

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**

Purpose of Analysis

Financial statement analysis helps users make better decisions.



Internal Users

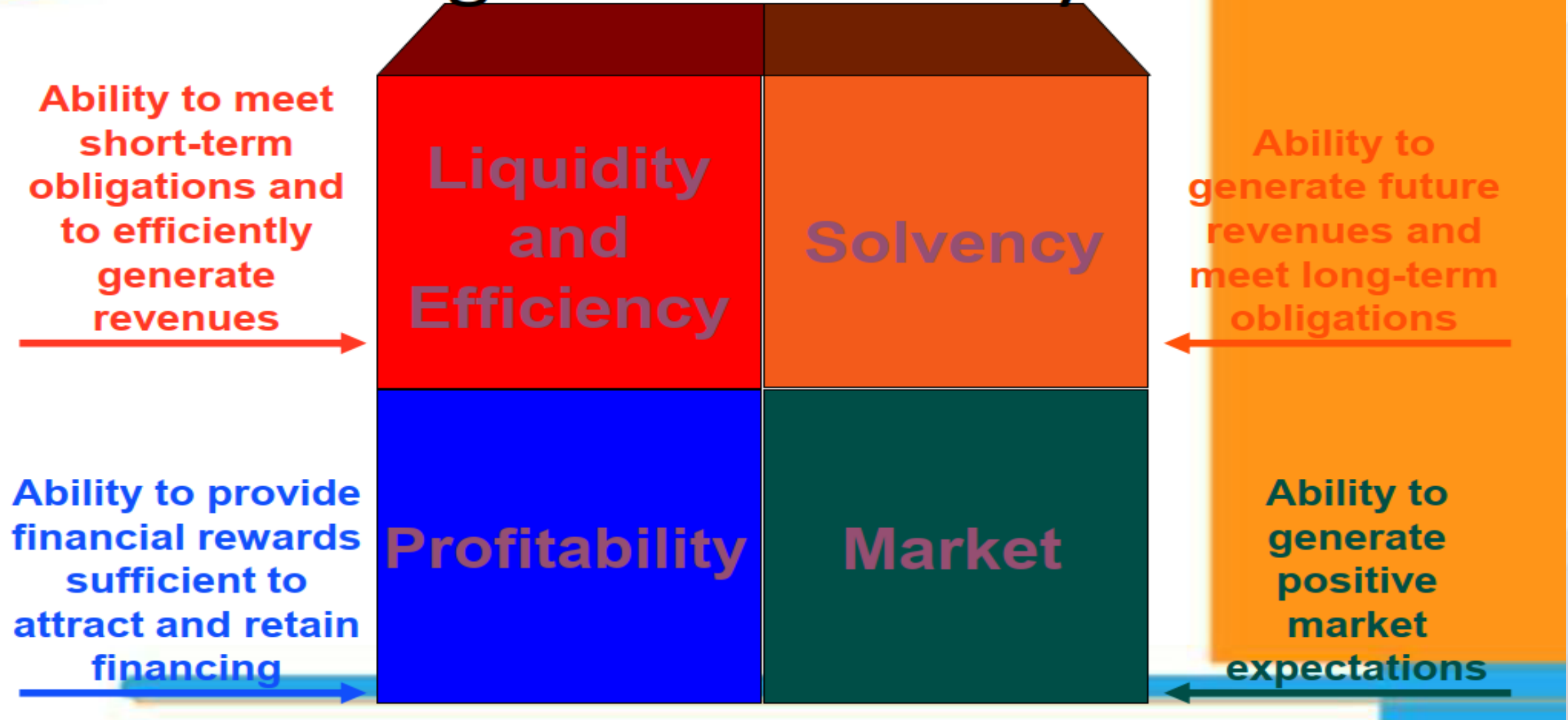
Managers
Officers
Internal Auditors



External Users

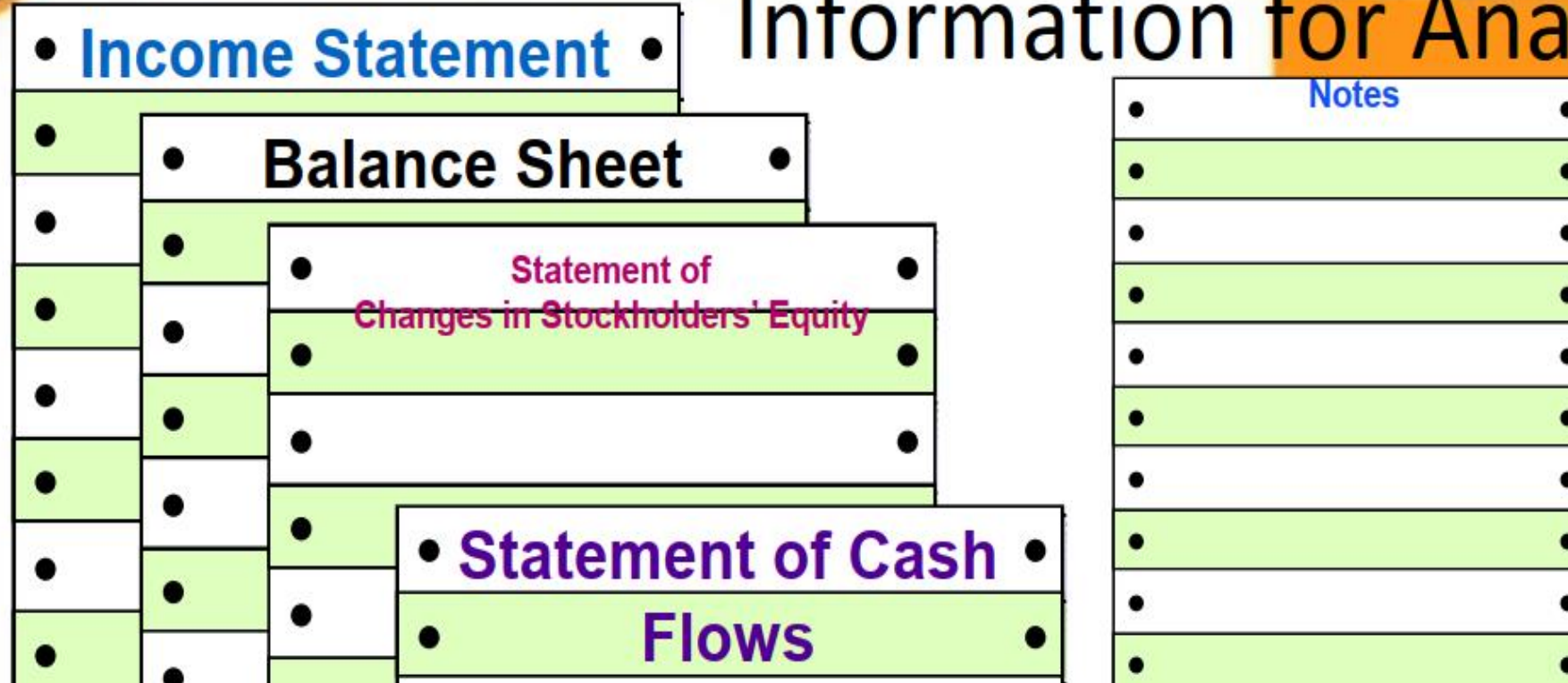
Shareholders
Lenders
Customers

Building Blocks of Analysis



Financial Statements Analysis and Interpretation

Information for Analysis



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

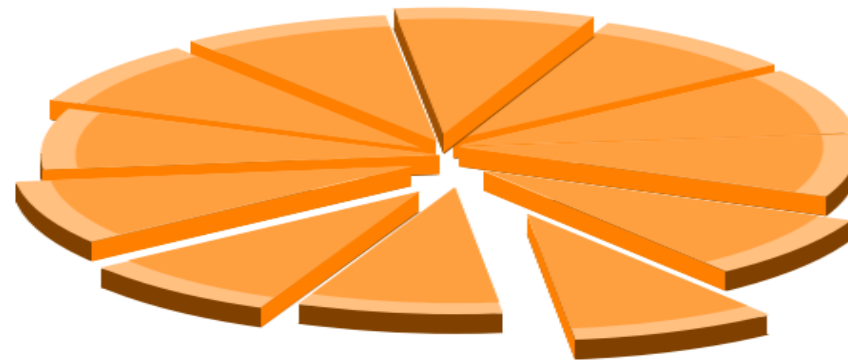
Comparing a company's financial condition and performance across time



