

P16-1

a. Answers may vary based on the assumptions made. The cost of goods sold as a percentage of sales for 1999, 1998, and 1997, has been 55%, 53.4%, and 54%. One assumption would be to use 1999's percentage of 55%. Another would be to use an average, which would be around 54%. Both would be reasonable assumptions.

Projected sales:  $\$1,371,375 \times 1.12 = 1,535,940$  (In thousands)

	At 55% of sales	At 54% of sales
Projected sales		\$1,535,940
CGS %	55%	54%
Projected cost of goods sold	\$ 844,767	\$829,408

b. Again, student answers may vary. The following solution is based on 1999's percentages.

Income statement assumptions:

1) The 1999 interest expense was significantly higher than 1998. It seemed reasonable to assume that this was an anomaly. 1998's interest expense of \$1,995,000 was approximately 6% of the outstanding line of credit of \$32,437,000.

2) Projected net income is 3% of net sales. In 1999, 1998, and 1997, this percentage was 2.3%, 5%, and 4.5%. Our projections are on the conservative side, but reasonable based on prior results. 1999 was reduced by a non-recurring charge of \$12,600,000. Without the non-recurring charge, net income would have been approximately 2.9% of sales on an after-tax basis.

3) No data were provided on the other income (expense); they were assumed to be zero.

Lands' End, Inc. and Subsidiaries  
**Projected Income Statement**  
 For the year ended Jan. 31, 2000  
 (in thousands)

		Assumptions
Net Sales	\$1,535,940	12% increase
Cost of sales	844,767	55% of sales
Gross profit	691,173	
Selling, general and administrative expenses	614,376	40% of sales
Income from operations	76,797	
Other income (expense)	(2,580)	6% of anticipated line
	\$43,006	of credit of
		(see balance

Income before taxes	74,217	
Income tax provision	27,460	37% of income before taxes
Net income	\$ 46,757	

Lands' End, Inc. and Subsidiaries  
**Projected Balance Sheet**  
 Jan. 31, 2000, (000s)

Cash	\$ 7,680
Inventory	245,750
Other current assets	76,797
Total current assets	330,227
Net non-current assets	181,242
Total assets	\$511,469
Accounts payable	\$ 98,300
Lines of credit	43,006
Other current liabilities	87,549
Deferred income taxes	7,680
Common stock, donated capital, and additional paid in capital	35,796
Deferred compensation	(394)
Accumulated other comprehensive income	2,003
Retained earnings	453,153
Subtotal (before treasury stock)	727,093
Treasury stock (plug)	(215,624)
Total liabilities and stockholders' equity	\$511,469

**Balance sheet assumptions**

(Based on 1999 financials)

Cash as a percent of sales	.5%
Inventory as a percent of sales	16.0%
Other current assets as a percent of sales	5.0%
Noncurrent assets as a percent of sales	11.8%
Accounts payable as a percent of sales	6.4%
Lines of credit as a percent of sales	2.8%
Other current liabilities as a percent of sales	5.7%
Deferred income taxes as a percent of sales	.5%

1) Projected retained earnings were  $\$406,396 +$  projected income of  $\$46,757$ . No dividends have been paid in prior years.

2) Projected treasury stock was a plug, after determining all other balance

sheet accounts as a percentage of sales and retained earnings.

c. Treasury stock projected at 1/31/2000: \$215,624  
 Treasury stock at 1/29/1999: 201,298  
 Treasury stock purchased: \$ 14,326 (free cash flow)

d. Lands' End, Inc. and Subsidiaries  
**Projected Free Cash Flows**  
 Indirect Method  
 Year ended 1/31/00, (in thousands)

Net income:	\$46,757	
Depreciation	19,967	(1.3% of sales)
Increase in inventory	-26,064	
Change in other current assets	-8,821	
Increase in accounts payable	10,378	
Increase in line of credit	4,064	
Increase in other current liabilities	9,130	
<u>Decrease in deferred income taxes</u>	<u>-453</u>	
Cash flow from operations	\$54,958	
Cash flow for investing	-39,593	****
<u>Required increase in cash</u>	<u>-1,039</u>	
Free cash flow	\$14,326	

\*\*\*\*Plant and equipment

		Projected:
	1/29/99	1/31/00
Net Total (including intangibles)	\$161,616	\$181,242
Accumulated Depreciation/Amortization	101,570	121,537
Gross investment in plant and equipment	\$263,186	\$302,779

Cash flow for investing equals \$302,779 – 263,186: \$39,593.

