A Simple Model

Introduction to Financial Statements

NOTES TO ACCOMPANY VIDEOS

These notes are intended to supplement the videos on ASimpleModel.com. They are not to be used as stand-alone study aids, and are not written as comprehensive overviews of the topic detailed. The purpose of these notes is to provide a tangible collection of the visuals used in the videos with comments highlighting the more important aspects covered.

Introduction to Financial Statements

002 The Accounting Equation

This video introduces the accounting equation, which is the most important concept in accounting.

- This relationship between assets, liabilities and stockholder's equity must always hold true. There are no exceptions to this rule.

The Accounting Equation

ASSETS	=	LIABILITIES	+	STOCKHOLDER'S EQUITY
All property owned by the company.		All debts the company currently has outstanding.		Ownership interests in the company after all debts have been repaid.
The resources a company uses to generate revenue.		The means of acquiring assets.		

After briefly defining the terms and walking through an illustrated example, the equation is expanded upon to introduce double-entry bookkeeping:

DOUBLE-ENTRY BOOKKEEPING: the system most commonly employed by businesses to record financial information. Double-entry bookkeeping requires that a change in one account be matched in another account.

- This is done by recording debits and credits. For every entry the sum of debits must equal the sum of credits.
- Please see video for an example and greater detail on this topic.

The Accounting Equation

Double-entry bookkeeping: most businesses employ a double-entry bookkeeping system to record financial data. Under this system a change in one account must be matched in another account. These changes are made by DEBITS (dr) and CREDITS (cr) to the accounts. For every entry the sum of DEBITS must equal the sum of CREDITS.

ASSETS		=	LIABILITIES		+	STOCKHOLDER'S EQUITY	
+ dr	- cr		- dr	+ cr		- dr	+ cr
$ 5,000,000				$ 5,000,000			

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Debits and credits are difficult to grasp at first. The best way to approach this concept is to revisit the definition as your accounting vocabulary grows.

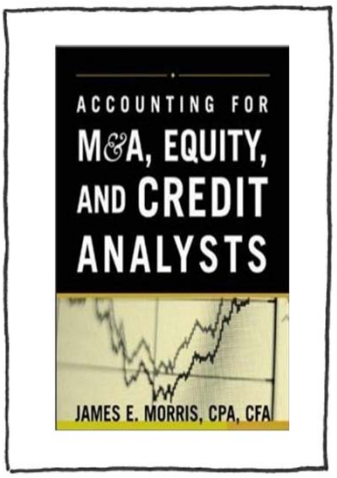
This definition is not included in the video, but can be found under "Reference" on the website. It can be helpful in better understanding debits and credits because it applies the concept to something everyone understands: cash.

DEBIT AND CREDIT REVIEW

In double-entry accounting, the balance sheet is always kept in balance by making debits equal credits. But debits and credits do not seem to be intuitive concepts for many analysts, so let us think of them in the context of something everyone understands: cash.

Rephrasing the original statement, in double-entry accounting, the balance sheet is always kept in balance by making the uses of cash equal the sources of cash. Increasing assets uses cash, and so a DEBIT INCREASES ASSETS (debit = use of cash) because we use cash to "buy" the asset. We get cash from borrowing or increasing liabilities, so a CREDIT INCREASES LIABILITIES (credit = source of cash).

