A Simple Model

Cash Flow Statement

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.

005 Cash Flow Statement

This video introduces the cash flow statement, which is possibly the most straight forward of the three primary financial statements. Whereas both the income statement and balance sheet reflect an accrual basis of accounting, the cash flow statement starts with net income and translates the economic activity of the firm from an accrual basis to a cash basis.

The cash inflows and outflows are divided into three categories, which can be seen in the screenshot below. The definitions provided for Cash Flow from Operating Activities (CFO), Cash Flow from Investing Activities (CFI) and Cash Flow from Financing Activities (CFF) will be referenced in the notes that follow.

Cash Flow Statement

(Defined & Simplified)

The cash flow statement starts with net income and shows how changes in balance sheet accounts affect CASH.

This calculation is broken down into three categories of cash flows.

Cash Flow from Operating Activities (CFO)

The cash flows that relate directly to revenues and expenses reported on the income statement.

This could include cash receipts from the sale of goods or services, the purchase of raw materials, payments to suppliers for goods or services and payments to employees.

Cash Flow from Investing Activities (CFI)

Cash flows that relate to the purchase or sale of long-term assets (PP&E), investments in securities and payments related to M&A activity.

Cash Flow from Financing Activites (CFF)

This includes all cash flows with creditors (banks) and stockholders (owner's of the company).

This could include cash proceeds from raising or issuing debt, repayment of debt principal and dividends to stockholders.

To demonstrate how these three categories are typically represented on the cash flow statement, the video provides a simple cash flow statement.

The Cash Flow Statement

CASH FLOW STATEMENT	20X1	20X2
CASH FLOW FROM OPERATING ACTIVITIES		
Net Income		
Add Back Non-Cash Items		
Changes in Working Capital		
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		

Having introduced the components of the cash flow statement, the video again emphasizes the relationship between net income and the cash flow statement. This is a critical relationship in financial models. As you can see in the image below, the cash flow statement will link directly to the income statement:

The Cash Flow Statement Starts with Net Income

Converting the economic activity of the company from accrual accounting, which shows the outcome as net income, to reflect the outcome on a cash basis.

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		
Changes in Working Capital		
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		

005 Cash Flow Statement

As you work through the cash flow statement from top to bottom you are effectively converting the economic activity of the company from an accrual basis of accounting to a cash basis.

To work towards the cash balance calculation:

1. Calculate cash from operations:
   - Start with net income.
   - Add back non-cash items. In the video, depreciation and amortization are listed as non-cash items because they are commonly referenced examples.
   - Adjust for changes in working capital. Recall that as an asset increases it consumes cash, and as a liability increases it provides cash.
2. Calculate cash flow from investing activities:
   - The video uses capital expenditures as an example. Future videos will introduce more examples.
3. Calculate cash flow from financing activities:
   - This category will be elaborated upon in future videos describing working models.
4. Sum all three categories to arrive at cash balance.

The Cash Flow Statement

CASH FLOW STATEMENT	20X1	20X2
CASH FLOW FROM OPERATING ACTIVITIES		
Net Income		
Add Back Non-Cash Items		
Depreciation		
Amortization		
Changes in Working Capital		
Accounts Receivable		
Inventory		
Accounts Payable		
Net Cash Provided by Opera		
CASH FLOW FROM INVESTING ACT		
Capital Expenditures - Purchase o		
Net Cash Used in Investing A		
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		

Add Back Non-Cash Items: Depreciation and amortization are good examples of non-cash items.

Working Capital Accounts: Reflect amounts that are to be paid or received in less than a year, and the inventory of materials and products.

In this video we will focus on three working capital accounts:

Accounts Receivable
Inventory
Accounts Payable

The video then shifts focus to cash flow from investing activities. The only example provided in this video is a cash outflow: capital expenditures.

