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Financial Modeling Fundamentals Modules 2 and 3: Accounting and the 3 Financial Statements – Interview Questions

Table of Contents:

Interview Questions 2
Conceptual Accounting Questions 2
Single-Step Changes on the Financial Statements 13
Multi-Step Changes on the Financial Statements 23
Working Capital, Free Cash Flow, and Other Metrics and Ratios 31

Interview Questions

You **REALLY** need to know accounting to have a shot at winning job offers.

Accounting interview questions come up not just in investment banking interviews, but also in interviews for private equity, corporate development, investor relations, and all sorts of other exit opportunities.

Many bankers have **fairly weak knowledge** of accounting, so these questions are a quick way to evaluate how much you *understand* vs. how much you've *memorized*.

Conceptual Accounting Questions

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1. What are the 3 financial statements, and why do we need them?

The 3 major financial statements are the Income Statement, Balance Sheet, and Cash Flow Statement.

The Income Statement shows the company's revenue, expenses, and taxes over a period and ends with Net Income, which represents the company's after-tax profits.

The Balance Sheet shows the company's Assets – its resources – as well as how it paid for those resources – its Liabilities and Equity – at a specific point in time. Assets must equal Liabilities plus Equity.

The Cash Flow Statement begins with Net Income, adjusts for non-cash items and changes in operating assets and liabilities (working capital), and then shows the company's cash from Investing or Financing activities; the last lines show the net change in cash and the company's ending cash balance.

You need these statements because there is a big difference between a company's Net Income and the cash it generates – the Income Statement alone doesn't tell what its cash flow is.

Remember the key valuation formula:

Company Value = Cash Flow / (Discount Rate – Cash Flow Growth Rate)

The 3 financial statements let you estimate the "Cash Flow" part, which helps you value the company more accurately.

2. How do the 3 statements link together?

To link the statements, make Net Income from the Income Statement the top line of the Cash Flow Statement.

Then, adjust this Net Income number for any non-cash items such as Depreciation & Amortization.

Next, reflect changes to *operational* Balance Sheet items such as Accounts Receivable, which may increase or decrease the company's cash flow depending on how they've changed.

This gets you to Cash Flow from Operations.

Next, take into account investing and financing activities, which may increase or decrease cash flow, and sum up Cash Flow from Operations, Investing, and Financing to get the net change in cash at the bottom.

Link Cash on the Balance Sheet to the ending Cash number on the CFS, and add Net Income to Retained Earnings within the Equity category on the Balance Sheet.

Then, link each non-cash adjustment to the appropriate Asset or Liability; **SUBTRACT** links on the Assets side and **ADD** links on the L&E side.

And then link each CFI and CFF item to the matching item on the Balance Sheet, using the same rule as above.

Check that Assets equals Liabilities plus Equity at the end; if this is not true, you did something wrong and need to re-check your work.

3. What's the most important financial statement?

The Cash Flow Statement is the most important single statement because it tells you how much **cash** a company is generating. The Income Statement is misleading because it *includes* non-cash revenue and expenses and *excludes* cash spending such as Capital Expenditures.

4. What if you could use only 2 statements to assess a company's prospects – which ones would you use, and why?

You would use the Income Statement and Balance Sheet because you can **create** the Cash Flow Statement from both of those (assuming there are "Beginning" and "Ending" Balance Sheets that correspond to the same period shown on the Income Statement).

It would be **MUCH** harder to "construct" an Income Statement from the Balance Sheet and Cash Flow Statement (for example).

5. How might the financial statements of a company in the U.K. or Germany be different from those of a company based in the U.S.?

Income Statements and Balance Sheets tend to be similar across different regions, but companies that use IFRS often start the **Cash Flow Statement** with something *other* than Net Income: Operating Income, Pre-Tax Income, or if they are using the Direct Method for creating the CFS, Cash Received or Cash Paid.

There are also minor naming differences; for example, the Income Statement might be called the "Consolidated Statement of Earnings" or the "Profit & Loss Statement," and the Balance Sheet might be called the "Statement of Financial Position."

Technically, U.S.-based companies that follow U.S. GAAP can also use the Direct Method for creating the CFS, but in practice, they tend to use the Indirect Method (i.e., they start with Net Income and make adjustments to determine the cash flow).

6. What should you do if a company's Cash Flow Statement starts with something OTHER than Net Income, such as Operating Income or Cash Received?

For modeling and valuation purposes, you should **convert** this Cash Flow Statement into one that starts with Net Income and makes the standard adjustments.

Large companies should provide a reconciliation that shows you how to move from Net Income or Operating Income to Cash Flow from Operations and that lists the changes in Working Capital and other non-cash adjustments.

If the company does **NOT** provide that reconciliation, you might have to stick with the CFS in the original format.

7. How do you know when a revenue or expense line item should appear on the Income Statement?

Two conditions **MUST** be true for an item to appear on the Income Statement:

1. **It must correspond to ONLY the period shown on the Income Statement**. This is why monthly rent shows up, but paying for a factory that will last for 10 years does not.

2. **It must affect the company's taxes.** Interest on debt is tax-deductible, so it shows up, but repayment of debt principal is not, so it does not show up.

Whether or not something is received or paid in cash **has nothing to do with this classification** – companies pay taxes on non-cash revenue (e.g., receivables) and save on taxes from non-cash expenses (e.g., depreciation) all the time.

Advanced Note: Technically, in point #2 we should say, "It must affect the company's BOOK taxes" (i.e., only the tax number that appears on the Income Statement). Many items that are **not** deductible for cash-tax purposes still appear on the IS and affect book taxes.

8. How can you tell whether an item should be classified as an Asset, Liability, or Equity on the Balance Sheet?

An **Asset** will generate **future cash flow** for the company or **can be sold for cash**. Think about how AR means the company *should* receive more cash in the future.

A **Liability** will **cost the company cash** in the future and **cannot be sold** because it represents payments the company owes. Think about Debt or Accounts Payable and how they represent owed payments.

Equity line items are similar to Liabilities because they represent **funding sources** for the company – but they will **NOT** result in future cash costs.

They relate to funds the company has saved up on its own or funds that it has raised from outside investors with no cash cost (i.e., equity).

9. How can you tell whether or not an item should appear on the Cash Flow Statement?

You list an item on the Cash Flow Statement if:

1) It has already appeared on the Income Statement and affected Net Income, but it's **non-cash**, and you need to adjust for it to determine the company's real cash flow; **OR**

2) It has **NOT** appeared on the Income Statement and it **DOES** affect the company's cash balance.

In category #1 are items such as Depreciation and Amortization; Category #2 includes most of the items in Cash Flow from Investing and Financing, such as Capital Expenditures and Dividends.

Changes in Working Capital could fall into *either* category depending on the change (e.g., an increase in AR is in category #1, but a decrease in AR is in category #2).

10. A company uses cash-based accounting (i.e., it only records revenue when it is received in cash and only records expenses when they are paid in cash) rather than accrual accounting.

A customer buys a TV from the company "on account" (i.e., *without* paying upfront in Cash) and receives the TV right away. How would the company record this transaction differently from a company that uses accrual accounting?

