Funds Analysis, CashFlow Analysis, and Financial Planning


## After studying be able to:

you should

- 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. <br> Extends beyond just transactions involving cash. 



## Sources and Uses Statement

The letters labeling the boxes stand for Uses, Sources, Assets, and Liabililities (broadly defined). The pluses (minuses) indicate increases
(decreases) in assets or liabilities.



BW’s Determination

## of Sources and Uses

## Assets $2007 \quad 2006$ +/- 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 |  | 10 |  |  | 9 | + | U |
|  |  |  |  |  | 1,140 |  | N/A |
| Current Assets | \$ | 1,195 |  |  | 930 |  | N/A |
| Fixed Assets (@Cost) |  | 1030 |  |  | (299) |  | N/A |
| Less: Acc. Depr. |  | (329) |  |  | 631 | + | U |
| Net Fix. Assets | \$ | 701 |  |  | 50 |  | -- |
| Investment, LT |  | 50 |  |  | 223 |  | -- |
| Other Acsets TI |  | 22 |  |  | 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 |  | 10 |  | 9 | 1 | U |
| Current Assets | \$ | 1,195 |  | 1,140 930 |  | N/A |
| Fixed Assets (@Cost) |  | 1030 |  | (299) |  | N/A |
| Less: Acc. Depr. |  | (329) | \$ | 631 | 70 | U |
| Net Fix. Assets | \$ | 701 |  | 50 |  | -- |
| Investment, LT <br> Other Ascetc I |  | 50 202 |  | $\frac{223}{2044}$ |  | -- |



BW’s Determination

## of Sources and Uses




BW's Determination of Sources and Uses

| Liabilities and Equity | 2007 |  | 2006 |  | $+/-$ |
| :--- | :---: | :---: | ---: | :---: | :---: |



# "Basic" Sources and Uses Statement 

## SOURCES

Increase, Retained Earnings
Decrease, Accounts Receivable
\$ 53
Increase, Long-Term Debt 77
Decrease, Cash + Cash Equivalents
USES
10
\$80
Decrease, Notes Payable 5
Increase, Net Fixed Assets

## $\$ 156$



# 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 (thousands) Dec. 31, 2007a



Basket Wonders' Balance Sheet (Liability Side)

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



# Basket Wonders' <br> Income Statement 

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

Net Sales
Cost of Goods Sold ${ }^{\text {b }}$ Gross Profit \$ 612
\$ 2,211 1,599

SG\&A Expenses ${ }^{\text {c }}$ SG\&A Expenses
210 Interest Expense ${ }^{\text {e }}$
151 Income Taxes 60 EATs
Cash Dividends _lncrease in RE 402
\$

## 59 <br> EBT ${ }^{\text {f }}$



Adjusting the "Basic" Sources and Uses Statement

## Recognize Profits and Dividends

Change in retained earnings is composed of profits and dividends.

Source:
Less Use:
(Net) Source:

Incro, R.E.
\$91 Cash Dividends 38 \$53

Adjusting the "Basic" Sources and Uses Statement

Recoginize Depreciation and Gross Changes in Fixed Assets

Change in net fixed assets is composed of depreciation and fixed assets.
Source:
Depreciation
\$ 30
Less Use:
Add. to F.A. 100
(Net) Use:
Incra, Net F.A.
\$ 70


Sources and Uses Statement (Sources Side)

## SOURCES

Funds provided by operations
Net Profit \$ 91
Depreciation 30

Decrease, Accounts Receivable 16
Increase, Long-Term Debt 77
Decrease, Cash + Cash Equivalents 10


# Sources and Uses Statement (Uses Side) 

## USES

Dividends
\$ 38
Additions to fixed assets 100

Increase, Inventories 80
Increase, Accum. Tax Prepay 1
Decrease, Notes Payable 5

# Analyzing the Sources and Uses Statement 

## Soulrces

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

## Uses

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 Unvesting 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


$$
\begin{aligned}
& \text { Cash Flow From } \\
& \text { Financing Activities }
\end{aligned}
$$

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
Decrease, accounts receivable Increase, inventories
Increase, accum. tax prepay
30
16
( 80)
( 1)