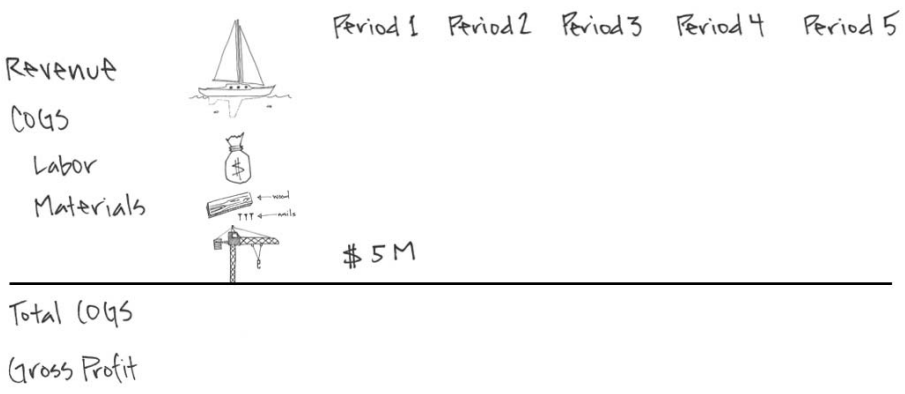
Capital expenditures include the purchase of long-term assets or property, plant and equipment (PP&E).

The Cash Flow Statement

CASH FLOW STATEMENT	20X1	20X2
CASH FLOW FROM OPERATING ACTIVITIES		
Net Income		
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		

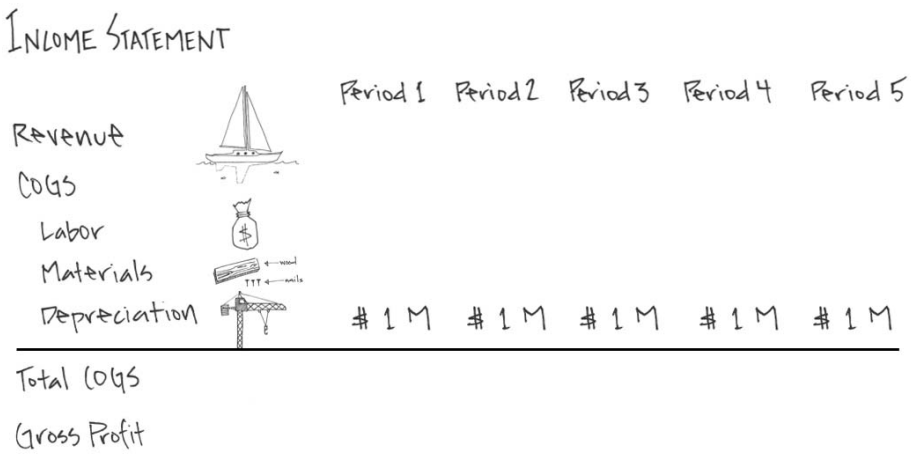
The purpose is to provide the back drop for an illustrated example demonstrating the conversion of the company's economic activity from net income (accrual basis of accounting) to cash, which can be seen on the page that follows.

To illustrate how this works the video revisits the example where the company purchases a crane for $5M in the first period.



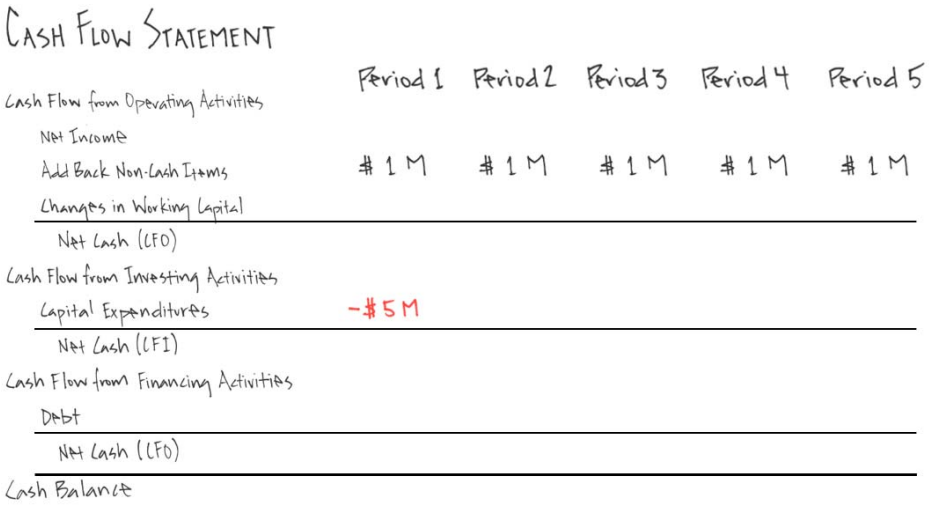
On the income statement the crane would be depreciated over 5 periods to reflect its useful life.