Under cash-based accounting, the revenue would not show up until the company collects the cash from the customer – at which point it would add to Revenue on the Income Statement (and Pre-Tax Income, Net Income, etc.) and Cash on the Balance Sheet.

Under accrual accounting, the sale would show up as Revenue right away, but instead of appearing in Cash on the Balance Sheet, it would go into Accounts Receivable at first. Then, once the cash is deposited in the company's bank account, it would move into Cash, and Accounts Receivable would decrease.

11. A company begins offering 12-month installment plans to customers so that they can pay for $500 or $1,000 courses over a year instead of all upfront. How will its cash flow change?

In the short term – during THIS year – the company's cash flow will decrease because some customers no longer pay upfront in cash.

So a $1,000 payment in Month 1 now turns into $83 in Month 1, $83 in Month 2, and so on.

This situation corresponds to **Accounts Receivable**: The Asset on the Balance Sheet that represents owed future payments from customers.

The long-term impact depends on how much sales grow as a result of this change.

If sales grow substantially and the company's Revenue and Net Income increase, that might be enough to offset the reduced cash flow and make the company better off.

12. A company decides to prepay its monthly rent – an entire year upfront – because it can save 10% by doing so. Will this prepayment boost the company's cash flow?

In the short term, no, because the company is now paying 12 * Monthly Rent in a single month rather than making one payment *per* month.

On the Income Statement in Month 1, the company will still record only the Monthly Rent for that month. But on the Cash Flow Statement, it will list a negative 12 * Monthly Rent under "Change in Prepaid Expenses" to represent the cash outflow for the prepayment.

A 10% discount represents just over 1 month of rent, so the company's immediate cash flow will decrease substantially.

In the *long term*, this discount will improve the company's cash flow because the timing difference will go away after a year.

13. Your friend is analyzing a company and says that you always have to look at the Cash Flow Statement to find the full amount of Depreciation.

Is he right? And if so, what are the implications?

Yes, your friend is correct. This happens because companies often **embed** Depreciation within other line items, such as COGS and Operating Expenses, on the Income Statement.

That's because portions of Depreciation might correspond to different functions in the company. For example, employees in sales & marketing, research & development, and customer support might all be using computers, so Depreciation of computers would show up in each of those categories.

This fact has several implications: First off, you **CANNOT** assume that the Depreciation listed on the Income Statement is the full amount. A company might list a portion of it as an explicit line item but embed other portions elsewhere.

Second, adding back the full amount on the CFS **shows that Depreciation simply reduces the company's taxes without "costing" it anything in cash**.

This is why Depreciation boosts the company's cash balance as well: the tax savings.

14. A company mentions that it collects cash payments from customers for a monthly subscription service a year in advance. Why would a company do this, and what is the cash flow impact?

A company would collect cash payments for a monthly service long in advance **if it has the market power do so**.

It's always better to get cash earlier rather than later because of **the time value of money**, so if the market and customers support this plan, any company would do it.

Often, companies will provide an incentive, such as discounted pricing, a free bonus, or free services to incentivize customers to pay upfront.

This practice always boosts a company's cash flow. It corresponds to **Deferred Revenue**, and on the CFS, an increase in Deferred Revenue will be a positive entry that boosts a company's cash flow.

When this cash is finally recognized as revenue, Deferred Revenue declines, which appears as a negative entry on the CFS.

15. Why is Accounts Receivable (AR) an Asset, but Deferred Revenue (DR) a Liability?

Accounts Receivable is an Asset because it corresponds to **future cash payments that customers are expected to make**. An Asset is something that will result in additional cash in the future, or that can be sold for cash, so AR qualifies.

Deferred Revenue is a Liability because it will **cost the company cash in the future**.

The company has *already collected all the cash* associated with this future revenue. So in the future, when it finally delivers the product or service, it will have to spend something on the delivery and will also have to pay taxes on the revenue it records.

While AR and DR may seem similar, they are **the opposites** of each other: AR has *not* yet been collected in cash but has been *delivered*, whereas DR *has* been collected in cash, but has *not yet been delivered*.

16. How are Prepaid Expenses, Accounts Payable and Accrued Expenses different, and why are Prepaid Expenses an Asset?

The difference is very similar to the one above for AR and DR.

Prepaid Expenses have *already* been paid out in cash but have *not* yet been incurred as expenses, so they have not appeared on the Income Statement. When they do finally appear on the Income Statement, they'll reduce the company's future taxes, making them an Asset.

Accounts Payable have *not yet* been paid out in cash but *have* been incurred as expenses, so they *have* appeared on the Income Statement. When the company finally pays them in cash, Accounts Payable will reduce the company's cash, making them a Liability.

Accounts Payable and Accrued Expenses work in exactly the same way, but Accounts Payable is used for specific items with invoices (e.g., legal bills), whereas Accrued Expenses is more for monthly, recurring items without invoices (e.g., utilities).

17. Your CFO wants to start paying employees mostly in stock-based compensation, under the logic that it will reduce the company's taxes, but not "cost it" anything in cash.

Is he correct? And how does Stock-Based Compensation impact the statements?

The CFO is **partially correct**. Yes, stock-based compensation is a non-cash expense that reduces a company's taxes but gets added back on the CFS, similar to Depreciation.

However, unlike Depreciation or Amortization, stock-based compensation incurs a real cost to the company and its investors because it creates additional shares.

In other words, if the existing investors own 99% of the company's shares, those investors might own only 97% or 98% after SBC is issued.

Thus, stock-based compensation makes the company less valuable to the existing investors, even though, *on paper*, it seems to be just like any other non-cash expense.

18. A junior accountant in your department asks about the different ways to fund the company's operations and how they impact the financial statements. What do you tell him?

The two main methods of funding a company's operations are **debt** and **equity**. Debt is cheaper for *most* companies (see the previous lessons and guides on WACC and the Discount Rate), so *most* companies prefer to use debt… up to a reasonable level.

Both equity and debt issuances show up on only the Cash Flow Statement initially (in Cash Flow from Financing), and they boost the company's cash balance.

The only "after-effect" of equity is that the company's share count increases. This happens because any investor who buys the company's equity now owns a percentage of the company.

With debt, the company must pay interest, which will be recorded on its Income Statement, reducing its Net Income and Cash, and it must eventually pay back the full balance.

19. Your company sells equipment for $85. The equipment was listed at $100 on your company's Balance Sheet, so you have to record a Loss of $15 on the Income Statement, which gets reversed as a non-cash expense on the Cash Flow Statement.

Why is this Loss considered a non-cash expense?

This Loss is a non-cash expense because you haven't actually "lost" anything in cash in the current period.

When you sell equipment for $85, you get $85 in cash from the buyer. It's not as if you've "lost" $15 in cash because you sold the equipment at a poor price.

The "Loss" refers to how you previously spent more than $85 to buy this equipment **in some prior period**.

So if you look at what you spent on the equipment many years ago and compare it to what you sold it for today, it seems like a "loss." **But that doesn't matter because non-cash adjustments are based on what happens in the CURRENT PERIOD**.

20. Your company owns an old factory that's currently listed at $1,000 on its Balance Sheet. Why would it choose to "write down" this factory's value, and what is the impact on the financial statements?

