Cash Flow Analysis

F305 Intermediate Corporate Finance

Troy Adair
Fall 2025

Slide Set A3 – Cash Flow Analysis

1

Reminder

Group request for final project due by Wednesday, Sep 10 at 5 PM.

If you're not enrolled in a group by then, I will do so by 5 PM on Friday, Sep 12.

2

Overview

"Mining" Accounting Statements for Financial Purposes

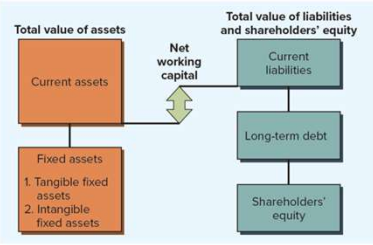
- The Balance Sheet
- The Income Statement
- Taxes
- Cash Flow

3

The Balance Sheet

4

Construction of the Balance Sheet



5

Liquidity and Debt Versus Equity

Liquidity refers to the speed and ease with which an asset can be converted to cash.

Two dimensions are ease of conversion versus loss of value.

- Highly liquid asset is one that can be quickly sold without significant loss of value, while an illiquid asset is one that cannot be quickly converted to cash without a substantial price reduction.
- Assets are normally listed on the balance sheet in order of decreasing liquidity, with current assets being relatively liquid and fixed assets being relatively illiquid.
- The more liquid a business, the less likely it is to experience financial distress.

If a firm borrows money, it usually gives first claim to the firm's cash flow to creditors, with equity holders entitled to only the residual value.

- Use of debt in firm's capital structure is called

6

Net Working Capital

Net working capital is the difference between a firm's current assets and its current liabilities:

- Positive when cash that will become available over the next 12 months (that is, current assets) exceeds cash that must be paid over the same period (that is, current liabilities).
- Usually positive in a healthy firm.

Three particularly important things to keep in mind when examining a balance sheet:

- Liquidity
- Debt versus equity
- Market value versus book value

7

Top Hat 4

Which side of the balance sheet is the "good" side?

- Assets
- Liabilities + Equity

8

TABLE 2.1
Balance Sheets

U.S. CORPORATION 2023 and 2024 Balance Sheets (in millions)					
Assets			**Liabilities and Owners' Equity**		
	2023	**2024**		**2023**	**2024**
Current assets			Current liabilities		
Cash	$ 104	$ 221	Accounts payable	$ 232	$ 266
Accounts receivable	455	688	Notes payable	196	123
Inventory	553	555	Total	$ 428	$ 389
Total	$1,112	$1,464			
Fixed assets					
Net plant and equipment	$1,644	$1,709	Long-term debt	$ 408	$ 454
			Owners' equity		
			Common stock and paid-in surplus	$ 600	$ 640
			Retained earnings	1,320	1,690
			Total	$1,920	$2,330
Total assets	$2,756	$3,173	Total liabilities and owners' equity	$2,756	$3,173

9

Market Value Versus Book Value

Values on balance sheet for the firm's assets are *book values* and generally are not what the assets are actually worth.

- Under **generally accepted accounting principles (GAAP)**, audited financial statements in the U.S. mostly show assets at *historical cost* (that is, assets are "carried on the book" at what the firm paid for them, no matter how long ago they were purchased or how much they are worth today).
- No necessary connection between total assets shown on the balance sheet and the value of the firm.

For financial managers, accounting value of stock is not especially important; it is the *market value* that matters.

- Market value of an asset depends on things like its riskiness and cash flows, neither of which have anything to do with accounting.

10

Market Value Versus Book Value: An Example

The Klingon Corporation has net fixed assets with a book value of $700 and an appraised market value of about $1,000. Net working capital is $400 on the books, but approximately $600 would be realized if all the current accounts were liquidated. Klingon has $500 in long-term debt, both book value and market value. What is the book value of the equity? What is the market value? We can construct two simplified balance sheets, one in accounting (book value) terms and one in economic (market value) terms:

KLINGON CORPORATION
Balance Sheets
Market Value versus Book Value

Assets			Liabilities and Shareholders' Equity		
	Book	Market		Book	Market
Net working capital	$ 400	$ 600	Long-term debt	$ 500	$ 500
Net fixed assets	700	1,000	Shareholders' equity	600	1,100
	$1,100	$1,600		$1,100	$1,600

11

The Income Statement

12

U.S. Corporation: Income Statement

U.S. CORPORATION
2024 Income Statement (in millions)

Net sales		$1,509
Cost of goods sold		750
Depreciation		65
Earnings before interest and taxes		$ 694
Interest paid		70
Taxable income		$ 624
Taxes (21%)		131
Net income		$ 493
Dividends	$ 123	
Addition to retained earnings	370	

13

The Income Statement

A financial manager should keep three things in mind when looking at an income statement:

GAAP:

- As a result of the way revenues and expenses are realized, income statement figures may not be representative of actual cash inflows/outflows that occurred during a particular period.