But the $1M sums in each period do not reflect a *cash outflow*, because depreciation is a non-cash item.



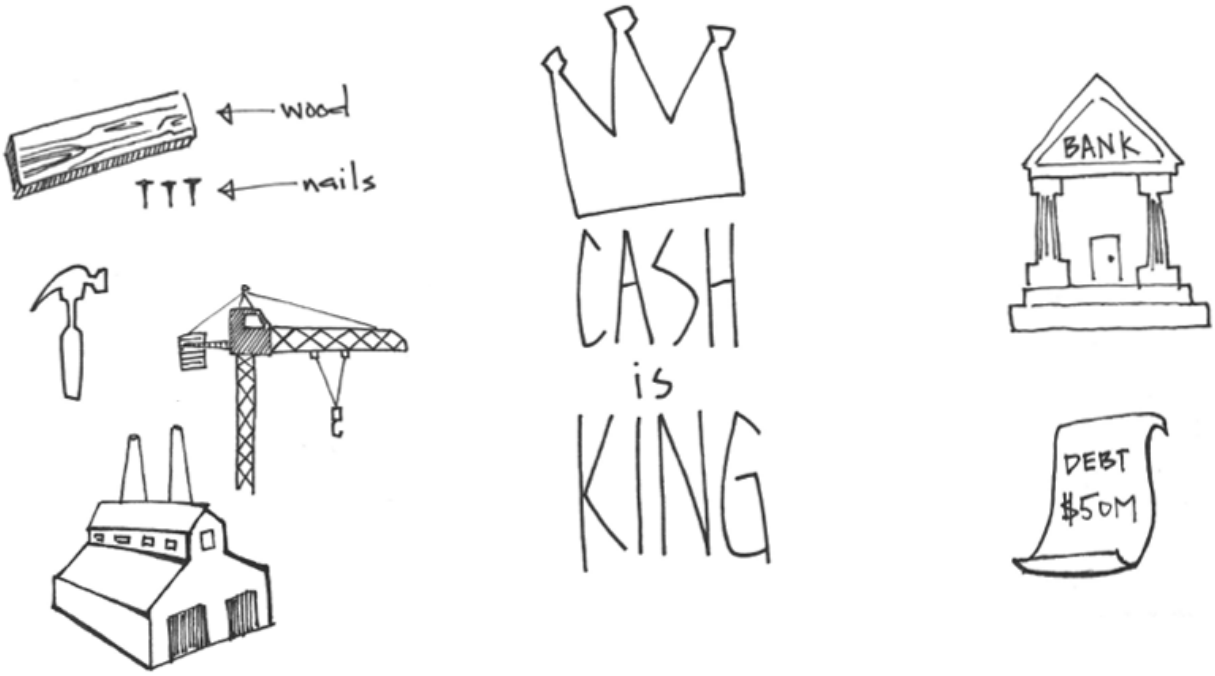
On the cash flow statement you are adjusting net income to arrive at the company's cash balance.

In this example that requires adding back depreciation (non-cash item), and under cash flow from investing activities, subtracting $5M to accurately represent the purchase of the crane in period 1.