fig. 1

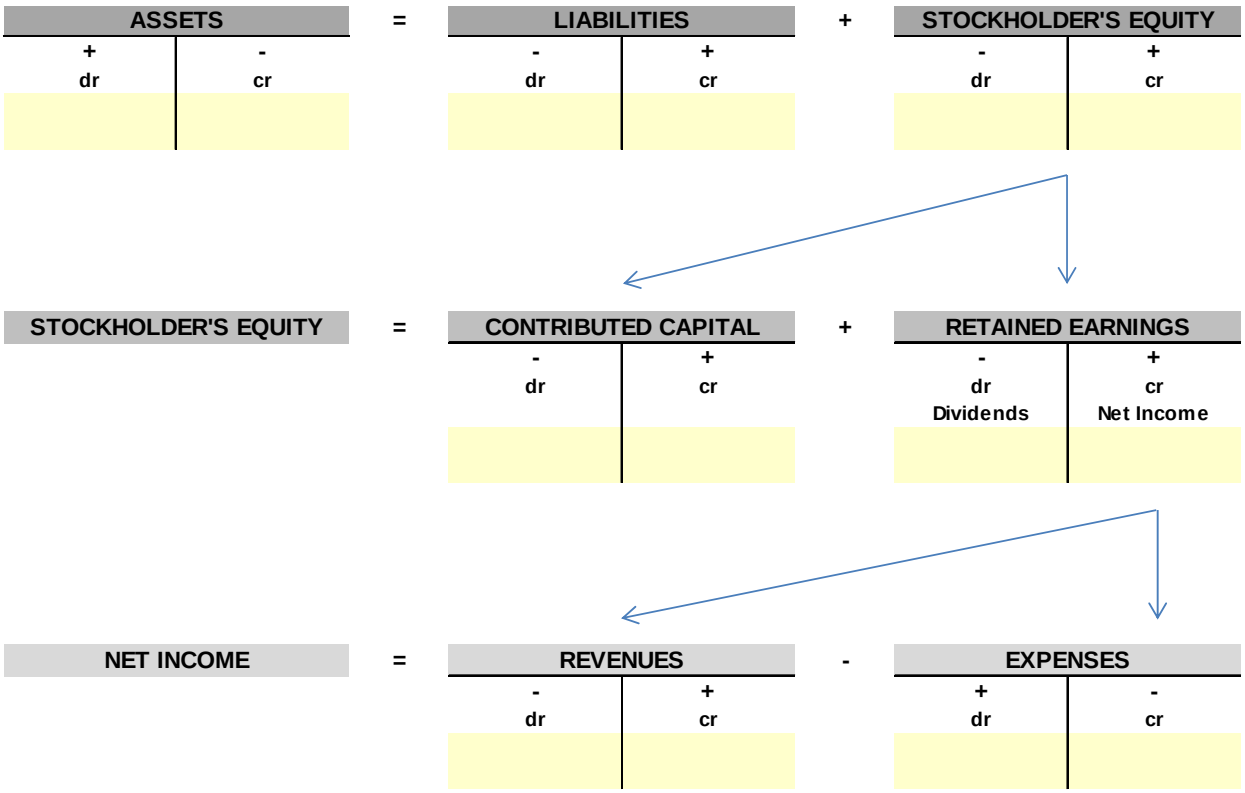


James E. Morris, Accounting for M&A, Equity, and Credit Analysts, (New York: McGraw-Hill, 2004), 199

002 The Accounting Equation

The video continues to expand upon the accounting equation to show that…

- Stockholder's equity is equal to the sum of contributed capital and retained earnings.
- Net income is equal to revenues less expenses.



These relationships are important in understanding how financial statements relate to one another and will be elaborated upon in future videos.

The video concludes by pointing out that the balance sheet is simply a more formal presentation of the accounting equation.

To demonstrate this the video organizes the components of the accounting equation vertically, and then details accounts that fall under assets, liabilities and stockholder's equity.

Balance Sheet

Company Name

(000s)

ASSETS	
+	-
dr	cr

LIABILITIES	
-	+
dr	cr

STOCKHOLDER'S EQUITY	
-	+
dr	cr

Balance Sheet

Company Name

(000s)

BALANCE SHEET	20X1
ASSETS	
Current Assets	
Cash	1,773
Accounts Receivable	7,750
Inventory	4,800
Prepaid Expenses	456
Total Current Assets	**14,779**
Fixed Assets	
PP&E, Net of Accum. Depreciation	10,913
TOTAL ASSETS	**25,692**
LIABILITIES	
Current Liabilities	
Accounts Payable	5,665
Line of Credit	792
Current Maturities of Long Term Debt	500
Total Current Liabilities	**6,957**
Long Term Liabilities	
Long Term Debt, Net of Current Maturities	5,000
TOTAL LIABILITIES	**11,957**
EQUITY	
Common Stock	15
Additional Paid In Capital	5,000
Retained Earnings	8,720
TOTAL EQUITY	**13,735**
TOTAL LIABILITIES & EQUITY	**25,692**
Check	0.0

Finally, the video points out that in every thorough financial model, for every accounting period, the balance sheet has a check to make certain that the accounting equation holds true.

Introduction to Financial Statements

003 Balance Sheet

This video introduces the balance sheet. After a quick reminder that the balance sheet is just a formal presentation of the accounting equation, the video walks through some definitions:

BALANCE SHEET: The balance sheet shows the financial position of a company at a given moment.