P16-2

a. Net refers to the total investment in property, plant and equipment less total accumulated depreciation at the balance sheet date.

b. Deferred license revenues related to cash receipts in advance of the company's licensed patents by customers. If licensing fees are paid before the licensing period represented by the fees, the revenue would be deferred by Frisby Technologies until the revenue is earned. There are two categories because some of the licensing fees will be earned within one year (current liability) and the remainder will be earned in periods beyond the current period. These

fees are long-term liabilities.

c. Accounts receivable on December 31, 1998, were \$1,045,975. A decrease in accounts receivable from December 31, 1997, to December 31, 1998, \$723,532 would mean that Frisby collected more than \$2,869,139 in cash from its customers.

Revenues:	\$2,869,139
<u>Decrease in A/R</u>	<u>723,532</u>
Cash collected:	\$3,592,671

d. Accounts receivable—unbilled would represent revenues that have been earned by Frisby Technologies but not yet billed to customers. This could also be referred to as accrued revenues. This would most likely represent licensing fees that had been earned, because the time period involved for licensing had begun, but actual billings had not been made to customers. The other possibility is contracted research and development projects that the company had begun but not completed. The company may have been using a percentage of completion approach to recording the revenue earned on these contracts. The other accounts most likely affected would be licenses and royalties revenues or research and development projects revenues.

e. Balance in Retained earnings at 12/31/98: \$(4,987,125) (Deficit)  
 Net loss during 1998: (3,918,644)

Balance in Retained earnings at 12/31/97: \$(1,068,481) (Deficit)

xf. 77% of revenues were from product sales.

g. Licenses and royalties would represent fees earned from allowing other companies to use Frisby's licensed and patented products in their products. For example, if a ski apparel manufacturer were to use Thermasorb® additives, it would have to pay Frisby a royalty fee. The other listing is for the associated expense.

h. Intangible assets, net of accumulated amortization: \$2,000,700  
 Accumulated amortization 51,300  
 Cost of intangible assets: \$2,052,000

i. Expenses are almost evenly divided among three categories: Cost of goods sold (cost of sales) represents 35% of total expenses, selling and marketing represent 31%, and general and administrative represent 34%.

j. Frisby's most profitable venture is licenses and royalties. Cost of sales is only 49% of sales. Cost of sales on research and development projects is 81% of sales. Product sales, which represent 77% of sales, have very low profitability, with cost of goods sold at 97% of sales.

k. Since cost of sales is prepared on the accrual basis, the amount recorded represents the cost incurred, regardless of whether the items were paid for in cash. Since there are accounts payable of \$868,649 on the balance sheet, the amount in the "cost of sales" account does not represent the cash paid for the products sold.

I.	Current ratio:	Current assets	\$10,443,522
		Current liabilities	1,928,908
			5.4

Quick ratio:

Current assets – inventory and prepaid expenses	\$10,443,522 – 1,267,567
Current liabilities	/ 1,928,908
	4.76

Both ratios indicate a high degree of liquidity and little danger that the company will default on its short-term obligations.

m.	Debt-to-equity ratio:	Total liabilities	\$3,395,408
		Stockholders' equity	9,717,824
			34.9%

The ratio shows little danger of the company defaulting on its obligations, with only 35% of total financing provided by creditors.

n. Two reasons to consider investing in Frisby Technologies:

- 1) The company has developed attractive products that are patented and licensed. The long-term potential of such products is great.
- 2) There is little danger of the company defaulting on its obligations in the short run. It has a high current and quick ratio and a low debt-to-equity ratio.

