

Principles of Accounting

**Prepared by
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MGM 227

Lecture 3



Financial Statements Analysis and its interpretation

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Lecture 3



Basics of Analysis

**Application of
analytical tools**

**Reduces
uncertainty**

**Involves
transforming
data**

Financial statement analysis helps users make better decisions.



Internal Users

Managers
Officers
Internal Auditors



External Users

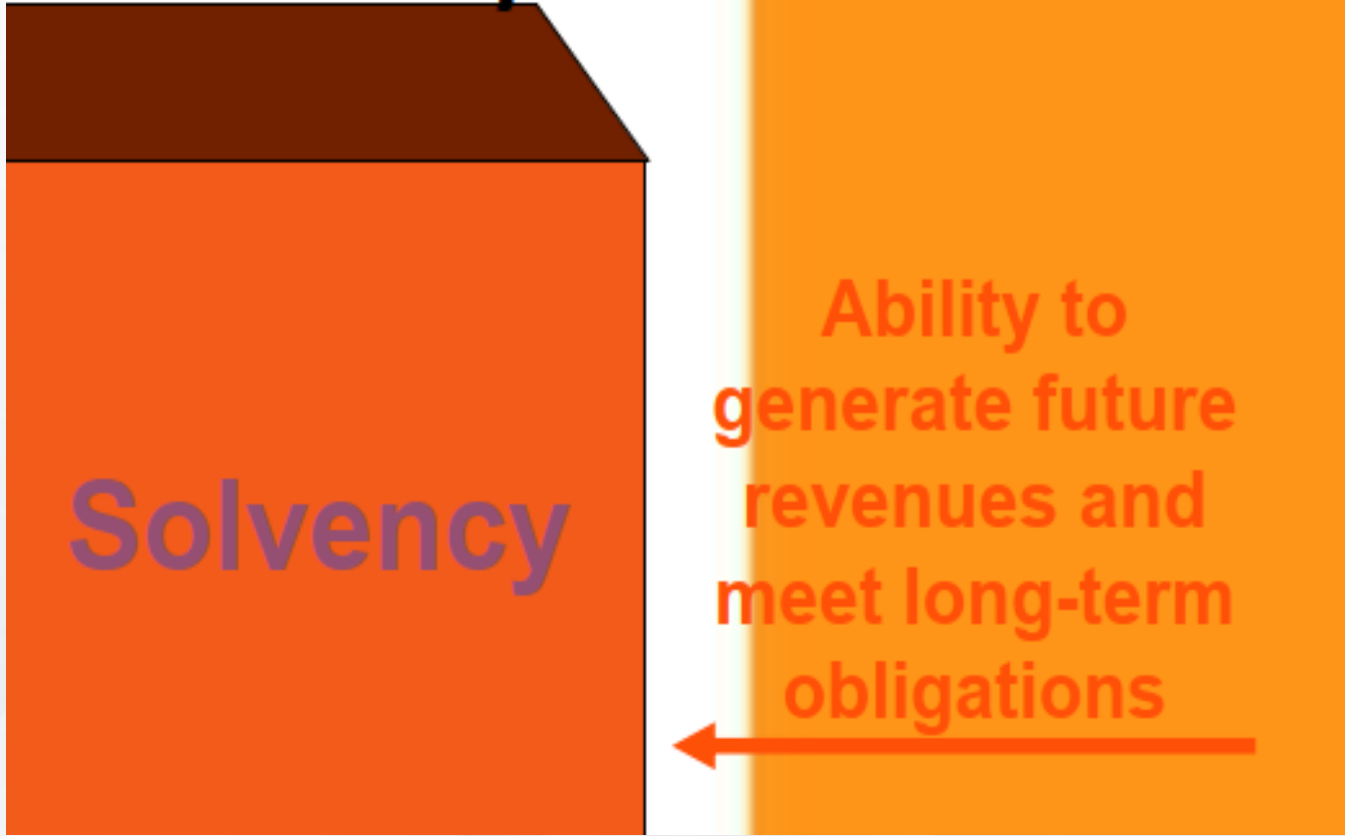
Shareholders
Lenders
Customers

Types of ratio analysis

**Ability to meet
short-term
obligations and
to efficiently
generate
revenues**



**Liquidity
and
Efficiency**



Solvency

Ability to
generate future
revenues and
meet long-term
obligations

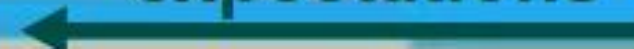
Ability to provide
financial rewards
sufficient to
attract and retain
financing



Profitability

Market

**Ability to
generate
positive
market
expectations**



- **Income Statement** •

- **Balance Sheet** •

Statement of Changes in Stockholders' Equity

Statement of Cash Flows

Notes

Standards for Comparison

To help me interpret our financial statements, I use several standards of comparison.