A company might **write down** an Asset if its value has declined substantially, and it's no longer accurate to reflect it at the original value on the Balance Sheet.

For example, maybe the factory is damaged by a hurricane or new technology makes the factory obsolete.

On the statements, you record this write-down as an expense on the Income Statement, but you add it back as a non-cash expense on the Cash Flow Statement.

The result is that the company's **cash balance increases due to the tax savings**.

On the Balance Sheet, Cash is up, this Asset's value is down, and Retained Earnings will balance the change on the Assets side because Net Income has decreased.

21. The CFO of your firm recently unveiled plans to purchase short and long-term investments. Why would she want to do this, and how would this activity affect the statements?

A company might want to purchase investments if it has excess cash and cannot think of other ways to use it.

For example, the company can't reinvest the cash into hiring more employees, buying more equipment or factories, or acquiring other companies or assets, and it also doesn't want to distribute the cash to investors via dividends or repay its debt.

The initial purchase of these investments will show up only on the Cash Flow Statement and will reduce the company's cash flow.

Afterward, the Interest Income earned on these investments will appear on the Income Statement and boost the company's Pre-Tax Income, Net Income, and its Cash balance.

22. Could a company ever have negative Equity on its Balance Sheet? If no, why not? If yes, what would it mean?

Yes, easily. Think about a company that starts losing massive amounts of money, resulting in a negative Net Income. After many years, negative Net Income could easily turn the company's Equity negative.

This might also happen if the company issues a huge dividend to its owners (e.g., following a leveraged buyout) that turns Equity negative.

The "meaning" varies based on what has happened, but negative Equity is **almost always a negative sign** because it means the company has been unprofitable or has done something irresponsible with its dividends or share repurchases.

Negative Equity is also common for tech and biotech startups that record massive losses in their early years due to high spending and no revenue.

23. Your firm recently acquired another company for $1,000 and created Goodwill of $400 and Other Intangible Assets of $200 on the Balance Sheet. A junior accountant in your department asks you why the company did this – what would you tell him?

You need to create Goodwill and Other Intangible Assets after an acquisition takes place to ensure that the Balance Sheet balances.

In an acquisition, you write down the seller's Shareholders' Equity and then combine its Assets and Liabilities with those of the acquirer.

If you've paid *exactly* what the seller's Shareholders' Equity is worth – e.g., you paid $1,000 in cash and the seller has $1,000 in Equity, then there are no problems.

The combined cash balance will decrease by $1,000, and so will the combined Equity.

However, in real life, this almost never happens. Companies almost always pay **premiums** for companies they acquire, which means that the Balance Sheet will go out of balance.

For example, if the seller here had $400 in Equity instead, the BS would go out of balance immediately because we wipe out $400 in Equity but spend $1,000 in cash.

To fix that problem, you start by allocating value to the seller's "identifiable intangible assets" such as patents, trademarks, intellectual property, and customer relationships. In this case, we allocated $200 to these items.

If there's still a gap remaining after that, you allocate the rest to Goodwill, which explains the $400 in Goodwill here.

24. How do Goodwill and Other Intangible Assets change over time?

Goodwill remains constant unless it is "impaired," i.e., the acquirer decides that the acquired company is worth far less and therefore writes down the Goodwill. That appears as an expense on the Income Statement and a non-cash adjustment on the Cash Flow Statement.

Other Intangible Assets amortize over time (unless they are indefinite-lived), and that Amortization shows up on the Income Statement and as a non-cash adjustment on the Cash Flow Statement. The balance decreases until it has amortized completely.

Return to Top.

Single-Step Changes on the Financial Statements

These questions are straightforward if you've been using our 3-statement "interview question" Excel model to try different scenarios.

Remember the 4 main categories of changes:

1. **Changes to True Cash Items on the Income Statement** – Straightforward since Net Income, Cash, and Retained Earnings change.

2. **Changes to Non-Cash or Re-Classified Items on the Income Statement** – Net Income, Cash, and Retained Earnings change, but something on the Balance Sheet also changes.

3. **Changes to Operational Items on the Balance Sheet** – These are trickier because the effects are different when an item decreases vs. when it increases, so you have to understand what the change *means*.

4. **Changes to Non-Operational Balance Sheet Items or Cash Flow Statement Items** – These are simple since there's no immediate Income Statement impact; something on the CFS will change, Cash will change, and something on the Balance Sheet will change.

We recommend going in this order when answering these questions:

1. Explain how the **Income Statement** changes, if at all.

2. Explain how the **Cash Flow Statement** changes, if at all.

3. Explain how the **Balance Sheet** changes and why it still balances, i.e. why Assets still equal Liabilities + Equity.

You can always assume a **40% tax rate** to simplify the math, but make sure you state that when you explain your answer.

1. Walk me through the 3 financial statements when a company's operating expenses increase by $100.

- **Income Statement:** Operating Expenses are up by $100, so Pre-Tax Income is down by $100 and Net Income is down by $60 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $60. There are no other changes, so cash is down by $60 at the bottom.

- **Balance Sheet:** Cash is down by $60, so the Assets side is down by $60, and Retained Earnings on the L&E side is down by $60 due to the reduced Net Income, so both sides balance.

- **Intuition:** Nothing; it's a simple cash expense.

2. A company's Depreciation increases by $10. What happens on the 3 financial statements?

- **Income Statement:** Pre-Tax Income falls by $10, and Net Income falls by $6 assuming a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $6, but you add back the $10 in Depreciation since it's non-cash, so cash flow is up by $4, and cash at the bottom is up by $4.

- **Balance Sheet:** Cash is up by $4, but PP&E is down by $10 due to the added Depreciation, so the Assets side is down by $6. The L&E side is also down by $6 because Net Income fell by $6, which reduced Retained Earnings, so both sides balance.

- **Intuition:** The company **saves on taxes** with a non-cash expense.

3. A company runs into financial distress and needs cash immediately. It sells a factory that's listed at $100 on its Balance Sheet for $80. What happens on the 3 statements?

- **Income Statement:** You record a Loss of $20 on the Income Statement, which reduces Pre-Tax Income by $20 and Net Income by $12 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $12, but you add back the $20 Loss since it's non-cash. You also show the full proceeds received, $80, in Cash Flow from Investing, so cash at the bottom is up by $88.

- **Balance Sheet:** Cash is up by $88, but PP&E is down by $100, so the Assets side is down by $12. The L&E side is also down by $12 because Retained Earnings fell by $12 due to the Net Income decrease, so both sides balance.

- **Intuition:** The company gets the $80 in cash proceeds, but it also gets $8 in tax savings from the Loss, so its cash goes up by $88 rather than $8.

4. A company decides to CHANGE a key employee's compensation. It will offer the employee stock options instead of a real salary. The employee's salary was formerly $100, but she will receive $120 in stock options now. How do the statements change?

You can think of this one as operating expenses going up by $20, but the company also having $120 in additional non-cash expenses.

- **Income Statement:** Operating expenses increase by $20, so Pre-Tax Income falls by $20, and Net Income falls by $12 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $12, but you add back the $120 in SBC as a non-cash expense, so cash at the bottom is up by $108.