- It may help to think of it as a photograph depicting everything that the company has (Assets), what it owes (Liabilities) and the ownership interests in the company (Stockholder's Equity).

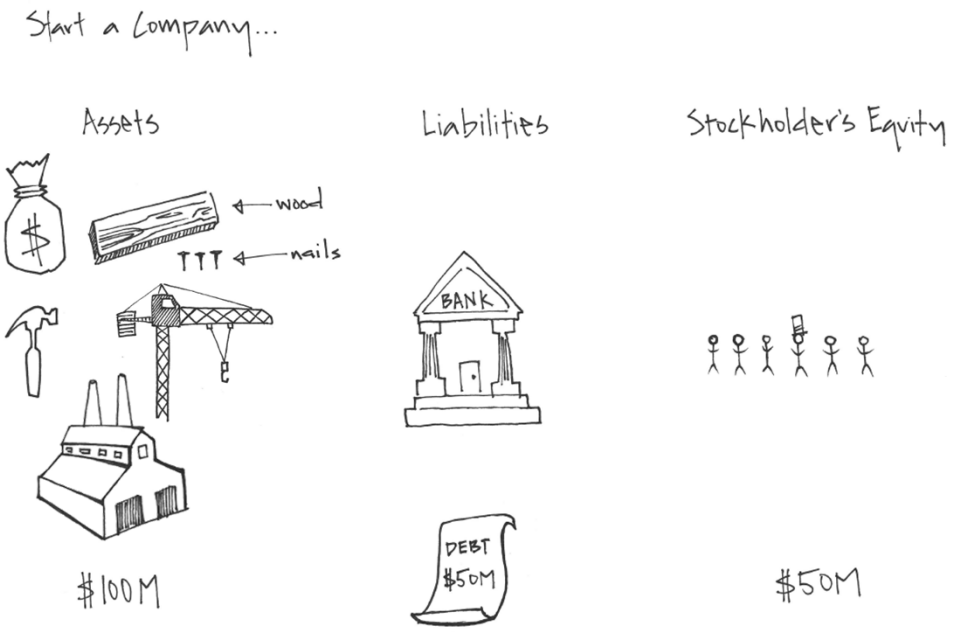
ASSETS: Assets consists of the physical properties of the company, money it holds or has invested and money that is owed to the company. You can also have intangible assets, such as goodwill.

LIABILITIES: Liabilities include debts incurred in the ordinary course of business (accounts payable and other obligations), and more formal borrowings (notes from a bank).

STOCKHOLDER'S EQUITY: Stockholder's equity represents the ownership interests in the company.

Because these concepts can still be a little abstract the video then walks through an illustrated example to provide greater context.

In the example you are asked to consider the items you would require to start a company and determine how you would finance the purchase of these items.



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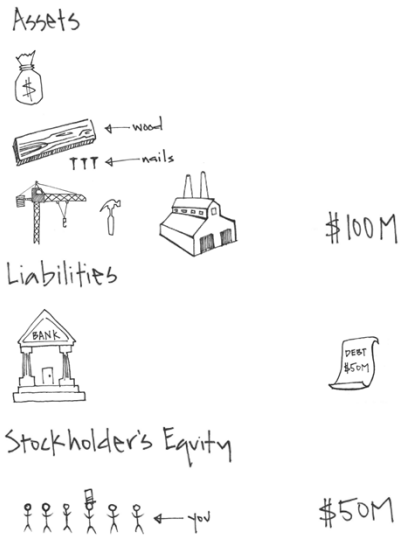
Rearranging these items vertically provides a familiar order that begins to resemble a balance sheet. On the right hand side of the illustration you will note that the accounting equation holds true as well.



The video then transitions back to a more thorough balance sheet to walk through a few more definitions.

Balance Sheet
(000s)

BALANCE SHEET	20X1
ASSETS	
Current Assets	
Cash	
Accounts Receivable	
Inventory	
Prepaid Expenses	
Total Current Assets	**0**
Fixed Assets	
PP&E, Net of Accum. Depreciation	
TOTAL ASSETS	**0**
LIABILITIES	
Current Liabilities	
Accounts Payable	
Line of Credit (or other Short Term Borrowings)	
Current Maturities of Long Term Debt	
Total Current Liabilities	**0**
Long Term Liabilities	
Long Term Debt, Net of Current Maturities	
TOTAL LIABILITIES	**0**
EQUITY	
Common Stock	
Additional Paid In Capital	
Retained Earnings	
TOTAL EQUITY	**0**
TOTAL LIABILITIES & EQUITY	**0**
Check	0.0

