

PENNSYLVANIA ASSOCIATION OF COMMUNITY BANKERS

Credit Analysis Fundamentals for Commercial & Industrial Borrowers

How to Interpret Financial Statements for Improved Loan Decisions

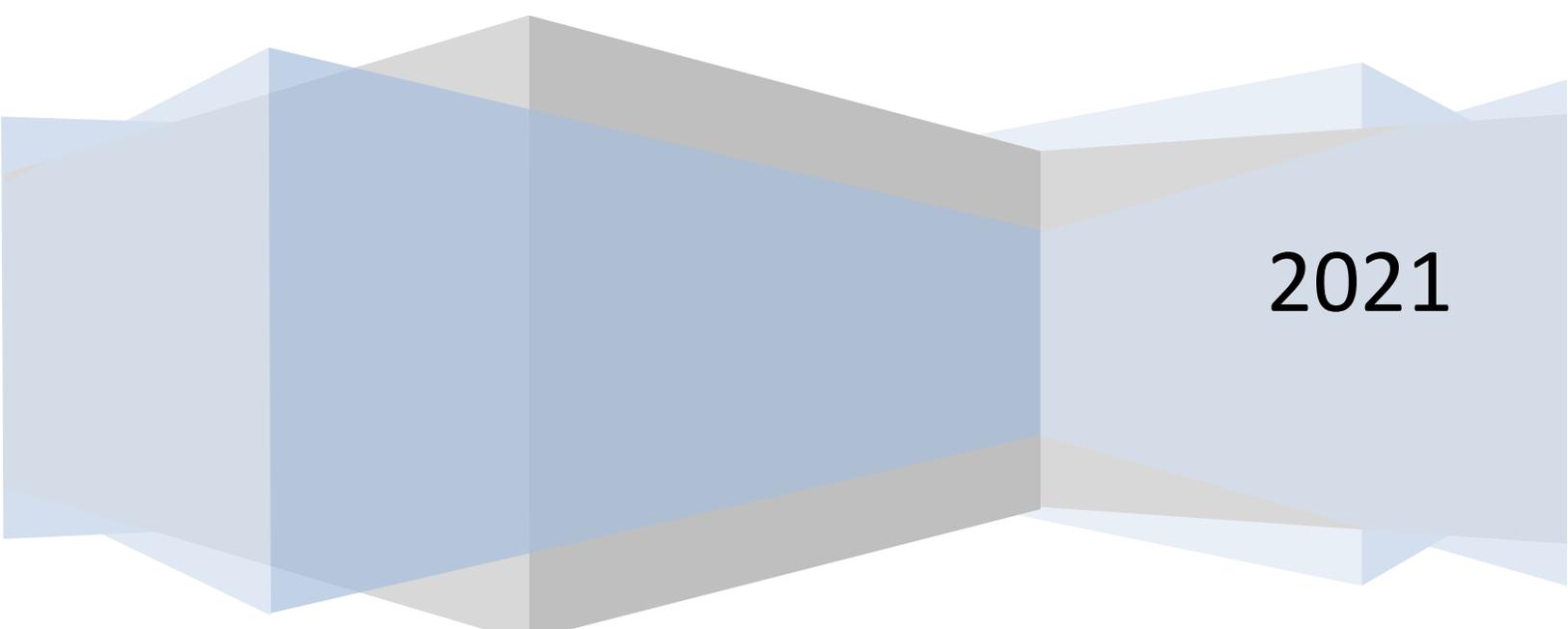
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INTRODUCTION TO COMMERCIAL LENDING

Risk Assets (typically loans and leases) make up 50% to 80% of most banks total assets. The importance of the Loan Portfolio is also reflected in the income statement, as the net interest and loan fees make up the bulk of most commercial bank's earnings. The investment community also understands the value of a quality Loan Portfolio. It, along with the deposit base, is a critical factor in establishing a value for banks. Asset Quality become increasingly important as regulators assign capital requirements based on asset quality ratings.

By definition, Bankers are engaged in the business of measuring, accepting and managing risk. The successful banker knows that a key to having a high-quality portfolio is to first, take an acceptable (as defined by your loan policy) level of risk. Secondly, we must properly manage those loans once they are on the books. Lastly, we must minimize the bank's losses on loans that go bad. Our focus during this class will be on measuring and accepting risk.

Commercial Lending requires analytical tools that differ from the tools used in Consumer Lending and as such, a company's financial statements and tax returns:

- Form the basis used to evaluate the loan request.
- Help identify risk and properly structure credit facilities.

Principles of Accounting

Accounting is a highly technical and vast field of study...And, this is a one day course...Therefore, it is impossible to address all that's involved in accounting. However, you should gain a basic understanding of major accounting assumptions and its application to produce reliable financial statements

Accounting is the cornerstone for analyzing financial statements and tax returns. To improve analytical skills, it starts with have a good working knowledge of accounting. Once you understand how financial statements are constructed, it makes it easier for you to analyze and understand the results.

After all, would you consider taking your car in for repairs to an auto mechanic who tells you, "*I would love to fix your car but I don't know how the engine works....*" How can you analyze financial statements and tax returns if you do not know how they are constructed?

ACCOUNTING DEFINED

So, what is Accounting? It is the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by the users of the information. (AAA)

Accounting is the "language" employed to communicate financial information.

Accounting is primarily concerned with the design of the system of records, the preparation of reports based on the recorded data, and the interpretation of the reports.

FUNCTIONS PERFORMED BY ACCOUNTANTS

- Observe, identify and measure economic events in financial terms
- Record, classify, and summarize measurements of those economic events for conciseness (using a company's chart of accounts which is a list of all accounts set up to handle a company's accounting transactions. The accounts are numbered in order, usually starting with 1000 (assets) and continuing through to 9000 (miscellaneous gains and losses)
- Report on financial events by preparing financial statements and special reports

Generally accepted accounting principles (GAAP):

The rules financial accountants must follow when handling accounting transactions and preparing financial statements. Financial accountants can't just throw numbers on the income statement, balance sheet, or statement of cash flows; a level playing field must exist between businesses so that the individuals reading the financial statements can compare one company to another.

INFLUENTIAL ORGANIZATIONS

The American Institute of Certified Public Accountants (AICPA)

The AICPA is the world's largest association representing the accounting profession, with nearly 370,000 members in 128 countries. AICPA members represent many areas of practice, including business and industry, public practice, government, education and education and consulting; membership is also available to accounting students and CPA candidates.

The AICPA sets ethical standards for the profession and U.S auditing standards for audits of private companies, non-profit organizations, federal, state and local governments. It develops and grades the Uniform CBA Examination.

Financial Accounting Standards Board (FASB)

Since 1973, the Financial Accounting Standards Board (FASB) has been the designated organization in the private sector for establishing standards of financial accounting that governs the preparation of financial reports by nongovernmental entities. Those standards are officially recognized as authoritative by the Securities and Exchange Commission (SEC) and the American Institute of Certified Public Accountants.

Such standards are important to the efficient functioning of the economy because decisions about the allocation of resources rely heavily on credible, concise, and understandable financial information.

The mission of the FASB is to establish and improve standards of financial accounting and reporting that foster financial reporting by nongovernmental entities that provides decision-useful information to investors and other users of financial reports. That mission is accomplished through a comprehensive and independent process that encourages broad participation, objectively considers all stakeholder views, and is subject to oversight by the Financial Accounting Foundation's Board of Trustees.

The FASB is part of a structure that is independent of all other business and professional organizations. That structure includes the Financial Accounting Foundation (Foundation), the FASB, the Financial Accounting Standards Advisory Council (FASAC), the Governmental Accounting Standards Board (GASB), and the Governmental Accounting Standards Advisory Council (GASAC).

Governmental Accounting Standards Board (GASB)

The Governmental Accounting Standards Board (GASB) is the independent organization that establishes and improves standards of accounting and financial reporting for U.S. state and local governments. Established in 1984 by agreement of the Financial Accounting Foundation (FAF) and 10 national associations of state and local government officials, the GASB is recognized by governments, the accounting industry, and the capital markets as the official source of generally accepted accounting principles (GAAP) for state and local governments.

Accounting and financial reporting standards designed for the government environment are essential because governments are fundamentally different from for profit businesses. Furthermore, the information needs of the users of government financial statements are different from the needs of the users of private company financial statements. The GASB members and staff understand the unique characteristics of governments and the environment in which they operate.

The GASB is not a government entity; instead, it is an operating component of the FAF, which is a private sector not-for-profit entity. Funding for the GASB comes in part from sales of its own publications and in part from state and local governments and the municipal bond community. Its standards are not federal laws or regulations and the organization does not have enforcement authority. Compliance with GASB's standards, however, is enforced through the laws of some individual states and through the audit process, when auditors render opinions on the fairness of financial statement presentations in conformity with GAAP.

Securities and Exchange Commission (SEC)

The mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.

The SEC oversees the key participants in the securities world, including securities exchanges, securities brokers and dealers, investment advisors, and mutual funds. Here the SEC is concerned primarily with promoting the disclosure of important market-related information, maintaining fair dealing, and protecting against fraud.

Crucial to the SEC's effectiveness in each of these areas is its enforcement authority. Each year the SEC brings hundreds of civil enforcement actions against individuals and companies for violation of the securities laws. Typical infractions include insider trading, accounting fraud, and providing false or misleading information about securities and the companies that issue them. Though it is the primary overseer and regulator of the U.S. securities markets, the SEC works closely with many other institutions, including Congress, other federal departments and agencies, the self-regulatory organizations (e.g. the stock exchanges), state securities regulators, and various private sector organizations. In particular, the Chairman of the SEC, together with the

Chairman of the Federal Reserve, the Secretary of the Treasury, and the Chairman of the Commodity Futures Trading Commission, serves as a member of the President's Working Group on Financial Markets.

ACCOUNTING ASSUMPTIONS

Accounting principles and assumptions are the essential guidelines under which businesses prepare their financial statements. These principles guide the methods and decisions for a business over a short and long term. For both internal and external reporting purposes, it is important to understand the concepts presented below because they serve as a guideline to the analysis of financial reporting issues.

Economic Entity Assumption

Under the economic entity assumption, an economic activity can be identified to a separate entity accountable for that activity. In other words, this assumption states that businesses must keep their transactions separate from their owners', business units' or other businesses' transactions. For example, the business activities of the neighborhood coffee house are to be kept separate from the financial activities of its owners or managers. The financial statements for the coffee house will only reflect the revenue and expenses for the coffee house. Thus, it is possible to compare the financial statements of this coffeehouse with its competitors' reports, since these statements should be reported separately under the economic entity assumption. Important to note, a separate entity does not necessary mean a legal entity. For example, financial statements for a parent company and its subsidiaries (i.e. separate legal entities) can be presented together (i.e. consolidated financial statements).

Revenue Recognition Principle

Under this principle revenue is to be recorded when it is realized (or realizable), and when it is earned and not when it is received. Revenue is realized when goods or services are exchanged, is realizable when assets received can be converted to cash, and is earned when all necessary requirements are met entitling the company to the benefits represented by the revenue (e.g. services performed).

For example, suppose a neighborhood coffee house orders 100 coffee mugs from a coffee wholesaler in June. The coffee house takes delivery of the new mugs in July and pays for the order in August. The wholesaler does not recognize the revenue from this sale in June, when the order was placed, or in August, when the cash was received. For recording purposes, the

revenue is recognized by the wholesaler in July, when the coffee mugs were delivered to the coffeehouse.

This principle is used for the recognition of revenue for both goods and services. For example, if an attorney is hired with an agreed upon retainer fee of \$2,500 in May, and the services are not performed until July, the attorney does not recognize the revenue until July. The attorney must earn the income before it can be recorded as such, even though he/she received cash for the service at an earlier date.

Historical Cost Principle

The historical cost principle deals with the valuation of both assets and liabilities. The value at the time of acquisition is used to value most assets and liabilities. For example, say the coffee wholesaler purchased an office building in 1990 for \$1.2 million. Over time this asset has most likely appreciated in value. However, in accordance with the cost principle, the original (historical) price of the building is what is recorded as the cost of the building in the books of the business.

Note that another basis for valuing elements of financial statements is coming into play. The new basis is fair value. With the convergence of global standards, fair value is used more in the United States to value elements of financial statements.

Fair Value Principle

Fair value accounting is a financial reporting approach in which companies are required or permitted to measure and report on an ongoing basis certain assets and liabilities (generally financial instruments) at estimates of the prices they would receive if they were to sell the assets or would pay if they were to be relieved of the liabilities.

In September 2006, the Financial Accounting Standards Board (FASB) issued an important and controversial new standard, Statement of Financial Accounting Standards No. 157 which provides significantly more comprehensive guidance to assist companies in estimating fair values

Matching Principle

This principle mandates that the expenses of a business need to line up with its revenue. The expense or cost of doing business is recorded in the same period as the revenue that has been generated as the result of incurring that cost. In the case of the coffee wholesaler, when the 100 coffee mugs were delivered in July they changed from being a part of inventory (asset) to a cost of goods sold entry (expense) in the month that the revenue from the sale was recognized. At this point, the difference between the revenue and expense is determined as the gross profit from the sale.

