CASH FLOW STATEMENT (AND FINANCIAL STATEMENT)

- At the most fundamental level, firms do two different things:
  (i) They generate cash
  (ii) They spend it.
  Cash is generated by selling a product, an asset or a security.
- Selling a security involves either borrowing or selling an equity interest (i.e. a share of stock) in the firm.
- Cash is spent by paying for material and labor to produce a product and by purchasing assets.
- Payment to creditors and owners also require spending cash.

Cash flow from asset = Cash flow from creditors + Cash flow from owners.

- A statement of cash flow is a summary of a firm's cash receipts and cash payments during the period of time.
- A flow of funds statement is a summary of a firm's changes in financial position from one period to another.
- It is also called sources and uses of funds statement or a statement of changes in financial position.
- **Source of funds-**
- **Sources and uses of cash.**
- Activities that bring in cash are called **sources of cash.**
- Activities involving spending of cash are called uses (or application) of cash.
- This can be traced in the balance sheet by finding out how it obtained its cash and how the firm spent its cash during a given period.
  For example
  Increase in net fixed asset. Where did the money come from?
- This can be answered by first identifying those changes that used up cash (uses) and those that brought cash in (sources).
- A firm uses cash by either buying assets or making payments i.e.
  An increase in an asset account means that the firm, on a net basis, bought some assets, a use of cash.
- If an asset account went down, then, on a net basis, the firm sold some assets (net sources).
- Similarly if a liability account goes down, then the firm has made a net payment (use of cash).
  Therefore, it can be concluded that:
  An increase in a left-hand side (assets) account, or a decrease in right-hand side (liability or equity) account, is a use of cash.
  Likewise, a decrease in an asset account or an increase in a liability (or equity) account is a source of cash.

  Any decrease (-) in an asset item
  Any increase (+) in a claim item. i.e. a liability or shareholder's equity
  Uses of fund
  Any increase (+) in an item
  Any decrease (-) in a claim item (i.e. a liability or shareholders equity item
- The financial manager makes decisions to ensure that the firm has sufficient funds to meet financial obligations when they are due and to take advantage of investment opportunities.

- By arranging a company's flow of funds in a systematic fashion, the analyst can better determine whether the decisions made for the firm resulted in a reasonable flow of funds or in questionable flows, which warrant further inspection
- From the balance sheet identity, the value of a firm's assets is equal to the value of its liabilities plus the value of its equity.
- Cash flow from asset = cash flow to lenders + cash flow to shareholders
- The firm flow of fund comprises the individual changes in balance sheet items between two points in time at the beginning and ending period.
- The differences in the individual balance sheet accounts items represent the various "net" funds flow resulting from decisions made by management during the period
- Balance sheet=Stock of funds
- Changes in balance sheet items="net" flow of funds
- Similarly, the cash flow from the firm's assets must equal the sum of the cash flow to lenders plus the cash flow to shareholders (or owners).
- The cash flow identity says that, the cash flow from the firm's assets is equal to the cash flow paid to suppliers of capital to the firm.
- The argument is that a firm generates cash through its various activities, and that cash is either used to pay lenders or else it is paid out to the owners of the firm.
- Cash flow statement help the financial manager to assess and identify:
  (i) A company's ability to generate future net cash inflows from operations to pay debts, interests and dividends.
  (ii) A company's need for external financing
  (iii) The reasons for differences between net income and net cash flow from operating activities
  (iv) The effects of cash and non cash investing and financing transactions
- The statement of cash flows explains changes in cash (and cash equivalent, e.g. treasury bills,) by listing the activities that increased cash and those that decreased cash.
- Cash flow from assets involves three broad components:
- *operating cash flow,*
- *capital spending*
- *Additions to net working capital.*

Operating cash flow

- Operating cash flow refers to the cash flow resulting from the firm's day to day activities of producing and selling.
- Expenses associated with the firm's financing of its assets are not included since they are not operating expenses.
- Capital spending refers to the net spending on non - current assets. (i.e. the purchases of non-current assets less sales of non-current assets).
- Addition to net working capital is the amount spent on net working capital.
- It is measured as the change in net working capital over the period being examined and represents the net increase in current assets over current liabilities.
- In financial analysis, investment and financing decisions are separated.
- Thus in preparing cash flows from assets, short-term debts are excluded from the calculation of net working capital. Hence net working capital exclude short – term debt.