ASSETS
Cash: Money the company holds or has invested
AR: Money that is owed to the company for goods or services sold
Inventory: Raw materials, work-in-process goods and finished goods that are ready for sale (or will be)
Prepaid Expenses: Goods or services owed to the company, which were paid for in advance
PP&E: Physical property of the company

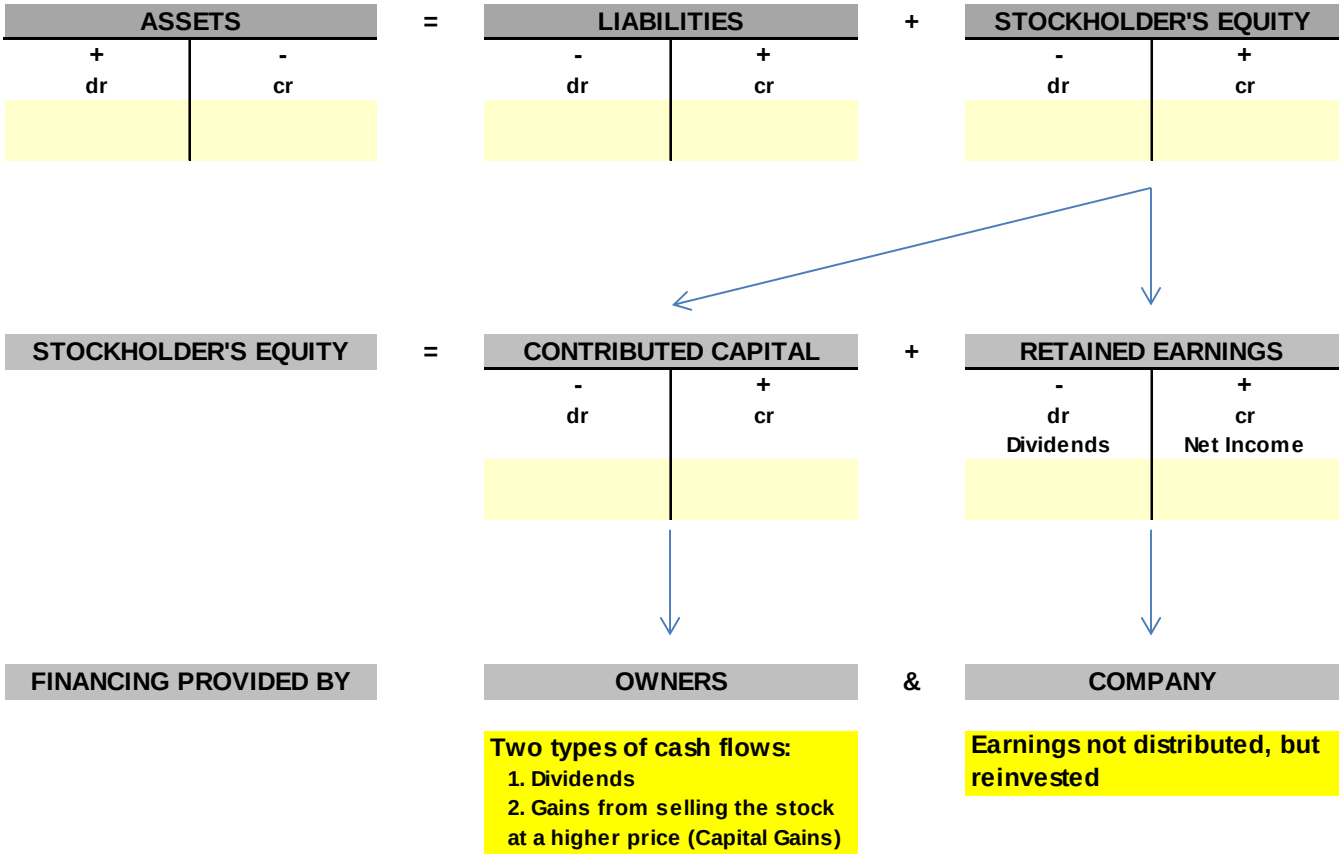
LIABILITIES
AP: Debts incurred in ordinary course of business for goods or services purchased by the company
Debt for borrowed money

STOCKHOLDER'S EQUITY
Common Stock and APIC: Contributed capital
Retained Earnings: Earnings retained by the company (not paid out to shareholders)

003 Balance Sheet

The expanded accounting equation is revisited to elaborate upon the components of stockholder's equity.