Full Disclosure Principle

This principle states that all past, present and future information that may have had an impact on the financial performance of the company needs to be fully disclosed. The historical performance of a company is readily available, but examining the numbers does not always provide the entire financial picture of a company. Sometimes there are alternative situations that need to be reported. Pending or current lawsuits are one example of a transaction that could severely impact a company's bottom line. In addition, incomplete financial transactions or any other conditions that could impact the company's performance must also be disclosed. Most of these transactions are disclosed in the footnotes to the financial statements.

Money Measurement

Economic activity is initially recorded and reported in terms of a common unit of measure (US dollar).

Continuity or Going Concern

The entity is assumed to have an indefinite life unless strong evidence exists to the contrary.

Periodicity

An entity's life can be subdivided into time periods for purposes of reporting its economic activities.

THE ACCOUNTING EQUATION

$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

After each economic event is recorded into the records of an economic entity, the Accounting Equation must always balance after the transaction is documented. This will insure that the Balance Sheet Assets will equal the Liabilities and Stockholders' Equity and the results of the Income Statement is properly reflected in Retained Earnings.

Bottom Line: ***“The equation must always be in balance”.***

RULES OF DEBITS AND CREDITS

Assets = Liabilities + Stockholders' Equity

Asset Accounts		Liability Accounts		Stockholders' Equity Accounts	
Debit *	Credit	Debit	Credit*	Debit	Credit*
Debit for Increase	Credit for Decrease	Debit for Decrease	Credit for Increase	Debit for Decrease	Credit for Increase

Cost and Expense Accounts		Revenue Accounts	
Debit *	Credit	Debit	Credit*
Debit for Increase	Credit for Decrease	Debit for Decrease	Credit for Increase

DEBITS	CREDITS
Increase assets	Decrease assets
Decrease liabilities	Increase liabilities
Decrease stockholders' equity	Increase stockholders' equity
Decrease revenues	Increase revenues
Increase expenses	Decrease expenses
Increase dividends	Decrease dividends

*Normal balance

FINANCIAL STATEMENT COMPONENTS

- Opinion Letter
- Balance Sheet
- Income Statement
- Statement of Retained Earnings
- Statement of Cash Flows
- Financial Notes

Opinion Letter

When an independent Certified Public Accountant completes an audit of a client's financial statement, an opinion is rendered based upon the client's compliance with generally accepted accounting (auditing) principles. The likely opinions are Unqualified, Qualified, Disclaimer and Adverse. These are explained in more detail in the following section.

Balance Sheet

Reflects a firm's solvency

Reports a firm's assets, liabilities and stockholders' equity (aka net worth and capital) as of a specific moment in time

- Assets
Things of value, which are owned by the business such as cash, accounts receivable, inventory and equipment
- Liabilities
Debts owed by the firm such as notes payable, accounts payable, etc.
- Stockholders' Equity
The owners' interest in the business. It consists of owners' investments or withdrawals, profits made, which have not been withdrawn or losses incurred. Profits and losses are combined in an account called retained earnings.

Income Statement

Reports a firm's profitability for a stated period. Profitability is measured in each period by comparing the revenues generated with costs and expenses incurred to produce those revenues.

Statement of Retained Earnings

This statement reflects the change in retained earnings from one accounting period to another by determining if retained earnings increased by the exact amount of profits earned for the period or losses incurred for the period. If retained earnings did not increase by the same amount as profits earned, it could mean that a dividend was declared or the owners withdrew funds out of the company.

Statement of Cash Flows

Shows the cash inflows and cash outflows from operating activities, investing activities and financing activities.

- **Operating Activities**
Generally, includes the cash effects of transactions and other events that enter into the determination of net income. It is the cash generated or used in producing profits or losses.
- **Investing Activities**
Generally, includes the cash effects of transactions involving the acquisition or disposal of fixed assets
- **Financing Activities**
Generally, includes the cash effects of transactions and other events involving creditors and owners

Financial Notes

Notes to the Financial Statements (as they are referred to) provide more detailed information about significant accounts on the balance sheet and income statement. They may cover areas such as:

- **Accounts Receivable:** Amount of allowance for doubtful accounts and charges to earnings.
- **Inventory:** State the inventory costing method and the components of inventory
- **Fixed Assets:** State the depreciation method utilized, the estimated useful lives of assets and the components of fixed assets

ACCOUNTANT PREPARED FINANCIAL STATEMENTS

TYPES OF FINANCIAL REPORTS

Compilation

Non-disclosure

Full disclosure

- The CPA puts information provided by the client in proper financial statement form.
- It is in accordance with GAAP
- It does not express any assurances
- The CPA is not required to make inquiries of management or perform other procedures to verify, corroborate, or review information provided by the client.

Review

- CPA makes certain inquiries of management and performs analytical procedures.
- Not required to understand the company's internal structure, test accounting records, observe inventory, confirm receivables, or obtain other corroborating evidence, as required in an audit engagement.

Audit

CPA goes beyond a review and on a test basis, examines evidence supporting the amounts and disclosures in the financial statements.

INTERPRETATION OF FINANCIAL STATEMENTS

BALANCE SHEET ANALYSIS

The balance sheet is a picture of a company at a given point in time. The balance sheet identifies all assets, liabilities and net worth of a company. The accounting or balance sheet equation is:

$$\text{Assets} = \text{liabilities} + \text{net worth.}$$

Assets consist of current assets, fixed assets, intermediate assets and other assets as follows:

CURRENT ASSETS

- Cash
- Marketable Securities
- Accounts Receivable
- Allowance for Doubt Account (Contra Account)
- Inventory
- Pre-paid Expenses
- Income Tax Refund

FIXED ASSETS

- Land
- Buildings
- Equipment
- Furniture & Fixtures
- Leasehold Improvements
- Operating Leases
- Capital Leases
- Accumulated Depreciation (Contra Account)

OTHER ASSETS

- Due from Stockholders
- Employee Advances
- Due from Related Companies
- Other Receivables
- Deposits
- Intangibles
- Deferred Assets
- Investments
- Other Non-Operating Assets

CURRENT LIABILITIES

- Short Term Notes Payable
- Line of Credit
- Current Portion of LTD
- Accounts Payable
- Accrued Expenses
- Income Tax Payable

LONG TERM DEBT

- Long Term Notes Payable
- Mortgage Payable
- Deferred Taxes
- Due to Officers

NET WORTH

- Common Stock
- Preferred Stock
- Paid-In-Capital (Surplus)
- Retained Earnings
- Treasury Stock

INCOME STATEMENT ANALYSIS

The income statement shows the amount of sales/revenues generated and cost/expenses incurred. The bottom line of an income statement indicates whether the entity earned a profit or incurred a loss. Unlike a balance sheet, which captures the value of assets, liabilities and net worth at a specific point in time, the income statement captures activity over a period of time. The business has generated revenues from sales and paid total expenses. The typical income statement is structured as follows:

Sales

- Cost of Goods Sold

= Gross Profit

- Operating expenses (selling expenses, general and administrative expenses)

= Operating income

- Non-operating expenses (interest expense, other nonrecurring expenses)

+ Non-operating income (interest income, other nonrecurring income)

= Net income before tax

± Taxes

= Net profit after tax

HOW THE INCOME STATEMENT AND BALANCE SHEET ARE RELATED

Economic events will typically start through an entry onto the Income Statement and the results of that event will find its way to the Balance Sheet. In other words, whatever occurs on the Income Statement will end up on the Balance Sheet.

Another perspective is that the Balance Sheet is the end results of what occurred on the Income Statement. Using the chart below, match the items on the Income Statement with the corresponding Balance Sheet Account shown below the chart. This will strengthen your understanding of the Income Statement / Balance Sheet relationship and should enhance your understanding of Ratio and Cash Flow Analysis.

<u>Income Statement</u>		<u>Balance Sheet</u>
Sales for Cash	→→→→→	_____
Sales on Account	→→→→→	_____
Billed for Work not completed	→→→→→	_____
Work Completed but under billed	→→→→→	_____
Retainer Fee Before Work Performed	→→→→→	_____
Cost of Goods Sold	→→→→→	_____ _____
Operating Expenses	→→→→→	_____ _____
Interest Expense	→→→→→	_____
Interest (Investment) Income	→→→→→ →→→→→	_____ _____
Non-Operating Exp.	→→→→→	_____
Income Tax Expense	→→→→→	_____
Profit	→→→→→	_____
Loss	→→→→→	_____

Dividend Declared	→→→→→	_____
Receipt of Cash in Excess of Par Stock Value	→→→→→	_____
Cash Invested without Stock Issuance	→→→→→	_____
Principal Payment on Long Term Debt	→→→→→	_____

Accounts Receivable	Current Portion of Long Term Debt
Inventory	Other Liabilities
Income Tax Payable	Dividend Payable
Notes Payable	Interest Payable
Accrued Expenses	Cash
Accounts Payable	Retained Earnings
Pre-Paid Expenses	Investments
Billings in Excess of Cost	Cost in Excess of Billings
Capital Surplus	Paid in Capital
Deferred Revenue	Unearned Revenue
Current Portion of LTD	

Current Asset Analysis

Current assets are listed first on the balance sheet because they are the most liquid. They convert to cash in less than twelve months.

CASH

Cash consists of cash in banks, cash on hand and marketable securities. It would appear to be the most liquid asset and usually is. However, it may be pledged as collateral and not readily available to the company. Conservative companies generally have more cash on hand. Other conservative companies have less cash since they use the cash to quickly pay down short-term bank debt to lower interest costs. Rapidly growing or poorly managed companies have less cash available. Lenders should not make decisions based on cash balances kept in the bank unless the cash will be placed in a savings certificate to be pledged to secure the loan. Many charged-off loans had cash balances, and some very high cash balances, before they got into trouble. Companies need a minimum amount of cash to operate and the lender should be sure sufficient cash is available.

ACCOUNTS RECEIVABLE

Accounts receivable are amounts owed to a company for a product sold on credit or a service provided for credit. Accounts receivable are listed second on the balance sheet because they turn to cash more quickly than inventory. The number of accounts, average size, validity and length of relationship are all key issues. For example, the lender will want to know if the business has 50 accounts averaging \$50 each or 50 accounts averaging \$1,000 each. Both present collection issues. If in default, it may not be worth the bank's time to pursue all 50 accounts averaging \$50; however, it would be worth pursuing the 50 accounts averaging \$1,000 each.

Validity is another issue for the lender. Will the borrower's customer pay the amount owed? The receivable may not be valid due to poor product quality. Or was the service or product really sold and does the company owing the money have the ability to repay? Credit approval and collection processes are key issues in collecting accounts receivable.

The lender will establish advance rates on the accounts receivable depending on the age, mix and collection experience of the company. The advance rates will vary by industry and experience.

Allowance for Bad Debt is the amount available to charge off bad debts. The allowance is based on past charge-off experience and the current aging. Bad debt expense is charged on the income statement each month and accumulates on the balance sheet. When the company has a loss, the allowance is charged. If no allowance is listed, then the company directly charges the income statement when a bad debt occurs. This can result in large profit variations depending on the years' experience.

ACCOUNTS RECEIVABLE MECHANICS

- Advance Rate
- Dilution
- Invoice Size
- Account Debtors
- Concentration

- Advance Rate should be based upon:
 - Dilution Rates
 - Invoice Size
 - Nature of Account Debtors
 - Concentration
 - Advance Rate means the amount lender is willing to lend against the asset

- Dilution
 - **Measures how much of each sale dollar comes back to the seller or is not collected due to. Includes:**
 - Credit Memos
 - Returned Goods (defective)
 - Mis-pricing
 - Invoice Errors
 - Advertising Allowances
 - Trade Discounts
 - **Should be calculated monthly and calculate the 12-month average**

- The typical Advance Rate against Accounts Receivable assumes a 5% or less Dilution Rate.

- The higher the Dilution Rate, the lower the Advance Rate

Accounts Receivable Aging Schedule

DARCY COMPANY
Accounts Receivable Aging Schedule
December 31, 2011

Customer	Account Receivable Balance	Not Yet Due	Number of Days Past Due			
			1-30	31-60	61-90	Over 90
X	\$5,000					\$5,000
Y	\$14,000		\$12,000	\$2,000		
Z	\$400				\$200	\$200
All others	\$808,600	\$560,000	\$240,000	\$2,000	\$600	\$6,000
Estimated uncollectible percentage	\$828,000	\$560,000	\$252,000	\$4,000	\$800	\$11,200
		1%	5%	10%	25%	50%
Estimated amount uncollectible	\$24,400	\$5,600	\$12,600	\$400	\$200	\$5,600

Balance in the accounts receivable account in the

Desired credit balance in the allowance for uncollectible accounts

INVENTORY

Inventory consists of supplies that are used to produce products or goods. These can include:

- Raw material
- Work in process
- Finished goods

Raw material and work in process are only found on manufacturer balance sheets. Raw material consists of the raw product used to make a product. It does not include labor. Work in process is the amount of products in the process of completion (raw material plus labor). Finished products are the finished product including all costs of raw material and labor.

Inventory for a farm operation may include:

- Grain/feed on hand
- Cash invested in growing crops
- Livestock held
- Supplies (chemicals, etc.)

The lender will want to know if the inventory is valued on the LIFO or FIFO method to determine the advance rate for collateral purposes. Also, the borrower's relationship with suppliers will need to be considered. Suppliers may also be purchasers of the product or service and may have offsetting accounts payable for the lender to consider.