- **Balance Sheet:** Cash is up by $108, so the Assets side is up by $108. On the L&E side, Retained Earnings is down by $12 because of the reduced Net Income, but Common Stock & APIC is up by $120 because of the SBC, so the L&E side is up by $108 and both sides balance.

- **Intuition:** The company saves a lot of cash by not paying the employee in cash anymore, and it also realizes tax savings. Just remember that its share count will also increase.

5. Your company just acquired another one for $1,000 in cash. The other company's Shareholders' Equity was $500, and you identified $100 in Other Intangible Assets with a useful life of 5 years.

What happens on the 3 statements from just AFTER the acquisition closes to the end of the first year following the acquisition? Only factor in Goodwill and Other Intangible Assets.

In this scenario, the "gap" between the purchase price and the other company's Shareholders' Equity is $500. $100 in Other Intangible Assets and $400 in Goodwill will be created. The Intangibles will amortize $20 per year over 5 years.

- **Income Statement:** Amortization increases by $20, which reduces Pre-Tax Income by $20 and Net Income by $12 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $12, but you add back the $20 in Amortization as a non-cash expense, so cash at the bottom is up by $8.

- **Balance Sheet:** Cash is up by $8, but Other Intangible Assets are down by $20, so the Assets side is down by $12. On the L&E side, Retained Earnings is down by $12 due to the reduced Net Income, so both sides are down by $12.

- **Intuition:** The non-cash Amortization expense increases the company's cash balance by reducing its tax burden.

6. In the second year, the acquisition goes horribly wrong, and your company realizes the acquired company is worth only about half of what it paid.

So it decides to write down half the Goodwill created in the deal – how do the 3 statements change, and what is the balance after the write-down?

$400 in Goodwill was created in this deal, so $200 will be left afterward.

- **Income Statement:** You record a $200 Goodwill write-down, which reduces Pre-Tax Income by $200 and Net Income by $120 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $120, but you add back the $200 Goodwill write-down since it's non-cash, so cash at the bottom is up by $80.

- **Balance Sheet:** Cash is up by $80, but Goodwill is down by $200, so the Assets side is down by $120. On the L&E side, Retained Earnings is down by $120 due to the reduced Net Income. There are no other changes, so both sides are down by $120 and balance.

- **Intuition:** The Goodwill write-down is a non-cash expense that reduces the company's tax burden, which boosts its cash balance.

- **Advanced Note:** Write-downs of Goodwill created from acquisitions are often **NOT** deductible for cash-tax purposes, so a DTA/DTL might be involved in real life. Do **NOT** bring up this point voluntarily in an interview.

7. Walk me through what happens on the statements when a customer orders a product for $100 but doesn't pay for it in cash, and then what happens when the cash is finally collected.

This scenario corresponds to Accounts Receivable increasing by $100 and then decreasing by $100. First, here's what happens when it increases:

- **Income Statement:** Revenue increases by $100, so Pre-Tax Income is up by $100 and Net Income is up by $60 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is up by $60, but the increase in AR reduces cash flow by $100, so cash at the bottom is down by $40.

- **Balance Sheet:** Cash is down by $40, but AR is up by $100, so the Assets side is up by $60. On the L&E side, Retained Earnings is up by $60 due to the increased Net Income, so both sides are up by $60 and balance.

- **Intuition:** The company has to pay taxes on revenue it hasn't yet received in cash, so its cash balance falls.

And when the AR is collected (factoring in **ONLY** this step):

- **Income Statement:** No changes.

- **Cash Flow Statement:** AR decreases, which is a change of positive $100 since it means the company has collected the cash now. Cash at the bottom is up by $100.

- **Balance Sheet:** Cash is up by $100, but AR is down by $100, so the Assets side doesn't change. The L&E side also doesn't change, so both sides remain in balance.

- **Intuition:** This is a simple cash collection of a payment owed to the company.

8. A company prepays its rent ($20 per month) a month in advance. Walk me through what happens on the statements when the company prepays the expense, and then what happens when the expense is incurred.

This scenario corresponds to Prepaid Expenses increasing and then decreasing. First, the increase:

- **Income Statement:** No changes.
- **Cash Flow Statement:** The $20 Increase in Prepaid Expense reduces the company's cash flow by $20, so cash at the bottom is down by $20.
- **Balance Sheet:** Cash is down by $20, but Prepaid Expenses is up by $20, so the Assets side doesn't change. The L&E side also doesn't change, so the Balance Sheet remains balanced.
- **Intuition:** This is a simple cash payment for expenses that have not yet been incurred.

And then when Prepaid Expenses decrease (factoring in **ONLY** this step):

- **Income Statement:** Operating Expenses increase by $20, so Pre-Tax Income falls by $20, and Net Income falls by $12 assuming a 40% tax rate.
- **Cash Flow Statement:** Net Income is down by $12, but the reduction in Prepaid Expenses boosts cash flow by $20, so cash at the bottom is up by $8.
- **Balance Sheet:** Cash is up by $8, and Prepaid Expenses are down by $20, so the Assets side is down by $12. The L&E side is also down by $12 because Retained Earnings has dropped by $12 due to the reduced Net Income, so both sides balance.
- **Intuition:** Cash goes up because this $20 expense is "non-cash" at this point – the company has paid for it in cash in a *prior period* – so it saves the company on taxes.

9. Wal-Mart buys $500 in Inventory for products it will sell next month. Walk me through what happens on the statements when they first buy the Inventory, and then when they sell the products for $600.

The first part is a simple Inventory purchase, and the second part is more of a "multi-step scenario" where the company has to record COGS and the revenue associated with the product sales. Here's the first part:

- **Income Statement:** No changes.
- **Cash Flow Statement:** The $500 Inventory increase reduces the company's cash flow, so cash at the bottom is down by $500.
- **Balance Sheet:** Cash is down by $500, but Inventory is up by $500, so the Assets side doesn't change. The L&E side also doesn't change, so the Balance Sheet remains in balance.
- **Intuition:** This is a simple cash purchase for an expense that has not yet been incurred.

And then here's the next part (factoring in **ONLY** this step):

- **Income Statement:** Revenue is up by $600, but COGS is up by $500, so Pre-Tax Income is up by $100 and Net Income is up by $60 at a 40% tax rate.
- **Cash Flow Statement:** Net Income is up by $60, but the decrease in Inventory increases cash flow by $500, so cash at the bottom is up by $560.
- **Balance Sheet:** Cash is up by $560, but Inventory is down by $500, so the Assets side is up by $60. The L&E side is also up by $60 because Net Income was up by $60, and so Retained Earnings was up by $60; therefore, both sides balance.
- **Intuition:** Look at the **CUMULATIVE** change – if you trace through both steps 1 and 2, cash is up by $60 from start to finish. And that increase corresponds to the company's after-tax profit from a $100 pre-tax profit on the sale of these goods.

10. Amazon.com decides to pay several key vendors on credit and make them wait for the cash. It offers $200 in credit and says it will pay them in cash in a month. What happens on the financial statements when the expense is incurred, and then when it is paid in cash?

This scenario corresponds to Accounts Payable or Accrued Expenses increasing by $200 and then decreasing by $200 when they're finally paid out in cash.

