

## CASH FLOW STATEMENT

On the statement, cash flows are segregated based on source:

**Operating activities:** involve the cash effects of transactions that enter into the determination of net income.

**Investing activities:** concern with buying (and selling) property, plants, and equipment (PPE); acquiring and disposing of securities of other entities;

**Financing activities:** include issuance and reacquisition of a firm's debt and capital stock, and dividend payments.

- Operating cash flows information indicates the business' ability to generate sufficient cash from its continuing operations
- Investing cash flows information indicates how the business plans to expand

Information about financing cash flows illustrates how the business plans to finance its expansion/reward shareholders.

**Cash from operations:** The statement of cash flows typically arrives at cash from operations by adding to (or subtracting from) net income two types of adjustments:

1. "Non-cash" expenses'
2. Changes in operating (working capital)

e.g.:

Net Income	\$30,000
Non Cash Expenses:	
e.g. Depreciation	<u>5,000</u>
	\$35,000
Change in operating accounts:	
Decrease in inventory	<u>15,000</u>
<b><i>Cash from operations</i></b>	<b><i>\$50,000</i></b>

The format illustrated above follows the **indirect** method of presentation.

For analytical purposes, (as we shall see), the **direct** method is more useful;

5.[Cash flow, transactional analysis; 1990 CFA adapted] The following financial statements are from the 19X2 Annual Report of the Niagara Company:

**Income Statement for Year Ended December 31, 19X2**

Sales	\$1,000
Cost of goods sold	(650)
Depreciation expense	(100)
Sales and general expense	(100)
Interest expense	(50)
Income tax expense	(40)
Net income	\$60

**Balance Sheets at December 31, 19X1 and 19X2**

	19X1	19X2
<b>Assets</b>		
Cash	\$50	\$60
Accounts receivable	500	520
Inventory	<u>750</u>	<u>770</u>
Current assets	\$1,300	\$1,350
Fixed assets (net)	<u>500</u>	<u>550</u>
Total assets	\$1,800	\$1,900
<b>Liabilities and equity</b>		
Notes payable to banks	\$100	\$75
Accounts payable	590	615
Interest payable	<u>10</u>	<u>20</u>
Current liabilities	\$700	\$710
Long-term debt	300	350
Deferred income tax	300	310
Capital stock	400	400
Retained earnings	<u>100</u>	<u>130</u>
Total liabilities & equity	\$1,800	\$1,900

Prepare a statement of cash flows for the year ended December 31, 19X2. Use the direct method.

			19X1	19X2	Δ	
<b>O</b>	Sales	A/R				
<b>P</b>						
<b>E</b>	COGS	Inventory				
<b>R</b>		A/P				
<b>A</b>						
<b>T</b>	Sales & General					
<b>I</b>						
<b>O</b>	Interest	Int Payable				
<b>N</b>						
<b>S</b>	Tax Expense	Def Tax				
<b>I</b>						
<b>N</b>	Depreciation					
<b>VESTMENT</b>	PP&E Purchase	Fixed Assets				
<b>F</b>	Debt Payment	Notes Payable				
<b>I</b>		LTD				
<b>N</b>						
<b>A</b>	Stock Issue	Capital Stock				
<b>N</b>						
<b>C</b>	Dividend	Ret Earnings				
<b>ING</b>	Net Income					

## Niagara Company

Sales	\$1,000
Cost of goods sold	(650)
Depreciation expense	(100)
SGA	(100)
Interest expense	(50)
Income tax expense	<u>(40)</u>

### **INDIRECT METHOD**

#### **Cash from Operations**

Net Income	60
<i>Non Cash Items</i>	
Depreciation	100
Deferred taxes	10
<i>in operating accounts</i>	
A/R	(20)
Inventory	(20)
Interest payable	10
A/P	<u>25</u>
	<b>165</b>

#### **Cash for Investment**

Capital Expenditures	<b>(150)</b>
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#### **Cash for Financing**