**INVENTORY
COMPARISON OF COSTING METHODS**

FIFO

LIFO

SALES		\$12,000		\$12,000
Less: Cost of Goods Sold				
Opening Inventory	-0-		-0-	
+ Purchases:				
500 units @ \$8	4,000		4,000	
200 units @ \$9	1,800		1,800	
400 units @ \$10	4,000		4,000	
600 units @ \$11	<u>6,600</u>		<u>6,600</u>	
Total Goods Available for Sale	16,400		16,400	
Less: Ending Inventory	(7,600)*		(5,800) ◆	
= Cost of Goods Sold		<u>(8,800)</u>		<u>(10,600)</u>
Gross Profit		3,200		1,400
Less: Income Taxes		<u>(960)</u>		<u>(420)</u>
= Net Profit		\$2,240		\$980

* 600 Units @ \$11 = \$6,600
 100 Units @ \$10 = \$1,000
 \$7,600

◆ 500 Units @ \$8 = \$4,000
 200 Units @ \$9 = \$1,800
 \$5,800

The current assets for ALSC are:

	00	15	16
Cash	\$ 4	\$ 3	\$ 6
Accounts Receivable	\$ 5	\$ 4	\$ 9
Inventory	\$187	\$145	\$166
Total Current Assets	\$196	\$152	\$181

In analyzing the current assets for ALSC, the lender must determine if they are becoming more or less liquid. Cash is increasing, and because it is the most liquid asset, ALSC is more liquid. Also accounts receivable, which are more liquid than inventory, are increasing. The inventory is composed of a variety of finished goods.

Key questions for the lender are:

- Is the cash available to the company?
- What is the minimum cash needed?

- What is the age, mix and validity of accounts receivable?

- Are any of the accounts receivable not collectable and what concentrations are there?

- What is the inventory composed of and how does the company maintain a limited supply?

FIXED ASSETS

Fixed assets include equipment, land, buildings and leasehold improvements. Equipment consists of the various pieces of equipment used to produce a product or provide a service. Equipment is valued at cost less depreciation. The amount of depreciation is determined by the age, type and depreciation method used. Depreciation is a non-cash expense recognized on the income statement and deducted from the fixed asset account. Equipment can also be very specialized or used by many industries. Land is valued at cost and does not depreciate. Buildings are listed at cost less depreciation. Depending on the time the land and building is owned, it may represent a source of hidden equity to the lender.

Leasehold improvements are improvements made to buildings rented or leased by the company. They include such items as carpet, lighting and wallpaper. Leasehold improvements represent no collateral value to the lender. Equipment, land and building collateral value will vary by the type, age and specialty of the asset. For example, a dentist office has less collateral value than an office warehouse building, which can be used by many users.

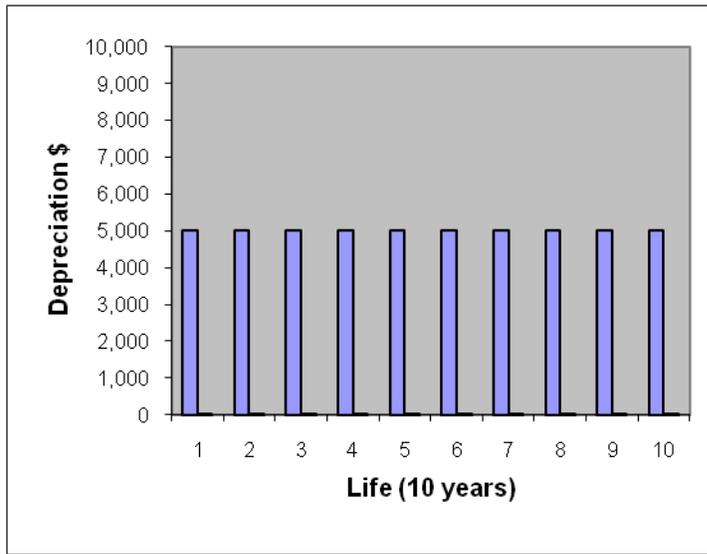
The capacity of the fixed assets and their efficiency is also an issue. If the fixed assets are not used to their maximum capacity, growth may be limited in the future or products possibly not shipped on time. For example, a farmer can only harvest so much acreage with one combine. Is there excess capacity that could be rented out? For a manufacturer, are assets being used efficiently and is the plant laid out properly? All these questions are important to the lender because they impact profitability.

The lender must consider the age and technology of the equipment. If the equipment is old, it may need excessive maintenance causing the company to need a new equipment loan soon. Does the company have the ability to repay new term debt? Some equipment, such as telephone and computer equipment, has a short technological life. Will the company need to replace this equipment frequently and what is the cost impact?

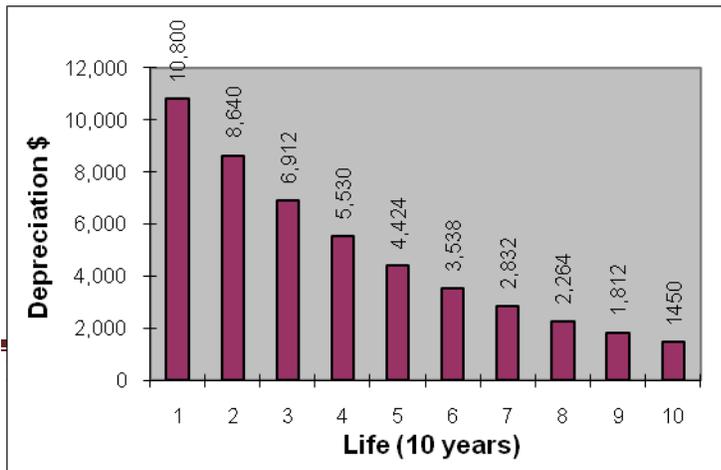
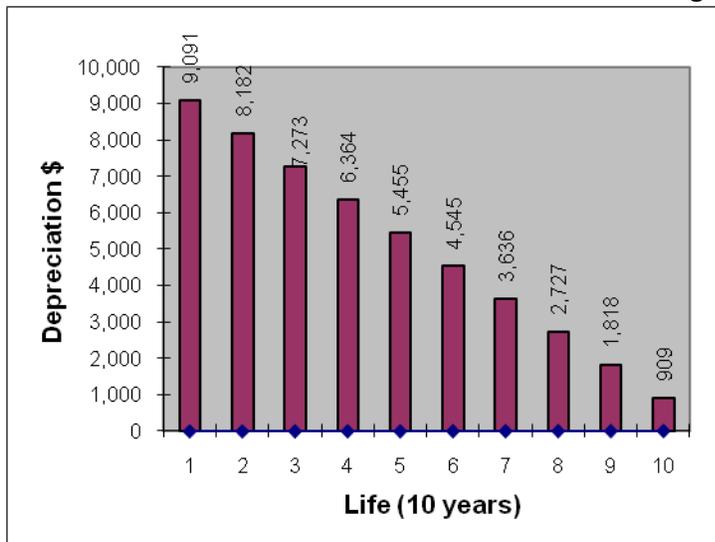
Summary of Depreciation Methods

Method	Base		Calculation
Straight-line	Asset cost	Estimated salvage value	$\frac{\text{base}}{\text{Number of years of useful life}}$
Units-of-production	Asset cost	Estimated salvage value	$\text{Base} \times \frac{\text{units produced this period}}{\text{Estimated total units of production}}$
Sum-of-the-years'-digits	Asset cost	Estimated salvage value	$\text{Base} \times \frac{\text{number of years of useful life remaining at beginning of accounting period}}{\text{SOYD}}$
Double-declining-balance	Asset cost	Accumulated depreciation	$\text{Base} \times (2 \times \text{Straight-line rate})$

Comparison of Straight-line, Sum-of-the-Years' Digits and Double-Declining-Balance Depreciation Methods



Sum-of-the-Years'-Digits Method



Other Assets

Other assets are intangibles, prepaid assets, goodwill, investments and deposits. Intangibles and goodwill are assets from the sale of a business. An example of an Other Asset that may be purchased and is intangible is a company name. Prepaid assets are amounts paid in advance for a service to be provided later. Annual insurance payments are an example of prepaid assets. For agricultural businesses, prepaid assets are listed as a current asset. Investments include such things as funds invested in other businesses outside the operating business and long-term investments such as real estate partnerships. Deposits are amounts paid in advance. For example, rental deposits on real estate are paid in advance and returned when the lease is canceled.

The fixed assets and other assets for ALSC are:

	14	15	16
<u>Fixed Assets</u>			
Furniture & Fixtures	\$ 17	\$ 18	\$ 30
Leasehold Improvements	\$ 25	\$ 25	\$ 38
Gross fixed assets	\$ 42	\$ 43	\$ 68
Accum. Depreciation	\$ 8	\$ 10	\$ 12
Net Fixed Assets	\$ 34	\$ 33	\$ 56
Prepaid expenses	\$ 3	\$ 4	\$ 5
Investments	\$ 33	\$ 34	\$ 38
Total Assets	\$266	\$233	\$280

ALSC has increased its fixtures and leasehold improvements the last year. The lender will want to determine what was done.

Current Liabilities Analysis

Liabilities are listed in order of payment. Liabilities are also current or long-term. Current liabilities are those due in less than twelve months. Long-term liabilities are due in over one year. Current liabilities are notes payable to banks, notes payable to others, accounts payable, accrued expenses and current maturities of long-term debt.

NOTES PAYABLE

Notes Payable, generally to banks, are short-term borrowings usually used to finance current assets. The loans may be due to seasonal or one-time orders. Loans over the winter to finance snow blowers are an example of a short-term seasonal note. The loans are due in a single

payment at the end of the season. Another example is a company, which receives a one-time order and needs a short-term note to finance the accounts receivable. The loan is due in a single payment and repaid when the receivable is collected. Further information on structuring commercial and agricultural loans will be discussed in the next two modules.

The interest rate, terms and collateral are all issues the lender must consider. If the interest rate floats, the cost of the loan may increase and the profit from the sale of the service or product will decrease. If the note becomes due before the product is sold for cash or before the accounts receivable is collected, will a lender be willing to renew the note?

Notes payable to others are amounts owed to suppliers or others. If notes are owed to suppliers for inventory, the lender should understand why the inventory couldn't be sold quickly under normal terms to pay the supplier. If the note is for an equipment purchase, the lender will want to know why the debt is not structured as a long-term debt. Any liability in this account is unusual and should be thoroughly understood by the lender.

ACCOUNTS PAYABLE

Accounts payable are amounts owed to suppliers for product purchased. The amount is interest-free financing and due usually in 30 days or less. The lender will want to know how many suppliers and the amount of debt owed to each. Also, most suppliers set credit limits. The lender must know if the company is at its limit or if it has the availability to purchase more products. If the company has only one supplier, there is more risk than if they have many. If the single supplier decides not to sell additional product to the company, they may not be able to stay in business.

ACCRUED EXPENSES

Accrued expenses are amounts recognized as expenses on the income statement but not yet paid. They include accrued interest, wages payable, profit sharing, bonuses, vacation and taxes. The timing of the payment must be known along with the length of time until the company needs to

fund the expense. Taxes accrued for longer than the current period are a warning sign of problems and the lender will want to determine the company's ability to stay in business.

CURRENT MATURITIES OF LONG TERM DEBT

Current maturities of long-term debt are the principal portion of the long-term debt due in the coming year. ALSC's current liabilities are:

	<u>14</u>	<u>15</u>	<u>16</u>
Notes Payable Banks	\$ 14	\$ 1	\$ 27
Accounts Payable Trade	\$152	\$115	\$110
Current Maturities	\$ 0	\$ 0	\$ 0
Accrued Expenses	\$ 19	\$ 14	\$ 17
Total Current Liabilities	\$185	\$130	\$154

ALSC has short-term borrowing from the bank on a line of credit. The company is very seasonal and typically pays out its credit line before the company fiscal year end. If a company shows no short-term debt, the lender should not assume the company has no short-term borrowing needs. It only indicates there was not a need at this point in time.

In the ALSC case, accounts payable are decreasing. With the inventory increasing, the lender will want to understand what is owed and for what purpose. Possibly seasonal goods or closeout merchandise has been purchased. The company will pay the accounts payable trade when the accounts receivable is collected or inventory is sold for cash. The company has no long-term debt currently maturing, which indicates the company owes no long-term debt. The accrued expenses are for profit sharing and bonuses to be paid at a later date.

LONG-TERM DEBT

Long-term bank debt is the amount owed over one year. The interest rate, terms, and collateral are all issues for the lender to consider. The lender also needs to know if there are any loans which have a long-term amortization, but a shorter term due date. If so, will the loans be renewed when they come due?

Other long-term debt typically is the amount owed to stockholders or officers of the company. In privately held corporations, the owners will frequently take large personal salaries to lower corporate taxes. The owner then lends the excess salary to the company. When the company repays the loan, the amount is not taxed to the owner. In those cases, the debt should be subordinated to the bank. This means the officer or stockholder agrees to be paid after the bank debt is repaid.

NET WORTH

Net Worth is made up of stock issued by the company to its owners, retained earnings and treasury stock. Stock may be listed as common or preferred. Most privately held companies only have common stock. Retained earnings are profits left in the company. Treasury stock is stock repurchased by the company from its stockholders.