- ① **Intracompany**
- ② **Competitor**
- ③ **Industry**
- ④ **Guidelines**

Tools of Analysis

Horizontal Analysis

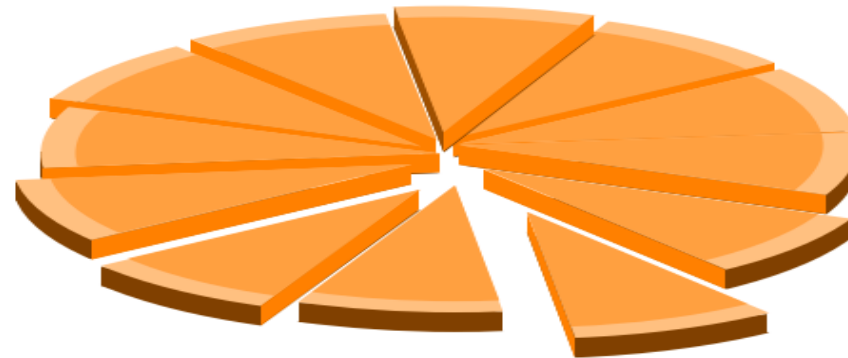
Comparing a company's financial condition and performance across time



Financial Statements Analysis and Interpretation

Tools of Analysis

**Comparing a company's
financial condition and
performance to a base amount**



Vertical Analysis

Tools of Analysis

Using key relations
among financial
statement items

Ratio Analysis

Horizontal Analysis



**Now, let's
look at
some ways
to use
horizontal
analysis.**

CLOVER CORPORATION
Comparative Balance Sheets
December 31,

	2002	2001	Dollar Change	Percent Change*
Assets				
Current assets:				
Cash and equivalents	\$ 12,000	\$ 23,500		
Accounts receivable, net	60,000	40,000		
Inventory	80,000	100,000		
Prepaid expenses	3,000	1,200		
Total current assets	\$ 155,000	\$ 164,700		
Property and equipment:				
Land	40,000	40,000		
Buildings and equipment, net	120,000	85,000		
Total property and equipment	\$ 160,000	\$ 125,000		
Total assets	\$ 315,000	\$ 289,700		

* Percent rounded to first decimal point.

Comparative Statements

Calculate Change in Dollar Amount

$$\boxed{\text{Dollar Change}} = \boxed{\text{Analysis Period Amount}} - \boxed{\text{Base Period Amount}}$$



Since we are measuring the amount of the change between 2001 and 2002, the dollar amounts for 2001 become the “base” period amounts.

Comparative Statements

Calculate Change as a Percent

$$\text{Percent Change} = \frac{\text{Dollar Change}}{\text{Base Period Amount}} \times 100\%$$

%

CLOVER CORPORATION
Comparative Balance Sheets
December 31,

	2002	2001	Dollar Change	Percent Change*
Assets				
Current assets:				
Cash and equivalents	\$ 12,000	\$ 23,500	\$(11,500)	(48.9)
Accounts receivable	\$12,000 – \$23,500 = \$(11,500)			
Inventory				
Prepaid expenses				
Total current	(\$11,500 ÷ \$23,500) × 100% = 48.9%			
Property and equipment:				
Land	40,000	40,000		
Buildings and equipment, net	120,000	85,000		
Total property and equipment	\$ 160,000	\$ 125,000		
Total assets	\$ 315,000	\$ 289,700		

* Percent rounded to first decimal point.

