

Funds Analysis, Cash-Flow Analysis, and Financial Planning



After studying you should be able to:

- Explain the difference between the flow of funds (sources and uses of funds) statement and the statement of cash flows -- and understand the benefits of using each.
- Define "funds" and identify sources and uses of funds.
- Create a sources and uses of funds statement, make adjustments, and analyze the final results.
- Describe the purpose and content of the statement of cash flows as well as implications that can be drawn from it.
- Prepare a cash budget from forecasts of sales, receipts, and disbursements -- and know why such a budget should be flexible.
- Develop forecasted balance sheets and income statements.
- Understand the importance of using probabilistic information in forecasting financial statements and evaluating a firm's condition.



Funds Analysis, Cash-Flow Analysis, and Financial Planning

- Flow of Funds (Sources and Uses)
 Statement
- Accounting Statement of Cash Flows
- Cash-Flow Forecasting
- Range of Cash-Flow Estimates
- Forecasting Financial Statements



Flow of Funds Statement

A summary of a firm's changes in financial position from one period to another; it is also called a *sources and uses of funds statement* or a *statement of changes in financial position*.



Why Examine the Flow of Funds Statement

QUESTION?

Why should we bother to understand a Flow of Funds Statement that is no longer required to appear in U.S. audited annual reports?



Why Examine the Flow of Funds Statement

The Flow of Funds Statement:

- Includes important noncash transactions while the cash flow statement does not.
- Is easy to prepare and often preferred by managers for analysis purposes over the more complex cash flow statement.
- Helps you to better understand the cash flow statement, especially if it is prepared under the "indirect method."



Flow of Funds Statement

What are "funds"?

All of the firm's *investments and claims* against those investments.

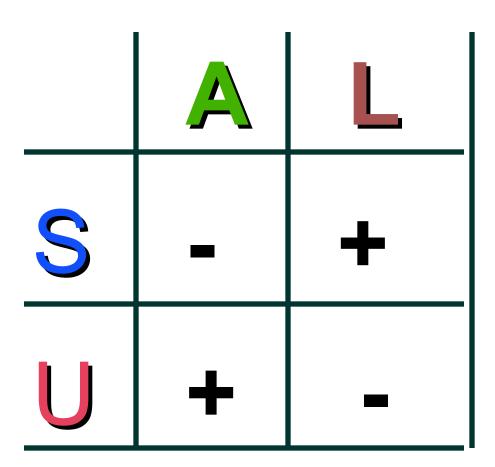
Extends beyond just transactions involving cash.





Sources and Uses Statement

The letters labeling the boxes stand for <u>Uses, Sources,</u> Assets, and **Liabilities** (broadly defined). The pluses (minuses) indicate increases (decreases) in assets or liabilities.





BW's Determination of Sources and Uses

Assets	2007	2006	+/-	S/U
Cash and C.E.	\$ 90	\$ 100	-	S
Acct. Rec.	394	410	-	S
Inventories	696	616	+	U
Prepaid Exp	5	5		
Accum Tax Prepay	<u> 10</u>	9	+	U
		\$ 1,140		N/A
Current Assets	\$ 1,195	930		N/A
Fixed Assets (@Cost)	1 <u>030</u>	(299)		N/A
Less: Acc. Depr.	(329)	\$ <mark>631</mark>	+	U
Net Fix. Assets	\$ 701	50		
Investment, LT	50	<u> 223</u>		
Other Assets I T		\$ 2,044		



BW's Determination of Sources and Uses

Assets	2007	2006	+/-	S/U
Cash and C.E.	\$ 90	\$ 100	\$10	S
Acct. Rec.	394	410	16	S
Inventories	696	616	80	U
Prepaid Exp	5	5		
Accum Tax Prepay	<u> 10</u>	9	1	U
		\$ 1,140		N/A
Current Assets	\$ 1,195	930		N/A
Fixed Assets (@Cost)	1 <u>030</u>	(299)		N/A
Less: Acc. Depr.	(329)	\$ 631	70	U
Net Fix. Assets	\$ 701	50		
Investment, LT	50	<u>223</u>		
Other Assets, LT	<u></u>	\$ 2.044		



BW's Determination of Sources and Uses

Liabilities and Equity	2007	2006	+/-	S/U
Notes Payable	\$ 290	\$ 295	-	U
Acct. Payable	94	94		
Accrued Taxes	16	16		
Other Accrued Liab.	<u> 100 </u>	<u> 100 </u>		
		\$ 505		N/A
Current Liab.	\$ 500	453	+	S
Long-Term Debt	530			
Shareholders' Equity		200		
Com. Stock (\$1 par)	200	729		
Add Pd in Capital	729	157	+	S
Retained Earnings	<u>210</u>	\$ 1086		N/A
Total Equity	\$ <u>1.139</u>	\$ 2.044		