- Contributed Capital: Investors or owners contribute capital to a business hoping for two potential cash flows.
  1. Dividends
  2. Gains from selling the stock at a higher price.
- Retained Earnings: Earnings not distributed, but reinvested. The video also points out that this account grows by net income, which is an important relationship.

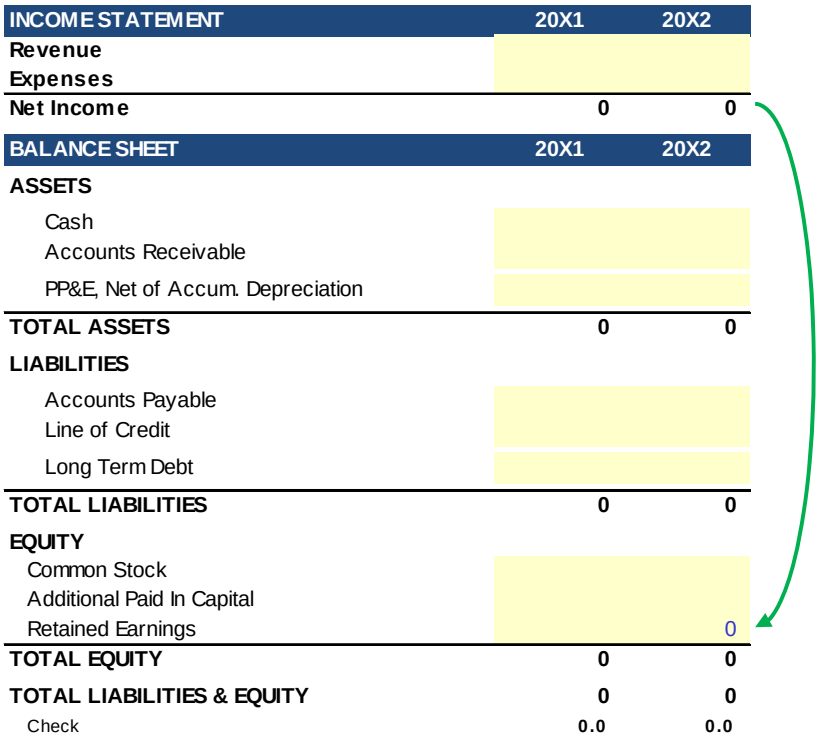


003 Balance Sheet

To demonstrate how the relationship between retained earnings and net income translates into a financial model in excel the video walks through a couple examples.

First by showing the relationship as pictured below, and then by showing the relationship in a fully integrated financial model.

Retained earnings grows the equity account by the amount of income generated.



INCOME STATEMENT	20X1	20X2
Revenue		
Expenses		
Net Income	0	0
BALANCE SHEET	**20X1**	**20X2**
ASSETS		
Cash		
Accounts Receivable		
PP&E, Net of Accum. Depreciation		
TOTAL ASSETS	0	0
LIABILITIES		
Accounts Payable		
Line of Credit		
Long Term Debt		
TOTAL LIABILITIES	0	0
EQUITY		
Common Stock		
Additional Paid In Capital		
Retained Earnings		0
TOTAL EQUITY	0	0
TOTAL LIABILITIES & EQUITY	0	0
Check	0.0	0.0

The video then points out (broadly) the relationship between the balance sheet and the cash flow statement.

- An increase in an asset account consumes cash.
- An increase in a liability account provides cash.

Changes in balance sheet accounts will directly impact the Cash Flow Statement
Cash is used to acquire assets and pay down liabilities