Cash flow statement helps the financial manager to assess and identify

- A company's ability to generate future net cash inflows from operations to pay debts, interests and dividends.
- A company's need for external financing
- The reasons for differences between net income and net cash flow from operating activities
- The effects of cash and non cash investing and financing transactions
-

Preparing Cash flow

Cash flow calculations can be broken down into three basic parts.

(i) Cash flow from operating cash flow
(ii) Cash flow associated with capital spending
(iii) Cash flow associated with working capital requirements.

Step 1: preparing operating cash flow

- It measures the project's change in the firm's after-tax operating cash flows.
- To calculate operating cash flow, we want to calculate revenues minus costs (excluding depreciation) since it are not a cash outflow.
- Interest should not be included as it is a financing expense.
- The easiest way to calculate operating cash flow is to take the information provided on the firm's projected income statement and simply converting the accounting information into cash flow information.
- Under this method, the calculation of a project's operating cash flow involves three steps:
  a. Determine the company's earnings before interest and taxes (EBIT).
  b. Subtract out the change in taxes (ignore any interest expenses).
  c. Adjust the value for the fact that depreciation, a non-cash flow item, has been subtracted out in the calculation of EBIT.

Thus, operating cash flow is calculated as follows:

Operating cash flow =	profit before interest & taxes	xxx
	Less (minus) taxes	xxx
	Add (plus) depreciation	xxx
	Operating cash flow	xxx

Example 1

Assume that a new project will annually generate additional revenues of $ 1,000,000 and additional fixed and variable costs of $ 500,000, while increasing depreciation by $ 150,000 per year. In addition, assume that the firm's marginal tax rate is 34 percent.

Required

Calculate the firm's operating cash flows.

Solving

Revenue	$ 1,000,000
-Cash fixed & variable cost	500,000
-Depreciation	150,000
EBIT	$ 350,000
Less taxes (34 %)	-119,000
Add depreciation	+150,000
Operating cash flow	381,000

Operating cash flow = Change in earnings before interest and taxes - Changes in taxes + Change in depreciation

= $ 350,000 - $ 119,000 + $ 150,000 = $ 381,000

Example 2

Step 2: calculating Net Working Capital

- A new project involves additional investment in working capital e.g new inventory, new sale outlet, or additional investment in account receivable.
- There may be also short-term financing e.g. increase in account payable.
- Thus the change in net working capital is the additional investment in current assets minus any additional short-term liabilities that were generated.

Step 3: Calculating cash flow change in the firm's capital spending.

- A part from initial cash outflow associated with a project's initial outlay, there may also be additional capital- spending requirement over the life of the project.
  E.g. updating the accounting system to keep abreast with the new technology.

Step 4: Putting together all the calculations, as follows:

Project cash flow = change in earnings before interest & taxes (EBIT)
- (minus) change in taxes
+ (plus) change in depreciation
- (minus) change in net working capital
- (minus) change in capital spending.

Alternatives forms of the cash flow statement

The cash flow statement may be presented using either

- A direct method (which is encouraged by the financial Accounting Standards Board as it is easier to understand).
- Indirect method (which is likely to be the method followed by a good majority of firms because it is easier to prepare).

ALDINE MANUFACTURING COMPANY STATEMENTS OF EARNINGS (IN THOUSANDS)[1]
YEARS ENDED MARCH 31

	20X2	20X1	EXPLANATIONS
Net sales[2]	**$ 3,992**	$ 3,721	1. Measures profitability over a Period of time.
Cost of goods sold[3]	**2,680**	2,500	2. Amount received, or receivable, From customers.

Gross profit	**$ 1,312**	$ 1,221	3. Directly related to operating levels: Wages, raw materials, supplies, and Manufacturing overhead.
Selling, general, and Administrative expenses[4]	**912**	841	4. Salesmen's commissions, Advertising, officers' salaries, e.t.c
Earnings before interest And taxes[5]	**$ 400**	$ 380	5. Operating income.
Interest expense[6]	**85**	70	6. Cost of borrowed funds.
Earnings before taxes[7]	**$ 315**	$ 310	7. Taxable income.
Income taxes (federal And state)	**114**	112	8. Amount earned for stockholders.
Earnings after taxes[8]	**$ 201**	$ 198	
Cash dividends	**143**	130	
Increase in retained earnings	**$ 58**	$ 68	

Note: Depreciation expenses for 20X1 and 20X2 were $ 114 and $ 112, respectively.