CLOVER CORPORATION
Comparative Balance Sheets
December 31,

	2002	2001	Dollar Change	Percent Change*
Assets				
Current assets:				
Cash and equivalents	\$ 12,000	\$ 23,500	\$ (11,500)	(48.9)
Accounts receivable, net	60,000	40,000	20,000	50.0
Inventory	80,000	100,000	(20,000)	(20.0)
Prepaid expenses	3,000	1,200	1,800	150.0
Total current assets	\$ 155,000	\$ 164,700	\$ (9,700)	(5.9)
Property and equipment:				
Land	40,000	40,000	-	0.0
Buildings and equipment, net	120,000	85,000	35,000	41.2
Total property and equipment	\$ 160,000	\$ 125,000	\$ 35,000	28.0
Total assets	\$ 315,000	\$ 289,700	\$ 25,300	8.7

* Percent rounded to first decimal point.



CLOVER CORPORATION
Comparative Balance Sheets
December 31,

	2002	2001	Dollar Change	Percent Change*
Liabilities and Shareholders' Equity				
Current liabilities:				
Accounts payable	\$ 67,000	\$ 44,000	\$ 23,000	52.3
Notes payable	3,000	6,000	(3,000)	(50.0)
Total current liabilities	\$ 70,000	\$ 50,000	\$ 20,000	40.0
Long-term liabilities:				
Bonds payable, 8%	75,000	80,000	(5,000)	(6.3)
Total liabilities	\$ 145,000	\$ 130,000	\$ 15,000	11.5
Shareholders' equity:				
Preferred stock	20,000	20,000	-	0.0
Common stock	60,000	60,000	-	0.0
Additional paid-in capital	10,000	10,000	-	0.0
Total paid-in capital	\$ 90,000	\$ 90,000	-	0.0
Retained earnings	80,000	69,700	10,300	14.8
Total shareholders' equity	\$ 170,000	\$ 159,700	\$ 10,300	6.4
Total liabilities and shareholders' equity	\$ 315,000	\$ 289,700	\$ 25,300	8.7

* Percent rounded to first decimal point.

Trend Analysis



Trend analysis is used to reveal patterns in data covering successive periods.

$$\text{Trend Percent} = \frac{\text{Analysis Period Amount}}{\text{Base Period Amount}} \times 100\%$$

Trend Analysis

Berry Products
Income Information
For the Years Ended December 31,



Item	2002	2001	2000	1999	1998
Revenues	\$ 400,000	\$ 355,000	\$ 320,000	\$ 290,000	\$ 275,000
Cost of sales	285,000	250,000	225,000	198,000	190,000
Gross profit	115,000	105,000	95,000	92,000	85,000

1998 is the base period so its amounts will equal 100%.

Trend Analysis

Berry Products
Income Information
For the Years Ended December 31,



Item	2002	2001	2000	1999	1998
Revenues	\$ 400,000	\$ 355,000	\$ 320,000	\$ 290,000	\$ 275,000
Cost of sales	285,000	250,000	225,000	198,000	190,000
Gross profit	115,000	105,000	95,000	92,000	85,000

Item	2002	2001	2000	1999	1998
Revenues				105%	100%
Cost of sales				104%	100%
Gross profit				108%	100%