So why is this information important? Cash is the lifeblood of a company. People may argue that net income or earnings per share are more important, but I would have to disagree (this is the opinion of the author – if you are a student and your professor says otherwise I would advise agreeing with him / her for the final exam…)(after the test remember "cash is king").

Knowing a company's cash balance and its ability to generate cash helps make important decisions surrounding working capital and the purchase of equipment.



And of course, a company's cash (or liquidity) is very important in managing a company's liabilities.

005 Cash Flow Statement

Next the video reverts back the fully integrated model to demonstrate how the cash flow statement works in a financial model.

The first relationship highlighted is that the cash balance calculated on the cash flow statement links to cash on the balance sheet (see arrow on left-hand side of model). In this way the cash flow statement adjusts the asset side of your balance sheet in each consecutive accounting period.

And as a reminder, the video then shows that net income (assuming no dividends) adjusts the equity account (retained earnings) in each accounting period (see arrow on right-hand side of model).

Financial Statements

INCOME STATEMENT	20X1	20X2	20X3	20X4
Revenue	**1,000**	**1,100**	**1,210**	**1,331**
Cost of Goods Sold	600	660	726	799
Gross Profit	**400**	**440**	**484**	**532**
Operating Expenses (SG&A)	150	165	182	200
Operating Income (EBIT)	**250**	**275**	**303**	**333**
Interest Expense	43	38	33	28
Pretax Income	**208**	**238**	**270**	**305**
Income Tax Expense	73	83	95	107
Net Income	**135**	**154**	**176**	**198**

BALANCE SHEET	20X1	20X2	20X3	20X4
Cash	500	576	678	807
Accounts Receivable	82	90	99	109
Inventory	99	108	119	131
Total Current Assets	**681**	**775**	**897**	**1,047**
Property Plant & Equipment (PP&E)	500	515	525	528
TOTAL ASSETS	**1,181**	**1,290**	**1,421**	**1,575**
Accounts Payable	49	54	60	66
Current Portion on Long Term Debt	50	50	50	50
Total Current Liabilities	**99**	**104**	**110**	**116**
Long Term Debt	400	350	300	250
TOTAL LIABILITIES	**499**	**454**	**410**	**366**
Common Stock	100	100	100	100
Retained Earnings	582	736	911	1,110
TOTAL EQUITY	**682**	**836**	**1,011**	**1,210**
TOTAL LIABILITIES & EQUITY	**1,181**	**1,290**	**1,421**	**1,575**
Check	*0.0*	*0.0*	*0.0*	*0.0*

CASH FLOW STATEMENT	20X1	20X2	20X3	20X4
CASH FLOW FROM OPERATING ACTIVITIES				
Net Income		**154**	**176**	**198**
Add Back Non-Cash Items				
Depreciation		55	61	67
Amortization		0	0	0
Changes in Working Capital				
Accounts Receivable		(8)	(9)	(10)
Inventory		(10)	(11)	(12)
Accounts Payable		5	5	6
Net Cash Provided by Operating Activities		**196**	**222**	**249**
CASH FLOW FROM INVESTING ACTIVITIES				
Capital Expenditures - Purchase of PP&E		(70)	(70)	(70)
Net Cash Used in Investing Activities		**(70)**	**(70)**	**(70)**
CASH FLOW FROM FINANCING ACTIVITIES				
Revolving Credit Facility		0	0	0
Long Term Debt (Current Portion)		(50)	(50)	(50)
Net Cash Provided by (Used in) Fnce Activities		**(50)**	**(50)**	**(50)**
Net Cash Flow		**76**	**102**	**129**