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

$$\begin{array}{c}
 \text{Percent Change} \\
 \hline
 = \frac{\text{Dollar Change}}{\text{Base Period Amount}} \times 100\%
 \end{array}$$

%

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	80,000	100,000		
Prepaid expenses	3,000	1,200		
Total current	$(\$11,500 \div \$23,500) \times 100\% = 48.9\%$			
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,



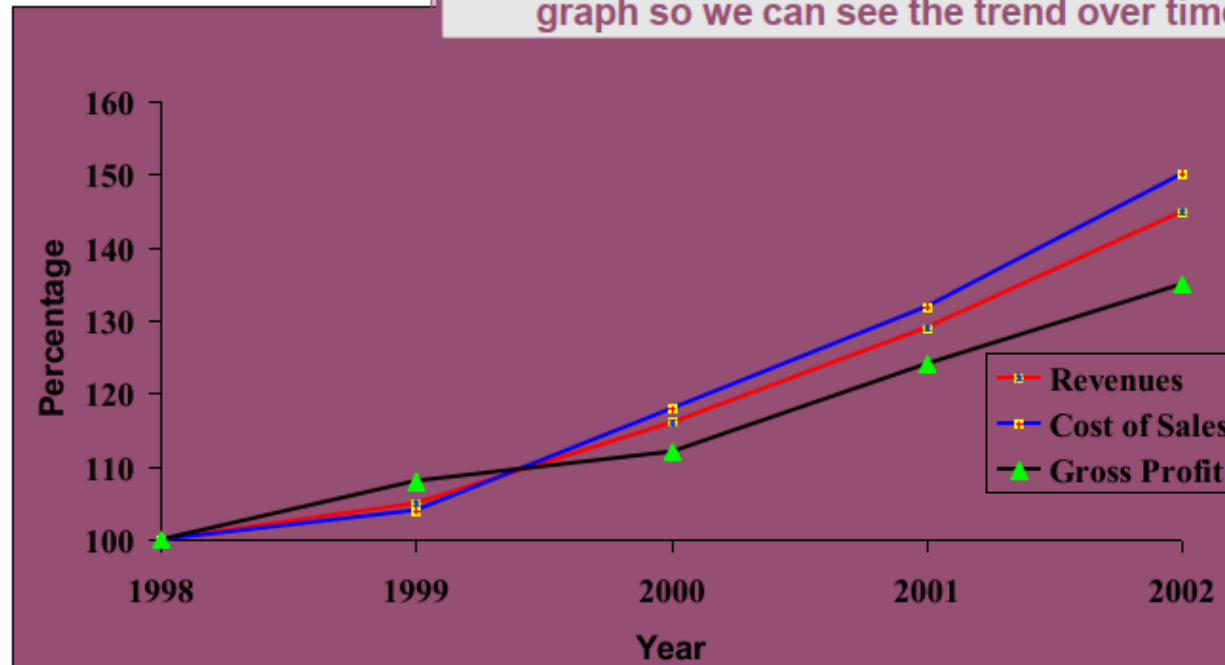
Item	2002	2001	2000	1999	1998
Revenues	\$ 400,000	\$ 355,000	\$ 320,000	\$ 290,000	\$ 275,000
Cost of sales	285,000	250,000	225,000	198,000	190,000
Gross profit	115,000	105,000	95,000	92,000	85,000

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?

