LM04 · FINANCIAL STATEMENT ANALYSIS · CFA LEVEL I

Analyzing Statements of Cash Flows I

How accrual earnings convert to the cash that actually crosses the firm's bank account

What This Reading Covers

The statement of cash flows converts the accrual-based income statement into a cash-based report. It **reconciles beginning and ending cash balances** and explains the change through three buckets: **Operating (CFO)**, **Investing (CFI)**, and **Financing (CFF)**. You will learn how to classify items, contrast the **direct** and **indirect** methods of presenting CFO, and identify where IFRS and US GAAP allow different classifications.

Learning Outcome Statements

LOS a Compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items

LOS b Describe how non-cash investing and financing activities are reported

LOS c Compare and contrast the direct and indirect methods of presenting cash from operating activities and describe arguments in favor of each method

LOS d Contrast cash flow statements prepared under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (US GAAP)

Exam Tip: LM04 is highly testable on **classification** (CFO/CFI/CFF) and on the **GAAP vs IFRS** treatment of interest and dividends. Every question is either "which bucket?" or "what's the adjustment?".

PURPOSE · RECONCILING CASH

Why the Cash Flow Statement Exists

The CFS **converts the accrual-based income statement to a cash-based statement** and **provides a reconciliation between beginning and ending cash balances**. Net income tells you what was *earned*; the CFS tells you what was *collected and paid*.

The Balance-Sheet / Cash-Flow Link

The opening balance sheet shows cash at the start of the year. The cash flow statement shows the net change in cash during the year. The ending balance sheet shows cash at year-end changed by the exact amount reported on the CFS.

$$\text{Ending cash} = \text{Beginning cash} + \text{Net change from CFS}$$

WORKED EXAMPLE 1 **Ending Cash Balance**

▶ GIVEN

Beginning balance sheet shows cash of **$2,000**. Cash flow statement shows cash increased by **$200** during the year.

▶ FIND

Cash at the end of the year.

SOLUTION

▶ SOLUTION

Ending cash = Beginning cash + Net change during the year = $2,000$+200 = $2,200

✓ ANSWER

$2,200

Which Balance-Sheet Accounts Feed Each Section?

Because operating activities are reported on an accrual basis, any difference between accrual and cash shows up as an increase or decrease in some balance-sheet asset or liability.

CFO Net income + changes in **current assets & current liabilities**

CFI Changes in **non-current assets** (PP&E, intangibles, long-term investments)

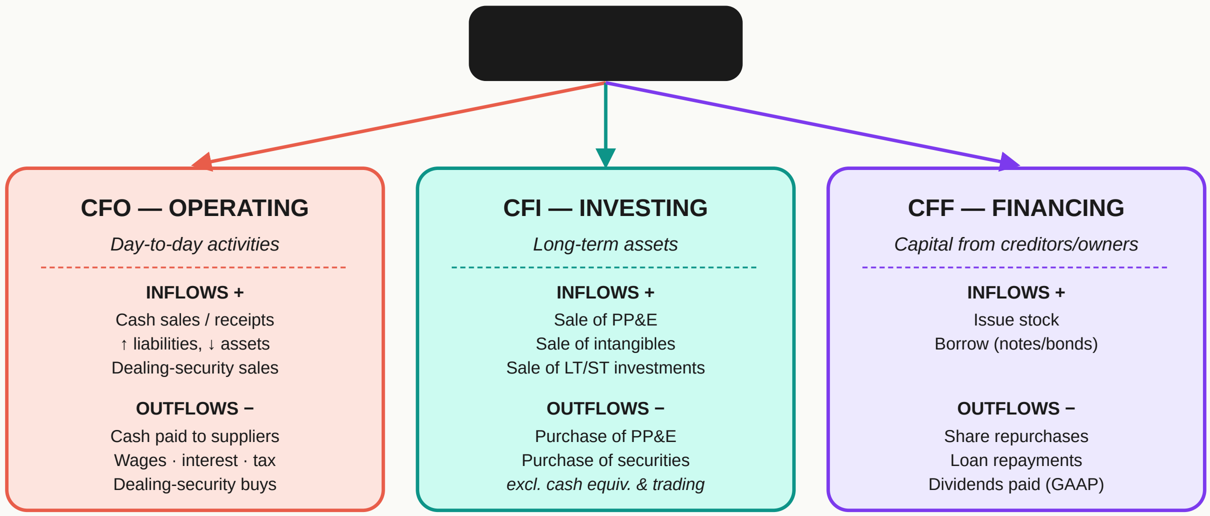
CFF Changes in **non-current liabilities and equity** (long-term debt, stock, dividends paid)

Exam Tip: Think of CFO as touching the top half of current items, CFI as touching long-term *assets*, and CFF as touching long-term *liabilities + equity*.