$$(290,000 \div 275,000) \times 100\% = 105\%$$

$$(198,000 \div 190,000) \times 100\% = 104\%$$

$$(92,000 \div 85,000) \times 100\% = 108\%$$

Trend Analysis

Berry Products
Income Information
For the Years Ended December 31,



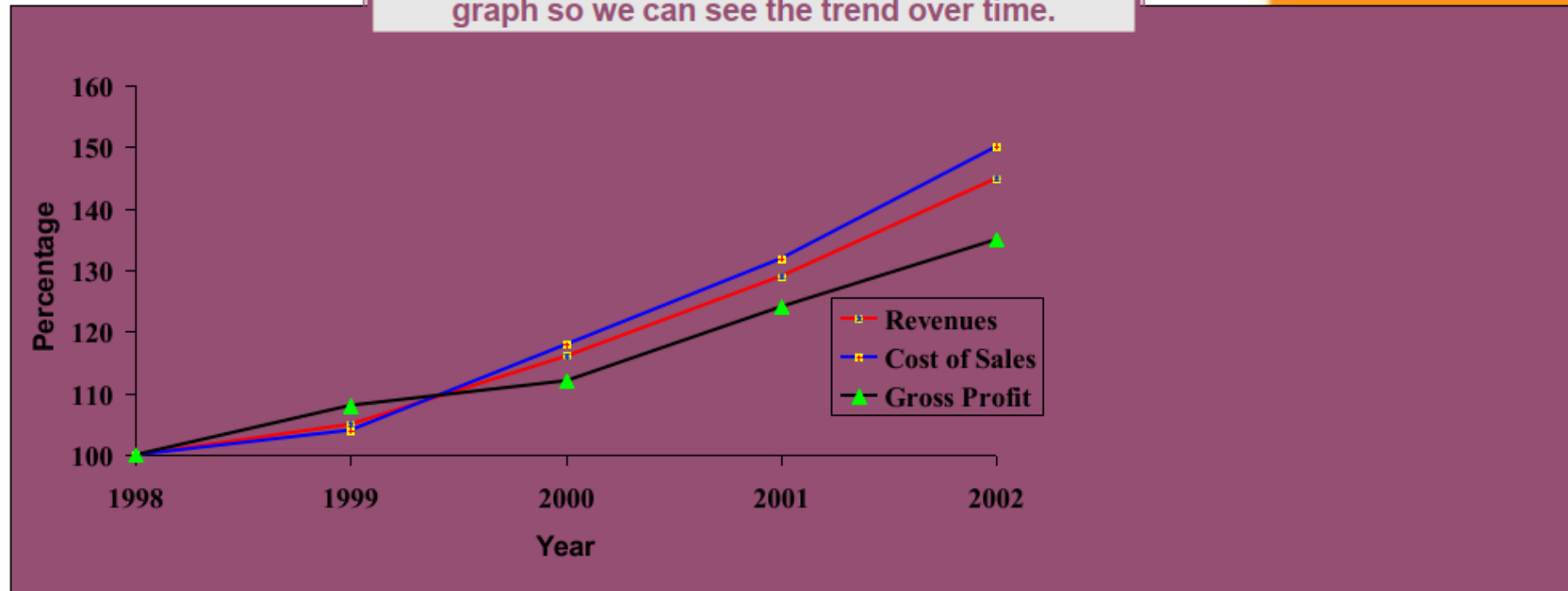
Item	2002	2001	2000	1999	1998
Revenues	\$ 400,000	\$ 355,000	\$ 320,000	\$ 290,000	\$ 275,000
Cost of sales	285,000	250,000	225,000	198,000	190,000
Gross profit	115,000	105,000	95,000	92,000	85,000

Item	2002	2001	2000	1999	1998
Revenues	145%	129%	116%	105%	100%
Cost of sales	150%	132%	118%	104%	100%
Gross profit	135%	124%	112%	108%	100%

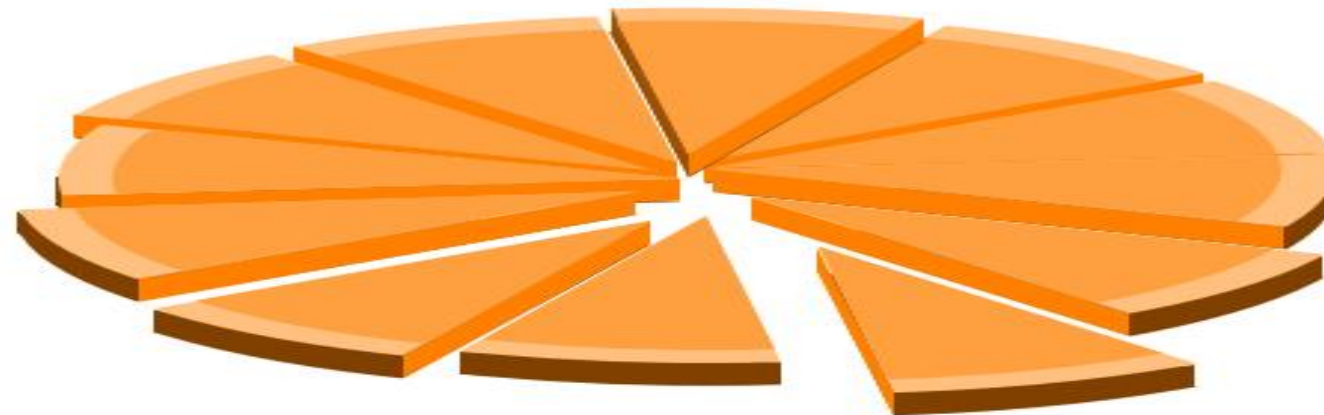
How would this trend analysis
look on a line graph?