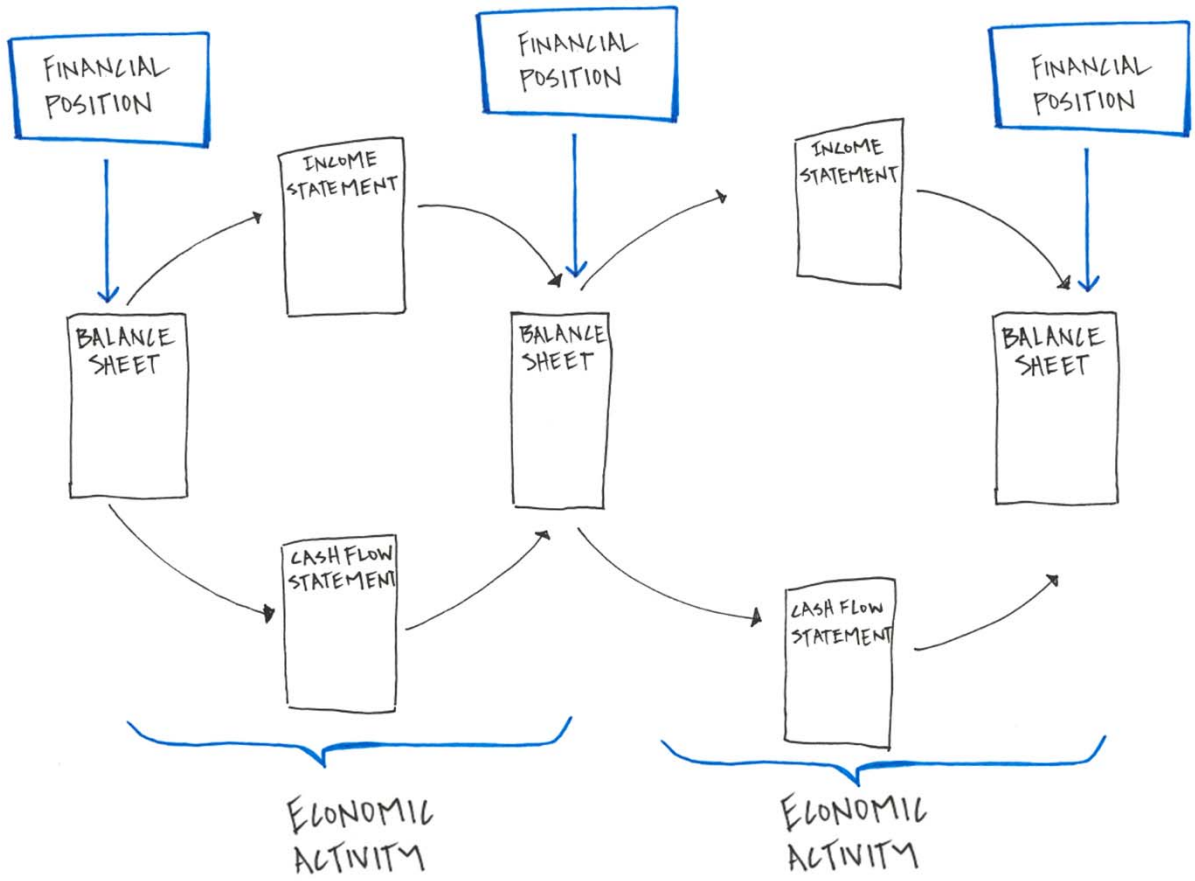
BALANCE SHEET	20X1	20X2
ASSETS		
Cash		
Accounts Receivable	500	600
Inventory	500	600
PP&E, Net of Accum. Depreciation		
TOTAL ASSETS	**1,000**	**1,200**
LIABILITIES		
Accounts Payable	500	600
Line of Credit		
Long Term Debt		
TOTAL LIABILITIES	**500**	**600**
EQUITY		
Common Stock		
Additional Paid In Capital		
Retained Earnings		
TOTAL EQUITY	**0**	**0**
TOTAL LIABILITIES & EQUITY	**500**	**600**
Check	500.0	600.0

CASH IMPACT	20X2
Accounts Receivable	(100)
Inventory	(100)
Accounts Payable	100

The video concludes with an illustration to begin describing how the three primary financial statements relate to one another:

The balance sheet shows the financial position of a company at a given point in time, and the income statement and cash flow statement show the economic activity of a company over a given period of time. In this way consecutive balance sheets are essentially linked by income statements and cash flow statements. The difference is that the income statement shows economic activity on an accrual basis of accounting, and the cash flow statement shows economic activity on a cash basis of accounting.

This is elaborated upon in the video that follows.



This video introduces the income statement. The video starts by showing the income statement in its most concise format as pictured below.