LOS A · THREE CLASSIFICATIONS

CFO · CFI · CFF — The Three Buckets

CASH SOURCES & USES FLOW INTO THREE ACTIVITIES



CFO + CFI + CFF = Net change in cash (reconciles beginning & ending cash)

Quick Classification Rules

BUCKET	INFLOWS (+)	OUTFLOWS (−)
CFO Day-to-day	Increases in liabilities · decreases in assets · cash sales · sales of dealing/trading securities	Decreases in liabilities · increases in assets · cash payments for expenses · purchase of dealing/trading securities
CFI Long-term assets	Sale of PP&E, intangibles, LT/ST investments in equity or debt	Purchase of PP&E, intangibles, LT/ST investments
CFF Capital structure	Selling stock · borrowing from creditors	Share repurchases · loan principal repayments

Two Tricky Carve-Outs under CFI

CFI **excludes cash equivalents** (they *are* cash) and **dealing / trading securities** (those flow through CFO because they are the firm's day-to-day trading activity).

LOS B · NON-CASH INVESTING & FINANCING

Non-Cash Activities Are Not on the CFS

Simple rule: no cash, no CFS reporting. Significant non-cash investing and financing transactions must still be **disclosed in the notes** to the financial statements, but they are not reported on the cash flow statement itself.

Common Non-Cash Transactions

Barter

Exchanging one good or service directly for another — no cash changes hands.

Stock dividends

Dividends paid in additional shares instead of cash — an equity-account reclassification.

Conversion of convertibles

Converting convertible debt or convertible preferred into common stock — a non-cash financing event.

Asset acquired via note/lease

Implicit in "no cash, no CFS" — if the asset was not paid for with cash this period, it is disclosed in the notes.

Exam Tip: If a question describes a significant transaction that involves *no exchange of cash*, the correct treatment is **footnote disclosure only** — it never hits CFO, CFI, or CFF.

QUIZ 1 · CHECKPOINT

Test Your Understanding: Classification

Q1. Cash paid to repurchase the company's own shares is best classified as:

Q2. Which of the following transactions is *most likely* reported as an investing activity?

Q3. A firm acquires equipment by issuing $5 million of its own common stock directly to the seller. On the statement of cash flows, this transaction is *best* reported as:

Q4. Under U.S. GAAP, which of the following statements about the cash flow statement is *most accurate*?

LOS C · TWO METHODS OF PRESENTING CFO

Direct vs Indirect Method — Presentation Only

Both IFRS and US GAAP permit two acceptable formats for reporting **CFO**: the **direct method** and the **indirect method**. **Total CFO is the same under both** — only the presentation differs. **CFI and CFF sections are presented identically** regardless of which method is used for CFO.

Direct Method

Each income-statement item reported on an accrual basis is **converted to a cash basis** by adjusting for changes in the corresponding balance-sheet accounts.

Format: Lists actual cash receipts and payments by category (cash from customers, cash paid to suppliers, cash operating expenses, cash interest paid, cash taxes paid).

+ In favor: Provides information on the *specific sources* of operating cash receipts and payments. Most useful for forecasting.

Indirect Method

Start with **net income**, then adjust for non-cash items, non-operating items (gains/losses from investing or financing), and changes in working-capital accounts.

Format: Single reconciliation — NI → CFO via a series of add-backs and subtractions.

+ In favor: Shows the *reasons for differences* between net income and operating cash flow — useful for earnings-quality analysis. Most firms use this method.

Standard-Setter Preference

Both the FASB (US GAAP) and the IASB (IFRS) **encourage** use of the direct method because it provides more information. However, the vast majority of firms in practice use the indirect method.