- **Income Statement:** Operating Expenses increases by $200, so Pre-Tax Income is down by $200 and Net Income is down by $120, assuming a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $120, but AP increasing by $200 results in higher cash flow since it means the expenses haven't been paid in cash yet. So cash at the bottom is up by $80.

- **Balance Sheet:** Cash is up by $80, so the Assets side is up by $80. On the L&E side, AP is up by $200, but Retained Earnings is down by $120 due to the reduced Net Income, so the L&E side is up by $80 and both sides balance.

- **Intuition:** This expense is acting like a "non-cash charge" *at this point* because it reduces the company's taxes but doesn't cost them anything in cash. Cash is up because of the lower taxes.

And then here's the next step (factoring in **ONLY** this step):

- **Income Statement:** No changes.

- **Cash Flow Statement:** Accounts Payable decreasing by $200 reduces the company's cash flow by $200, so cash at the bottom is down by $200.

- **Balance Sheet:** Cash is down by $200, so the Assets side is down by $200, and AP is down by $200, so the L&E side is also down by $200 and both sides balance.

- **Intuition:** This is a simple cash payment for an owed expense.

11. Salesforce.com sells a customer a $100 per month subscription but makes the customer pay all in cash, upfront, for the entire year. What happens on the statements?

This scenario corresponds to **Deferred Revenue** – collecting cash, but not being able to recognize it as revenue yet. The payment for the entire year is $1,200.

- **Income Statement:** No changes.

- **Cash Flow Statement:** DR increasing by $1,200 will boost the company's cash flow, so cash at the bottom is up by $1,200.

- **Balance Sheet:** Cash is up by $1,200, so the Assets side is up by $1,200, and Deferred Revenue is up by $1,200, so the L&E side is up by $1,200, and both sides balance.

- **Intuition:** This is a simple cash inflow for services the company has not yet delivered.

12. Now what happens after one month has passed, and the company has delivered one month of service?

Assume there are no associated COGS or Operating Expenses, and walk through what happens ONLY in this month.

- **Income Statement:** Revenue is up by $100, so Pre-Tax Income is up by $100 and Net Income is up by $60, assuming a 40% tax rate.

- **Cash Flow Statement:** Net Income is up by $60, but the decrease in Deferred Revenue reduces cash flow by $100, so cash at the bottom is down by $40.

- **Balance Sheet:** Cash is down by $40, so the Assets side is down by $40. On the L&E side, DR is down by $100, but Retained Earnings is up by $60 because of the increased Net Income, so the L&E side is down by $40 and the Balance Sheet balances.

- **Intuition:** Cash goes down because the company now has to pay taxes on *non-cash revenue*: it collected the cash in some prior period, and now it has to pay taxes on it.

13. A company issues $100 in stock to new investors to fund its operations. How do the statements change?

- **Income Statement:** No changes.

- **Cash Flow Statement:** The $100 stock issuance is a cash inflow in Cash Flow from Financing, and there are no other changes, so cash at the bottom goes up by $100.

- **Balance Sheet:** Cash is up by $100, so the Assets side is up by $100, and Common Stock & APIC on the other side goes up by $100, so the L&E side is up by $100 and the BS balances.

- **Intuition:** This is a simple cash inflow that doesn't impact the company's taxes at all.

14. This same company now realizes that it has too much cash, so it wants to issue dividends or repurchase shares. How do they impact the 3 statements differently? Assume $100 in dividends vs. $100 in shares repurchases.

These changes both make a very similar impact; the main difference is that dividends do not reduce the shares outstanding, but a share repurchase does.

- **Income Statement:** No changes.

- **Cash Flow Statement:** Both of these will show up as negative $100 entries in Cash Flow from Financing, reducing the cash at the bottom of the CFS by $100.

- **Balance Sheet:** Cash is down by $100, so the Assets side is down by $100; on the L&E side, dividends will reduce Retained Earnings by $100, whereas a share repurchase will reduce Treasury Stock by $100. But in either case, Equity is down by $100, so the L&E side is down by $100 and both sides balance.

- **Intuition:** These are simple uses of cash that don't affect the company's taxes at all.

15. A company has $1,000 in revenue, $200 in COGS, and $700 in operating expenses, and no other expenses. Walk through what happens on the 3 statements if half of the company's Income Taxes shift from current to deferred.

First, you have to calculate the company's total tax bill: $1,000 in revenue minus $200 in COGS minus $700 in operating expenses equals $100 in Pre-Tax Income and $40 in taxes at a 40% tax rate.

- **Income Statement:** Nothing changes because you record **BOTH** current **AND** deferred taxes as part of the company's Income Taxes here. So there's still $40 of Income Taxes.

- **Cash Flow Statement:** Net Income stays the same, but now you have to add back $20 in the Deferred Income Tax line item because these taxes will be paid in some future period. Cash increases by $20 as a result.

- **Balance Sheet:** Cash is up by $20, and so the Assets side is up by $20. On the L&E side, the Deferred Tax Liability will increase by $20 because of this deferral, so both sides increase by $20 and the Balance Sheet balances.

- **Intuition:** This is a simple deferral of a cash expense into a future period, so the company's cash increases in the short term.

Return to Top.

Multi-Step Changes on the Financial Statements

These questions get **tricky** because you have to keep track of more numbers in your head.

If you don't feel comfortable doing that, you can ask the interviewer if it's OK to write down a few figures as you're moving along. It's better to do that than to make a mistake.

Sometimes, it is not clear whether you have to state the **CUMULATIVE change** – i.e., what happens after 2 years have passed, from beginning to end – or just the change in a **single year** or after a **single event**.

When in doubt, always ask the interviewer to confirm the treatment.

1. A company buys a factory for $100 using $100 of debt. What happens INITIALLY on the statements?

- **Income Statement:** No changes.

- **Cash Flow Statement:** There's no net change in cash because the $100 factory purchase counts as CapEx, which reduces cash flow, and the $100 debt issuance is a cash inflow.

- **Balance Sheet:** PP&E is up by $100, so the Assets side is up by $100, and Debt is up by $100, so the L&E side is up by $100, and the Balance Sheet stays balanced.

- **Intuition:** This is a simple debt issuance and PP&E purchase, neither of which affects the company's taxes.

2. One year passes. The company pays 10% interest on its debt, and it depreciates $10 on the factory each year. It also repays $20 of the loan each year. What happens on the statements in this first year?

10% interest corresponds to $10 in interest since we use the beginning debt balance to calculate interest. So:

- **Income Statement:** You record $10 in interest and $10 in Depreciation, so Pre-Tax Income falls by $20, and Net Income falls by $12 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $12, but the $10 in Depreciation is non-cash, so you add it back. The $20 loan repayment counts as a cash outflow, so cash at the bottom of the CFS is down by $22.

- **Balance Sheet:** Cash is down by $22, and PP&E is down by $10, so the Assets side is down by $32. On the L&E side, the Debt is down by $20 and Retained Earnings is down by $12 due to the reduced Net Income, so the L&E side is also down by $32 and both sides balance.

- **Intuition:** Cash declines mostly because of the principal repayment; the interest expense is offset a bit by the tax savings from the Depreciation.