ALSC'S long-term liabilities and net worth are as follows:

	14	15	16
Long-Term Debt	\$ 0	\$ 0	\$ 0
Subordinated Debt	\$ 0	\$ 0	\$ 0
Total Liabilities	\$185	\$130	\$154
Common Stock	\$ 1	\$ 1	\$ 1
Retained Earnings	\$ 80	\$ 92	\$125

Total Net Worth	\$ 81	\$ 93	\$126
Total Liabs. & Net Worth	\$347	\$316	\$406

ALSC does not have any long-term debt. This tells the lender they have been able to pay for fixed asset purchases and inventory growth from the company cash flow -- namely profits. The company has retained its profits each year. The lender knows this because the retained earnings increased by the amount of company profits each year.

The lender's key questions should include:

- Will the company need any long-term debt in the future?
- If so, what are they planning to purchase?
- The company has been leaving profits in the company; will they continue to do so?

INCOME STATEMENT ANALYSIS

The income statement shows the amount of sales/revenues generated and cost/expenses incurred. The bottom line of an income statement indicates whether the entity earned a profit or incurred a loss. Unlike a balance sheet, which captures the value of assets, liabilities and net worth at a specific point in time, the income statement captures activity over a period of time. The business has generated revenues from sales and paid total expenses. The typical income statement is structured as follows:

Sales

- Cost of Goods Sold

= Gross Profit

- Operating expenses (selling expenses, general and administrative expenses)

= Operating income

- Non-operating expenses (interest expense, other nonrecurring expenses)

+ Non-operating income (interest income, other nonrecurring income)

= Net income before tax

± Taxes

= Net profit after tax

Sales

Analysis of the income statement starts with sales, which is the revenue a business receives for selling its products or services. Revenues from sales are usually recognized when the product is shipped or the service is provided. However, the accounting method may vary from industry to industry. For example, a construction company may recognize revenue when the project is complete or use the percentage of completion method. If using the completion method and the project is 25% completed during the first quarter, then revenues for the first quarter of the project are recognized. If using the completion accounting method, no revenues would be recognized until the project is finished

An important factor when analyzing revenues is the impact of accrual basis of accounting and cash basis of accounting on revenues. Accrual accounting matches revenues with costs and expenses regardless if cash is collected (from revenue) or spent on costs and expenses. Cash accounting recognizes revenue, costs and expenses when cash is received or paid. Accrual accounting is a better measure of how the borrower has managed assets and how profitable the operating entity is.

A good indicator of a company's performance is the change in sales level over several statements. By comparing revenues over several years, the lender can begin to determine management's decisions over time. It is worthwhile for the lender to note the change in dollars and percentage over time.

The sales for ALSC for the last three years (in thousands) are as follows:

	<u>14</u>	<u>15</u>	<u>16</u>
sales	\$506	\$501	\$730
percentage change	N/A	(.8%)	45%

Sales decreased from 14 to 15 and then increased in 16. It is helpful to express Sales activity by the percentage change and not by the change in absolute dollars. With a decrease followed by growth, the lender will want to know the cause of each. If the industry has grown consistently at 30%, then ALSC is not keeping up with the industry. The lender will want to know why. However, if the industry is growing at a 5% rate annually, the lender will want to understand why they are able to grow faster in year 16.

Analyzing revenue by sales mix is also a useful analysis. For example, if 14 sales are made up of 28,000 units while 15 sales are made up of 19,600 units, then the average sale price has increased from \$18.07 to \$25.56. The company has less unit sales, however, sales only decreased by .8%. This should raise concerns with the lender. If the 16 sales are made up of 33,000 sales, then the number of unit sales is up, but the average sale has decreased to \$22.

If ALSC raised its prices 25% per year, then sales by unit were down in 15. If prices were raised 5% per year, then sales by unit were up in 16. Price increases are used to offset increased

production costs and operating costs or to improve profitability. Price increases are dependent on the industry served. Some industries will tolerate price increases regularly and others will not. Be wary of companies utilizing price increases to show a higher level of revenue. Few products or services are price inelastic.

A substantial jump in the level of sales from one year to the next may be attributable to a one-time sale of an unusually costly product or service. For ALSC, sales jumped substantially in 16. The lender may determine they had a one-time sale on factory closeout items that will not reoccur in 03. Again, the lender will want to understand the reason and its impact on the company's future performance and borrowing needs.

In all cases, the lender's most important question is: *What is causing the change?* With this understanding, the lender can begin to assess risk.

For some industries, the lender will also want to know about sales backlogs, discounts and returns. Sales backlogs will give the lender an indication about future revenues. Discounts are amounts given for early payment on accounts receivable. Returns are decreases in sales usually caused by poor quality merchandise. Both can be an indication of problems, depending on the industry.

Cost of Goods Sold

Cost of goods sold are the “**direct**” costs incurred primarily by manufacturers for producing their product. For wholesalers and retailers, the cost of goods sold is the price paid to purchase finished goods. For service businesses, there is no cost of goods sold as no product is purchased or manufactured for resale. For farms, there are no cost of goods sold on the Schedule F since all cost of production expenses are included as expenses on the Schedule F.

Cost of goods sold for a manufacturer is calculated as follows:

Beginning inventory

+ Raw Material

+ Labor Costs

+ Manufacturing Overhead

= Cost of goods available for sale

- Work in Process

- Ending Inventory

= Cost of Goods Sold

The cost of goods sold for wholesalers and retailers is calculated as follows:

Beginning inventory

+ Purchases of Finished Products

- Less Ending Inventory

=Cost of Goods Sold

GROSS PROFIT MARGIN

Gross profit is calculated by subtracting cost of goods sold from sales. This is the money left to pay operating expenses and taxes. For ALSC the calculation is as follows

	<u>14</u>	<u>15</u>	<u>16</u>
Sales	\$506	\$501	\$730
-Cost of goods sold	\$350	\$353	\$517
=Gross profit	\$156	\$148	\$213

It would appear cost of goods and gross profits are increasing. However, the best way to analyze cost of goods sold is not in dollars but in percentages of sales. Stated as percentages the numbers would be:

	<u>14</u>	<u>15</u>	<u>16</u>
Sales	100%	100%	100%
Cost of goods sold	69.2 %	70.4 %	70.7 %
Gross profit	30.8 %	29.6 %	29.3 %

The percentages affirm that the company's gross profit is declining. When analyzing the various expenses, it is good to think of them in terms of one percent changes. For example, the 1.2% change from 14 to 15 is actually a \$6,012 change (.1.2% of \$501m sales). The company may not be passing on price increases of products, or managing a changing sales mix.

When analyzing cost of goods sold, the lender must also know what type of inventory valuation method was used. The two methods are first-in, first-out (FIFO) and last-in, first-out (LIFO). The cost of goods sold is calculated using either the FIFO or LIFO method. Companies using the

LIFO method during inflation will reflect lower gross profit margins and generally lower net profit margins.

Another consideration in analyzing cost of goods sold for manufacturers is the depreciation method used. Depreciation is a non-cash expense recognized on the income statement for certain fixed assets. Land is not depreciated as a fixed asset. The length of the depreciation period and the type of depreciation method for tax purposes are set for specific categories of assets by IRS code. This is not the case for managerial depreciation.

Variations in the way companies depreciate their fixed assets affect the income statement and the balance sheet. Again, two companies may do everything identical except use different depreciation methods, and one will appear more profitable than the other.

Operating Expenses Analysis

Operating expenses are costs not directly related to the production or making a product or purchasing finished goods. Operating expenses are considered controllable expenses in contrast to cost of goods sold. For example, the business owner may have only two or three supplier choices at similar costs, but may control spending expenses by choosing to rent or buy a building, pay employees by commission or flat wages and so forth. For farm operations, operating expenses are related to the production of crop and livestock products.

Operating expenses are usually variable or semi-fixed, but may become fixed. For example, if an owner decides to purchase a building, then the mortgage payment becomes a fixed payment. By separating the operating expenses this way, the lender can better determine the total costs a company must cover whether it sells any product or not. Operating expenses for business operations include the following:

- Owner's salary
- Sales salaries
- General salary expenses
- Rent
- Marketing expenses
- Insurance
- Utilities
- Maintenance
- Profit sharing

Operating expenses for farm operations include all expenses involved in producing the crop or livestock product, such as:

- Feed
- Seed
- Fertilizer
- Owner withdrawals
- Repairs
- Depreciation

Certain expenses may get out of hand if not monitored and the lender must be prepared to ask why expenses are changing and what impact the changes have on the company. Again, operating expenses are best expressed in total dollars and as a percentage of sales.

For ALSC the operating expenses are:

	14		15		16	
Sales	506	100%	\$501	100%	\$730	100%
Cost of Gods Sold	350	62.2%	353	70.4%	517	70.7%
Gross Profit	156	30.8%	148	29.6%	213	29.3%
Operating Expenses	145	28.9%	146	29.0%	177	24.3%
Operating Income	11	1.9%	2	0.6%	36	5.0%

Here is the beauty of margining or common sizing. From 14 to 16, operating expenses increased in actual dollars but as a percentage of sales they decreased from 28.9% to 24.3%. If operating expenses were analyzed in actual dollars, the wrong conclusion could be drawn. The decrease in operating expenses as a percent of sales had a positive impact on profitability in 16. The 470 basis-point (4.7%) decrease in 16 improved the company’s earnings over \$34m when viewed as percentages of sales (730 x .047) even though operating expenses increased in actual dollars. This result could only occur when comparing operating expenses to a common base or factor, which are sales.

From this information above, the lender should dissect the operating expenses further to determine which expenses are causing the increase and check to see if they are increasing as a percent of sales. If they are, the lender must comment on this in a credit memo if the increase is major. The last categories are interest income, interest expense, other income and other expenses. Interest income occurs when a company has extra dollars on deposit for usually short periods of time. Interest expense is the interest charged on debt. Other income and expenses include:

- Income from renting out excess space
- Gains on sale of assets
- Losses on sale of assets and Non-recurring expenses which are neither cost of goods sold nor operating expenses

After adding interest income and other income and subtracting interest expense and other expenses, the result is net profit before tax. This is followed by taxes and net profit after tax. ALSC has had consistent other income; the majority due to an investment the company made in a limited partnership. In 15, the other income increased due to a one-time insurance refund. Interest expense has declined as the company has had less debt due to its increased profits.

CREDIT ANALYSIS

Credit (Risk) Analysis is one of the most important functions performed by banks. Since interest and fee income from loans represent the largest source of revenue for banks, it is vital that thorough credit analysis be performed before loans are approved and funded. Credit Analysis not only considers the financial condition of prospective borrowers, but also considers non-financial factors which may impact the ability to repay loans.

Proper Credit Analysis starts with analyzing the financial statements followed by reporting the findings in a Credit Memorandum, then recommending a loan structure that provides the borrower what they need while providing the bank with the highest possible chance of being repaid. There is a very thin line between Financial Analysis and Credit Analysis because many of the techniques utilized to make an assessment overlap. However, the biggest difference is that Credit Analysis is appropriate when *money* is on the line. It focuses on analyzing financial and non-financial factors with the primary objective of determining the ability of a borrower.

TYPES OF ANALYSIS

- **Common Sizing:** Balance Sheet items as a % of Total Assets
Income Statement items as a % of Net Sales
- **Percent Change:** Amount change shown as a percentage
- **Ratios:** Mathematical relationship among logically related factors
- **Cash Flow:** Determination of cash generation or usage from items on the Income Statement and from the changes in the Balance Sheet items from one period to another period
- **Comparative:** Matching or contrasting to similar peer or industry data
- **Trend:** Analysis of changes over at least a 3 year period
- **Indexing:** Changes related to a designated base year
- **Forecasting:** Forecasting financial statements to observe the likely results based upon management's assumptions
- **Breakeven:** Determination of the level of Sales required to cover Fixed Costs
- **Working Capital:** Determine ability to meet current debt payments and to measure working assets efficiency
- **Sustainable Growth:** Rate at which a company can grow and maintain a certain level of leverage (Debt to Worth position)

Ratio Analysis

I believe all borrowers should be scrutinized to determine their five vital signs of survival, which are critical for an entity's success. The method I recommend to check those vital signs is referred to as:

LLAMOPCAFLO (Pronounced: la-mop-ca-flo)

The five vital signs for all economic entities are:

LIQUIDITY

LEVERAGE

ASSET MANAGEMENT

OPERATIONS

CASH FLOW

If you stop and think about it, an entity's financial woes occur in its inability to pay current debts as they come due (Liquidity); or debt on their balance sheet is more than the owners' equity (Leverage); or management is not utilizing their assets (or may have the wrong assets) to generate sufficient sales or to create profits (Asset Management); or the company may lose money as a result of their operations (Operations); or the company may not be able to generate sufficient cash flow to sustain the company or to pay down long-term debt (Cash Flow). If LLAMOPCAFLO is utilized, these issues will easily be uncovered.

