



## Analyzing the Statement of Cash Flows



Operating Activities



NACM Midwest  
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By George A. Schnupp, CCE

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### Objectives of this Educational Session

- ◆ Show how the statement of cash flows (SCF) is prepared
- ◆ Discuss how to interpret the SCF
- ◆ Examine the difference between accrual profits and cash profits.

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### Overview of the SCF

- ◆ Why is it called the *Statement of Cash Flows*?
  - Shows changes in the cash account over a period of time*
- ◆ Take the perspective that all transactions are run through the cash account
- ◆ The statement shows which activities contributed to cash and which activities reduced cash.

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### Parts of the SCF

- ◆ Statement consists of three basic parts
  - Cash flows from operating activities
  - Cash flows from investing activities
  - Cash flows from financing activities
- ◆ The sum of these activities equals the change in the cash account on the balance sheet

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### Formats for the SCF

- ◆ Two basic formats for determining *Cash Flow from Operating Activities*

Direct approach  
 - Income statement format

Indirect approach  
 - Starts with income & makes adjustments
- ◆ Both approaches arrive at the same answer
- ◆ Most firms use the *indirect approach*
- ◆ Bank lending officers wanted firms to use the *direct approach*.

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### Preparing a SCF

- ◆ Calculate changes in all balance sheet accounts
- ◆ Rules:
 

Treat an increase in an asset as a *use* (outflow) of cash and a decrease as a *source* (inflow) of cash

Treat an increase in a liability or equity account as a *source* (inflow) of cash and a decrease as a *use* (outflow) of cash

Treat revenues as *sources* (inflows) of cash and expenses as *uses* (outflows) of cash
- ◆ **Total sources = Total uses.**

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**Example: SCF**

<i>Balance Sheet:</i>	Beginning	Ending	Change
Cash	10	15	5 Use
Receivables	120	105	15 Source
Inventory	175	190	15 Use
Fixed assets	200	250	50 Use
Total assets	505	560	55 Use
Payables	90	130	40 Source
Accruals	25	30	5 Source
Long-term debt	150	135	15 Use
Common stock	90	90	
Retained earnings	150	175	25 Source
Total financing	505	560	55 Source

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**Example: Continued**

**Income Statement:**

Sales	300	Source
Cost of sales	160	Use
Gross profit	140	
SG&A		80
Use		
Operating profit	60	
Interest Expense	5	Use
Earnings before taxes	55	
Taxes	15	Use
Net income	40	Source

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- The Balancing Figure**
- ◆ The SCF uses the *change in cash* as the balancing figure
  - ◆ Definition of cash:
    - ◆ Cash + liquid marketable securities with maturities of 90 days or less.
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## What Goes into Operating Activities?

- ◆ Start with the income statement
  - ◆ Revenues
  - ◆ Expenses
- ◆ What accounts on the income statement affect accounts on the balance sheet?
  - Sales – Accounts receivable and deferred revenue
  - Cost of sales – Inventory and accounts payable
  - SG&A – Prepaid expense and accrued liabilities
  - Income taxes – Taxes payable and deferred taxes

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## Calculating Cash from Sales

Example:

Sales from the income statement	\$215,600
Opening balance in receivables	8,350
Closing balance in receivables	8,960

### Accounts Receivable Account

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;">Beginning balance</td> <td style="text-align: right; border-bottom: 1px solid black;">8,350</td> </tr> <tr> <td>Sales</td> <td style="text-align: right;">215,600</td> </tr> <tr> <td style="border-top: 1px solid black;">Ending balance</td> <td style="text-align: right; border-top: 1px solid black;">8,960</td> </tr> </table>	Beginning balance	8,350	Sales	215,600	Ending balance	8,960	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;">Collections</td> <td style="text-align: right; border-bottom: 1px solid black;">???</td> </tr> </table>	Collections	???
Beginning balance	8,350								
Sales	215,600								
Ending balance	8,960								
Collections	???								
Collections = \$8,350 + 215,600 - 8,960 = \$214,990.									