3. Another year passes. Again, the company pays 10% interest on its debt based on the balance at the start of the year, and it depreciates $10 on the factory, with $20 loan principal repayment.

At the very END of the year, a dragon attacks the factory, and it falls apart. The company has to write down the factory's entire value and repay the remaining loan balance.

Walk me through what happens on the statements from the BEGINNING of Year 2 to the END.

Remember that the company only has $80 in debt remaining at the start of Year 2, so the interest expense will be 10% * $80, or $8, rather than $10. The initial PP&E is $90, but $10 of that gets depreciated, and the remaining $80 is written down.

Although there's $20 of debt repayment, it's better to think of this as $80 *during the entire year* because there's $20 in "normal" repayment and then $60 at the end of the year.

- **Income Statement:** You record $10 in Depreciation, $8 in interest expense, and $80 for the PP&E write-down, so Pre-Tax Income falls by $98, and Net Income falls by $59 (technically $58.8, but we're rounding).

- **Cash Flow Statement:** Net Income is down by $59, but the Depreciation and the Write-Down are both non-cash, so you add back a total of $90. Cash is up by $31 so far. Then you factor in the loan repayments – a *total* of $80 – and cash is therefore down by $49.

- **Balance Sheet:** Cash is down by $49, and PP&E is down by $90, so the Assets side is down by $139. On the L&E side, Debt is down by $80 and Retained Earnings is down by $59 due to the reduced Net Income, so the L&E side is down by $139 and both sides balance.

- **Intuition:** Again, cash is down significantly mostly because of the loan repayment; everything else makes a minor impact.

4. Wal-Mart orders $200 of Inventory but pays for it using debt. What happens on the statements immediately after this transaction?

- **Income Statement:** No changes.

- **Cash Flow Statement:** Inventory is up by $200, which reduces cash flow by $200, but the debt issuance boosts cash flow by $200, so there's no net change in cash.

- **Balance Sheet:** The Assets side is up by $200 because Inventory is up by $200. The L&E side is also up by $200 because Debt is up by $200, so both sides balance.

- **Intuition:** This is a simple cash payment for an expense not yet incurred, combined with a debt issuance that offsets the cash outflow.

5. A year passes, and Wal-Mart sells the $200 of Inventory for $400. However, it also has to hire additional employees for $100 to process the orders.

The company also pays 5% interest on its debt and repays 10% of the principal. What happens on the statements over the course of THIS one year?

This question is the standard "Sell inventory for a certain amount of revenue" one, but there are a few twists. For one, we also have to factor in $100 of additional Operating Expenses.

Also, we have to include the $10 interest expense on the debt ($200 * 5%) and the $20 principal repayment ($200 * 10%).

- **Income Statement:** Revenue is up by $400, but COGS is up by $200, and Operating Expenses are up by $100 because of the extra employees. There is *also* $10 of additional Interest Expense because of the 5% interest rate on $200 of debt, so Pre-Tax Income is up by $90. Net Income is up by $54 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is up by $54, and the company's COGS decreasing by $200 frees up an additional $200 of cash flow. So far, cash flow is up by $254. The company also has to repay 10% * $200, or $20, of the debt principal, and so cash at the bottom is up by $234.

- **Balance Sheet:** Cash is up by $234, but Inventory is down by $200, so the Assets side is up by $34. On the L&E side, Debt is down by $20, and Retained Earnings is up by $54 because of the increased Net Income, so the L&E side is up by $34 and both sides balance.

- **Intuition:** The company has bought goods, turned them into finished products, and profited from the sale. The company's cash goes up by less than expected because of the debt principal repayment and interest.

6. A company issues $100 in Preferred Stock to buy $100 in long-term investments in real estate. The Preferred Stock has a coupon rate of 8%, and the long-term investments yield 10%. What happens on the statements IMMEDIATELY after the initial purchase?

- **Income Statement:** No changes.

- **Cash Flow Statement:** The purchase of the long-term investments counts as an Investing activity and reduces cash flow by $100, but the Preferred Stock issuance boosts cash flow by $100, so there's no net change in cash.

- **Balance Sheet:** Long-Term Investments is up by $100, so the Assets side is up by $100, and Preferred Stock on the other side is up by $100, so the L&E side is up by $100 and both sides balance.

- **Intuition:** This is a simple cash purchase of investments funded by a Preferred Stock issuance, and neither event affects the company's taxes.

7. What happens on the statements after a year?

Although **you subtract Preferred Dividends from Net Income to calculate Net Income to Common**, the Preferred Dividends are **NOT tax-deductible**.

- **Income Statement:** The company will record 10% * $100, or $10, in Interest Income on the real estate, so its Pre-Tax Income increases by $10. At a 40% tax rate, its Net Income goes up by $6. The $8 in Preferred Dividends are **NOT** tax-deductible, so they simply reduce Net Income by $8, and so "Net Income to Common" is down by $2.

- **Cash Flow Statement:** Net Income to Common is down by $2. There are no other changes on the CFS in this period because there's no principal repayment of the Preferred Stock, and nothing changes with the long-term investments. So cash at the bottom is down by $2.

- **Balance Sheet:** Cash is down by $2, so the Assets side is down by $2. On the other side, Retained Earnings is down by $2, so the L&E side is also down by $2 and both sides balance.

- **Intuition:** The point of this question is that **taxes** play a huge role in making investment decisions. Since the investment income on the real estate is taxable, whereas Preferred Dividends are not, the company **LOSES** money! The after-tax yield of the real estate is only 10% * (1 – 40%), or 6%, which is less than the 8% Preferred coupon.

8. Another year passes, and prices in this real estate market double. The company decides to sell its $100 in long-term investments for $200 at the end of Year 2. It then uses the proceeds to repay its Preferred Stock.

What happens on the statements from the BEGINNING of Year 2, including the interest/investment income and Preferred Dividends, to the END of Year 2?

- **Income Statement:** Everything from the previous part still applies, so there's still $10 in Investment Income. But now the company also records a Gain of $100 on the sale of the

real estate, so Pre-Tax Income is up by $110, and Net Income is up by $66 at a 40% tax rate. There's still $8 in Preferred Dividends, so Net Income to Common is up by $58.

- **Cash Flow Statement:** Net Income to Common is up by $58, but the $100 Gain is non-cash, so you subtract it out and then show the Total Proceeds Received, $200, within Cash Flow from Investing. You also have to show the $100 repayment of the Preferred Stock, so cash at the bottom is up by $58.

- **Balance Sheet:** Cash is up by $58, but the company's long-term investments have decreased by $100, so the Assets side is down by $42. The L&E side is also down by $42 because Retained Earnings increased by $58 due to the increased Net Income to Common, but Preferred Stock decreased by $100, so both sides balance.

- **Intuition:** This question demonstrates why this investment strategy might make sense: **capital gains**.

9. Your company wants to boost its EPS artificially, so it decides to issue debt and use the proceeds to buy back shares.

Initially, the company has 100 shares outstanding at $100 per share, and a Net Income of $2,000.

What happens IMMEDIATELY after your company raises $1,000 in long-term debt and uses it to repurchase $1,000 in stock?