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BW's Determination of Sources and Uses

Liabilities and Equity	2007	2006	+/ -	S/U
Notes Payable	\$ 290	\$ 295	\$ 5	U
Acct. Payable	94	94		
Accrued Taxes	16	16		
Other Accrued Liab.	<u> 100 </u>	<u> 100 </u>		
		\$ 505		N/A
Current Liab.	\$ 500	453	77	'S
Long-Term Debt	530			
Shareholders' Equity		200		
Com. Stock (\$1 par)	200	729		
Add Pd in Capital	729	157	53	S
Retained Earnings	<u>210</u>	\$ 1086		N/A
Total Equity	\$ <u>1,139</u>	\$ 2.044		

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"Basic" Sources and Uses Statement

SOURCES

<u>5156</u>





Adjusting the "Basic" Sources and Uses Statement

The following three slides are Basket Wonders' Balance Sheet and Income Statement.

This information will be needed to adjust the "basic" Sources and Uses Statement.



Basket Wonders' Balance Sheet (Asset Side)

Basket Wonders Balance Sheet (thousands) Dec. 31, 2007^a

Cash and C.E.	\$	90	a. How the firm stands on
Acct. Rec. ^c		394	a specific date.
Inventories		696	b. What BW owned.
Prepaid Exp d		5	c. Amounts owed by
Accum Tax Prepay	_	<u>10</u>	customers.
			d. Future expense items
Current Assets	• \$1	I ,195	already paid.
Fixed Assets (@Cost)	f	1030	e. Cash/likely convertible
Less: Acc. Depr. ^g		(329)	to cash within 1 year.
Net Fix. Assets	\$	701	f. Original amount paid.
Investment, LT		50	g. Acc. deductions for
Other Assets, LT		<u>223</u>	wear and tear.
Total Accoteb	¢	160	



Basket Wonders' Balance Sheet (Liability Side)

Basket Wonders Balance Sheet (thousands) Dec. 31, 2007

Notes Payable \$ 290	a. Note, As
Acct. Payable ^c 94	Liabilitie
Accrued Taxes d 16	b. What BV
Other Accrued Liab. d <u>100</u>	ownersh
Current Liab. • \$	c. Owed to
500 Long-Term Debt ^f	goods ar
530 <u>Shareholders'</u>	d. Unpaid v
Equity Com. Stock (\$1	salaries,
par) ⁹ 200 Add Pd in Capital ⁹	e. Debts pa
729 Retained	f. Debts pa
Earnings ^h <u>210</u> Total	
Equity \$ <u>1,139</u>	h. Earnings

- ssets = es + Equity.
- *N* owed and nip position.
 - suppliers for nd services.
- wages, etc.
- ayable < 1 year.
- ayable > 1 year.
 - investment.
- s reinvested.



Basket Wonders' Income Statement

Basket Wonders Statement of Earnings (in thousands) for Year Ending December 31, 2007^a

Net Sales	\$	2,211	a.	M
Cost of Goods Sold	b	_ <u>1,599</u>		ον
Gross Profit	\$	612	b .	Re
SG&A Expenses ^c	-	<u>402</u>		fro
EBIT ^d		\$	С.	Sá
210 Interest Expen	se ^e	, 		of
59 EBT ^f		\$	d .	0
151 Income Taxes		_	e.	C
<u>60</u> EAT ^g	\$	91	<i>f</i> .	Та
Cash Dividends		38	q .	Â
_Increase in RE	\$	<u>53</u>	9.	sh

а.	Measures profitability
	over a time period.

- b. Received, or receivable, from customers.
- c. Sales comm., adv., officer's salaries, etc.
- d. Operating income.
- e. Cost of borrowed funds.
- f. Taxable income.
- g. Amount earned for shareholders.



Adjusting the "Basic" Sources and Uses Statement

Recognize Profits and Dividends Change in retained earnings is composed of profits and dividends.

- Source: Net Profit \$91
- Less Use: Cash Dividends <u>38</u>

\$53

(Net) Source: Incr., R.E.



Adjusting the "Basic" Sources and Uses Statement

<u>Recognize Depreciation and Gross</u> <u>Changes in Fixed Assets</u>

Change in net fixed assets is composed of depreciation and fixed assets.

