{75{,}000} \times 365 \text{ days} = 90 \text{ days} \qquad (19.1)$$

The standard for the industry is 60 days, and you believe that Ideko can tighten its credit policy to achieve this goal without sacrificing sales.

You also hope to improve Ideko's inventory management. Ideko's balance sheet in Table 19.1 lists inventory of $6.165 million. Of this amount, approximately $2 million corresponds to raw materials, while the rest is finished goods. Given raw material expenditures of $16 million for the year, Ideko currently holds $(2/16) \times 365 = 45.6$ days worth of raw material inventory. While maintaining a certain amount of inventory is necessary to avoid production stoppages, you believe that, with tighter controls of the production process, 30 days worth of inventory will be adequate.

Capital Structure Changes: Levering Up

With little debt, excess cash, and substantial earnings, Ideko appears to be significantly underleveraged. You plan to greatly increase the firm's debt, and have obtained bank commitments for loans of $100 million should an agreement be reached. These term loans will have an interest rate of 6.8%, and Ideko will pay interest only during the next five years. The firm will seek additional financing in 2008 and 2009 associated with the expansion of its manufacturing plant, as shown in the spreadsheet in Table 19.5. While Ideko's credit quality should improve over time, the steep slope of the yield curve suggests interest rates may increase; therefore, on balance, you expect Ideko's borrowing rate to remain at 6.8%.

Given Ideko's outstanding debt, its interest expense each year is computed as[2]

$$\text{Interest in Year } t = \text{Interest Rate} \times \text{Ending Balance in Year } (t-1) \qquad (19.2)$$

The interest on the debt will provide a valuable tax shield to offset Ideko's taxable income.

TABLE 19.5 SPREADSHEET Ideko's Planned Debt and Interest Payments

	Year	2005	2006	2007	2008	2009	2010
Debt and Interest Table ($ 000)							
1 Outstanding Debt		100,000	100,000	100,000	115,000	120,000	120,000
2 Interest on Term Loan	6.80%		(6,800)	(6,800)	(6,800)	(7,820)	(8,160)

[2]Equation 19.2 assumes that changes in debt occur at the end of the year. If debt changes throughout t year, it is more accurate to compute interest expenses based on the average level of debt during the yea

In addition to the tax benefit, the loan will allow KKP to limit its investment in Ideko and preserve its capital for other investments and acquisitions. The sources and uses of funds for the acquisition are shown in Table 19.6. In addition to the $150 million purchase price for Ideko's equity, $4.5 million will be used to repay Ideko's existing debt. With $5 million in advisory and other fees associated with the transaction, the acquisition will require $159.5 million in total funds. KKP's sources of funds include the new loan of $100 million as well as Ideko's own excess cash (which KKP will have access to). Thus, KKP's required equity contribution to the transaction is 159.5 − 100 − 6.5 = $53 million.

TABLE 19.6 SPREADSHEET **Sources and Uses of Funds for the Ideko Acquisition**

Acquisition Financing ($ 000)				
	Sources		**Uses**	
1	New Term Loan	100,000	Purchase Ideko Equity	150,000
2	Excess Ideko Cash	6,500	Repay Existing Ideko Debt	4,500
3	KKP Equity Investment	53,000	Advisory and Other Fees	5,000
4	Total Sources of Funds	159,500	Total Uses of Funds	159,500

CONCEPT CHECK

1. What are the different operational improvements KKP plans to make?
2. Why is it necessary to consider these improvements to assess whether the acquisition is attractive?

19.3 Building the Financial Model

The value of any investment opportunity arises from the future cash flows it will generate. To estimate the cash flows resulting from the investment in Ideko, we begin by projecting Ideko's future earnings. We then consider Ideko's working capital and investment needs and estimate its free cash flow. With these data in hand, we can forecast Ideko's balance sheet and statement of cash flows.

Forecasting Earnings

We can forecast Ideko's income statement for the five years following the acquisition based on the operational and capital structure changes proposed. This income statement is often referred to as a **pro forma** income statement, because it is not based on actual data but rather depicts the firm's financials under a given set of hypothetical assumptions. The pro forma income statement translates our expectations regarding the operational improvements KKP can achieve at Ideko into consequences for the firm's earnings.

To build the pro forma income statement, we begin with Ideko's sales. Each year, sales can be calculated from the estimates in Table 19.3 as follows:

$$\text{Sales} = \text{Market Size} \times \text{Market Share} \times \text{Average Sales Price} \tag{19.3}$$

For example, in 2006, Ideko has projected sales of 10.5 million × 11% × 76.5 = $88.358 million. The spreadsheet in Table 19.7 shows Ideko's current (2005) sales as well as projections for five years after the acquisition (2006–2010).