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## Alternatively

Cash collected from sales = Sales on the income statement + <i>decrease</i> in accounts receivable balance - <i>increase</i> in accounts receivable balance
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- ◆ A *decrease* is a source of cash
  - ◆ An *increase* is a use of cash
  - ◆ *Answer:* \$215,600 - 610 = \$214,990
  - ◆ Same answer as using T-accounts
- Thus, not necessary to use T-accounts.*

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### Pulling It Together

#### Cash Flow From Operating Activities

Cash sales	\$214,990
Cash cost of sales	132,933
Cash gross profit margin	\$ 82,057
Cash SG&A + other costs	62,392
Cash income before interest & taxes	\$ 19,665
Cash interest expense	2,163
Cash income before taxes	\$ 17,502
Cash income taxes	7,478
<b>Cash profits</b>	<b>\$ 10,024</b>

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### An Indirect Look at Cash Profits

Net income (Accounting profit)	\$ 9,394
<b>Non-cash charges:</b>	
Depreciation	3,998
Increase in deferred tax liability	208
<b>Cash provided (used) by net working capital</b>	
Increase in accounts receivable	(610)
Increase in inventory	(10,272)
Decrease in prepaid expenses	247
Increase in accounts payable	6,703
Increase in accrued liabilities	356
<b>Cash flow from operating activities (Cash profit)</b>	<b>\$10,024</b>

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### A Summary of Cash Profits

- ◆ To convert accrual accounting profits to cash profits you:

Can use the *direct* or *indirect* approaches

**Direct:** Restates income statement to a cash basis

**Indirect:** Starts with net income and makes adjustments

- ◆ Use balance sheet accounts directly or indirectly affected by operations:

Receivables, inventories, prepaids, trade payables, accruals, deferred taxes, ...

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## Importance of Cash Flow From Operations

- ◆ Reconciles the difference between accounting profits and cash profits
- ◆ Is the firm able to generate cash from operations?
- ◆ Is cash flow from operations sufficient to cover investing activities?
- ◆ What are the underlying causes of positive or negative operating cash flows?
- ◆ How stable are operating cash flows?

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## Cash Profits versus Accounting Profits

Are Cash profits => Accounting profits?  
Internal Financing

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## Cash Flow From Investing Activities...

- ◆ Investing activities include:
  - Buying/selling
    - ◆ Securities that are not cash equivalents
    - ◆ Productive assets with long lives
  - Lending money and collecting loans.

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### Cash Flows From Investing Activities

Example:

<i>Gross Property, Plant &amp; Equipment</i>		
Beginning balance	26,507	
Purchases of PP&E	?	
		Write-offs ?
Ending balance	40,607	
Purchases (net of write-offs) = \$40,607 - \$26,507 = \$14,100.		

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### Cash Flows From Investing Activities

Example:

<i>Other Assets</i>		
Beginning balance	668	
Ending balance	373	
Other Assets = \$373 - \$668 = \$295 (Source)		

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### Total Cash Flows From Investing Activities

Property, Plant & Equipment	
\$14,100	
Other Assets	(295)
Net cash used	\$13,805

*The firm is a net investor this period.*

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## Cash Flow From Financing Activities...

Included in this category are:

- Borrowing from non-trade creditors
- Repaying the principal to creditors
- Obtaining resources from owners
- Paying owners a dividend
- Repurchasing the company's own shares
  - ◆ Treasury stock.