Source:Depreciation\$ 30Less Use:Add. to F.A.100(Net) Use:Incr., Net F.A.\$ 70





<u>SOURCES</u>					
Funds provided by operations					
Net Profit	\$ 91				
Depreciation	30				
Decrease, Accounts Receivable	16				
Increase, Long-Term Debt	77				
Decrease, Cash + Cash Equivalents	<u> 10 </u>				
		\$224			





<u>USES</u>		
Dividends	\$ 38	
Additions to fixed assets	100	
Increase, Inventories	80	
Increase, Accum. Tax Prepay	1	
Decrease, Notes Payable	<u> 5</u>	
		\$224



Analyzing the Sources and Uses Statement



Primarily through net profit from operations and long-term debt increases.



Primarily through an increase in inventories and expenditures on capital assets.



Statement of Cash Flows

A summary of a firm's payments during a period of time.

This statement reports cash inflows and outflows based on the firm's

operating activities, investing activities, and

financing activities.



Statement of Cash Flows

Cash Flow from Operating Activities

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.



Cash Flow From Operating Activities

Cash Inflows

From sales of goods or services From interest and 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



Cash Flow From Operating Activities

It would seem more logical to classify interest and dividend income as an "investing" inflow, while interest paid certainly looks like a "financing" outflow.



Statement of Cash Flows

Cash Flow from Investing Activities

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

Cash Flow from Financing Activities

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



Cash Flow From Investing Activities

Cash Inflows

- From sale of fixed assets (property, plant, equipment)
- From sale of debt or equity securities (other than common equity) of other entities

Cash Outflows

- To acquire fixed assets (property, plant, equipment)
- To purchase debt or equity securities (other than common equity) of other entities



Cash Flow From Financing Activities

Cash Inflows

From borrowing From the sale of the firm's own equity securities

Cash Outflows

To repay amounts borrowed To repurchase the firm's own equity securities

To pay shareholders dividends



Indirect Method --Statement of Cash Flows

Cash Flow from Operating Activities

Net Income	\$ 91
Depreciation	30
Decrease, accounts receivable	16
Increase, inventories	(80)
Increase, accum. tax prepay	(1)

Net cash provided (used) by	
operating activities	\$ 56



Indirect Method ---Statement of Cash Flows

Cash Flow from Investing Activities

Additions to Fixed Assets

<u>\$(100)</u>

Net cash provided (used) by investing activities

\$<mark>(100</mark>)



Indirect Method ---**Statement of Cash Flows**

Cash Flow from Financing Activities

Increase, notes payable	\$(5)
Increase, long-term debt	77
Dividends paid	(38)

Net cash provided (used) by financing activities



Indirect Method --Statement of Cash Flows

Increase (decrease) in cash
and cash equivalents\$ (10)Cash and cash equivalents, 2006100Cash and cash equivalents, 200790

Supplemental cash flow disclosures Interest paid \$ 59 Taxes paid 60





Cash Flow from Operating Activities

Cash received from customers ^a Cash paid to suppliers and	\$2,227	
employees ^b	(2,051)	
Interest paid		(59)
Taxes paid ^c		(61)
Net cash provided (used) by		
operating activities	\$	56

^{a, b, c} See Worksheet on next slide for calculation



Worksheet for Preparing Operating Activities Section

(a) +(-)	Sales <u>Decrease (increase) in AR</u> Cash received from customers	\$2,211 <u>16</u> \$2,227
(b) +(-)	COGS - Depreciation + SGA Increase (decrease) in inventory Cash paid to suppliers and employees	\$1,971 <u>80</u> \$2,051
(c) +(-)	Income taxes (federal / state) <u>Incr (Decr) in accum. tax prepay</u> Taxes paid	\$ 60 <u>1</u> \$ 61



Direct Method --Statement of Cash Flows

Cash Flow from Investing Activities

Additions to Fixed Assets

<u>\$(100)</u>

Net cash provided (used) by investing activities

\$<mark>(100</mark>)



Direct Method ---**Statement of Cash Flows**

Cash Flow from Financing Activities

Decrease, notes payable\$ (5)Increase, long-term debt77Dividends paid(38)

Net cash provided (used) by financing activities



Direct Method --Statement of Cash Flows

Increase (decrease) in cash
and cash equivalents\$ (10)Cash and cash equivalents, 2006100Cash and cash equivalents, 2007\$ 90

Supplemental cash flow disclosuresNet Income\$ 91Depreciation30Decrease, accounts receivable16Increase, inventories(80)Increase, accum. tax prepay(1)Net cash provided (used) by(1)operating activities\$ 56





A Cash Budget is a forecast of a firm's future cash flows arising from collections and disbursements, usually on a monthly basis.