Reasons to consider avoiding Frisby Technologies:

- 1) The company is not profitable. The company incurred a loss of nearly \$4 million on sales of \$2.9 million in 1998.
- 2) The gross profit margin on product sales is very small at 3%. The only source of revenue with significant profitability is licenses and royalties, which constituted only 16.5% of total revenues.
- 3) There is a cumulative deficit of \$4.9 million. There is little or no chance of dividends in the near future.

o. Additional information needed to make an informed investment decision would include:

- 1) Comparative financial data to determine growth rate in sales.
- 2) Information on the competition.
- 3) A statement of cash flows. What is the company's "cash burn" rate? How long can the company continue to operate with losses without additional financing?
- 4) Footnotes to financial statements, including the auditor's opinion.

- 5) Management's discussion and analysis of the results of operations.
- 6) Industry averages.
- 7) Current stock price.

P16-3

Instructions call for five specific reasons. Among them:

a. 1) As pointed out in the chapter, we should first read the auditor's opinion to determine if the financial statements are at all reliable. In doing so, an immediate red flag is raised. Item 4 indicates that the company dismissed its independent accountant Grant Thornton. This immediately raises the question as to whether there was a disagreement with the auditors in terms of the interpretation of Generally Accepted Accounting Principles.

2) There are questions regarding the reliability of financial statements based on Grant Thornton's notification to the company that it did not have a comprehensive system of internal controls in place. Lack of strong internal controls brings into question the reliability of the financial statements.

3) The income statement indicates a net loss of \$2.5 million on net sales of \$2.1 million. The three-month loss increased from \$0.17 per share to \$0.25 per share from 1995 to 1996. The six-month loss increased from \$0.35 per share to \$0.62 per share from 1995 to 1996.

4) The statement of cash flows indicates a decrease in cash of \$4.8 million for the six months ended June 30, 1996, including \$4 million negative cash flow from operating activities.

5) The company's primary source of cash was the sale of additional shares of common stock. Ultimately, stockholders will expect profitability and may be reluctant to continue to support an unprofitable venture.

6) There was a significant decline in the current ratio from 8.3 to 4.0; this is not surprising, based on the lack of liquidity evidenced in the income statement and cash flow statement.

b. The filing of an 8K can be a "red flag" to investors. As indicated in part a, a change of auditors may mean a significant disagreement between the auditors and the company as to the proper interpretation of GAAP. The dismissal of auditors may mean that the company is "shopping for an opinion," and may call into question the reliability of the financial statements. Here, it appears the disagreement stemmed from Grant Thornton's questioning of NUKO's internal controls. Knowledge of this disagreement might influence the investor's analysis and opinion of the company's financial results. Poor internal controls often lead to financial fraud and other internal problems.

P16-4

a. Microsoft Corporation  
**Income Statement—Percentage terms**  
 Year Ended June 30

	1999	2000	2001
Revenue	100.00%	100.00%	100.00%
Operating expenses:			
Cost of revenue	14.25%	13.08%	13.66%
Research and development	15.04%	16.43%	17.31%
Sales and marketing	16.40%	17.97%	19.31%
General and administrative	3.62%	4.57%	3.39%
Total operating expenses	49.31%	52.05%	53.67%
Operating income	50.69%	47.94%	46.33%
Losses on equity investees and other	-0.35%	-0.25%	-0.63%
Investment income/(loss)	9.88%	14.49%	-0.14%
Income before income taxes	60.22%	62.18%	45.56%
Provision for income taxes	20.79%	21.14%	15.04%
Income before accounting change	39.43%	41.04%	30.52%
Cumulative effect of accounting change (net of income taxes of \$185)			-1.48%
Net income	39.43%	41.04%	29.04%

The percentage income statements reveal that, while still extremely profitable, Microsoft's net profit margin declined sharply in 2001 over previous years, from 41 to 29 percent. Operating expenses have increased from 49 percent of sales in 1999 to 54 percent of sales in 2001. 2001's results were also affected by a one time charge resulting from an accounting change. Also notable is the increased spending on research and development, from 16 percent of sales to 19 percent of sales and the increase in sales and marketing as the company branches into new areas such as video games.