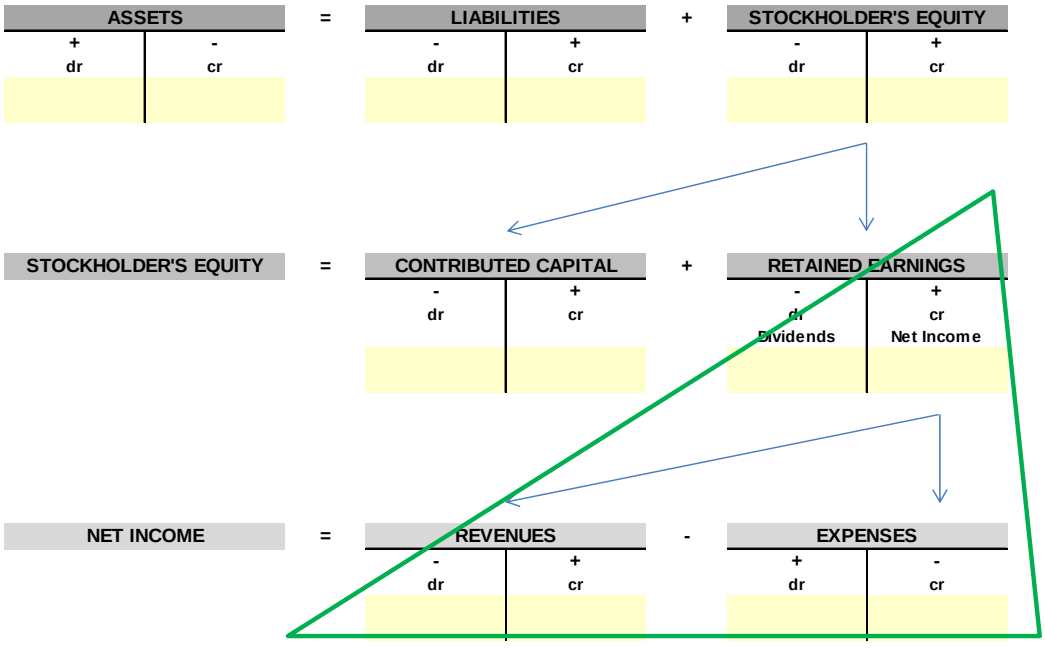
Income Statement

INCOME STATEMENT	20X1	20X2
Revenue	**74,452**	**83,492**
Growth (%)	*NA*	*12.1%*
Expenses	**72,434**	**80,925**
Margin (%)	*97.3%*	*96.9%*
Net Income	**2,018**	**2,567**

Measure of profitability of the firm over a specified time period.

Measure of success in selling a good or service.

After this introduction the accounting equation is revisited to help illustrate how the balance sheet and income statement relate to one another. The most significant relationship here is that stockholder's equity grows with net income.



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The video then elaborates on the various categories of expenses found on the income statement. The text has been included below as a reference.

Income Statement

INCOME STATEMENT	20X1	20X2
Revenue	74,452	83,492
Growth (%)	*NA*	*12.1%*
Cost of Goods Sold		
% of Sales		
Gross Profit		
% of Sales	*13.4%*	*13.1%*
Operating Expenses (SG&A)		
% of Sales		
Operating Income (EBIT)	3,623	4,423
Interest Expense		
Pretax Income		
Income Tax Expense	1,087	1,382
Tax Rate		
Net Income		

EXPENSES

COGS: All costs directly associated with providing the good or service sold to the customer. More specifically this would include the cost of the materials used in creating the good and the associated direct labor costs.

Operating Expenses or SG&A: All major non-production expenses incurred in running the company.

Interest Expense: This relates to the cost of borrowing money. It is the price that a lender (bank) charges a borrower (company). Interest expense creates a tax shield.

Tax Expense: The last expense listed on the income statement. All profitable corporations are required to calculate taxes owed to federal and state governments.

NOT MENTIONED IN VIDEO: The text under interest expense concludes stating that interest expense creates a tax shield. This is not elaborated upon in the video, but tax shields (interest expense is not the only tax shield) are important and will be referenced in future videos.

For the time being, all that is important is that interest expense is deducted from net income before tax expense is calculated, which results in a lower tax burden (tax shield).

004 Income Statement

On this tab the video focuses on the difference between operating income (or EBIT) and net income. The reason for making this distinction is that expenses that do not relate to the core operation of the business come after EBIT.

For this reason the gross profit margin and EBIT margin are more commonly referenced in analysis detailing a companies operations and profitability.