The financial manager is better able to:

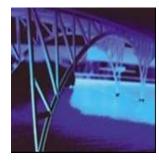
- Determine the future cash needs of the firm
- Plan for the financing of these needs
- Exercise control over cash and liquidity of the firm





<u>Internal Sales Forecast</u>

- Sales representatives project sales for the period in question (sales under their control or management).
- Sales projections are screened and consolidated for product lines.
- Product line sales projections are consolidated into a single forecast.







- Economists project overall economic and business trends that will affect the firm.
- Expected market share is projected for current and new product lines.
- Product line sales projections are consolidated into a single forecast.



BW's Cash Flow Forecast

Lisa Miller has finalized a cash flow forecast for the first six months of 2008. Lisa is expecting 90% of monthly sales will be credit sales with 80% of credit sales collected in 30 days, 20% in 60 days, and no "bad debts."

Hint: The cash flow forecast will be used in forecasting the financial statements later in this chapter.



Collections and Other Cash Receipts (Thousands)

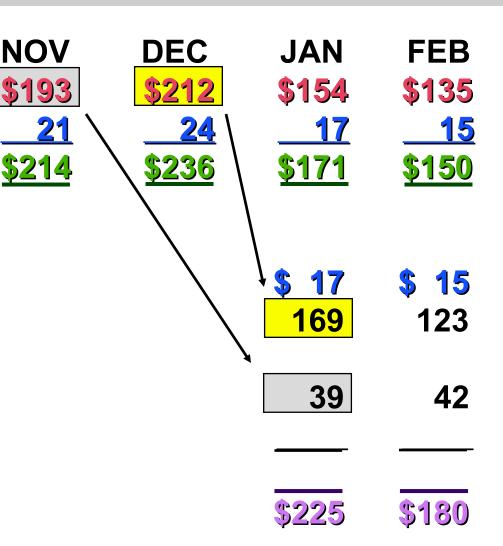
SALES

Credit Sales, 90% Cash Sales, 10% Total Sales, 100%

CASH COLLECTIONS

Cash sales, current 80% of last month's credit sales 20% of 2-month-old credit sales

43 Total sales receipts





 $\Delta \Delta$

Collections and Other Cash Receipts (Thousands)

<u>SALES</u> Credit Sales, 90% Cash Sales, 10% Total Sales, 100%	MAR \$256 <u>28</u> \$284	APR \$205 <u>23</u> \$228	MAY \$160 <u>18</u> \$178	JUN \$190 <u>21</u> \$211
CASH COLLECTIONS Cash sales, current 80% of last month's	\$ <mark>28</mark> 108	\$23 205	<mark>\$ 18</mark> 164	<mark>\$21</mark> 128
credit sales 20% of 2-month-old credit sales	31	27	51	41
4 Total sales receipts	\$167	\$255	\$233	\$190



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Purchases

Schedule of Projected Cash Disbursements (Thousands)

DEC

\$ 39

JAN

\$ 35

FEB

\$ 64

CASH DISBURSEMENTS FOR PURCHASES AND OPERATING EXPENSES

100% of last month's	\$ 39	\$ 35
purchases		
Wages paid	90	94
Other expenses paid	<u>34</u>	<u> </u>
Total disbursements (purchases		
and operating expenses)	<u>\$163</u>	<u>\$163</u>
•		



Schedule of Projected Cash Disbursements (Thousands)

	MAR	APR	MAY	JUN
Purchases	\$ 53	\$ 40	\$ 48	\$ 50
<u>CASH DISBURSEMENTS FOR</u> <u>PURCHASES AND OPERATING</u> <u>EXPENSES</u>	-			
100% of last month's purchases	\$ 64	\$ 53	\$ 40	\$ 48
Wages paid	111	107	<mark>92</mark>	<mark>92</mark>
Other expenses paid	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Total disbursements (purchases and operating expenses)_	<u>\$209</u>	<u>\$194</u>	<u>\$166</u>	<u>\$174</u>



Schedule of Net Cash Disbursements (Thousands)

	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>
Total disbursements for purchases and operating expenses_	\$163	\$163	\$209
Capital expenditures	70	40	0
Dividend payments	0	0	9
Income taxes	<u> 25 </u>	0	0
Total cash disbursements	<u>\$258</u>	<u>\$203</u>	<u>\$218</u>



Schedule of Net Cash Disbursements (Thousands)

	<u>APR</u>	<u>MAY</u>	<u>JUN</u>
Total disbursements for purchases and operating expenses_	\$194	\$166	\$174
Capital expenditures	0	0	0
Dividend payments	0	0	10
Income taxes	<u> 25 </u>	0	0
Total cash disbursements	<u>\$219</u>	<u>\$166</u>	<u>\$184</u>