B. **Balance Sheets**  
 (In millions) 30-Jun

	2000	2001
Assets		
Current assets:		
Cash and equivalents	9.29%	6.62%
Short-term investments	36.34%	46.71%
Total cash and short-term investments	45.63%	53.33%
Accounts receivable	6.23%	6.20%
Deferred income taxes	3.28%	3.29%
Other	2.98%	4.08%
Total current assets	58.12%	66.89%
Property and equipment, net	3.65%	3.90%
Equity and other investments	33.99%	23.86%

Other assets	4.24%	5.35%
Total assets	100.00%	100.00%

**Liabilities and stockholders' equity**

Current liabilities:

Accounts payable	2.08%	2.00%
Accrued compensation	1.07%	1.25%
Income taxes	1.12%	2.48%
Unearned revenue	9.23%	9.47%
Other	5.20%	3.58%
Total current liabilities	18.71%	18.79%
Deferred income taxes	1.97%	1.41%

Commitments and contingencies

Stockholders' equity:

Common stock and paid-in capital—shares authorized 12,000; shares issued and outstanding 5,283 and 5,383	44.48%	47.91%
Retained earnings, including accumulated other comprehensive income of \$1,527 and \$587	34.85%	31.89%
Total stockholders' equity	79.33%	79.80%
Total liabilities and stockholders' equity	100.00%	100.00%

Most of the balance sheet components have remained remarkably consistent. The major observation is the very high component of assets tied up in cash and short-term investments at 53 percent of total assets and the very small percentage of debt, with no long-term debt and total liabilities at just 20 percent of assets. While exceptionally liquid, the percentage balance sheet does reveal that Microsoft has too much tied up in low return, highly liquid assets. The company needs to invest in projects that will earn a higher rate of return in order to provide adequate returns to stockholders. Microsoft's balance sheet implies that the company is having difficulty locating such investments. This could be related to the increased spending on research and development and sales and marketing noted in requirement a.

c.

	1999–2000	2000–2001
Increase in sales:	\$3,209	\$2,240
Prior year sales	19,747	22,296
	= 16%	= 10%

The results show a dramatic decrease in the growth rate of sales. This could be attributed to the slowdown in the economy during 2000 and 2001 and also to the maturation of the personal computer cycle. With the power that many PC's offer, consumers have found it less compelling to have to purchase a new one every few years. This reduction in growth rate speaks to Microsoft's increased spending on research and development as the company searches for new ways to grow revenues. The company has also committed a greater percentage of

sales to marketing as it tries to increase its sales. It relates to our findings in both requirements a and b.

P16-5

a. Refer to the common size percentages in the previous problem. We will assume that income statement percentages will be the same as 2001's. Income taxes for 2001 appear to have been affected by substantial investment losses; we will use 35% of pretax income.

Year Ended June 30 (in millions)	2001	2002	Projected
Revenue	\$25,296	\$29,090	(15% increase)
Operating expenses:			
Cost of revenue	3,455	4,073	15% of sales
Research and development	4,379	4,945	17% of sales
Sales and marketing	4,885	5,236	19% of sales
General and administrative	857	1,164	4% of sales
<u>Total operating expenses</u>	<u>13,576</u>	<u>15,418</u>	53% of sales
Operating income	11,720	13,672	47% of sales
Losses on equity investees and other	-159		
<u>Investment income/(loss)</u>	<u>-36</u>		
Income before income taxes	11,525	13,672	47% of sales
Provision for income taxes	3,804	4,785	
<u>35% of pretax income</u>	<u>.</u>	<u>.</u>	
Income before accounting change	7,721	8,887	
Cumulative effect of accounting change (net of income taxes of \$185)	-375		
<u>Net income</u>	<u>\$7,346</u>	<u>\$8,887</u>	31% of sales

b. **Balance Sheet**

(In millions)	2002	Projected
Projected sales (requirement a)	\$29,090	
<b>Assets</b>		
Current assets:		
Total cash and short-term investments	\$36,363	125% of sales
Accounts receivable	4,073	14% of sales
Deferred income taxes	2,327	8% of sales
Other	2,909	10% of sales
<u>Total current assets</u>	<u>45,672</u>	157% of sales
Property and equipment, net	2,618	9% of sales
Equity and other investments	16,290	56% of sales
<u>Other assets</u>	<u>3,491</u>	12% of sales