Please be aware that LLAMOPCAFLO measures an entity's financial factors only. Non-Financial factors such as the character of management or the condition of the economy are not measured through LLAMOPCAFLO therefore; it is recommended that two elements of the Five C's of Credit should be utilized in conjunction with LLAMOPCAFLO in order to develop a full assessment of an entity. Those two elements are the first and last measurements of the Five C's of credit, namely Character (of management) and Conditions (of the economic environment). As a result, LLAMOPCAFLO has now been transformed into:

LLAMOPCAFLOCC (Pronounced: La-Mop-Ca-Flock)

Before LLAMOPCAFLOCC is measured, a simple calculation can be performed to determine if the proportion of Assets, Liabilities and Net Worth are in line with the type of business being analyzed. This Measurement is called Common Sizing the Balance Sheet and Margining the Income Statement

COMMON SIZING

Balance Sheet

Calculation: $\frac{\text{Asset Accounts}}{\text{Total Assets}}$ $\frac{\text{Liability Accounts}}{\text{Total Assets}}$ $\frac{\text{Equity Accounts}}{\text{Totals Assets}}$

Income Statement

Calculation: $\frac{\text{Cost of Goods Sold}}{\text{Sales}}$ $\frac{\text{Gross Profit}}{\text{Sales}}$ $\frac{\text{Expenses}}{\text{Sales}}$ $\frac{\text{Operating/Net Profit}}{\text{Sales}}$

For the Balance Sheet, Common-Sizing allows the analyst to determine which asset accounts represent the majority of invested cash and where support of those assets are derived (either debt or equity). It also allows the analyst to measure the shift in assets, liabilities and net worth as a percentage of Total Assets.

For the Income Statement, Common-Sizing (or margining) allows the analyst to determine the increase and decrease of income, costs and expenses in relations to the change in sales. It is not unusual for operating expenses to increase when sales increase. This is expected. However, if the increase in expenses as a percent of sales (Operating Expenses divided by Sales) exceeds previous periods percentages, this increase should be vested further.

LIQUIDITY

Liquidity is a measure of the quality and adequacy of current (short-term) assets to meet current (short-term) obligations as they come due.

Current Ratio

Calculation:
$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$

This ratio gives a general indication of a firm's ability to pay its current obligations. Generally, the higher the Current Ratio, the greater the cushion between current obligations and a firm's ability to pay. A benchmark for this ratio has been 2 to 1. The higher the ratio reflects more current assets available to cover Current Liabilities. However, the composition and quality of Current Assets is a critical factor in the analysis of an individual firm's liquidity.

Quick Ratio

Calculation:
$$\frac{\text{Cash} + \text{Marketable Securities} + \text{Accounts Receivable}}{\text{Current Liabilities}}$$

Also known as the "Acid Test Ratio", it is a refinement of the Current Ratio and is a more conservative measure of liquidity. The numerator from the Current Ratio is adjusted by omitting inventory (because of obsolescence, slow moving items and encumbered items). The ratio expresses the degree to which a company's Current Liabilities are covered by the most liquid Current Assets. Generally, any value of less than 1 to 1 implies a dependency on inventory or other Current Assets to liquidate short-term debt

Working Capital

Calculation: Current Assets minus Current Liabilities

Working Capital is the amount of Current Assets remaining after the Current Liabilities are paid. This excess cash can be used to repay long term debt, invest in long term assets or pay a dividend. The higher the working capital the stronger the entity.

	<u>2013</u>	<u>2014</u>	<u>2015</u>
Current Ratio	1.98	2.41	2.94
Quick Ratio	0.67	0.71	1.10
Working Capital	1,878,000	2,005,000	2,352,000

Getting Behind The Numbers Hint:

The stronger the ratio trend the more you need to check the quality of the current assets serving as the numerator. Here are some check points:

1. Check to see if there are any restrictions to Marketable Securities or can they be liquidated with ease and within a short period of time
2. Check the quality of Accounts Receivable by examining an aging schedule, dilution rate, issuance of credit memos and credit terms
3. Check the quality of Inventory by reviewing the inventory lists and noting items that do not turnover regularly

Defensive-Interval Ratio

Neither the current ratio nor the acid-test ratio gives a complete explanation of the current debt-paying ability of the company. The matching of current assets with current liabilities assumes that the current assets will be employed to pay off the current liabilities.

Some analysts argue that a better measure of liquidity is provided by the defensive-interval ratio, which measures the time span a firm can operate on present liquid assets without resorting to revenues from next year's sources. This ratio is computed by dividing defensive assets (cash, marketable securities and net receivables) by the average monthly expenditures from operations. Monthly expenditures are computed by dividing cost of goods sold plus operating expenses by 12 months.

Calculation:
$$\frac{\text{Cash} + \text{Marketable Securities} + \text{Accounts Receivable}}{\text{Average Monthly Costs and Expenses}}$$

	<u>2013</u>	<u>2014</u>	<u>2015</u>
Defensive- Interval Ratio	N/A	1.81	1.95
Days	N/A	54	59

The next set of ratios is known as Activity Ratios and is included in with the Liquidity because they determine when these assets are to be converted into cash. In order to know the rational why certain accounts on the balance sheet are matched with certain accounts on Income Statement, the following chart may prove helpful.

I recall when studying accounting in college, one of my college professor stated that the Income Statement causes items on the Balance Sheet to appear. I did not quite grasp the concept back then but I certainly understand it now because, whatever happens during the operations of a company will end up on the balance sheet as an asset, liability or in the equity section.

Income Statement

Sales →→→→→
Cost of Goods Sold →→→→→
Operating Expenses →→→→→
Income Tax Expense →→→→→
Dividend Declared →→→→→

Balance Sheet

Accounts Receivable
Inventory
Accounts Payable
Accrued Expenses
Income Tax Payable
Dividend Payable

Accounts Receivable Turnover Rate

Calculation:
$$\frac{\text{Net Sales}}{\text{Accounts Receivable}}$$

It measures the liquidity of Accounts Receivable by calculating the number of times trade Accounts Receivable turn over during the year. The higher the turnover of Accounts Receivable, the shorter the time between sale and cash collection. For example, if Accounts Receivable turnover rate is 12 times this year versus 8 times last year, it means the company received 4 more payments from its customers this year than last year. Because this ratio is calculated using one day's Accounts Receivable as of the statement date, seasonal fluctuations are not taken into account.

Accounts Receivable Turnover in Days

Calculation:
$$\frac{365 \text{ days (or the number of days in a period being measured)}}{\text{Accounts Receivable Turnover Rate}}$$

This figure expresses the average number of days that Accounts Receivable are outstanding. Generally, the higher the ratio (i.e., the greater number of days outstanding), the greater the probability of delinquencies in Accounts Receivable.

Inventory Turnover Rate

Calculation:
$$\frac{\text{Cost of Goods Sold}}{\text{Inventory}}$$

It measures the liquidity of Inventory by calculating the number of times Inventory turns over during the year. The higher the turnover of Inventory, the shorter the time between the purchase of raw material need to produce finished goods for sale (for a manufacturer); or the purchase of

completed goods for re-sale (for a wholesaler and retailer). Because this ratio is calculated using one day's Inventory as of the statement date, seasonal fluctuations are not taken into account.

Inventory Turnover in Days

Calculation:
$$\frac{365 \text{ days (or the number of days in a period being measured)}}{\text{Inventory Turnover Rate}}$$

This figure expresses the average number of days it takes for cash used to purchase raw material or finished goods inventory to be sold to the end user. Generally, the higher the number of Inventory days outstanding, the more the need for cash to carry this inventory.

Inventory to Net Working Capital

Calculation:
$$\frac{\text{Inventory}}{\text{Working Capital}}$$

This ratio measures the relationship between the least liquid of the current assets and the amount of free, or uncommitted, current assets of an entity. If the ratio of inventory to working is less than 1 (say .75 or 75%) it means the remaining 25% of net working capital is made up of highly liquid assets that would be able to supply additional cash needs beyond the current liabilities.

The generally accepted standard for this ratio is between 75 to 100 percent, since it is usually desirable for current assets minus inventory to at least equal current liabilities. The standard, however, depends upon specific situation.

Accounts Payable Turnover Rate

Calculation:
$$\frac{\text{Cost of Goods Sold}}{\text{Accounts Payable}}$$

It measures how often Accounts Payable are paid by calculating the number of times trade Accounts Payable turn over during the year. The higher the turnover of Accounts Payable, the shorter the time of payment between the purchase of goods and the payment for those goods. For example, if Accounts Payable turnover rate is 12 times this year versus 8 times last year, it means the company issued 4 more payments to its suppliers this year than last year. Because this ratio is calculated using one day's Accounts Payable as of the statement date, seasonal fluctuations are not taken into account.

Accounts Payable Turnover in Days

Calculation:
$$\frac{365 \text{ days (or the number of days in a period being measured)}}{\text{Accounts Payable Turnover Rate}}$$

This figure expresses the average number of days that Accounts Payable are outstanding. Generally, the higher the ratio (i.e., the greater number of days outstanding), the greater the probability of the company being delinquent with its suppliers and other creditors.

	<u>2013</u>	<u>2014</u>	<u>2015</u>
A/R Turnover Rate	7.0	8.1	7.4
A/R Turnover Days	52	45	49
Inventory Turnover Rate	2.9	2.7	3.1
Inventory Turnover Days	128	135	116
Accounts Payable Turnover Rate	6.9	13.0	13.5
Accounts Payable Turnover Days	53	28	27
Inventory to Working Capital	1.31	1.14	0.94

ASSET CONVERSION CYCLE

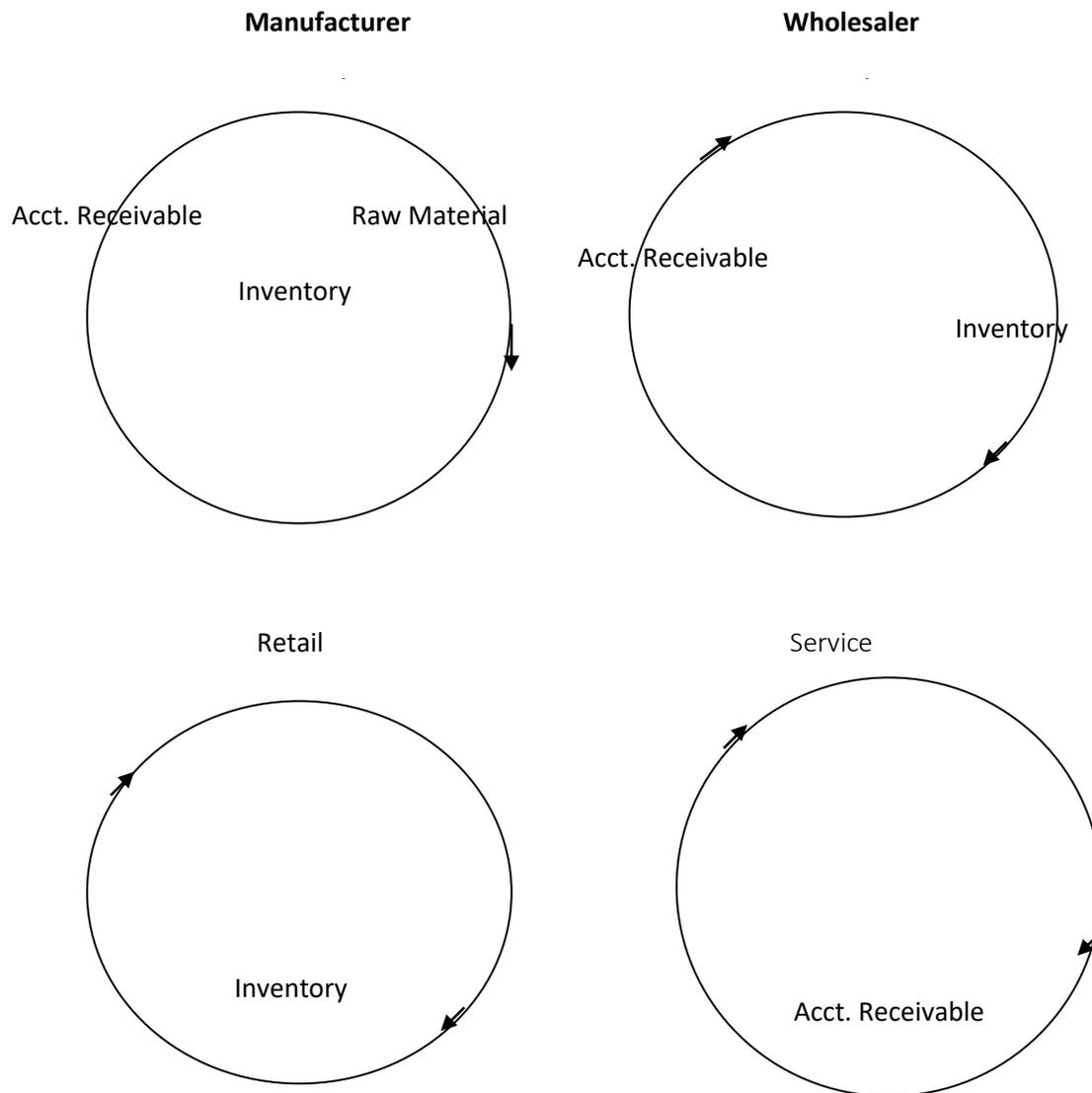
The Asset Conversion Cycle is the process of converting a company's assets into cash. It:

- Provides understanding of borrowing needs
- Differentiates between borrowing purpose and borrowing cause
- Determines the why, when and how much

The Asset Conversion Cycle consists of:

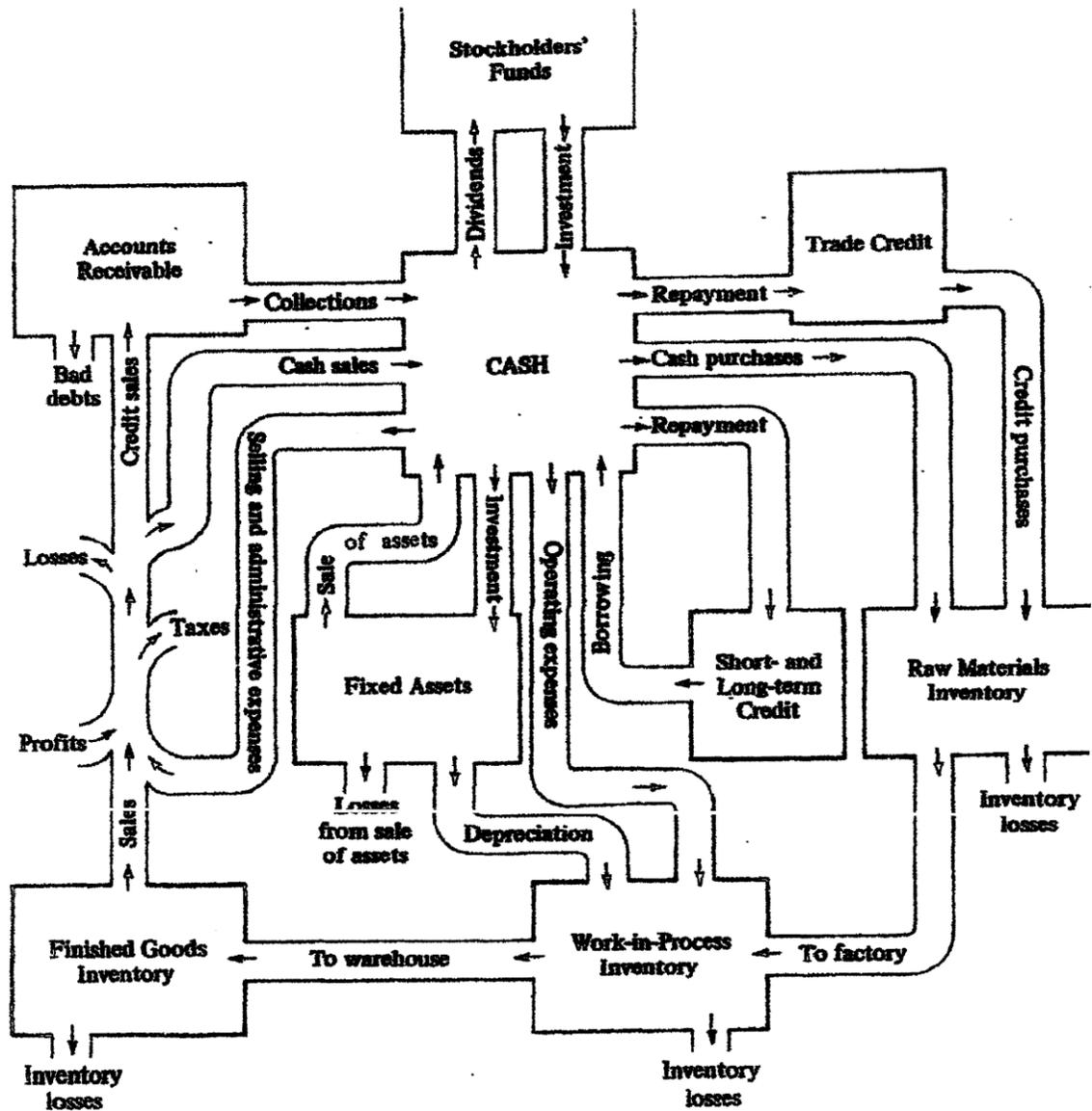
- The Operation Cycle (Usually last for 1 year or less)
- Fixed –Asset Cycle (Covers a number of years)

Operating Cycle Comparison



Components of Operating Cycle

- Cash
- Purchase of goods of raw materials
- Manufacturing of inventory
- Sale of inventory and creation of account receivable
- Conversion of A/R to cash through collection



Net Working Investment Analysis

When the Accounts Receivable, Inventory and Accounts Payable turnover ratios are calculated, the results can be used to calculate the Net Working Investment (“NWI”) for the entity. Before the NWI can be defined, a definition of the Operating Cycle must be established.

The Operating Cycle is defined as the time it takes for an entity to utilize its available cash to purchase raw material; convert it to finish goods inventory and eventually sell it (for a manufacturer): or purchase finished goods inventory and sell it to the end user (for a wholesaler and retailer): or fund upfront expenses in order to provide a service (for service companies). Therefore, the Operating Cycle can be calculated as follows:

Accounts Receivable Turnover (days)	49	\$1,280,430
+ Inventory Turnover (days)	116	\$2,205,935
<hr/>		
= Operating Cycle	165	\$3,486,365
- Accounts Payable (days)	(27)	(506,961)
<hr/>		
Financing Need After Accounts Payable	138	\$2,979,404
Less: Amount Covered by Excess Cash Flow		(265,674)
<hr/>		
Remaining Financing Needs		\$2,713,830
Less Amount Covered by Equity in Trading Assets		(2,554,929)
Amount to be Financed by a Working Capital Line of Credit		\$ 158,901

FINANCIAL IMPACT ANALYSIS

What is the financial impact on the cash flow of a company if Accounts Receivable, Inventory and Accounts Payable turnover measured in days speed up or slow down. There is a definite positive or negative impact that can be measured and will serve as justification for a need for additional cash or an explanation for an excess of cash being generated. The methods to determine the financial impact on these asset and liability accounts can be calculated as follows:

Accounts Receivable Turnover Financial Impact

<u>Sales</u>	<u>9,545,000</u>	= 1,178,395
Target Turnover Rate	8.1	
<u>Minus: Actual Accounts Receivable Balance</u>		<u>- 1,280,430</u>
= Positive or Negative Financial Impact		(102,035)

Inventory Turnover Financial Impact

<u>Cost of Sales</u>	<u>6,806,593</u>	= 2,520,960
Target Turnover Rate	2.7	
<u>Minus: Actual Inventory Balance</u>		<u>- 2,205,936</u>
= Positive or Negative Financial Impact		315,024

Accounts Payable Turnover Financial Impact

<u>Cost of Sales</u>	<u>6,806,593</u>	= 986,463
Target Turnover Rate	6.9	
<u>Minus: Actual Accounts Payable Balance</u>		<u>- 506,961</u>
= Positive or Negative Financial Impact		=479,502

LEVERAGE

Leverage refers to the proportion of funds invested in an entity by the creditors in the form of loans and the owners in the form of equity. Highly leverage firms (those with heavy debt in relation to net worth) are more vulnerable to business downturn than those with lower debt to worth positions. While leverage ratios help measure this vulnerability, it does greatly depend on the requirements of particular industry groups.

Debt to Net Worth

Calculation: $\frac{\text{Total Debt}}{\text{Tangible Net Worth}}$

This ratio indicates the extent to which the company's funds are contributed by creditors compared to the owners. It expresses the degree of protection provided by the owners for the creditors. A low ratio generally indicates greater long-term debt paying ability. A firm with a low debt/worth ratio usually has greater flexibility to borrow in the future. A highly leveraged company has a limited ability to absorb more debt.

Debt to Total Assets

Calculation: $\frac{\text{Total Debt}}{\text{Total Assets}}$

This ratio indicates the extent to which the assets of a company are supported by debt. It should always be below a 1 to 1 mark. The lower the ratio the less creditors have at risk in relations to the investment by owners. It is another way to view leverage by determining if creditors or owners are providing the majority support of the assets.

Net Fixed Assets to Equity

Calculation: $\frac{\text{Net Fixed Assets}}{\text{Tangible Net Worth}}$

This ratio is most useful for companies in which Fixed Assets represent a major portion of Total Assets. It measures the extent to which owners' equity (capital) has been invested in plant and equipment (Fixed Assets). A lower ratio indicates a proportionately smaller investment in Fixed Assets in relation to Net Worth, and a better cushion for creditors in case of liquidation. Similarly, a higher ratio would indicate the opposite. The presence of substantial leased Fixed Assets, which are not shown on the balance sheet) may deceptively lower this ratio.

	<u>2013</u>	<u>2014</u>	<u>2015</u>
Debt to Tangible Net Worth	1.33	1.09	0.93
Debt to Total Assets	51.7	52.2	48.3
Net Fixed Assets to TAN	0.38	0.41	0.39

ASSET MANAGEMENT (EFFICIENCY) RATIOS

Asset Management or Efficiency Ratios measures management's ability to utilize assets to generate revenue or create value (i.e. generate a profit).

Asset Efficiency or Asset Turnover Ratio

Calculation: $\frac{\text{Total Sales}}{\text{Total Assets}}$

This ratio measures management's ability to use its Total Assets to its best advantage. Since sales are the numerator, it measures the ability of Total Assets to generate sales. A lower ratio from earlier periods indicates that the existing assets owned at the time the ratio was calculated were not as efficient in generating sales as in the past. This ratio is useful when considering a loan request to increase operating and non operating assets.

Net Fixed Assets Efficiency or Turnover Ratio

Calculation: $\frac{\text{Total Sales}}{\text{Net Fixed Assets}}$

This ratio is most useful for companies in which Fixed Assets represent a major portion of Total Assets. It measures the extent to which Fixed Assets can generate revenue or sales. A falling ratio indicates the existing Net Fixed Assets are not as efficient in generating sales as they were in previous periods. It is most useful when considering a term loan request to acquire equipment or other Fixed Assets.

Fixed Asset Usage Ratio

Calculation: $\frac{\text{Accumulated Depreciation}}{\text{Gross Fixed Assets}}$

This ratio is useful in determining how much usage the Fixed Assets has experienced. It is most useful to lenders considering a request to finance new equipment. If the usage is less than 50%, further justification should be required for new or replacement Fixed Assets.

Fixed Asset Life Ratio

$$\text{Calculation: } \frac{\text{Net Fixed Assets}}{\text{Depreciation Expense}}$$

Similar to the ratio above, this ratio indicates how much life is left in the Fixed Assets by taking the Net Fixed Assets and dividing it by the current year's depreciation expense. This ratio should complement the above ratio. For example, if the Fixed Assets Usage Ratio indicates usage of 90%, you would not expect the Fixed Assets Life Ratio to show 8 years of life left.

	<u>2013</u>	<u>2014</u>	<u>2015</u>
Asset Turnover Ratio	1.86	1.81	2.02
Net Fixed Asset Efficiency Ratio	11.4	9.2	10.1
Fixed Asset Usage Ratio	0.67	0.65	0.66
Net Fixed Asset Life Ratio	5.2 years	6.4 years	4.8 years

OPERATING PERFORMANCE

These ratios indicate management's ability to manage a company towards profitability.

Gross Profit Margin

Calculation: $\frac{\text{Gross Profit}}{\text{Net Sales}}$

This ratio expresses Gross Profit as a percentage of Net Sales. It measures how many dollars out of each dollar of sales remains to cover all operating expenses (those that are not directly related to the costs required to produce the good or service). The higher the margin, the more funds available to cover operating expenses.

Operating Profit Margin

Calculation: $\frac{\text{Operating Profit}}{\text{Net Sales}}$

This ratio expresses Operating Profit as a percentage of Net Sales. It measures how many dollars or cents out of each dollar of sales remains to cover other non-operating expenses including: Interest, Extra-Ordinary Expenses, Taxes, etc. The higher the margin, the more funds available to cover these items.

Net Profit Margin

Calculation: $\frac{\text{Net Profit}}{\text{Net Sales}}$

This ratio expresses Net Profit as a percentage of Net Sales. It measures how many dollars or cents out of each dollar of sales remains as profit. The higher the margin, the more profitable the company.

Return on Stockholders Equity

Calculation: $\frac{\text{Net Income}}{\text{Stockholder's Equity}}$

This ratio expresses the profitability of the company's operations to owner after income taxes. It can be compared to alternative investments available to the owners.

Return on Investment (Assets)

Calculation: $\frac{\text{Net Income}}{\text{Total Assets}}$

This ratio measures the effective utilization of the assets of the company in generating profits or creating value.

	<u>2013</u>	<u>2014</u>	<u>2015</u>
Gross Profit Margin	22.8%	25.8%	28.7%
Operating Profit Margin	6.1%	6.0%	9.4%
Net Profit Margin	1.9%	2.6%	5.2%
Return on Equity	8.3%	9.8%	20.5%
Return on Assets	3.4%	4.7%	10.6%

COVERAGE RATIOS

Financial Ratios measure the ability of a borrower to meet its financing obligations including Interest Expense, Principal Payments on Long-Term Debt and other fixed charges such as Lease Payments.

Interest Coverage Ratio

Calculation:
$$\frac{\text{Earning (profit) before Interest, Taxes, Depreciation \& Amortization}}{\text{Annual Interest Expense}}$$

This ratio is a measure of a firm's ability to meet interest payments. It measures the number of times all interest paid by the company is covered by earnings before interest charges and taxes. A high ratio may indicate that a borrower would have little difficulty in meeting the interest obligations of a loan. This ratio also serves as an indicator of a firm's capacity to take on additional debt.

$$\begin{aligned} & \frac{500 + 97 + 0 + 196}{97} \\ = & \quad 8.3 \text{ Times} \end{aligned}$$

UCA vs. Traditional

	Tradition	UCA
▶ Net Profit	500	500
▶ Plus: Non-Cash Charges	196	196
▶ ± Change in Accounts Receivable	0	(282)
▶ ± Change in Inventory	0	(187)
▶ ± Change in Accounts Payable	0	132
▶ ± Change in Accrued Expenses	0	49
▶ = Cash After Operating Cycle	696	408
▶ ± Change in Net Worth (Dividend)	0	(243)
▶ = Cash After Financing Cost	696	165
▶ Less: Current Portion of LTD	(134)	(134)
▶ = Cash Available for Other Debt	562	31
▶ DEBT COVERAGE RATIO	5.19	1.23

The Cash Flow calculation shown above is more comprehensive than the traditional formula of Net Profit plus Depreciation because it considers changes in working capital requirements of companies which either generate or use cash. By using the above calculation, the analyst can see the impact upon cash at various target points as shown by the bold lines in the formula. The definitions of cash at each target point are as follows:

Cash After Operating Cycle: This is the Cash remaining after considering the operating performance of the entity plus or minus the impact of the change in Net Working Investment (Accounts Receivable plus Inventory minus Accounts Payable plus Accrued Expenses).