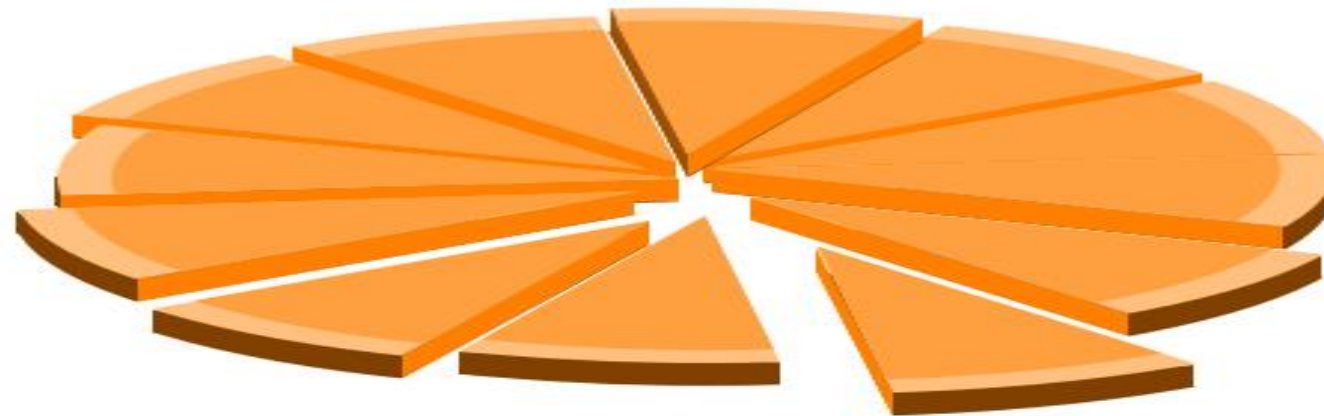
Trend Analysis

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



Financial Statements Analysis and Interpretation

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%

$$(\$12,000 \div \$315,000) \times 100\% = 3.8\%$$

$$(\$23,500 \div \$289,700) \times 100\% = 8.1\%$$

* 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.



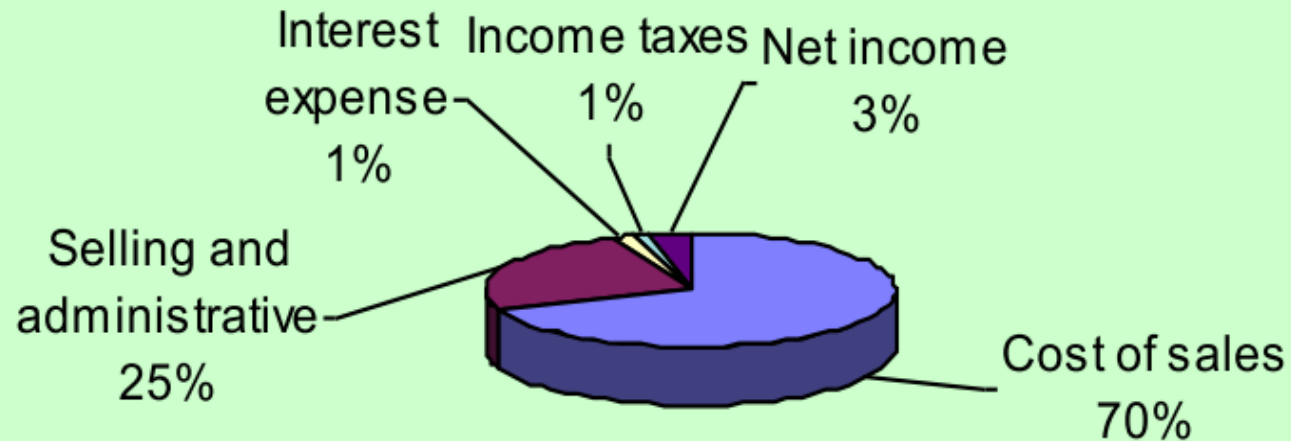
CLOVER CORPORATION
Comparative Income Statements
For the Years Ended December 31,

			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

Let's use the following financial statements for Norton Corporation for our 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