Trend Analysis

We can use the trend percentages to construct a graph so we can see the trend over time.



Now, let's look at some vertical analysis tools!



Tools of Analysis

Vertical Analysis

- Comparing a company's financial condition and performance to a base amount.



Common-Size Statements

Calculate Common-size Percent

$$\text{Common-size Percent} = \frac{\text{Analysis Amount}}{\text{Base Amount}} \times 100\%$$

<u>Financial Statement</u>	<u>Base Amount</u>
Balance Sheet	Total Assets
Income Statement	Revenues



CLOVER CORPORATION

Comparative Balance Sheets

December 31,

			Common-size Percents*	
	2002	2001	2002	2001
Assets				
Current assets:				
Cash and equivalents	\$ 12,000	\$ 23,500	3.8%	8.1%
Accounts receivable, net	60,000	40,000		
Inventory	80,000	100,000		
Prepaid expenses	15,000	4,000		
Total current assets	\$ 155,000	\$ 164,700		
Property and equipment:				
Land	40,000	40,000		
Buildings and equipment, net	120,000	85,000		
Total property and equipment	\$ 160,000	\$ 125,000		
Total assets	\$ 315,000	\$ 289,700	100.0%	100.0%

* Percent rounded to first decimal point.

CLOVER CORPORATION
Comparative Balance Sheets
December 31,



			Common-size Percents*	
	2002	2001	2002	2001
Assets				
Current assets:				
Cash and equivalents	\$ 12,000	\$ 23,500	3.8%	8.1%
Accounts receivable, net	60,000	40,000	19.0%	13.8%
Inventory	80,000	100,000	25.4%	34.5%
Prepaid expenses	3,000	1,200	1.0%	0.4%
Total current assets	\$ 155,000	\$ 164,700	49.2%	56.9%
Property and equipment:				
Land	40,000	40,000	12.7%	13.8%
Buildings and equipment, net	120,000	85,000	38.1%	29.3%
Total property and equipment	\$ 160,000	\$ 125,000	50.8%	43.1%
Total assets	\$ 315,000	\$ 289,700	100.0%	100.0%

* Percent rounded to first decimal point.



CLOVER CORPORATION
Comparative Balance Sheets
December 31,

			Common-size Percents*	
	2002	2001	2002	2001
Liabilities and Shareholders' Equity				
Current liabilities:				
Accounts payable	\$ 67,000	\$ 44,000	21.3%	15.2%
Notes payable	3,000	6,000	1.0%	2.1%
Total current liabilities	\$ 70,000	\$ 50,000	22.2%	17.3%
Long-term liabilities:				
Bonds payable, 8%	75,000	80,000	23.8%	27.6%
Total liabilities	\$ 145,000	\$ 130,000	46.0%	44.9%
Shareholders' equity:				
Preferred stock	20,000	20,000	6.3%	6.9%
Common stock	60,000	60,000	19.0%	20.7%
Additional paid-in capital	10,000	10,000	3.2%	3.5%
Total paid-in capital	\$ 90,000	\$ 90,000	28.6%	31.1%
Retained earnings	80,000	69,700	25.4%	24.1%
Total shareholders' equity	\$ 170,000	\$ 159,700	54.0%	55.1%
Total liabilities and shareholders' equity	\$ 315,000	\$ 289,700	100.0%	100.0%

* Percent rounded to first decimal point.