Income Statement

INCOME STATEMENT	20X1	20X2
Revenue	74,452	83,492
Growth (%)		
Cost of Goods Sold		
% of Sales		
Gross Profit		
% of Sales		
Operating Expenses (SG&A)		
% of Sales		
Operating Income (EBIT)		
Interest Expense		
Pretax Income	3,105	3,949
Income Tax Expense	1,087	1,382
Tax Rate	*NM*	*NM*
Net Income	2,018	2,567

EXPENSES

Operating Income vs. Net Income

Operating Income is calculated by subtracting expenses related to the core operation of the business.

Net Income is calculated by subtracting additional expenses unrelated to the core operation of the business.

Continuing with measures of profitability, the video then references EBITDA. EBITDA is an acronym that stands for Earnings Before Interest, Taxes, Depreciation and Amortization.

It is generally not found on a company's income statement, but it is commonly referenced in most financial models because it is frequently used in determining the value of a company.

Income Statement

INCOME STATEMENT	20X1	20X2
Revenue	74,452	83,492
Growth (%)		
Cost of Goods Sold		
% of Sales		
Gross Profit		
% of Sales		
Operating Expenses (SG&A)		
% of Sales		
Operating Income (EBIT)		
Interest Expense		
Pretax Income	3,105	3,949
Income Tax Expense	1,087	1,382
Tax Rate	*NM*	*NM*
Net Income	2,018	2,567
Operating Income (EBIT)	3,623	4,423
Depreciation	2,648	2,981
Amortization	0	0
EBITDA	6,271	7,404

EBITDA

EBITDA is frequently used in determining the value of a company.

EBITDA is an acronym that stands for **E**arnings **B**efore **I**nterest, **T**axes, **D**epreciation and **A**mortization.

The objective of the income statement is then revisited to point out two important accounting concepts:

1. The Matching Principle
2. Depreciation

Objective of the Income Statement

(Defined & Simplified)

The objective of the income statement is to demonstrate how successful a company is at selling a good or service.

Matching Principle

Matching revenue generated by the sale of a good or service with the expense of providing that good or service in the same accounting period.

The matching principle requires that the cost incurred in generating revenues be recognized in the same period. (REGARDLESS OF WHEN CASH IS PAID)

Depreciation

The allocation of the cost of tangible assets (property, plant or equipment) over multiple accounting periods representing the useful life of the tangible asset.

Because the matching principle requires that expenses be recorded when revenue is recognized, the video then details the four conditions required to recognize revenue.

Matching Principle Relies on Revenue Recognition

Revenue Principle

1. **Delivery has occurred or services have been rendered.**
2. **There is persuasive evidence of an arrangement for customer payment. This can be cash or a promise to pay cash at a future date (accounts receivable).**
3. **The price must be fixed or determinable.**
4. **Collection is reasonably assured. The company must review the customer's ability to pay.**

Another important relationship to keep in mind as you build financial models is that the cash flow statement starts with net income.

The video demonstrates this relationship with the visual pictured below, and then by showing this link in a fully integrated financial model.

The Cash Flow Statement Starts with Net Income

INCOME STATEMENT	20X1	20X2
Revenue		
Expenses		
Net Income	**0**	**0**

CASH FLOW STATEMENT	20X1	20X2
CASH FLOW FROM OPERATING ACTIVITIES		
Net Income	**0**	**0**
Add Back Non-Cash Items		
Depreciation		
Amortization		
Changes in Working Capital		
Accounts Receivable		
Inventory		
Accounts Payable		
Net Cash Provided by Operating Activities		
CASH FLOW FROM INVESTING ACTIVITIES		
Capital Expenditures - Purchase of PP&E		
Net Cash Used in Investing Activities		
CASH FLOW FROM FINANCING ACTIVITIES		
Revolving Credit Facility (Line of Credit)		
Long Term Debt		
Net Cash Provided by (Used in) Fnce Activities		
Net Cash Flow		
Beginning Cash Balance		
Ending Cash Balance		

Net income is derived from accounting rules and accruals, and does not equate to the actual cash earnings realized in the accounting period.

The video concludes by highlighting the difference between an accrual basis of accounting and a cash basis of accounting.

Accrual vs. Cash Basis of Accounting

(Defined & Simplified)

ACCRUAL BASIS of Accounting

Revenue	**Recognized when earned. (Revenue Principle)**
Expenses	**Recognized when incurred. (Matching Principle)**

CASH BASIS of Accounting

Revenue	**Recorded when cash is received. (Cash Receipts)**
Expenses	**Recorded when cash is paid. (Cash Payments)**