Cash After Financing Cost: This is the Cash remaining after considering the impact of any dividends paid and/or owners' withdrawals from the company.

**Cash Available
For Other Debt:**

This is the Cash available to meet future debt payments. It measures the company's ability to take on additional debt. It is measured before Fixed Assets increases or decreases because changes in Fixed Assets are generally at the discretion of management.

Financing Surplus
(Requirement):

This is the Cash Surplus or Requirement the company experienced after considering the major items that impact cash. If a Financing Surplus resulted, the cash was used to pay down existing debt, pay dividends or reinvested in the form of Fixed Assets or Equity. If a Financing Requirement resulted, the company was required to utilize its own cash, borrow, or raise equity to meet all their obligations incurred during the previous year.

OTHER FINANCIAL RATIOS

EARNINGS PER SHARE

$$\frac{\text{Net Income Minus Preferred Dividends}}{\text{Weighted Shares Outstanding}}$$

PRICE EARNINGS RATIO

$$\frac{\text{Market Price of Stock}}{\text{Earnings Per Share}}$$

PAYOUT RATIO

$$\frac{\text{Cash Dividends}}{\text{Net Income Less Preferred Dividends}}$$

BOOK VALUE PER SHARE

$$\frac{\text{Common Stockholders' Equity}}{\text{Outstanding Shares}}$$

CASH FLOW PER SHARE

$$\frac{\text{Net Income + Noncash Adjustments}}{\text{Outstanding Shares}}$$

HIGHWAY SAFETY EQUIPMENT COMPANY, INC. (HSE)

Highway Safety Equipment Company, Inc. Manufacturing Company manufactures construction site caution signs such as those you often see on construction sites on the highways including yellow and orange cones, barrels, flashing lights, manhole covers and skirts to protect workers going into and out of the manholes. HSE is a family own business that was founded 50 years ago when the freeway system in the US began to explode. The company has enjoyed success especially over the past 25 years as construction and repair became necessary to maintain an aging freeway system.

Most of the business HSE obtains is strictly on a bid basis. The company has become very astute in the bidding process by landing a high percentage of jobs sought. Management attributes this to a combination of knowing the company's cost structure, skill level of the workers, understanding of the bidding process and a little luck. Rarely HSE loses money on any job. When a loss occurs, it is due to a higher than usual rate of damage to the construction objects cause by drivers speeding through construction sites. Liability is a real issue for HSE because occasionally, speeders will sue the company sighting the construction objects caused them to crash because of where they are placed. This is a real issue because construction workers may place the construction objects in areas that could cause a problem. Their focus is on protecting themselves as opposed to placing the objects strategically to maximize protection and prove safe for the drivers. HSE manufactures its products in two plants, one in Washington and the other in Illinois.

You are a Commercial Relationship Manager at your bank and you made a call on Highway Safety Equipment Company, Inc. HSE has been on your prospect list for years because it has a reputation of being a well organized and managed organization and has been operating in your community for the past 30 years.

On your recent visit, you met with Jay Johnson, Chief Financial Officer, who surprised you by providing a window of opportunity. It appears the relationship with Bank of Washington , their present bank, is deteriorating to the point where HSE is now open to new possibilities. Of course, being the conservative banker you are, you wonder what caused the souring relationship.

As you receive the financial information, Jay informs you that HSE is contemplating acquiring a sophisticated piece of equipment that will cost \$1,000,000. HSE is in the business of manufacturing road side safety equipment such as those orange cones and barrels you see on highway construction sites as well as man hole covers and the skirts that enclose man holes when work is being performed. This new equipment will make HSE more efficient than any of its competitors.

Your assignment is to thoroughly analyze HSE with the information provided and prepare a presentation to your Loan Committee for the \$1,000,000 term loan. The annual principal payment on the proposed loan is \$225,000. In your analysis, assume all supporting information you would ordinarily request is satisfactory to your bank.

AB & C, P.C.

CERTIFIED PUBLIC ACCOUNTANTS

Independent Auditor's Report

**To the Stockholders and Board of Directors
Highway Safety Equipment Company, Inc. ("The Company")**

We have audited the accompanying balance sheets of The Company (an S-Corporation) as of December 31, 2019 and 2018, and the related statements of operations and retained earnings and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with general accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of The Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying Supplementary Schedules I-III are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly presented in all material respects in relation to the basic financial statements taken as a whole.

AB & C, P.C.
April 10, 2020

Highway Safety Manufacturing, Inc.
Balance Sheet
As of December 31

ASSETS

	2017	%	2018	%	2019	%
CURRENT ASSETS:						
Cash	\$ 3,291		\$ 107,036		\$ 52,039	
Accounts Receivable, Net	1,291,080		1,009,314		1,280,430	
Inventory	2,465,806		2,279,892		2,205,935	
Prepaid Expenses	21,613		16,224		17,076	
Notes Receivable - Current Portion	19,188		11,227		12,464	
Total Current Assets	3,800,978		3,423,693		3,567,944	
PROPERTY, PLANT AND EQUIPMENT						
Land	37,765		37,765		37,765	
Buildings	483,743		492,831		498,436	
Machinery & Equipment	1,108,534		1,117,421		1,216,916	
Autos & Trucks	52,505		52,505		54,569	
Office Furniture & Fixtures	272,410		429,017		490,330	
Patterns & Molds	66,158		105,957		140,668	
Patents	405,064		339,057		355,386	
	2,426,179		2,574,553		2,794,070	
Less Accumulated Depreciation	(1,631,044)		(1,680,054)		(1,852,934)	
Net Property, Plant & Equipment	795,135		894,499		941,136	
OTHER ASSETS:						
Investment - ABA Partnership	71,883		71,818		-0-	
Investment - Rabbi Trust	-0-		-0-		21,456	
Notes Receivable - Shareholders, Net	125,440		106,530		94,066	
Cash Value - Officers' Life Insurance	18,207		19,124		19,592	
Deposits	15,313		37,049		57,974	
Patents Pending	25,899		19,723		21,287	
Total Other Assets	256,742		254,244		214,375	
TOTAL ASSETS	\$4,852,855		\$ 4,572,436		\$ 4,723,455	

The accompanying report and notes to financial statements are integral parts of these statements.

Highway Safety Manufacturing, Inc.
Balance Sheet
As of December 31,

LIABILITIES AND STOCKHOLDERS' EQUITY

	2017	2018	%	2019	%
CURRENT LIABILITIES					
Accounts Payable	\$1,008,775	\$ 476,569		\$ 506,961	
Notes Payable - Bank	455,759	500,000		150,000	
Notes Payable - Current Portion	100,623	132,643		134,140	
Accrued Commissions	59,196	55,287		43,077	
Accrued Salaries & Bonuses	211,030	173,357		305,956	
Accrued Other Liabilities	87,264	79,706		75,442	
Total Current Liabilities	1,922,647	1,417,562		1,215,576	
LONG-TERM LIABILITIES:					
Notes Payable	350,391	372,674		313,379	
Mortgages Payable	598,361	587,951		576,479	
Deferred Compensation	0	140,668		309,267	
Less: Current Portion of Long Term Debt	(100,623)	(132,643)		(134,140)	
Total Long-Term Liabilities	848,129	968,650		1,064,985	
Total Liabilities	2,770,776	2,386,212		2,280,561	
STOCKHOLDERS' EQUITY:					
Common Stock, No Par, 50,000 Shares Authorized, 22,205 Shares Issued and Outstanding	25,000	25,000		25,000	
Paid-In Capital	11,766	11,766		11,766	
Retained Earnings	2,045,313	2,149,458		2,406,128	
Total Stockholders' Equity	2,082,079	2,186,224		2,442,894	
TOTAL LIABILITIES AND EQUITY	\$ 4,852,855	\$ 4,572,436		\$ 4,723,455	

The accompanying report and notes to financial statements are integral parts of these statements.

Highway Safety Manufacturing, Inc.
Statement of Operations and Retained Earnings
For the Years Ended December 31,

	Amount			Percent of Sales	
	2017	2018	2019	2018	2019
Sales	\$ 9,037,606	\$ 8,256,972	\$ 9,544,948	100.00%	100.00%
Cost of Goods Sold	6,977,156	6,123,634	6,806,593	74.16	71.31
Gross Profit on Sales	2,060,450	2,133,338	2,738,355	25.84	28.69
Operating Expenses:					
Selling Expenses	695,555	778,642	819,194	9.43	8.58
Administrative Exp E	502,015	669,735	801,974	8.11	8.40
Total Oper Exp	1,197,570	1,448,377	1,621,168	17.54	16.98
Operating Profit (Loss)	862,880	684,961	1,117,187	8.30	11.71
Other Inc/(Exp)	(101,498)	(131,056)	(96,485)	(1.59)	(1.01)
Income Before Deferred Compensation and Profit Sharing	761,382	553,905	1,020,702	6.71	10.70
Bonuses	280,116	175,656	324,305	2.13	3.40
Deferred Compensation		140,668	168,599	1.70	1.77
Profit Sharing Contribution	25,980	22,400	28,051	.27	0.29
Income Before Discontinued Operations	455,286	\$ 215,181	499,747		
Loss From Discontinued Operations at Subsidiary	<u>(283,431)</u>	0	0		
NET INCOME	171,855	215,181	499,747	2.61%	5.24%
Beginning Balance Retained Earnings	1,873,458	2,045,313	2,149,458		
Less Distributions to Shareholders	-0-	(111,036)	(243,077)		
Ending Balance Retained Earnings	\$2,045,313	\$ 2,149,458	\$ 2,406,128		

Highway Safety Manufacturing, Inc.
Statement of Cash Flows
For the Years Ended December 31,

	<u>2018</u>	<u>2019</u>
Cash Flows From Operating Activities:		
Net Income	\$ 215,181	\$ 499,747
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities:		
Depreciation and Amortization	175,830	234,182
Gain on Sale of Assets	(3,746)	(15,702)
Increase/Decrease in Accounts Receivable	281,766	(271,116)
Decrease in Inventory	185,915	73,957
Increase/Decrease in Prepaid Expenses	5,389	(852)
Increase/Decrease in Accounts Payable	(532,206)	30,392
Increase/Decrease in Accrued Liabilities	(49,140)	116,125
Increase in Deferred Compensation	140,668	168,599
Net Cash Provided by Operating Activities	<u>419,657</u>	<u>835,332</u>
Cash Flow From Investing Activities:		
Purchase of Equipment	(288,238)	(298,012)
Proceeds from Sale of Assets	16,790	23,207
Collections from Notes and Investments	26,871	83,045
Increase in Investment - Rabbi Trust	-0-	(21,456)
Increase in Other Assets	(16,412)	(22,957)
Net Cash Used By Investing Activities	<u>(260,989)</u>	<u>(236,173)</u>
Cash Flows From Financing Activities:		
Borrowing under Line of Credit	400,000	225,000
Payments on Line of Credit	(355,760)	(575,000)
Proceeds from Notes Payable	120,000	71,820
Payments on Notes Payable	(108,127)	(132,899)
Distributions to Shareholders	(111,036)	(243,077)
Net Cash Used By Financing Activities	<u>(54,923)</u>	<u>(654,156)</u>
Net Decrease/Increase in Cash	103,745	(54,997)
Cash at Beginning of Year	<u>3,291</u>	<u>107,036</u>
Cash at End of Year	<u>\$ 107,036</u>	<u>\$ 52,039</u>

The accompanying report and notes to financial statements are integral parts of these statements.