ALDINE MANUFACTURING COMPANY BALANCE SHEETS (IN THOUSANDS).

	MARCH 31	
ASSETS	**20X2**	**20X1**
Cash	**$ 178**	$ 175
Accounts receivable	**678**	740
Inventories, at lower of cost or market	**1,329**	1,235
Prepaid expenses	**21**	17
Accumulated tax prepayments	**35**	29
Current assets	**$ 2,241**	$ 2,196
Fixed assets at cost	**1,596**	1,538
Less: Accumulated depreciation	**(857)**	(791)
Net fixed assets	**$ 739**	$ 747
Investments, long term	**65**	-
Other assets, long term	**205**	205
Total assets	**$ 3,250**	$ 3,148

LIABILITIES AND SHAREHOLDERS' EQUITY

Bank loans and notes payable	**$ 448**	$ 356
Accounts payable	**148**	136
Accrued taxes	**36**	127
Other accrued liabilities	**191**	164
Current liabilities	**$ 823**	$ 783
Long -term debt	**631**	627
Shareholders' equity		
Common stock, $ 1 par value	**421**	421
Additional paid-in capital	**361**	361
Retained earnings	**1,014**	956
Total shareholders' equity	**$ 1,796**	$ 1,738
Total liabilities and shareholders' Equity	**$ 3,250**	$ 3,148

SOURCES		**USES**	
Increase, retained earnings	$ 58		
Decrease, net fixed assets	8		
Decrease, accounts receivable	62	Increase, inventories	$ 94
Increase, bank loans	92	Increase, prepaid expenses	4
Increase, accounts payable	12	Increase, tax prepayments	6
Increase, other accruals	27	Increase, long-term investment	65
Increase, long –term debt	4	Decrease, accrued taxes	91
		Increase, cash	**3**
	$ 263		$ 263

SOURCES		USES	
Funds provided by operations			
Net profit	$ 201	Dividends	$ 143
Depreciation	112	Additions to fixed assets	104
Decrease, accounts receivable	62	Increase, inventories	94
Increase, bank loans	92	Increase, prepaid expenses	4
Increase, accounts payable	12	Increase, tax prepayments	6
Increase, other accruals	27	Increase, long-term investment	65
Increase, long –term debt	4	Decrease, accrued taxes	91
		Increase, cash	**3**
	$ 510		$ 510

CASH INFLOWS AND OUTFLOWS

Operating Activities
Cash Inflows
From sales of goods or services
From returns on loans (interest income) and equity securities (dividend income)*
Cash outflows
To pay suppliers for inventory
To pay employees for services
To pay lenders (interest)**
To pay government for taxes
To pay other suppliers for other operating expenses

Explanation

Shows impact of transactions not defined as investing or financing activities. **These cash flows are generally the cash effects of transactions that enter into the determination of net income.** Thus, we see items that not all statement users might think of as "operating" flows – items such as dividends and interest received, as well as interest paid.

***** These inflows and outflows are typical for a nonfinancial firm and are classified according to the operating, investing, and financing activity definitions of SFAS No. 95.

******It would seem logical to classify interest and dividends "received" as investing inflows, whereas interest "paid" certainly looks like a financing outflow. In fact, three out of seven Financial Accounting Standards Board members dissented from classifying interest and dividends received and interest paid as cash flows from operating activities – but the majority ruled.

Investing Activities

Cash Inflows

From sale of fixed assets (property, plant, equipment)

From sale of debt or equity securities (other than cash equivalents) of other entities

Cash Outflows

To acquire fixed assets (property, plant, equipment)

To purchase debt or equity securities of other entities

Explanation

Shows impact of buying and selling fixed assets and debt or equity securities of other entities.

Financing Activities

Cash Inflows

From borrowing

From the sale of the firm's own equity securities

Cash Outflows

To repay amounts borrowed (principal)

To repurchase the firm's own equity securities

To pay shareholders dividends

Explanation

Shows impact of all cash transactions with shareholders and the borrowing and repaying transactions with lenders.