First, note a few important facts about this scenario. Repurchasing $1,000 in stock at a share price of $100 per share means that the company will repurchase 10 shares. So its share count drops from 100 to 90.

Its EPS *before* this move was $2,000 / 100, or $20.00. Now, for the first part of this transaction:

- **Income Statement:** No changes.

- **Cash Flow Statement:** The $1,000 Debt issuance boosts cash flow by $1,000, but the $1,000 stock repurchase reduces it by $1,000, so there's no net change in cash.

- **Balance Sheet:** There are no changes on the Asset side. On the L&E side, Debt is up by $1,000, but Treasury Stock within Equity is down by $1,000, so there's no net change, and the BS remains in balance.

- **Intuition:** These are simple cash inflows and outflows that cancel each other out and make no impact on the company's taxes.

10. What happens after a year passes if the company pays 5% interest on the debt and repays 10% of the principal? Also, explain the EPS impact.

This question is a twist on the standard 3-statement accounting questions because you also have to calculate **EPS and the change in EPS**.

- **Income Statement:** The company records 5% * $1,000, or $50, in interest expense, and so its Pre-Tax Income falls by $50. At a 40% tax rate, its Net Income is down by $30. The company now has 90 shares outstanding rather than 100, and has Net Income of $1,970 instead of $2,000, so its EPS increases to $21.89 (If you can't do that math in your head, you could just say that EPS "increases").

- **Cash Flow Statement:** Net Income is down by $30, and the company also has to repay 10% of the principal, or $100, so cash is down by $130 at the bottom.

- **Balance Sheet:** Cash is down by $130, so the Assets side is down by $130. On the L&E side, Retained Earnings is down by $30 because of the reduced Net Income, and Debt is down by $100 because of the principal repayment, so the L&E side is down by $130 and both sides balance.

- **Intuition:** This question illustrates how companies can artificially inflate their EPS numbers by making nonsensical moves, such as borrowing at high costs to fund share repurchases. Never trust EPS!

11. Your company decides to acquire another company for $1,000, using cash. The other company has $400 in Cash, $600 in PP&E, $250 in Accounts Payable, and $750 in Equity.

What happens to your company's BALANCE SHEET immediately after this acquisition takes place?

Assume that your company has identified $50 in Other Intangible Assets with a useful life of 10 years.

You combine the other company's Assets and Liabilities with your company's, and you write down the seller's Equity.

So in this case, the combined company's Cash balance goes down by $600 since you spent $1,000 in cash on the acquisition but got $400 in cash from the other company.

PP&E is up by $600, so the Assets side hasn't changed so far.

But the other side is up by $250 because of the Accounts Payable, so we have a problem.

Since we paid $1,000 for Equity of $750, we must create a total of $250 in Goodwill and Other Intangible Assets.

The question stated that there's $50 in Other Intangible Assets, so we create those on the Assets side, and then we create $200 of Goodwill.

As a result, the L&E side is up by $250, the Assets side is up by $250, and the Balance Sheet balances.

12. A year passes. What happens on the financial statements, factoring in ONLY the newly created items from the acquisition and the cash used to acquire the company?

Assume a 2% foregone interest rate on cash, and assume that the company loses interest on the FULL $1,000 of cash used in the acquisition, not just the net cash reduction of $600.

- **Income Statement:** The company's interest income decreases by 2% * $1,000, or $20. There will also be Amortization of Intangibles of $50 / 10, or $5. So Pre-Tax Income falls by $25, and Net Income declines by $15 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $15, but you add back the $5 in Amortization as a non-cash charge, so the company's cash is down by $10.

- **Balance Sheet:** Cash is down by $10, and Other Intangible Assets are down by $5, so the Assets side is down by $15. On the other side, Retained Earnings is down by $15 because of the reduced Net Income, so the L&E side is down by $15 and both sides balance.

- **Intuition:** The main point here is that all acquisitions "cost" the company something – cash from lost interest or additional interest expense, or additional shares that dilute the existing shareholders.

13. At the end of the year, your company decides that it grossly overpaid for the other company, so it decides to write down the Goodwill and PP&E acquired from the other company by 50%.

What happens on the statements, factoring in ONLY these write-downs and nothing else?

Remember that there's $200 in Goodwill and $600 in PP&E from the other company:

- **Income Statement:** You record a total write-down of $400 ($200 / 2 + $600 / 2), so Pre-Tax Income is down by $400. Net Income is down by $240 at a 40% tax rate.

- **Cash Flow Statement:** Net Income is down by $240, but both these write-downs are non-cash, so you add back a total of $400. Cash is up by $160 at the bottom.

- **Balance Sheet:** Cash is up by $160, but Goodwill is down by $100, and PP&E is down by $300, so the Assets side is down by $240. The L&E side is also down by $240 because Retained Earnings falls by $240 due to the reduced Net Income, and so both sides balance.

- **Intuition:** This is a good example of how overpaying for an acquisition can hurt a company's Net Income and EPS, but boost its cash balance. This is why it's so important to look at **BOTH** Net Income and Cash Generated when analyzing a company.

Return to Top.

Working Capital, Free Cash Flow, and Other Metrics and Ratios

Questions on these topics are **NOT** terribly common in investment banking interviews; you focus on this analysis more in public markets roles such as equity research.

Still, questions on Working Capital, Free Cash Flow, and returns-based ratios can come up, so we wanted to cover a few examples here.

1. What is Free Cash Flow, and what does it mean if it's positive and increasing?

There are different types of Free Cash Flow, but one simple definition is **Cash Flow from Operations minus CapEx**. FCF represents a company's "discretionary cash flow" – how much it has left for other areas after spending what's required for its business.

You define it this way because pretty much everything in a company's "Cash Flow from Operations" section is required for its business – earning Net Income, paying for Inventory, collecting Receivables, etc.

But almost every line item within the Investing and Financing Activities sections is "optional," except for Capital Expenditures.

If FCF is positive and increasing, it means the company can spend its excess cash in different ways: it could hire more employees, spend more on Working Capital or CapEx, invest in other assets, repay debt, acquire other companies, or return money to shareholders with dividends or stock repurchases.

2. What does FCF mean if it's negative or decreasing?

You have to find out **why** FCF is negative or decreasing first. For example, if FCF is negative because CapEx in one year was unusually high, but it's expected to return to much lower levels in the future, it doesn't mean much.

On the other hand, if FCF is negative because the company's sales and operating income have been declining each year, that indicates that the business may be troubled.

If FCF decreases to the point where the company runs low on cash, it will have to raise equity or debt funding ASAP and restructure its operations to continue running.

3. What is Working Capital?

The official definition of **Working Capital** is "Current Assets minus Current Liabilities," but the more *useful* definition is:

Working Capital = Current Assets (Excluding Cash and Investments) – Current Liabilities (Excluding Debt)

This one is sometimes called **Operating Working Capital** instead.

You may also include Long-Term Assets and Liabilities that are related to the company's business operations (Long-Term Deferred Revenue is a prime example).

Working Capital by itself tells you whether a company needs more in *operational assets* or *operational liabilities* to run its business, and how big the difference is. But the **Change in Working Capital** (see below) matters far more for valuation purposes.