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


# Indirect Method =Statement of Cash Flows 

## Cash Flow from Investing Activities

Additions to Fixed Assets

\$(100)
Net cesh provided (used) by
investing activities
$\$(100)$


# Indirect Method =Statement of Cash Flows 

## Cash Flow from Financing Activities

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

Net cash provided (used) by
financing activities
$\$ 34$


# Indirect Method =Statement of Cash Flows 

Increase (dlecrease) in cash and cash equivalents<br>Cash and cash equivalents, 2006<br>Cash and cash equivalents, 2007 100

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


## Direct Method = Statement of Cash Flows

## Cash Flow from Operating Activities

Cash received from customers ${ }^{\text {a }}$
\$2,227
Cash paid to suppliers and employees ${ }^{\text {b }}$
$(2,051)$
Interest paid
(59)

Taxes paid ${ }^{\text {c }}$
(61)

> Net cesh provided (used) by
> operating activities
a, b, c See Worksheet on next slide for calculation


## Worksheet for Preparing Operating Activities Section

(a)

Sales
\$2,211

Cash received from customers
\$2,227
(b) COGS - Depreciation + SGA
$+(-) \quad$ Increase (decrease) in inventory
\$1,971
+(-) Decrease (increase) in AR

80
Cash paid to suppliers and employees \$2,051

Income taxes (federal / state)
\$ 60
$+(-) \quad$ Incr (Decr) in accum. tax prepay
Taxes paid
$\begin{array}{r}1 \\ \hline \$ \quad 61\end{array}$


# Direct Method = Statement of Cash Flows 

## Cash Flow from Investing Activities

Additions to Fixed Assets
\$(100)
Net cesh provided (used) by
investing activities
$\$(100)$


# Direct Method = Statement of Cash Flows 

## Cash Flow from Financing Activities

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

Net cash provided (used) by
financing activitities


## Direct Method =Statement of Cash Flows

Increase (dlecrease) in cash and cash equivalents<br>Cash and cash equivalents, 2006 Cash and cash equivalents, 2007

## Supplemental cash flow disclosures

Net Income
\$ 91
Depreciation
Decrease, accounts receivable Increase, inventories
Increase, accum. tax prepay
Net cash provided (used) by operating activities

30
16
( 80)
1)
$\$ 56$

Cash Flow Forecasting

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

The Sales Forecast


## Internal Salles Forecast

- 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.



## The Salles Forecast

## External Sales 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 <br> Credit Sales, 90\% Cash Sales, 10\% Total Sales, 100\% <br> CASH COLLECTIONS <br> Cash sales, current 80\% of last month's credit sales <br> 20\% of 2-month-old credit sales

43 Totall salles receipts

| NOV DEC | JAN | FEB |
| :---: | :---: | :---: |
| \$193 \$212 | \$154 | \$135 |
| 21 24 | 17 | 15 |
| \$214 | \$171 | \$150 |
|  |  | \$ 15 |
|  | 169 | 123 |
|  | 39 | 42 |
|  | \$225 | \$180 |



## 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

44 Total sales receipts

MAR
$\$ 256$

28
$\$ 284$
APR
$\$ 205$
23
$\$ 228$
$\$ 23$
205
27
$\qquad$
$\overline{\$ 167}$
\$ 28
108

31
$\$ 18$
\$ 21
164
128

51
41

$\overline{\$ 190}$


# Schedulle of Projected Cash Disbursements (Thousands) 

Puirchases

## DEC JAN

\$39 \$35 FEB

CASH DISBURSEMENTS FOR PUURCHASES AND OPERATING EXPENSES
$100 \%$ of last month's purchases
Wages paid
Other expenses paid
Total disbursements (purchases
\$39 \$ 35
$90 \quad 94$
34 and operating expenses) $\$ 163$ $\$ 163$


## Schedulle of Projected Cash Disbursements (Thousands)

Purchases

## CASH DISBURSEMENTS FOR PURCHASES AND OPERATING EXPENSES

$100 \%$ of last month's puirchases
Wages paid
Other expenses paid Total disbursements
(purchases and operating expenses)_