Alternative cash flow statements showing direct versus indirect methods

DIRECT METHOD

ALDINE MANUFACTURING COMPANY STATEMENT OF CASH FLOWS FOR THE YEAR ENDED MARCH 31, 20X2 (IN THOUSANDS)

CASH FLOW FROM OPERATING ACTIVITIES	
Cash received from customers[1]	$ 4,054
Cash paid to suppliers and employees[2]	(3,539)
Interest paid	(85)
Taxes paid[3]	(211)
Net cash provided (used) by operating activities	$ 219
CASH FLOW FROM INVESTING ACTIVITIES	
Additions to fixed assets	$ (104)
Payment for long-term investment	(65)
Net cash provided (used) by investing activities	$ (169)
CASH FLOW FROM FINANCING ACTIVITIES	
Increase in short-term borrowings	$ 92
Additions to long-term borrowing	4
Dividends paid	(143)
Net cash provided (used) by financing activities	$ (47)
Increase (decrease) in cash	$ 3
Cash and cash equivalents, March 31, 20X1	175
Cash and cash equivalents, March 31, 20X2	$ 178

Supplementary Schedule: A reconciliation of net income to net cash provided by operating activities

Net income	$ 201
Depreciation	112
Cash provided (used) by current assets and Operating-related current liabilities	
Decrease, accounts receivable	62
Increase, inventories	(94)
Increase, prepaid expenses	(4)
Increase, tax prepayments	(6)
Increase, accounts payable	12
Decrease, accrued taxes	(91)
Increase, other accrued liabilities	27
Net cash provided (used) by operating Activities	$ 219

[1] [2] [3] See table (Worksheet for preparing statement of cash flows) for details.

INDIRECT METHOD

ALDINE MANUFACTURING COMPANY STATEMENT OF CASH FLOWS FOR THE YEAR ENDED MARCH 31, 20X2 (IN THOUSANDS)

CASH FLOW FROM OPERATING ACTIVITIES	
Net income	$ 201
Depreciation	112
Cash provided (used) by current assets	
Operating-related liabilities	
Decrease, accounts receivable	62
Increase, inventories	(94)
Increase, prepaid expenses	(4)
Increase, tax prepayments	(6)
Increase, accounts payable	12
Decrease, accrued taxes	(91)
Increase, other accrued liabilities	27
Net cash provided (used) by operating Activities	$ 219
CASH FLOW FROM INVESTING ACTIVITIES	
Additions to fixed assets	$ (104)
Payment for long-term investment	(65)
Net cash provided (used) by investing activities	$ (169)
CASH FLOW FROM FINANCING ACTIVITIES	
Increase in short-term borrowings	$ 92
Additions to long-term borrowing	4
Dividends paid	(143)
Net cash provided (used) by financing activities	$ (47)
Increase (decrease) in cash	$ 3
Cash and cash equivalents, March 31, 20X1	175
Cash and cash equivalents, March 31, 20X2	$ 178
Supplemental cash – flow disclosures	
Interest paid	$ 85
Taxes paid[3]	211

Table

	Sales	$ 3,992
+ (-)	Decrease (increase) in accounts receivable	62
=	Cash received from customers[1]	$ 4,054
	Cost of goods sold (minus depreciation for the year)	$ 2,568
+ (-)	Increase (decrease) in inventory	94
+ (-)	Decrease (increase) in accounts payable	(12)
+ (-)	Increase (decrease) in prepaid expenses	4
+	Selling, general, and administrative expenses	912
+ (-)	Decrease (increase) in other accrued liabilities	(27)
=	Cash paid to suppliers and employees[2]	$ 3,539
	Income taxes (federal and state)	$ 114
+ (-)	Increase (decrease) in accumulated tax prepayments	6
+ (-)	Decrease (increase) in accrued taxes	91
=	Taxes paid[3]	$ 211

[1] [2] [3] See Statement of Cash Flows for the year ended March 31, 20X2.

Example 2.

PRUFROCK CORPORATION
Balance Sheets as of December 31, 1991 and 1992
($ in millions)

	1991	1992	Change
Assets			
Current assets			
Cash	$ 84	$ 98	+ $ 14
Accounts receivable	165	188	+ 23
Inventory	393	422	+ 29
Total	$ 642	$ 708	+$ 66
Fixed assets			
Net plant and equipment	$ 2,731	$ 2,880	+ $ 149
Total assets	$ 3,373	$ 3,588	+ $ 215