Total assets \$68,071 234% of sales

**Liabilities and stockholders' equity**

Current liabilities:		
Accounts payable	\$1,367	4.7% of sales
Accrued compensation	844	2.9% of sales
Income taxes	1,745	6% of sales
Unearned revenue	6,400	22% of sales
Other	2,327	8% of sales
<u>Total current liabilities</u>	<u>12,683</u>	43.5% of sales
Deferred income taxes	873	3% of sales
Commitments and contingencies		
Stockholders' equity:		
Common stock and paid-in capital shares issued and outstanding 5,383	28,390	level
Retained earnings, including accumulated other comprehensive income of \$1,527 and \$587	26,125	
<u>Total stockholders' equity</u>	<u>.</u>	
<u>Total liabilities and stockholders' equity</u>	<u>\$68,071</u>	

Retained earnings balance at 6/30/2001	\$18,899
<u>Projected net income</u>	<u>8,887</u>
Subtotal	27,786
<u>Free cash flow</u>	<u>-1,661</u>
Projected retained earnings balance at 6/30/2002	\$26,125

The free cash flow projection shows that Microsoft could continue this policy with the purchase of \$1,661,000,000 of common stock without harming its earnings process.

c. Proponents of a dividend would argue that the company is not earning enough on invested assets by retaining such enormous amounts of cash and highly liquid short-term investments. If the company cannot achieve the returns of a growth company, then the assets should be distributed to the shareholders who can seek alternative investments.

Proponents of the repurchase program would argue that the company's repurchasing shares is better than a dividend. If a stockholder sells shares back to the company, any capital gain would be taxed at a more favorable rate than dividends, which have very unfavorable tax treatment. Microsoft's continuous purchase of shares will increase the value of remaining shares due to the supply/demand economics. This will cause the intrinsic value of the remaining shares to increase.

P16-6

a. Unearned revenue is added to net income in the statement of cash flows because it represents cash that has been received during the year that is not represented in the income statement. Cash received as unearned revenue is recorded as a liability.

b. In the income statement, the most likely account is investment income/(loss). Note that in 2000, the company had over \$3.3 billion of investment income. 2001 shows a loss of \$36 million. The \$4.8 billion charge is the most likely cause of the large decline in investment income. On the balance sheet, the account "Equity and other investments" declined by \$3.6 billion. Any increases in investments would have been offset by the \$4.8 billion write off, resulting in a net decline in the account.

c. In its cash flow statement, Microsoft has added a \$2.2 billion loss on investments to net income to arrive at net cash from operations. Note that in the previous year, the company had a \$1.7 billion gain. One could assume that the most likely cause of the decline was the impairment charge. The charge is added back to net income because it is a non-cash adjustment.

d. Income statement: "Losses on equity investees and other"

Balance sheet: "Equity and other investments"

Cash flow statement:

Under operating cash flows: "Net recognized (gains)/losses on investments"

Under investing activities: "Purchases of investments" and "Sales of investments"

e.	2000	2001
Current ratio: Current assets .	\$30,308	\$39,637
/ Current liabilities	9,755	11,132
	<b>= 3.1</b>	<b>= 3.6</b>

Very high liquidity; ratio improved from 2000 to 2001. The company has more liquidity than it needs and should be looking for long-term investments to enhance shareholder wealth. The company could easily pay a dividend.

	2002	2001
Quick ratio: Highly liquid Current assets .	\$27,048	\$35,271
Current liabilities	9,755	11,132
	= 2.8	= 3.2

Deferred income taxes and other current assets deducted from the numerator.

The absence of inventory means that there is very little change from the current ratio. The same comments apply here.

f. The company has over \$13 billion in net cash from operations.

The company has been actively repurchasing its common stock, a positive for a new investor.

g. Additions to property and equipment are less than depreciation expense. The company effectively is not "replacing its assets." Net cash used for financing activities was mostly in the area of investments, not property and equipment. This implies that the company cannot find enough new investments to maintain its reputation as a growth stock.

The company does not pay a dividend. Investors interested in dividends would not be attracted to Microsoft.

h. The stockholders' equity statement shows net unrealized investment losses of \$1.46 billion in "other comprehensive income."

i. Income statement: No effect

Balance sheet: Decrease in assets and equity

Cash flow statement: No effect