ST Debt repayment	(25)
LT Debt borrowing	50
Dividends	<u>(30)</u>
	<b>(5)</b>

**Change in Cash**                      **10**

### **DIRECT METHOD**

#### **Cash from Operations**

Cash collections	980
Cash for inputs	(645)
Cash SGA	(100)
Cash for Interest	(40)
Cash for Taxes	<u>(30)</u>
	<b>165</b>

#### **Cash for Investment**

Capital Expenditures	<b>(150)</b>
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#### **Cash for Financing**

ST Debt repayment	(25)
LT Debt borrowing	50
Dividends	<u>(30)</u>
	<b>(5)</b>

**Change in Cash**                      **10**

### **Changes Included in Cash Flow from Operating Activities (CFO)**

<u>Balance Sheet Account</u>	<u>Cash Flow Description</u>
Accounts receivable	Cash received from customers
Inventories	Cash paid for inputs (materials)
Prepaid expenses	Cash expenses
Accounts payable	Cash paid for inputs/expenses
Advances from customers	Cash received from customers
Rent payable	Cash expenses
Interest payable	Interest paid
Income tax payable	Income taxes paid
Deferred income taxes	Income taxes paid

### **Changes Included in Cash Flow from Investing Activities (CFI)**

<u>Balance Sheet Account</u>	<u>Cash Flow Description</u>
Property, plant, and equipment	Capital expenditures Proceeds from property sales
Investment in affiliates	Cash paid for acquisitions and investments

### **Changes Included in Cash Flow from Financing Activities (CFF)**

<u>Balance Sheet Account</u>	<u>Cash Flow Description</u>
Notes payable	Increase or decrease in debt
Short-term debt	Increase or decrease in debt
Long-term debt	Increase or decrease in debt
Bonds payable	Increase or decrease in debt
Common stock	Equity financing or repurchase
Retained earnings	Dividends paid

The relationship between balance sheet changes and cash flows can be summarized as follows:

- Increases (decreases) in assets represent net cash outflows (inflows). If an asset increases, the firm must have paid cash in exchange.
- Increases (decreases) in liabilities represent net cash inflows (outflows). When a liability increases, the firm must have received cash in exchange.

**Converting Indirect Method Cash Flows to Direct Method:  
(Creating CFO from FFO)**

Cash Flows =	Income Statement +/-	Balance Sheet Changes
From Customer	Sales	Δ A/R Δ Advances
To Suppliers	COGS	Δ A/P Δ Inventory
For Expenses	SG&A	Δ Accrued expense Δ Prepaid Expense

The Income Statement and the Cash Flow from Operations portion of the Statement of Cash Flows of the XYZ Company follow:

Sales		90,000	Net Income	30,000
COGS	20,000		Add:	
Depreciation	10,000		Depreciation	10,000
Wages	12,000		Δ in A/R	3,000
Rent	5,000		Δ in A/P	2,000
Interest	3,000		Less:	
Taxes	<u>10,000</u>	<u>60,000</u>	Δ in Inventory	(4,000)
		30,000	Δ in Rent Payable	(3,000)
			Δ in Tax Payable	<u>(2,000)</u>
				36,000

Prepare the Cash Flow from Operations using the Direct Method:

## Cash Flow Classification Issues

While the classification of cash flows into the three main categories is important, we must recognize that

***classification guidelines can be arbitrary.***

Although total cash flow is not subject to manipulation

***CFO (and CFF and CFI) is affected by reporting methods that alter the classification of cash flows among operating, investing, and financing categories***

1. Cash flows involving Property Plant and Equipment
2. Differences due to some accounting methods
3. Interest and dividends received
4. Interest paid
5. Noncash transactions

### **Drawbacks of cash from operations (analyst point of view).**

- Cash from operations does not include charges for the use of long-lived assets; depreciation is added back into income in arriving at cash from operations.
- Cash from operations does not include cash outlays for replacing old equipment (required to ensure uninterrupted operating activities).
- Identical firms that make different accounting choices may report different cash from operations.

### **Examples:**

1. Leasing firms report lower cash from operations than purchasing firms as lease rentals reduce cash from operations whereas payments for purchasing reduce cash from investing activities.
2. Capitalizing expenditures-firms report higher cash from operations than expensing-firms.