Projected Net Cash Flows and Cash Balances

	<u>JAN</u>	FEB	MAR
Beginning cash balance	\$90	\$ 57	\$ 34
Total cash receipts	225	180	167
Total cash disbursements	<u>258</u>	<u>203</u>	<u>218</u>
Net cash flow	\$(33)	\$(23)	\$(51)
Ending cash balance without additional financing	<u> </u>	<u>\$34</u>	\$ <u>(17</u>)



Projected Net Cash Flows and Cash Balances

	<u>APR</u>	<u>MAY</u>	<u>JUN</u>
Beginning cash balance	\$(17)	\$ 19	\$ 86
Total cash receipts	255	233	190
Total cash disbursements	<u>219</u>	<u> 166</u>	<u>184</u>
Net cash flow	\$ 36	\$67	\$6
Ending cash balance without additional financing	<u>\$ 19</u>	<u>\$ 86</u>	<u>\$ 92</u>





Examine factors that may influence cash receipts such as changes in the state of the economy that influence consumer buying decisions and pricing strategies.

Examine factors that may influence cash disbursements such as changes in the state of the economy that impact operations, capital expenditures, and dividend payments.



Management Uncertainty in Ending Cash Balances



ENDING CASH BALANCE (thousands)



Management Uncertainty in Ending Cash Balances





ENDING CASH BALANCE (thousands)



Summary of the Range of Cash-Flow Estimates

- Allows examination of the relevant factors which may generate uncertainty regarding future cash flows.
- Enables management to better plan for contingencies that will arise than using a single-point estimate of monthly cash flows.



Forecasting Financial Statements

Expected future financial statements based on conditions that management <u>expects</u> to exist and actions it expects to take.

Considerations

(1) Forecasted Income Statement(2) Forecasted Balance Sheet



Forecasting BW's Income Statement

Lisa Miller is forecasting the income statement for 2008. She estimates that sales for the 6 months ended June 30 will be \$1,222,000. COGS are estimated from the average of years 2005 through 2007. Selling, general, and administrative costs are forecasted at \$34,000 per month, while the income tax rate is assumed equal to 40%. **Cash dividends** and interest expenses are expected to remain constant.



Basket Wonders' Forecasted Income Statement

Basket Wonders Forecasted Statement of Earnings (in thousands) for Six Months Ending June 30, 2008

Net Sales ^a	\$	1,222
Cost of Goods Sold	b	<u> </u>
Gross Profit	\$	357
SG&A Expenses ^c	_	<u>204</u>
EBIT		\$
153 Interest Expen	sed	-
<u></u> EBT		\$
124 Income Taxes		50
EAT	\$	74
Cash Dividends ^e		<u> 19 </u>
_Increase in RE	\$	<u>55</u>

- a. From sales budget.
- b. Average of 68.7, 71.3, and 72.3% multiplied by net sales.
- c. \$34,000 x 6 months.
- *d.* Assumed to be \$29,000.
- e. Did not change. Six (6) months of dividends = (.5)(\$38,000) = \$19,000.



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Basket Wonders' Balance Sheet (Asset Side)

Forecasted Balance Sheet (thousands) June 30, 2008

Cash and C.E. ^a	\$ 92	a. From Cash Flow
Acct. Rec. ^b	<u>222</u>	Forecast.
Inventories ^c	692	b. 100% June, 20% May.
Prepaid Exp	5	c. Inv Turnover = 2.5/yr.
Accum Tax Prepay	<u> 10</u>	
Current Assets Fixed Assets (@Cost) Less: Acc. Depr. Net Fix. Assetsd	<u>1,140</u> (386)	d. Capital expenditure of \$110,000 and depreciation of \$69,000.
Investment, LT	50	ASSUMPTIONS
Other Assets, LT	<u> 223</u>	
Total Accote	¢2 026	



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Basket Wonders' Balance Sheet (Liability Side)

Forecasted Balance Sheet (thousands) June 30, 2008

Notes Payable ^a	\$ 226	a. Previous balance less
Acct. Payable ^b	50	amount paid down.
Accrued Taxes ^c	16	b. 100% of June
Other Accrued Liab. ^d	<u> 20</u>	purchases.
Current L	iab. \$	c. No net change in
312 Long-Term Debt		accruals.
530 <u>Shareholde</u>	<u>rs'</u>	d. Decrease in unpaid
<u>Equity</u> Com. St	:ock (\$1	wages, salaries, etc.
par) 200 Add Pd in C	apital	e. Increase in retained
729 <mark>Retai</mark>	ned	earnings (See 7-57).
Earnings ^e <u>265</u>	Total	
, Equity \$ <u>1,194</u>	<u>•</u>	