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## Sale of Additional Common Stock

<i>Common Stock</i>		<i>Additional Paid-in Capital</i>	
Beginning balance	4,594	Beginning balance	910
Sale of new stock	?	Sale of new stock	?
Ending balance	4,803	Ending balance	957
<b>Change</b>		<b>Change</b>	
= \$4,803 - \$4,594 = \$209		= \$957 - \$910 = \$47	

*Sale of new stock = \$209 + \$47 = \$256.*

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## Short-Term Borrowings and Repayments

<i>Notes Payable - Bank</i>		<i>Maturity of LT Debt</i>	
Beginning balance	6,012	Beginning balance	1,516
Change	?	Change	?
Ending balance	5,614	Ending balance	1,884
<b>Payment</b>		<b>Increase</b>	
= \$6,012 - \$5,614 = \$398		= \$1,884 - \$1,516 = \$368	

*Net reduction of ST borrowing = \$398 - \$368 = \$30.*

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## Long-Term Borrowings and Repayments

### Long-Term Borrowings

Beginning balance	16,975
Change	?
Ending balance	21,059
Net increase in borrowings = \$21,059 - \$16,975	
	= \$4,084

Reading the notes may allow you to separate the change into "borrowings" and repayments."

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## Dividends Paid

### Rule:

Beginning retained earnings	
+ profits	
- ending retained earnings	
= Dividends paid	

$$\$32,363 + \$9,394 - \$40,175 = \$1,582$$

*Rule doesn't always work. There may be an adjustment to retained earnings.*

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## Cash Flow From Financing Activities

Sale of common stock	\$ 256
Decrease in short-term borrowings	
(30)	
Additions to long-term borrowings	
4,084	
Dividends paid	<u>(1,582)</u>
Net cash provided	\$2,728

*The firm is a net borrower this period.*

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## Putting All the Activities Together

◆ The change in the *cash* account equals the sum of:

Operating activities	\$10,024
Investing activities	(13,805)
Financing activities	<u>2,728</u>
Change in cash	(\$ 1,053)

◆ Interpretation:

*Investing activities required more cash than provided by operating and financing activities. The cash account was reduced to provide the difference.*

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## Common Size SCF

	2002		2001	
<i>Inflows</i>				
Operations	\$10,024	62.0%	\$ 0	0.0%
Sale of assets	295	1.8	0	0.0
Sale of stock	256	1.6	183	1.8
Short-term debt	0	0.0	1,854	18.7
Long-term debt	<u>5,600</u>	<u>34.6</u>	<u>7,882</u>	<u>79.5</u>
Total	<u>\$16,175</u>	<u>100.0%</u>	<u>\$ 9,919</u>	<u>100.0%</u>
<i>Outflows</i>				
Operations	\$ 0	0.0%	\$ 3,767	31.4%
Plant & equipment	14,100	81.8	4,773	40.0
Short-term debt	30	0.2	0	0.0
Long-term debt	1,516	8.8	1,583	13.2
Dividends	<u>1,582</u>	<u>9.2</u>	<u>1,862</u>	<u>15.4</u>
Total	<u>\$17,228</u>	<u>100.0%</u>	<u>\$11,995</u>	<u>100.0%</u>
Change in cash	(\$1,053)		(\$2,076)	

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## Note:

The Statement of Cash Flows, like the Balance Sheet and Income Statement are Historical.

We are looking back In time.



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## Statements Only One Year Old Are Ancient History.



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## So What Good is History?

*Can be used to predict  
the future  
If a solid company,  
will probably be  
okay  
If marginal, need to  
look forward*



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## Forward Looking Statement – Cash Flow Projections



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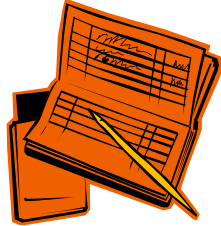
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## Cash Flow Template

- ◆ Record all streams of cash
- ◆ List all cash payments
- ◆ What's beginning cash
- ◆ What's cash change
- ◆ Financing / Payback
- ◆ Accumulated financing
- ◆ New cash balance



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**Cash Flow Projections:**  
Only as good as the sales forecast that it is based on.



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## Requirements For Bank Loan

- ◆ Mission Statement
- ◆ Two Years Audited Financials
- ◆ Aging of Accounts Receivables
- ◆ 12 Month Cash Flow Forecast

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