Example:

Assumptions:

Project -3 year life

Cash disbursements measure progress.

Year	1	2	3	Total
Cash Receipts	1,000	1,000	1,000	3,000
Disbursements	<u>900</u>	<u>600</u>	<u>300</u>	<u>1,800</u>
Δ cash	100	400	700	1,200
Δ cash cumul	100	500	1,200	

## INCOME & CASH FLOW

### Completed Contract

Year	1	2	3	Total
Revenues	0	0	3,000	3,000
Expenses	<u>0</u>	<u>0</u>	<u>1,800</u>	<u>1,800</u>
Income	0	0	1,200	1,200
Δ Inventory	(900)	(600)	1,500	
Δ Advances	<u>1,000</u>	<u>1,000</u>	<u>(2,000)</u>	
CFO	100	400	700	1,200

## BALANCE SHEET

### Completed Contract

Year	1	2	3
Cash	100	500	1,200
Inventory	<u>900</u>	<u>1,500</u>	<u>0</u>
Current Assets	1,000	2,000	1,200
Advances (CL)	1,000	2,000	0
Retained Earnings	<u>0</u>	<u>0</u>	<u>1,200</u>
Liability & Equity	1,000	2,000	1,200

### Percentage of Completion

Year	1	2	3	Total
Revenues	1,500	1,000	500	3,000
Expenses	<u>900</u>	<u>600</u>	<u>300</u>	<u>1,800</u>
Income	600	400	200	
Δ A/R	<u>(500)</u>	<u>0</u>	<u>500</u>	
CFO	100	400	700	1,200

### Percentage of Completion

Year	1	2	3
Cash	100	500	1,200
Accounts Receivable <sup>1</sup>	<u>500</u>	<u>500</u>	<u>0</u>
Current Assets	600	1,000	1,200
Advances (CL)			
Retained Earnings	<u>600</u>	<u>1,000</u>	<u>1,200</u>
Liability & Equity	600	1,000	1,200

<sup>1</sup> May be called Inventory: Work in Process at Contract Price and may be reported at times net of advances



Example:

Assumptions:

Project -3 year life

Up front item (UFI) cost of \$1,500 may be capitalized or expensed immediately.

Year	1	2	3	Total
Cash / Income Pre	2,000	2,000	2,000	6,000
"Up front item"	<u>1,500</u>	<u>0</u>	<u>0</u>	<u>1,500</u>
Δ cash	500	2,000	2,000	4,500
Δ cash cumul	500	2,500	4,500	

## INCOME & CASH FLOW

### Expense

Year	1	2	3	Total
Revenues	2,000	2,000	2,000	6,000
Expenses	<u>1,500</u>	<u>0</u>	<u>0</u>	<u>1,500</u>
Income	500	2,000	2,000	4,500
CFO	500	2,000	2,000	4,500

## BALANCE SHEET

### Expense

Year	1	2	3
Cash	500	2,500	4,500
UFI	<u>0</u>	<u>0</u>	<u>0</u>
Assets	500	2,500	4,500
Retained Earnings	<u>500</u>	<u>2,500</u>	<u>4,500</u>
Liability & Equity	500	2,500	4,500

## Capitalize / Amortize

Year	1	2	3	Total
Revenues	2,000	2,000	2,000	6,000
Expenses	<u>500</u>	<u>500</u>	<u>500</u>	<u>1,500</u>
Income	1,500	1,500	1,500	4,500
Add Deprec	<u>500</u>	<u>500</u>	<u>500</u>	<u>1,500</u>
CFO	2,000	2,000	2,000	6,000
CFI	<u>(1,500)</u>	<u>0</u>	<u>0</u>	<u>(1,500)</u>
Δ Cash	500	2,000	2,000	4,500

## Capitalize / Amortize

Year	1	2	3
Cash	500	2,500	4,500
UFI	<u>1,000</u>	<u>500</u>	<u>0</u>
Assets	1,500	3,000	4,500
Retained Earnings	<u>1,500</u>	<u>3,000</u>	<u>4,500</u>
Liability & Equity	1,500	3,000	4,500