4. Why do you exclude cash, investments, and debt when calculating the Change in Working Capital on the Cash Flow Statement?

Although many of these items are Current Assets or Current Liabilities, you exclude them because:

- **Cash** – The bottom of the CFS already calculates the Net Change in Cash and the ending Cash balance; if you did it within the Working Capital area, you'd be double-counting it.
- **Investments** – Investment sales and purchases are considered investing activities, not operational ones, even if they're short-term.
- **Debt** – Debt issuances and repayments are considered financing activities, not operational ones, even if the debt is short-term.

5. A company's Working Capital has increased from $50 to $200. You calculate the Change in Working Capital by taking the new number, $200, and subtracting the old number, $50, and so the change is positive $150.

But on the Cash Flow Statement, the company records the Change in Working Capital as negative $150. Is the company wrong?

No, the company is correct. *On the Cash Flow Statement*, the **Change in Working Capital** is equal to Old Working Capital – New Working Capital.

Pretend that Working Capital consists of ONLY Inventory. If Inventory increases from $50 to $200, that is clearly a <u>use</u> of cash that will reduce the company's cash flow, and as such, it should be shown as a negative $150 on the CFS.

You can also think of this one by breaking down the individual components:

Change in WC = Old WC – New WC

Change in WC = (Old Current Assets – Old Current Liabilities) – (New Current Assets – New Current Liabilities)

Change in WC = (Old Current Assets – New Current Assets) + (New Current Liabilities – Old Current Liabilities)

So like everything else on the Cash Flow Statement, **if assets increase, they reduce the cash flow**. And if liabilities increase, the opposite happens.

When a company's Working Capital **INCREASES**, the company **USES** cash to do that; when Working Capital **DECREASES**, it **FREES UP** cash.

6. What does the Change in Working Capital mean?

The Change in Working Capital tells you if the company needs to spend in **ADVANCE** of its growth, or if it generates more money as a **RESULT** of its growth.

For example, the Change in Working Capital is almost always negative for retailers because they must spend money on Inventory before being able to sell products.

But the Change in Working Capital is often positive for subscription-based companies that collect cash from customers far in advance because Deferred Revenue increases whenever they do that.

The Change in Working Capital directly increases or decreases Free Cash Flow, which, in turn, directly affects the company's valuation.

7. You're comparing two companies. Company A's Change in Working Capital as a % of the Change in Revenue is 10%, but Company B's is negative 5%.

Which industries are these companies MOST likely to be in?

Company A is most likely in an industry without much upfront investment in Inventory required, such as professional services, software, or media and telecom. In these industries, customers often pay upfront for longer-term contracts and services, which makes the Change in Working Capital even more positive.

Company B is likely in an industry with more upfront investment in Inventory required, such as retail or manufacturing. The company might also be in an industry where it has little power to "delay" payments to suppliers, meaning that its operational assets will tend to grow by more than its operational liabilities over time.

8. What does it mean if a company's FCF is growing, but its Change in Working Capital is more and more negative each year?

It means that the company's Net Income or non-cash charges are growing by more than its Change in WC is declining, or that its CapEx is becoming *less* negative (i.e., shrinking) by more than the Change in WC is declining.

If a company's Net Income is growing for legitimate reasons, this is a positive sign. But if higher non-cash charges or artificially reduced CapEx are boosting FCF, both of those are negatives.

9. In its filings, a company states that its EBITDA is a reasonable "proxy" for its Cash Flow from Operations. The company's EBITDA has been positive and growing at 20% for the past three years.

However, the company recently filed for bankruptcy. How could this have happened?

Although EBITDA is *sometimes* a "proxy" for CFO, it is not even close to a perfect representation of a company's cash flow. Think about all the items that EBITDA excludes:

- **CapEx** – Very high CapEx spending might have pushed the company to bankruptcy.
- **Interest Expense and Debt Repayment Obligations** – Same as above. In particular, if the company's debt all matures on one date and the company cannot refinance or does not have enough cash to pay for it, bankruptcy could result.
- **Working Capital** – If the company is spending a massive amount on Inventory, to the point where it's *losing* heaps of money as it grows, that could have also played a role.
- **One-Time Charges** – If EBITDA excludes large "one-time" expenses such as legal and restructuring charges, those could also affect the company's cash balance.

10. A company's ROA has INCREASED from 10% to 15% over the past five years, but its ROE has DECREASED from 13% to 10%. What could have caused this?

Both ROA and ROE have Net Income in the numerator, so it must be something in the denominators.

Let's say that Net Income *increased* over this period. If that's the case, then the company's Total Assets must have increased by a *lower percentage* than Net Income.

But if ROE decreased, then the company's Equity must have increased by a *greater percentage* than Net Income.

So one potential cause might be that the company has been continually issuing equity to fund its cash flow-negative business.

When the company issues stock, it boosts its Equity on the Balance Sheet and prevents its cash balance from declining. But the company's Total Assets also don't change by much because the cash raised does not make it to the Balance Sheet – it offsets losses elsewhere in the business.

11. A company seems to be boosting its ROE artificially by using leverage to fuel its growth. Which metrics or ratios could you look at to confirm or deny your suspicion?

Leverage can artificially boost ROE because Debt does not affect the denominator of ROE (Equity), and it makes only a small impact on the numerator (Net Income).

To see if this is happening, you could check the company's Debt/EBITDA and EBITDA/Interest ratios – if they indicate that the company has been using more debt over time, it's a good bet that Debt has been at least partially responsible for the increased ROE.

12. A company's Current Ratio is 2x. Why is that NOT necessarily a positive sign?

The Current Ratio is defined as Current Assets / Current Liabilities, so it depends on what's *in* both those groups.

For example, if the company's Current Assets consist primarily of Receivables and almost no Cash, and its Current Liabilities consist of Accrued Expenses, a Current Ratio of 2x is negative because it means the company is waiting on a lot of cash from customers and also has to pay a lot of cash in the future for expenses already incurred.

On the other hand, if the company's Current Assets are primarily Cash and its Current Liabilities are primarily Deferred Revenue, this 2x ratio would be more positive because it means that the company has collected significant cash in advance of product/service delivery.

13. Would you expect a retailer or an airline company to have a higher Asset Turnover Ratio?

Generally, the retailer will have a *higher* Asset Turnover Ratio (Revenue / Average Assets) because it is *less* dependent on assets to generate its sales. Yes, retailers need to sell Inventory

to make money, but they *don't* necessarily need to own their own stores, factories, etc. – many retailers actually lease their stores.

An airline will tend to have a lower Asset Turnover Ratio because it is completely dependent on PP&E to generate revenue: without its planes, it can't do much of anything.

And yes, some airlines also lease their planes rather than owning them outright, but *almost every* major airline owns a decent percentage of its planes.

14. What does it say about a company if its Days Receivables Outstanding is ~5, but its Days Payable Outstanding is ~60?

It tells you that the company has quite a lot of **market power** to collect cash from customers quickly, but to delay paying its suppliers for a long time. Examples might be companies like Amazon and Wal-Mart that completely dominate their respective markets and that can coerce suppliers into agreeing to their terms.

Return to Top.