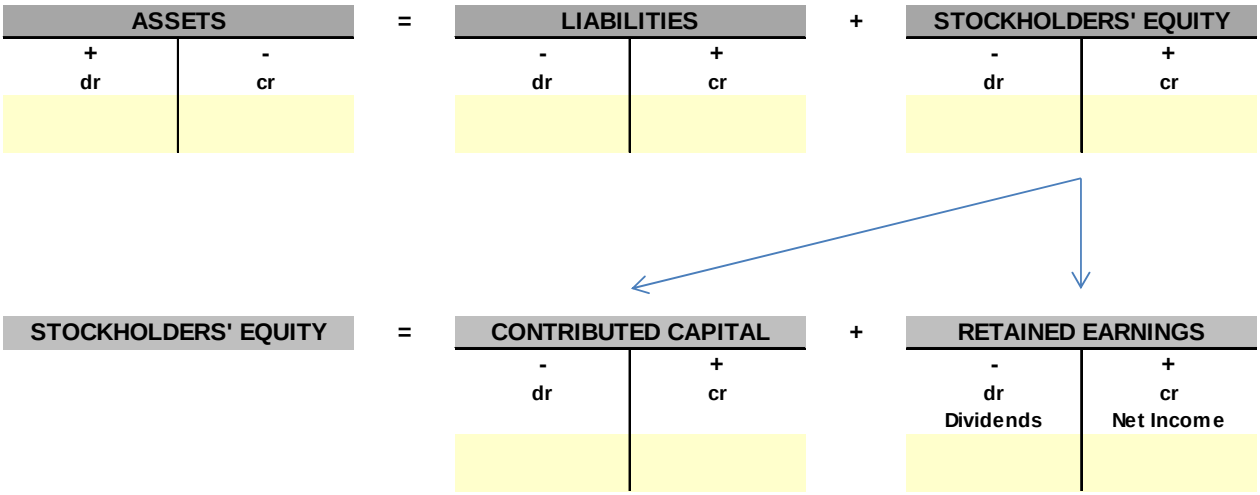
With that in mind, recall that the balance sheet is just a formal presentation of the accounting equation.

If the cash flow statement adjusts the left hand side of the equation, or assets, by the companies cash flow in that period, and the income statement adjusts the right-hand side of the equation, or stockholders' equity, by net income… THEN the cash flow statement, which starts with net income, is making adjustments so that the accounting equation holds true.

And that is how the accounting equation is balanced in financial models, and therefore how the balance sheet is balanced in financial models.

The cash flow statement grows the left-hand side of this equation by the company's cash balance.

The income statement grows the right-hand side of this equation by net income.



This is how the accounting equation is balanced in financial models.

To elaborate on this concept, consider what would happen if all of the accounts on the balance sheet maintained the same value in each period. Without any fluctuation in balance sheet accounts the effect on cash would be zero.

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	500
Inventory	500	500
PP&E, Net of Accum. Depreciation		
TOTAL ASSETS	**1,000**	**1,000**
LIABILITIES		
Accounts Payable	500	500
Line of Credit		
Long Term Debt		
TOTAL LIABILITIES	**500**	**500**
EQUITY		
Common Stock		
Additional Paid In Capital		
Retained Earnings		
TOTAL EQUITY	**0**	**0**
TOTAL LIABILITIES & EQUITY	**500**	**500**
Check	500.0	500.0

CASH IMPACT	20X2
Accounts Receivable	0
Inventory	0
Accounts Payable	0

To take it one step further, what that means is that in any example where all items on the balance sheet are held constant, net income and net cash flow would have the same value.

The videos concluding remarks highlight three concepts, all of which can be seen in the image below.

Cash Flow Statement & Modeling

(Concepts / Relationships to Keep in Mind)

Three Cash Flow Categories

Cash Flow from Operating Activities

Cash Flow from Investing Activities

Cash Flow from Financing Activities

Cash Flow Statement Starts with Net Income

The cash flow statement starts with net income and adjusts for non-cash items, working capital, investment and financing activity to arrive at the company's cash balance.

Financial Models are Balanced by the Cash Flow Statement

Retained earnings, an account on the balance sheet, grows stockholders' equity by net income. The cash flow statement starts with net income and adjusts this sum to account for every other change to balance sheet accounts to arrive at the company's cash balance.

This maintains the relationship: Assets = Liabilities + Stockholder's Equity