## FREE CASH FLOWS

To overcome these problems, analysts typically use **free cash flows** as an alternative measure for cash from operations defined as:

**CFO less net cash outlays for the replacement of operating capacity.**

Although the definition implies that only net investment in replacing old equipment is subtracted from cash from operations, in practice total investment appearing in the cash used by investing activity section of the statement of cash flows is used. This may overstate (understate) the net investment in replacing equipment because some of the investment reported under cash used by investing activities may represent expansion (downsizing). Thus, the *free cash flow may overstate or understate true cash from operations.*

Free cash flows still shares two drawbacks of cash from operations

- Interest and dividends received, which are classified as operating cash flows, should be reclassified (using the after-tax numbers) as investing cash flows. This has the advantages of reporting operating cash flows that reflect only operating activities of the firm's core business
- Interest payments, which are classified as operating cash flows, should be reclassified (using the after-tax numbers) as cash used by financing activities. This has the advantage of reporting identical cash from operations by two firms with different capital structure but otherwise identical.
- Significant Noncash transactions

***Alternatively CFO provides information as to***

***Liquidity***

- *The cash flow statement provides information about the firm's liquidity and its ability to finance its growth from internally generated funds.*

***The Effect of Accounting Policies***

- *The cash flow statement allows the analyst to distinguish between the actual events that have occurred and the accounting assumptions that have been used to report these events.*

***The (Validity) of the Going Concern Assumption***

- *the statement of cash flows serves as a “check” on the assumptions inherent in the income statement.*

**Analysis of Cash Flow Trends**

The data contained in the statement of cash flows can be used to

1. Review individual cash flow items for analytic significance
2. Examine the trend of different cash flow components over time and their relationship to related income statement items.
3. Consider the interrelationship between cash flow components over time

**EXHIBIT 3C-1. THOUSAND TRAILS, INC. AND SUBSIDIARIES**  
**Consolidated Statements of Changes in Financial Position, 1981 to 1983**

Year ended December 31	1983	1982	1981
<b>Operations</b>			
Cash received			
Membership sales	\$ 27,738,000	22,582,000	\$18,003,000
Collections on contracts receivable, including interest	28,619,000	19,278,000	13,258,000
Dues and preserve revenues	10,507,000	7,336,000	5,133,000
Other	211,000	133,000	(69,000)
	67,075,000	49,329,000	36,325,000
Cash expended			
Marketing expenses	34,211,000	23,211,000	19,983,000
General and administrative expenses	11,788,000	7,739,000	7,130,000
Preserve maintenance and operations	9,001,000	6,127,000	4,571,000
Principal payments on debt related to preserve properties	4,337,000	3,744,000	2,032,000
Interest expense	3,957,000	4,203,000	3,213,000
	63,294,000	45,024,000	36,929,000
Cash provided by (used in) operations before preserve improvements			
	3,781,000	4,305,000	(604,000)
Cash expended for preserve improvements			
	(18,391,000)	(11,275,000)	(6,837,000)
Cash used in operations			
	(14,610,000)	(6,970,000)	(7,441,000)
Other sources (uses) of cash			
Issuance of common stock	17,756,000	4,161,000	10,000
Proceeds of borrowings collateralized by contracts receivable	851,000	8,646,000	9,069,000
Principal payments on notes payable and credit line arrangements	(1,109,000)	(735,000)	(743,000)
Acquisition of preferred stock		(3,000,000)	
Purchase of construction and operating equipment, net of related borrowings of \$1,388,000, \$1,072,000, and \$1,588,000	(2,943,000)	(1,490,000)	(789,000)
Other, net	122,000	(81,000)	(566,000)
	14,677,000	7,501,000	6,981,000
Increase (decrease) in cash			
	67,000	531,000	(460,000)
Cash			
Beginning of year	703,000	172,000	632,000
End of year	\$ 770,000	\$ 703,000	\$ 172,000

Source: Thousand Trails, Inc., 1983 Annual Report.