Only CFO Differs

SECTION	DIRECT METHOD	INDIRECT METHOD
CFO	Cash receipts / cash payments	NI + non-cash adj + WC changes
CFI	*Identical — actual cash in/out for long-term assets*	
CFF	*Identical — actual cash in/out for capital transactions*	

LOS C · DIRECT METHOD MECHANICS

Direct Method — Converting Accruals to Cash

The Accrual-to-Cash Adjustment Rules

- ↑ **Increase in an asset** = *use* of cash → negative adjustment
- ↓ **Decrease in an asset** = *source* of cash → positive adjustment
- ↑ **Increase in a liability** = *source* of cash → positive adjustment
- ↓ **Decrease in a liability** = *use* of cash → negative adjustment

Line-by-Line Conversion

ACCRUAL ITEM (IS)	ADJUST FOR CHANGES IN	CASH-BASIS RESULT
Sales / Revenue	Accounts receivable · Unearned (deferred) revenue	Cash collected from customers
Cost of goods sold (COGS)	Inventory · Accounts payable	Cash paid to suppliers (for inputs)
SG&A	Accrued liabilities · Prepaid expenses	Cash operating expenses
Interest expense	Interest payable	Cash interest paid
Tax expense	Tax payable · Deferred tax assets & liabilities	Cash taxes paid

WORKED EXAMPLE 2 **Cash Collected from Customers**

▶ GIVEN

- Sales reported: **$10 million**
- Accounts receivable went up from $2 million to $4 million → **ΔAR = +$2 million**
- Unearned revenue went up from $1 million to $2 million → **ΔUnearned = +$1 million**

▶ FIND

Cash collected from customers.

SOLUTION

▶ **SOLUTION**

ΔAR = $2M is an *asset increase* → use of cash → **negative** adjustment.

ΔUnearned revenue = $1M is a *liability increase* → source of cash → **positive** adjustment.

Cash from customers = +$10M$ −2M + $1M

✓ **ANSWER**

$9 million

WORKED EXAMPLE 3 Cash Paid to Suppliers

▶ **GIVEN**

- COGS for the period: **$20 million**
- Inventory increased by **$4 million**
- Accounts payable increased by **$2 million**

▶ **FIND**

Cash paid to suppliers.

SOLUTION

▶ **SOLUTION**

ΔInventory = $4M is an *asset increase* → use of cash → **negative** adjustment (i.e., more cash paid).

ΔAccounts payable = $2M is a *liability increase* → source of cash → **positive** adjustment (less cash paid).

Cash paid to suppliers = −20*M* −4M + $2M

✓ **ANSWER**

−$22 million

LOS C · INDIRECT METHOD MECHANICS

Indirect Method — Four Steps from NI to CFO

The indirect method **starts with net income** and shows how CFO is obtained through a series of adjustments. Each adjustment restores the difference between accrual recognition and actual cash movement.

The Four Steps

1. **Begin with net income.**
2. **Add back non-cash charges** (depreciation, amortization) and **subtract non-cash components of revenue.**
3. **Subtract gains (or add losses)** that resulted from financing or investing cash flows (e.g., gain on sale of land or equipment). The cash proceeds already appear in CFI — leaving the gain in NI would double count.
4. **Adjust for working-capital changes:**
   · Decrease in operating asset = source of cash → **add**
   · Increase in operating asset = use of cash → **subtract**
   · Increase in operating liability = source of cash → **add**
   · Decrease in operating liability = use of cash → **subtract**

Working-Capital Mnemonic

ACCOUNT	CHANGE	ADJUSTMENT TO NI
Accounts receivable	↑ (more sales uncollected)	**Subtract** (reduces CFO)
Inventory	↑ (bought more than sold)	**Subtract** (reduces CFO)
Accounts payable	↑ (bought on credit)	**Add** (increases CFO)
Unearned revenue	↑ (collected cash before earning)	**Add** (increases CFO)
Prepaid expenses	↑ (paid cash in advance)	**Subtract** (reduces CFO)
Accrued liabilities	↑ (expense owed, unpaid)	**Add** (increases CFO)

Exam Tip: Memorize: ↑ **Asset: deduct** · ↑ **Liability: add.** Flip the signs for decreases. This single rule powers both the direct and indirect adjustments.

WORKED EXAMPLE · FULL INDIRECT CFO

Reconstructing CFO from Net Income

WORKED EXAMPLE 4

CFO via the Indirect Method

▶ GIVEN

A company reports for 2001:

- Net income: **$100 million**
- Depreciation expense: **$10 million**
- Gain on sale of equipment: **$4 million**
- Increase in A/R: **$8 million**
- Increase in A/P: **$4 million**
- Increase in inventory: **$10 million**

▶ FIND

CFO using the indirect method.

SOLUTION

▶ SOLUTION

LINE	$ MILLIONS
Net income	100
Add: non-cash charges (depreciation)	+10
Less: gain on sale of equipment (investing item)	−4
Less: increase in A/R (asset ↑)	−8
Add: increase in A/P (liability ↑)	+4
Less: increase in inventory (asset ↑)	−10

CFO	**92**

✓ **ANSWER**

CFO = $92 million

Why subtract the gain on sale?