Cash versus noncash items:

- **Noncash items** are expenses charged against revenues that do not directly affect cash flow, such as depreciation.
- Crucial to separate cash flows from noncash accounting entries.

Time and costs:

- *Product costs* include things such as raw materials, direct labor expense, and manufacturing overhead.
- *Period costs* are incurred during a particular time period and might be reported as selling, general, and administrative expenses.

14

Taxes

15

Taxes

Taxes can be one of the largest cash outflows a firm experiences.

- Size of a company's tax bill is determined by the tax code, an often amended set of rules.

Federal corporate tax rates became a flat [ ] after the passage of the Tax Cuts and Jobs Act of 2017.

- Tax rates on other forms of business (for example, proprietorships, partnerships, and LLC's) did not become flat.

Average tax rate is calculated as total taxes paid divided by total taxable income, while the **marginal tax rate** is the amount of tax payable on the next dollar earned.

16

How Taxes Are Calculated for Sole Proprietorships and Other "Pass-Through" Entities

Pass-through income: Your business's net profit (revenue minus expenses) is reported on Schedule C and is then included as part of your total personal income on Form 1040. This income is subject to your individual tax bracket, which for 2025 ranges from 10% to 37%.

Self-employment tax: As a sole proprietor, you are responsible for paying the full 15.3% self-employment tax, which includes 12.4% for Social Security and 2.9% for Medicare. As of 2025, the Social Security portion applies to the first $176,100 of net earnings. You can deduct half of your self-employment tax on your Form 1040 to reduce your adjusted gross income.

Quarterly estimated taxes: Because no taxes are withheld from your business earnings, you must pay estimated quarterly taxes if you expect to owe more than $1,000 in federal taxes for the year. The payment deadlines for 2025 are April 15, June 16, September 15, and January 15, 2026.

17

Personal Tax Rates 2025

Tax brackets for income earned in 2025

Tax Rate	Single filers	Married filing jointly
10%	Up to $11,925	Up to $23,850
12%	$11,926 - $48,475	$23,851 - $96,950
22%	$48,476 - $103,350	$96,951 - $206,700
24%	$103,351 - $197,300	$206,701 - $394,600
32%	$197,301 - $250,525	$394,601 - $501,050
35%	$250,526 - $626,350	$501,051 - $751,600
37%	Over $626,350	Over $751,600

Married filing separately pay at same rate as singles.

18

Personal Tax Rates Example

Assume you are single and have taxable income of $100,000 in 2025. How much will you pay in taxes?

What will your marginal tax rate be?

What will your average tax rate be?

19

Personal Tax Rates Example

	A	B	C	D	E	F	G	H	I
1	Tax Rate	Single Bottom of Bracket	Single Top of Bracket	Single Tax at Top of Bracket					
2	10%	$ -	$ 11,925	$ 1,192.50	=C2*A2				
3	12%	$ 11,926	$ 48,475	$ 5,578.38	=(C3-B3)*A3+D2				
4	22%	$ 48,476	$ 103,350	$ 17,650.66	=(C4-B4)*A4+D3	$16,913.66	=(B10-B4)*A4+D3		
5	24%	$ 103,351	$ 197,300	$ 40,198.42	=(C5-B5)*A5+D4				
6	32%	$ 197,301	$ 250,525	$ 57,230.10	=(C6-B6)*A6+D5				
7	35%	$ 250,526	$ 626,350	$ 188,768.50	=(C7-B7)*A7+D6				
8	37%	$ 626,350	$9,999,999,999						
9									
10	Taxable Income	$ 100,000							
11									
12	Tax	$ 16,913.66	=XLOOKUP(B10,C2:C7,D2:D7,0,-1,1)+XLOOKUP(B10,B2:B7,A2:A7,0,-1,1)*(B10-XLOOKUP(B10,B2:B7,B2:B7,0,-1,1))						
13	Average Tax Rate	16.91%	=B12/B10						
14	Marginal Tax Rate	22%	=XLOOKUP(B10,B2:B8,A2:A8,0,-1,1)						

20

Corporate Taxes Before TCJA

For tax years 1993 to 2017, the rates were as follows:

- 15% for taxable income up to $50,000.
- 25% for income from $50,001 to $75,000.
- 34% for income from $75,001 to $10 million.
- 35% for income above $10 million.