SUPPLEMENTARY SCHEDULE I

Schedule of Cost of Goods Sold
For the Years Ended December 31,

	Amount		Percent of Sales	
	2018	2019	2018	2019
Beginning Inventory	\$ 2,465,806	\$ 2,279,892		
Purchases	3,520,337	4,171,767		
Freight	71,432	104,905		
Less Ending Inventory	<u>(2,279,892)</u>	<u>(2,205,935)</u>		
Cost of Material Sold	3,777,683	4,350,629	45.75	45.58
Direct Labor	580,052	708,436	7.03	7.42
Factory Burden Consumed	<u>1,765,899</u>	<u>1,747,528</u>	<u>21.38</u>	<u>18.31</u>
COST OF GOODS SOLD	\$ 6,123,634	\$ 6,806,593	74.16	71.31

Schedule of Factory Burden

Auto and Travel Expense	\$ 4,395	\$ 5,008	.0	.05
Depreciation	113,242	138,263	1.3	1.45
Employee Benefits	19,174	26,295	.2	.28
Engineering Expenses	41,336	39,421	.5	.41
Indirect Labor-				
Supervision	88,671	91,601	2.2	2.01
Labor-Engineering &				
Research	114,915	123,538	1.3	1.29
Indirect Labor-Other	327,036	407,316	3.9	4.27
Insurance	157,544	110,280	1.9	1.16
Insurance-Employee Health	126,138	102,633	1.5	1.08
Insurance-Employee Life	12,481	9,349	.1	.10
Miscellaneous	50,823	51,028	.6	.53
Patent Expense	51,277	39,426	.6	.41
Repairs and Maintenance	69,367	56,232	.8	.59
Rent	88,480	90,100	1.0	.94
Research and Development	37,841	14,886	.4	.16
Shipping Supplies	20,005	33,756	.2	.35
Shop Supplies and Tools	65,833	71,966	.8	.75
Taxes-Payroll	98,484	104,275	1.1	1.09
Taxes-Other	53,867	46,071	.6	.48
Utilities	61,811	68,340	.7	.72
Warranty Expense	<u>63,179</u>	<u>17,744</u>	<u>.7</u>	<u>.19</u>
TOTAL FACTORY BURDEN	\$ 1,765,899	\$ 1,747,52	21.3	18.31

See accountant's report.

SUPPLEMENTARY SCHEDULE II

Schedule of Selling Expenses
For the Years Ended December 31,

	Amount		Percent of Sales	
	2018	2019	2018	2019
Advertising	\$ 157,624	\$ 164,749	1.92%	1.73%
Customer Relations	19,442	19,389	.24	.20
Demonstrator Equipment	31,755	27,383	.38	.29
Depreciation	5,590	8,757	.07	.09
Dues and Subscriptions	578	535	.01	.01
Employee Benefits	3,441	1,421	.04	.02
Insurance	15,104	12,455	.18	.13
Insurance-Employee Health	11,362	8,470	.14	.09
Insurance-Employee Life	1,117	943	.01	.01
Sales Auto Expense	11,344	15,412	.14	.16
Sales Commissions	242,947	246,024	2.94	2.58
Salaries	176,239	167,756	2.13	1.76
Taxes	19,069	15,479	.23	.16
Telephone	16,418	24,752	.20	.26
Travel	32,431	51,581	.39	.53
Miscellaneous	34,181	54,088	.41	.56
TOTAL SELLING EXPENSE	\$ 778,642	\$ 819,194	9.43%	8.58%

Schedule of Other Income and Expense

Interest Income	\$ 13,476	\$ 12,190	.16%	.13%
Miscellaneous Income				
(Expense)	(5,719)	(27,207)	(.07)	(.29)
Reorganization Expense	(18,944)	-0-	(.23)	(.00)
Gain on Sale of Assets	3,746	15,702	.05	.16
Interest Expense	(123,615)	(97,170)	(1.50)	(1.01)
TOTAL OTHER INCOME AND EXPENSE	\$ (131,056)	\$ (96,485)	(1.59) %	(1.01) %

See accountant's report.

SUPPLEMENTARY SCHEDULE III

Schedule of Administrative Expenses
For the Years Ended December 31,

	Amount		Percent of Sales	
	2018	2019	2018	2019
Auto	\$ 4,156	\$ 7,322	.05%	.08%
Bad Debts	-0-	19,312	.00	.20
Depreciation	21,852	49,375	.26	.52
Director's Fees	2,000	3,705	.02	.04
Dues and Subscriptions	3,585	3,380	.04	.04
Employee Benefits	6,814	12,403	.08	.13
Insurance	16,759	40,987	.20	.43
Insurance-Employee Health	22,657	17,004	.27	.18
Insurance-Employee Life	4,124	2,339	.05	.02
Miscellaneous	11,053	19,702	.14	.20
Office Repairs and Maintenance	14,055	27,062	.17	.28
Office Supplies and Expense	34,244	40,453	.41	.42
Postage	5,747	6,903	.07	.07
Professional Fees	52,519	34,630	.63	.36
Salaries-Office	195,306	215,431	2.38	2.26
Salaries-Officers	202,548	220,825	2.46	2.31
Taxes-Miscellaneous	1,696	1,585	.02	.02
Taxes-Payroll	28,783	30,327	.35	.32
Taxes-Property	2,172	1,851	.03	.02
Telephone	24,059	27,530	.29	.29
Travel	15,606	19,849	.19	.21
TOTAL ADMINISTRATIVE EXPENSES	\$ 669,735	\$ 801,975	8.11%	8.40%

See accountant's report.

Notes to Financial Statements

For the Years Ended December 31, 2019 and 2018

Note 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

This summary of significant accounting policies of The Company (the Company) is presented to assist in understanding the Company's financial statements. The financial statements and notes are representations of the Company's management who is responsible for their integrity and objectivity.

Business Activity

The Company was organized in 1967 for the purpose of manufacturing and marketing products to the utility industry in the United States, Canada, and foreign markets. The Company manufactures its products in Littleton, Colorado and markets them through a nationwide distributor and representative network.

Inventories

Inventories are stated at the lower of average cost or market. Inventories as of December 31, 2019 and 2018 are as follows:

	<u>2019</u>	<u>2018</u>
Raw Materials	\$ 1,132,959	\$ 1,033,360
Work in Process	349,072	329,13
Finished Goods	683,038	899,059
Demonstrators	<u>40,866</u>	<u>18,342</u>
Total Inventory	<u>\$ 2,205,935</u>	<u>\$ 2,279,892</u>

Prepaid Expenses

Prepaid expenses consist of prepaid insurance and loan fees and are amortized over the contractual period.

Property, Plant & Equipment

Property, Plant and Equipment are stated at cost less accumulated depreciation and are depreciated over the estimated life of each asset. When assets are retired or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is recognized. Expenditures for major renewals and betterments that extend the useful lives of assets are capitalized, costs of maintenance and repairs are charged to income as incurred. Depreciation has been provided utilizing both straight-line and accelerated methods.

Depreciation expense for the years ended December 31, 2019 and 2018 is as follows:

	<u>2019</u>	<u>2018</u>	<u>Estimated Useful Life</u>
Buildings and Improvements	\$ 13,417	\$ 13,516	20-40 Years
Autos and Trucks	8,286	914	5 Years
Machinery and Equipment	104,389	95,576	7-10 Years
Office Furniture and Fixtures	60,066	33,091	5-10 Years
Patents	29,805	29,173	10-17 Years
Patterns and Molds	<u>18,219</u>	<u>3,560</u>	7-10 Years
Total	<u>\$ 234,182</u>	<u>\$ 175,830</u>	

Fixed assets capitalized as acquired under capital leases consist of equipment with a cost of \$555,789 and accumulated depreciation of \$392,363.

Notes to Financial Statements
For the Years Ended December 31, 2019 and 2018

Note 1 – SUMMARY OF SIGNIFICANT ACCOUNTING PLOICIES (Continued)

Miscellaneous

Research and development expenditures are expensed as incurred.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Income Taxes

The Company elected to be taxed as an S corporation beginning in 1991. Under these provisions, The Company does not pay taxes on its corporate income but passes through that income to its shareholders who are liable for income taxes on their proportionate share. The Company pays an annual franchise tax to the state of California.

Note 2 – ACCOUNTS RECEIVABLE

The Company follows the allowance method of providing for uncollectible accounts receivable. The allowance for doubtful accounts was \$5,400 and \$8,682 at December 31, 2019, and 2018, respectively. Charges to earnings for the years ended December 31, 2019 and 2018 were \$19,312 and \$-0-, respectively.

Note 3 – NOTES PAYABLE – SHORT TERM

The Company's short-term debt consists of the following:

	<u>2019</u>	<u>2018</u>
Bank line of credit of \$1,000,000 collateralized by accounts receivable, contract rights, intangibles, inventory and equipment of The Company, accruing interest at the bank's prime rate plus one-quarter percent. The note is due in June, 2020. The note is guaranteed by the principal shareholder of The Company	\$ 150,000	\$ 500,000
Current portion of long-term debt	<u>134,140</u>	<u>132,643</u>
Total Short-Term Debt	<u>\$ 284,140</u>	<u>\$ 632,643</u>

Notes to Financial Statements
For the Years Ended December 31, 2019 and 2018

Note 4 – LONG TERM LIABILITIES

The Company's long-term debt consists of the following:

<p>Capital leases on equipment purchased under non-cancelable lease agreements. The economic substance of the leases is that The Company is financing the acquisition of those assets through the leases. Payable in monthly installments of \$4,556 including principal and interest at 8% with the final payment due September, 2023.</p>	\$	136,460	\$	189,082
<p>Note payable to a financial institution collateralized by a pressbrake, payable in monthly installments of \$1,476, including interest at 8.58%. The final payment is due February, 2022.</p>		61,877		-0-
<p>Note payable to a financial institution collateralized by accounts receivable, inventory and equipment of the Company, payable in monthly principal installments of \$3,229, plus interest at the bank's prime rate plus three-quarters percent. The final payment is due October 1, 2023.</p>		32,292		71,042
<p>Note payable to a financial institution collateralized by computer equipment of The Company payable in 60 monthly principal installments of \$2,483 plus interest at the bank's prime rate plus three-quarter's percent. The final payment is due March 1, 2023.</p>		82,750		112,550
<p>Mortgage payable collateralized by the Company's main building at 2500 S. Tejon St., Littleton, CO. The mortgage is payable in monthly installments of 5,691 payable for 20 years with the remaining unpaid balance due on October 4, 2032. The mortgage accrues interest at the rate of 9.75% per annum.</p>		576,479		587,951

Notes to Financial Statements
For the Years Ended December 31, 2019 and 2018

Note 4 – LONG TERM LIABILITIES
(Continued)

Amount accrued under a deferred compensation agreement payable to managing officers of The Company under terms of the agreement (see note 8).

	<u>309,267</u>	<u>140,668</u>
Subtotal	<u>1,199,125</u>	<u>1,101,293</u>
Less current portion of long-term debt	<u>(134,140)</u>	<u>(132,643)</u>
Total Long-Term Debt	<u>\$ 1,064,985</u>	<u>\$ 968,650</u>

The following is a schedule of maturities of long-term debt:

2020	134,140
2021	107,856
2022	93,706
2023	33,596
2024	21,562
Thereafter	<u>808,265</u>
	<u>\$1,199,125</u>

The following is a schedule of minimum lease payments required under the capital leases:

2020	54,675
2021	54,675
2022	41,006
2024	-0-
	<u>\$ 150,356</u>

Note 5 – EMPLOYEES RETIREMENT PLAN AND TRUST

The Company has adopted an employee's profit sharing retirement plan which includes employee contributions through a 401K plan with The Company matching one half of employee contributions up to a maximum of 2% of eligible annual salaries. All employees of The Company are eligible to participate after reaching age 21 and one year of employment. In addition, the plan allows the Board of Directors, at its discretion, to make additional contributions to the plan. The Company's profit sharing contribution for the years ended December 31, 2019, and 2018 was \$28,051 and \$22,400, respectively.

Note 6 – CORPORATION INCOME TAXES

The Company elected to become an S-corporation beginning in 2000. Therefore, no income taxes are recorded by The Company as the shareholders are liable for income taxes on the corporation's income allocated to them.

Note 7 – RELATED PARTY TRANSACTIONS

The Company had the following related party transactions:

The Company sold a building to a partnership of its principal shareholders in 2014. The partnership assumed the existing mortgage and executed a promissory note to The Company for \$173,968 which is payable over a 15 year period with monthly payments of \$1,922, including principal and interest at 10.5%. The Company remains contingently liable for the mortgage. The balance on the note was \$106,530 and \$117,757 as of December 31, 2019, and 2018, respectively. The Company also entered into a lease agreement for this facility for a period of five years with monthly rental payments of \$5,833. The Company is responsible for taxes, insurance and maintenance of the property. The lease expires in April, 2024.

Note 8 – DEFERRED COMPENSATION

The Company entered into a deferred compensation agreement during 2018 with two executive management officers to provide for compensation for future retirement. The agreement requires the company to accrue deferred benefits equal to 12% of operating income as defined in the agreement. The accrued benefit each year is limited to no more than 50% of the net income after a provision for taxes. The Company accrued \$168,599 and \$140,668 under the terms of the agreement for the years ended December 31, 2019 and 2018, respectively. The plan requires funding through a Rabbi Trust of 15% per year of the accrued benefits until fully funded. The benefits normally vest at the rate of 10% per year with varying provisions as specified under the agreement. The benefits are payable on sale of The Company or the employee's termination, death or retirement.

Note 9 – OPERATING LEASES

The Company leases two plant facilities in Colorado for its operations. Lease obligations are as follows:

Raritan Property – Monthly rental is \$5,833 with the lease expiring in April, 2024 (See Note 7). The lease has a renewal option at similar terms every two years.

Warehouse Property – Monthly rental is \$1,675 with the lease expiring in December, 2024.

The Company is obligated under several operating leases for office and telephone equipment,

The following is a schedule of minimum lease payments required under these operating leases:

2020	96,820
2021	23,333

Note 10 – CASH FLOW INFORMATION

The Company considers all short-term investments with an original maturity of three months or less to be a cash equivalent.

Cash paid for interest and income taxes for the years ended December 31, 2019, and 2018, consists of the following:

	<u>2019</u>	<u>2018</u>
Interest	\$ 96,392	\$ 123,645
Income Taxes	\$ 800	\$ 800