The full cash proceeds from selling equipment appear as an **inflow in CFI**. The $4M gain is already baked into NI (because NI includes the gain), so leaving it in CFO would double-count the investing inflow. We remove it here and report the total cash proceeds under CFI.

CFI · LONG-TERM ASSETS

Calculating Cash Flow from Investing

CFI is calculated by examining the change in the **gross asset account** (typically PP&E and other long-term assets). It equals **cash spent on new assets minus cash received from asset sales**, with any gain/loss on disposal adjusted out.

Cash from Sale of Equipment

```
Cash from sale = Historical cost of equipment sold − Accumulated depreciation on equipment sold + Gain on sale of equipment
```

where:

```
Historical cost of equipment sold = Beginning balance + Equipment purchased − Ending balance
```

```
Accumulated depreciation on equipment sold = Beginning accumulated depreciation + Depreciation expense − Ending accumulated depreciation
```

What Belongs in CFI

INFLOWS (+)	OUTFLOWS (−)
Sale proceeds from PP&E	Purchase of PP&E
Sale proceeds from intangibles	Purchase of intangibles
Sale of LT investments (JVs, affiliates, available-for-sale, held-to-maturity)	Purchase of LT investments

Exam Tip: Report the **total cash received** (proceeds) in CFI — not just the gain. Under the indirect method, the gain has already been stripped out of NI in CFO.

CFF · CAPITAL STRUCTURE

Calculating Cash Flow from Financing

CFF is the sum of **net cash from creditors** and **net cash from shareholders**.

Formulas

```
CFF = Net cash flow from creditors + Net cash flow from shareholders
```

```
Net cash flow from creditors = New borrowings − Principal repaid
```

```
Net cash flow from shareholders = New equity issued − Shares repurchased − Cash dividends
```

WORKED EXAMPLE 5 **Calculating CFF**

▶ GIVEN

Company ABC for 2001:

New borrowings	**$10 million**
Principal repaid	**$5 million**
New equity issued	**$5 million**
Shares repurchased	—
Dividends paid	**$2 million**

▶ FIND

CFF.

SOLUTION

▶ **SOLUTION**

Net cash flow from creditors = 10 − 5 = $5 million Net cash flow from shareholders = 5 − 0 − 2 = $3 million CFF = 5 + 3 = $8 million

✓ **ANSWER**

CFF = $8 million

Dividends paid — a classification reminder

Under **US GAAP**, dividends paid are always CFF. Under **IFRS**, dividends paid can be either **CFF or CFO** — firms choose consistently. (See the GAAP vs IFRS step next.)

QUIZ 2 · CHECKPOINT

Test Your Understanding: Direct & Indirect Methods

Q5. A firm reports sales of $10 million, with AR increasing from$2 million to $4 million and unearned revenue increasing from$1 million to $2 million. Cash collected from customers equals:

Q6. A firm reports net income of $100M, depreciation of$10M, a $4M gain on sale of equipment, and the following working-capital changes: A/R +$8M, A/P +$4M, inventory +$10M. CFO is *closest* to:

Q7. Which argument is *most commonly* cited in favor of the **indirect** method?

Q8. A firm has new borrowings of $10M, principal repayments of$5M, new equity issued of $5M, no share repurchases, and$2M of dividends paid. CFF equals:

Q9. Under the indirect method, a firm reports a $6 million *loss* on the sale of a manufacturing plant. The correct treatment in the reconciliation from NI to CFO is to:

LOS D · CONTRAST UNDER IFRS VS US GAAP

Classification Differences: Interest, Dividends, Taxes

Reporting of **interest paid / received** and **dividends paid / received** is the main area where IFRS and US GAAP diverge on the cash flow statement. US GAAP locks each item into one section; IFRS gives firms a choice (but they must apply it consistently).

The Classification Table (high-yield)

CASH FLOW	IFRS	US GAAP
Interest received	CFO *or* CFI	CFO
Interest paid	CFO *or* CFF	CFO
Dividends received	CFO *or* CFI	CFO
Dividends paid	CFO *or* CFF	CFF
Income taxes	CFO (unless specifically tied to an investing or financing transaction)	CFO
Bank overdrafts	Treated as part of cash (not CFF)	Generally CFF

How to Remember

US GAAP — one bucket each

Int paid	CFO
Int received	CFO
Divs received	CFO
Divs paid	CFF
Taxes	CFO

IFRS — flexibility

Int received	CFO or CFI
Divs received	CFO or CFI
Int paid	CFO or CFF
Divs paid	CFO or CFF
Taxes	CFO (unless tied to CFI/CFF)

Comparability Consequence

Because IFRS allows multiple classifications for the same item, CFO under IFRS is **not directly comparable** across companies without first checking how interest and dividends have been classified. This is why analysts often reclassify cash flows into a standardized presentation before computing ratios.