An additional 3% surtax applied to income from $15 million to $18,333,333, which had the effect of phasing out the benefit of the lower tax brackets for large corporations.

21

Before and After the Trump Tax Law for 16 Prominent Corporations

Company	Effective tax rates		Saved taxes	% change 2013-2016 to 2018-2021*	
	2013-2016	*2018-2021*		*in profits*	*in taxes*
Verizon Communications	21%	8%	$10.7 billion	18%	−52%
Walmart	31%	17%	$9.0 billion	−3%	−45%
AT&T	13%	3%	$8.2 billion	1%	−81%
Meta	28%	18%	$8.0 billion	372%	203%
Intel	27%	13%	$7.7 billion	47%	−31%
Comcast	24%	14%	$6.6 billion	42%	−17%
Walt Disney	26%	8%	$6.1 billion	−27%	−78%
Visa	32%	18%	$5.2 billion	74%	−2%
Lockheed Martin	33%	15%	$5.0 billion	46%	−33%
Capital One Financial	31%	16%	$5.1 billion	42%	−26%
Target	34%	16%	$3.4 billion	25%	−42%
Honeywell International	23%	6%	$2.3 billion	13%	−71%
FedEx	18%	1%	$2.1 billion	7%	−92%
Deere	30%	13%	$1.7 billion	2%	−54%
Archer Daniels Midland	26%	6%	$838 million	−30%	−83%
Domino's Pizza	29%	9%	$402 million	87%	−43%

22

Cash Flow

23

Cash Flow

Cash flow means the different between the number of dollars that came in and the number of dollars that went out.

No (accounting) standard financial statement presents this information in the way that we wish.

- *Statement of cash flows* is a standard financial accounting statement, but it is concerned with a somewhat different issue.

Cash flow identity says the cash flow from the firm's assets is equal to the cash flow paid to suppliers of capital to the firm:

Cash flow from assets = Cash flow to creditors + Cash flow to stockholders

24

Cash Flow from Assets

Cash flow from assets is the total of cash flow to creditors and cash flow to stockholders, consisting of the following three components:

- **Operating cash flow** refers to cash generated from a firm's normal business activities.
- **Capital spending** refers to the net spending on fixed assets (purchases of fixed assets less sales of fixed assets).
- **Change in net working capital** is measured as the net change in current assets relative to current liabilities for the period being examined and represents the amount spend on net working capital.

Cash flow from assets is sometimes called **free cash flow**, referring to the cash the firm is "free" to distribute to creditors and stockholders because it is not needed for working capital or fixed asset investments.

25

Cash Flow from Assets

Operating cash flow is calculated as revenues minus costs and tells us whether a firm's cash inflows from its business operations are sufficient to cover its everyday cash outflows.

- Do not include depreciation or interest in the calculation, but be sure to include taxes.
- Negative operating cash flow is a sign of trouble.
- Pragmatically, OCF = EBIT + Depreciation – Taxes:

U.S. CORPORATION 2024 Operating Cash Flow	
Earnings before interest and taxes	$694
+ Depreciation	65
– Taxes	131
Operating cash flow	$628

26

Cash Flow from Assets

Net capital spending (that is, CAPEX) is money spent on fixed assets less money received from the sale of fixed assets.

- Could be negative is the firm sells more assets than it purchases.

Ending net fixed assets	$1,709
– Beginning net fixed assets	1,644
+ Depreciation	65
Net capital spending	$ 130

27

Cash Flow from Assets

Change in net working capital is found by taking the difference between the beginning and ending net working capital (NWC) figures.

- Often referred to as the "addition to" NWC.

Ending NWC	$1,075
– Beginning NWC	684
Change in NWC	$ 391

28

Cash Flow from Assets

U.S. CORPORATION 2024 Cash Flow from Assets	
Operating cash flow	**$628**
– Net capital spending	130
– Change in NWC	391
Cash flow from assets	$107

29

Cash Flow to Creditors and Stockholders

Cash flow to creditors is calculated as a firm's interest payments to creditors less net new borrowing.

- Sometimes called *cash flow to bondholders*.

U.S. CORPORATION
2024 Cash Flow to Creditors

Interest paid	$70
– Net new borrowing	46
Cash flow to creditors	$24

Cash flow to stockholders is calculated as dividends paid out by a firm less net new equity raised.

U.S. CORPORATION
2024 Cash Flow to Stockholders

Dividends paid	$123
– Net new equity raised	40
Cash flow to stockholders	$ 83

30

Up Next

NPV and Other Investment Criteria

Chapter 9

31