CLOVER CORPORATION
Comparative Income Statements
For the Years Ended December 31,

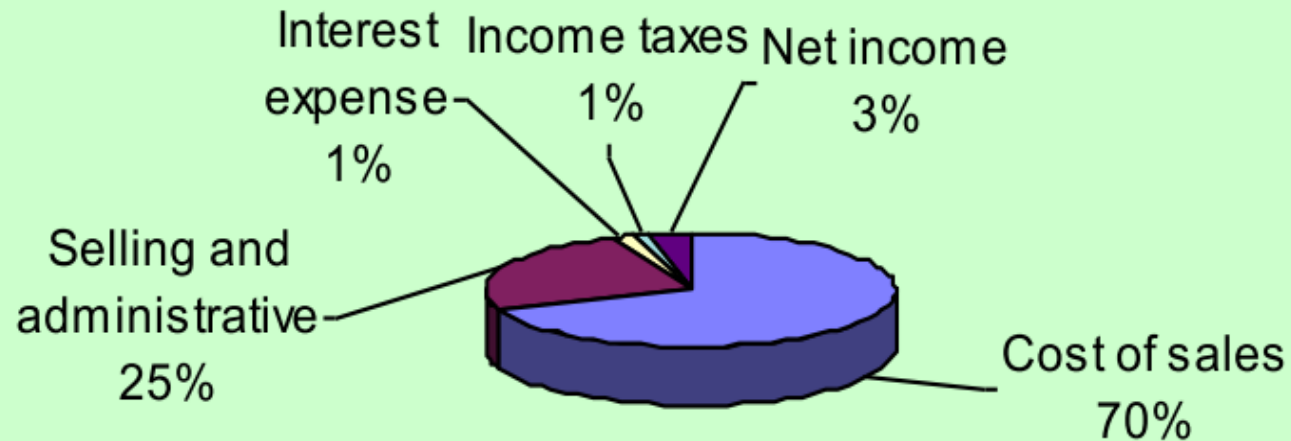


			Common-size Percents*	
	2002	2001	2002	2001
Revenues	\$ 520,000	\$ 480,000	100.0%	100.0%
Costs and expenses:				
Cost of sales	360,000	315,000	69.2%	65.6%
Selling and admin.	128,600	126,000	24.7%	26.3%
Interest expense	6,400	7,000	1.2%	1.5%
Income before taxes	\$ 25,000	\$ 32,000	4.8%	6.7%
Income taxes (30%)	7,500	9,600	1.4%	2.0%
Net income	\$ 17,500	\$ 22,400	3.4%	4.7%
Net income per share	\$ 0.79	\$ 1.01		
Avg. # common shares	22,200	22,200		

* Rounded to first decimal point.

Common-Size Graphics

This is a graphical analysis of Clover Corporation's common-size income statement for 2002.





Interpretation

Ratio Analysis

NORTON CORPORATION
Balance Sheet
December 31,

	2002	2001
Assets		
Current assets:		
Cash	\$ 30,000	\$ 20,000
Accounts receivable, net	20,000	17,000
Inventory	12,000	10,000
Prepaid expenses	3,000	2,000
Total current assets	\$ 65,000	\$ 49,000
Property and equipment:		
Land	165,000	123,000
Buildings and equipment, net	116,390	128,000
Total property and equipment	\$ 281,390	\$ 251,000
Total assets	\$ 346,390	\$ 300,000

NORTON CORPORATION**Balance Sheet****December 31,**

	2002	2001
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	\$ 39,000	\$ 40,000
Notes payable, short-term	3,000	2,000
Total current liabilities	\$ 42,000	\$ 42,000
Long-term liabilities:		
Notes payable, long-term	70,000	78,000
Total liabilities	\$ 112,000	\$ 120,000
Shareholders' equity:		
Common stock, \$1 par value	27,400	17,000
Additional paid-in capital	158,100	113,000
Total paid-in capital	\$ 185,500	\$ 130,000
Retained earnings	48,890	50,000
Total shareholders' equity	\$ 234,390	\$ 180,000
Total liabilities and shareholders' equity	\$ 346,390	\$ 300,000

NORTON CORPORATION
Income Statement
For the Years Ended December 31,

	2002	2001
Revenues	\$ 494,000	\$ 450,000
Cost of sales	140,000	127,000
Gross margin	\$ 354,000	\$ 323,000
Operating expenses	270,000	249,000
Net operating income	\$ 84,000	\$ 74,000
Interest expense	7,300	8,000
Net income before taxes	\$ 76,700	\$ 66,000
Less income taxes (30%)	23,010	19,800
Net income	\$ 53,690	\$ 46,200



Thank You