MAR APR MAY JUN<br>\$ 53 \$ 40 \$ 48 \$ 50

\$ 64 \$ 53 \$ 40 \$48



# Schedule of Net Cash Disbursements (Thousands) 

JAN FEB MAR

Totall disbursements for
purchases and operating expenses_
Capital expenditures
Dividend payments
Income taxes
Total cash disbursements

| 70 | 40 | 0 |
| ---: | ---: | ---: |
| 0 | 0 | 9 |
| 25 | 0 | 0 |
| $\$ 258$ | $\$ 203$ | $\$ 218$ |



# Schedule of Net Cash Disbursements (Thousands) 

## APR MAY JUN

Total disbursements for
purchases and operating expenses_
Capital expenditures
Dividend payments
Income taxes
Total cash disbursements



## Projected Net Cash

## Flows and Cash Balances

Beginning cash balance
Total cash receipts
Total cash disbursements Net cash flow

Ending cash balance without acdaitional financing \$37 \$34 \$(17)


## Projected Net Cash

## Flows and Cash Balances

| Beginning cash balance | $\$(17)$ | $\$ 19$ | $\$ 86$ |
| :--- | :---: | ---: | ---: | ---: |
| Total cash receipts | 255 | 233 | 190 |
| Total cash disbursements | $\underline{219}$ | $\underline{166}$ | $\underline{184}$ |
| Net cash flow | $\$ 36$ | $\$ 67$ | $\$ 6$ |

Endling cash balance without aclditional financing \$19 \$86 \$22


$$
\begin{aligned}
& \text { Range of } \\
& \text { Cash-Flow Estimates }
\end{aligned}
$$

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

## January Distribution




Management Uncertainty in Ending Cash Balances

## February Distribution



# 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.


$$
\begin{aligned}
& \text { Forecasting } \\
& \text { Financial Statements }
\end{aligned}
$$

## Expected future financial statements

 based on conditions that management expects to exist and actions it expects to take.
## Considerations

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


$$
\begin{aligned}
& \text { Forecasting BW’s } \\
& \text { Income Statement }
\end{aligned}
$$

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 ${ }^{\text {a }}$ \$ 1,222

SG\&A Expenses ${ }^{\circ}$ EBIT
153 Interest Expense ${ }^{\text {d }}$ 29 EBT
124 Income Taxes EAT
Cash Dividendse Increase in RE
a. From sales budget.
b. Average of 68.7, 71.3, and 72.3\% multiplied by net sales.
c. $\$ 34,000 \times 6$ months.
d. Assumed to be $\$ 29,000$.
e. Did not change. Six (6) months of dividends = (.5)(\$38,000) = \$19,000.


## Basket Wonders' Balance Sheet (Asset Side)

Forecasted Balance Sheet (thousands) June 30, 2008

| Cash and C.E. ${ }^{\text {a }}$ | \$ 92 |
| :---: | :---: |
| Acct. Rec. ${ }^{\text {b }}$ | 22 |
| Inventories ${ }^{\text {c }}$ | 692 |
| Prepaid Exp | 5 |
| Accum Tax Prepay | 10 |
| Current Assets | \$1,021 |
| Fixed Assets (@Cost) | 1,140 |
| Less: Acc. Depr. | (386) |
| Net Fix. Assets ${ }^{\text {d }}$ | \$ 742 |
| Investment, LT | 50 |
| Other Assets, LT | 223 |

a. From Cash Flow Forecast.
b. $100 \%$ June, $20 \%$ May.
c. Inv Turnover = 2.5/yr.
d. Capital expenditure of \$110,000 and depreciation of \$69,000.

## ASSUMPTIONS



## Basket Wonders' Balance Sheet (Liability Side)

Forecasted Balance Sheet (thousands) June 30, 2008
Notes Payablea
Acct. Payable ${ }^{\text {b }}$ ..... \$ 226 ..... 50
Accrued Taxes ${ }^{\text {c }}$
Other Accrued LiabodCurrent Liab. \$

312 Long-Term Debt 530 Shareholders'
Equity Com. Stock (\$1 par) 200 Add Pd in Capital 729 Retained
c. No net change in accruals.
d. Decrease in unpaid wages, salaries, etc.
e. Increase in retained earnings (See 7-57).

## ASSUMPTIONS