INDIRECT → DIRECT CONVERSION

Converting CFO from Indirect to Direct

Most firms report CFO using the indirect method. For analytical purposes — especially forecasting — you may want to restate it under the direct method. A three-step process accomplishes this.

The Three-Step Process

1. **Aggregate** all revenues and gains, and all expenses and losses from the income statement.
2. **Remove all non-cash items** from the aggregated revenues and expenses, and **disaggregate** the remaining items into relevant cash-flow line items (cash from customers, cash paid to suppliers, etc.).
3. **Convert accrual amounts to cash-flow amounts** by adjusting for changes in the corresponding working-capital (operating) accounts. Rule: ↑ **Asset: deduct** · ↑ **Liability: add.**

The Direct-Method CFO Template

CASH FLOW FROM OPERATIONS (DIRECT)	$
Cash received from customers	X
Cash dividends received	X
Cash interest received	X
Other cash income	X
Payments to suppliers	(X)
Cash expenses (wages, etc.)	(X)
Cash interest paid	(X)
Cash taxes paid	(X)
CFO	**X / (X)**

Exam Tip: Total CFO is **identical** under direct and indirect methods — the conversion only changes *how* CFO is displayed. The probability of being tested on a full conversion is low (per IFT); expect conceptual or single-line questions instead.

QUIZ 3 · CHECKPOINT

Test Your Understanding: IFRS vs GAAP & Reconciliation

Q10. Under US GAAP, interest paid on debt is classified as:

Q11. A firm reporting under IFRS classifies dividends *received* from a long-term equity investment. The permissible classifications are:

Q12. Under IFRS, income taxes paid are *best* classified as:

Q13. Which step is *not* part of converting CFO from the indirect method to the direct method?

MODULE COMPLETE

Your Scorecard

0 / 13

LM04 Key Takeaways — Exam-Ready Cheat Sheet

Purpose & Structure

1. **The CFS** converts the accrual income statement to cash and reconciles beginning to ending cash. Ending cash = Beginning cash + (CFO + CFI + CFF).
2. **Three sections:** CFO = day-to-day, CFI = long-term assets, CFF = capital from creditors & shareholders.
3. **Non-cash investing/financing** (barter, stock dividends, conversion of convertibles) → *no cash, no CFS*; disclose in notes if significant.

Direct vs Indirect

4. Both produce **identical CFO**; only presentation differs. CFI and CFF are identical either way.
5. **Direct:** lists cash receipts/payments by category. Argument in favor: more information on specific sources of cash.
6. **Indirect:** starts with NI, adjusts for non-cash items, non-operating gains/losses, and working-capital changes. Argument in favor: shows reasons for NI vs CFO gap.
7. **Universal rule:** ↑ Asset = deduct · ↑ Liability = add. Flip signs for decreases.

Key Formulas

8. **Cash from customers** = Sales − ΔAR + ΔUnearned revenue.
9. **Cash paid to suppliers** = −COGS − ΔInventory + ΔA/P.

10 **Indirect CFO** = NI + Non-cash charges − Gains (+ Losses) + ΔOperating liabs − ΔOperating assets.

11 **CFF** = (New borrowings − Principal repaid) + (New equity − Repurchases − Dividends paid).

IFRS vs US GAAP (high-yield)

12 **US GAAP:** Int paid = CFO · Int rec'd = CFO · Divs rec'd = CFO · Divs paid = **CFF** · Taxes = CFO.

13 **IFRS:** Int paid = CFO or CFF · Int rec'd = CFO or CFI · Divs rec'd = CFO or CFI · Divs paid = CFO or CFF · Taxes = CFO unless tied to CFI/CFF.

Last-Minute Exam Checklist

Classification drill: dividends paid → CFF (GAAP); interest paid → CFO (GAAP)

IFRS flexibility: int/divs paid can be CFO or CFF; int/divs received can be CFO or CFI

Indirect method: NI + Depreciation − Gain on sale − ΔAR + ΔAP − ΔInventory

Sign rule: ↑ Asset = deduct · ↑ Liability = add

Non-cash: never on CFS; disclose in notes

Both methods yield the same total CFO — only CFO presentation differs

Step 1 of 16