CHARTA LEARNING · LESSON NOTES

The cash flow statement and free cash flow

CFA Level I · Financial Statement Analysis

You will learn: Sort cash items into operating, investing and financing, build operating cash flow by the indirect and direct methods, link the three statements, calculate free cash flow to the firm and to equity, and read the statement as a story.

Running example: Worked examples follow one made-up company, Tidewell Foods ($ millions). Year: revenue 1,000, cost of goods sold 600, operating expenses 150, depreciation 50, interest 40, tax 25% (40), net income 120; opening cash 80.

1. The three sections

- Profit counts a sale when it is made; cash is a fact. Operating: the day to day business (customers, suppliers, staff, tax). Investing: buying and selling long term assets (machines, buildings, shares in other companies). Financing: dealings with lenders and owners (loans, share issues, buybacks, dividends).
- Ask who is on the other side: customer or supplier means operating, an asset seller or buyer means investing, a lender or owner means financing. Dividends paid go to owners, so they are financing. Non-cash deals, such as a building bought with a loan, are disclosed separately.
- Every cash movement lands in one section, so the three totals make the change in cash. Add it to opening cash for closing cash. A negative section is not automatically bad: a growing firm often has negative investing.

> **Change in cash = operating + investing + financing cash flow**

TIDEWELL: SORTING EVENTS

Bought new ovens	investing	**−100**
Borrowed from the bank	financing	**+100**
Repaid part of a loan	financing	**−40**
Paid dividends to owners	financing	**−50**
Net financing	100 − 40 − 50	**+10**

2. IFRS and US GAAP differences

- US GAAP: interest paid, interest received and dividends received are operating; dividends paid are financing.
- IFRS: interest paid is operating or financing, the company chooses. Interest and dividends received are operating or investing. Dividends paid are operating or financing.
- Taxes paid are operating under both, unless they clearly belong to an investing or financing deal. Two firms can report different operating cash flow for the same events.

Watch out: Putting dividends paid in operating (under US GAAP they are financing).

3. Operating cash flow: indirect method

- The indirect method starts from net income and corrects it. Add back non-cash charges such as depreciation (no cash left; it does not bring cash in).
- Then adjust for working capital: a rise in an asset account uses cash, so subtract it; a rise in a liability account keeps cash, so add it. Reverse the signs when accounts fall.

> **Operating cash flow = net income + depreciation ± working capital changes**

TIDEWELL INDIRECT (RECEIVABLES 100 TO 130, INVENTORY 120 TO 150, PREPAID 10 TO 14, PAYABLES 90 TO 110, ACCRUED LIABILITIES 20 TO 30)		
Net income	1,000 − 600 − 200 − 40 − 40	**120**
Add back depreciation	no cash left	**+50**
Assets up, cash used	30 + 30 + 4	**−64**
Liabilities up, cash kept	20 + 10	**+30**
Operating cash flow	120 + 50 − 64 + 30	**136**

Watch out: Getting the working capital signs backwards.

4. Operating cash flow: direct method

- The direct method lists real receipts and payments, better for forecasting. The indirect method is easier to prepare and shows why profit and cash differ. Both give the same total; most firms use indirect. Either is allowed; under US GAAP a direct method firm must also reconcile.
- Convert line by line, correcting each income statement item for its balance sheet account. Purchases = COGS + rise in inventory, then subtract the rise in payables for cash paid to suppliers. Depreciation does not appear, because it is not cash. Interest and tax are treated as paid in full.

> **Cash collected = revenue − rise in receivables; paid to suppliers = COGS + rise in inventory − rise in payables; operating expenses paid = expense − rise in accrued liabilities + rise in prepaid**

TIDEWELL DIRECT		
Cash collected from customers	1,000 − 30	**970**
Cash paid to suppliers	(600 + 30) − 20	**−610**
Cash paid for operating expenses	150 − 10 + 4	**−144**
Interest and tax paid	40 + 40	**−80**
Operating cash flow	970 − 610 − 144 − 80	**136, same as indirect**

Watch out: Forgetting the inventory step: purchases are COGS plus the rise in inventory, not COGS alone. If the two methods differ, a sign has slipped.

5. Linking the three statements

- The statements describe the same events, so they must agree. Net income feeds retained earnings (opening + net income − dividends). Closing cash on the cash flow statement must equal balance sheet cash; if not, something is missed.
- A forecast that raises revenue but leaves receivables and inventory unchanged has not been thought through.

TIDEWELL RECONCILIATION		
Retained earnings	200 + 120 − 50	**270**
Change in cash	136 − 100 + 10	**+46**
Closing cash	80 + 136 − 100 + 10	**126**
Total assets	(126 + 294) + 650	**1,070**
Liabilities + equity	(140 + 560) + (100 + 270)	**1,070**

6. Free cash flow and reading the statement

- Free cash flow is what remains after capital expenditure. FCFF (to the firm) is for lenders and owners together; FCFE (to equity) for owners alone. Add back after-tax interest only if deducted in operating cash flow (US GAAP). With IFRS interest in financing, FCFF = CFO − fixed capital investment.
- FCFE = FCFF − after-tax interest + net borrowing (new borrowing less repayments). Dividends are not deducted: FCFE is what could be paid out. It can be positive in a year with an accounting loss.
- Read the signs of operating / investing / financing first. Mature: + / − / −, pays out. Growing: + / − / +, raises funds. Struggling: − / − / +, burns cash. Shrinking: + / + / −, repays debt. A first reading, not a verdict.
- Test quality: cash conversion (operating cash flow ÷ net income), cash absorbed by working capital, capex cover. Stretching suppliers is a one-off gain.

> **FCFF = CFO + interest × (1 − t) − capex; FCFE = CFO − capex + net borrowing**

TIDEWELL

FCFF (US GAAP)	136 + 40 × (1 − 0.25) − 100	**66**
FCFE	136 − 100 + (100 − 40)	**96**
Check	66 − 30 + 60	**96**
FCFF if IFRS interest in financing	(136 + 40) − 100	**76 (adding 30 again gives 106, double counting)**
Cash conversion	136 ÷ 120	**113%**
Capex cover; working capital	136 ÷ 100; −64 + 30	**1.36 times; −34**
Payables stretched 15 days	600 ÷ 365 × 15	**$24.7m one-off**

Watch out: Adding back interest when it was never deducted.

Key takeaways

- Operating, investing and financing make the change in cash; dividends paid are financing under US GAAP.
- Indirect: net income + depreciation, subtract rises in assets, add rises in liabilities.
- Direct and indirect methods always give the same operating cash flow.
- Net income feeds retained earnings and closing cash ties to the balance sheet.
- FCFF = CFO + interest × (1 − t) − capex (add back only if deducted); FCFE = CFO − capex + net borrowing.
- Read the pattern of signs and the quality of operating cash flow.

Quick check

1. Net income 90, depreciation 20, receivables up 15, payables up 5. Operating cash flow?
   Answer: 90 + 20 − 15 + 5 = 100.
2. Revenue 500, receivables up 40. Cash collected from customers?
   Answer: 500 − 40 = 460.
3. US GAAP: operating cash 200, interest 20, capex 80, tax 25%. FCFF?
   Answer: 200 + 20 × 0.75 − 80 = 135.

Summary notes for the Charta whiteboard lesson. Examples use made-up figures. Watch the full lesson at charta-learning.com.