

Merger Model Questions and Answers – Basic (24 Questions)

A merger model is used after a valuation to tweak the control premium paid to make an acquisition more accretive. It affects the purchase price but doesn't affect the valuation. Buy-side uses it to determine the impact on the acquirer's financials and sell-side used it to justify a price

155.Walk me through a basic merger model

A merger model answers the question: “is this deal accretive or dilutive to the buyer's EPS?”

A merger model is used to analyze the financial profiles of 2 companies, the purchase price and how the purchase is made, and determines whether the buyer's EPS increases or decreases

Step 1 is to make assumptions about the acquisition – the price and whether it was cash, stock or debt or some combination of those. Next, you determine the valuations and shares outstanding of the buyer and seller and project out an IS for each one

Finally, you combine the IS, adding up line items such as revenue and operating expenses, and adjusting for foregone interest on cash and interest paid on debt in the combined pre-tax income line. You apply the buyer's tax rate to get the combined NI, and then divide by the new share count to determine the combined EPS

156.What's the difference between a merger and an acquisition?

There's always a buyer and seller in any M&A deal – the difference between merger and acquisition is more semantic than anything. In a merger the companies are close to the same size, whereas in an acquisition the buyer is significantly larger

157.Why would a company want to acquire another company?

Several possible reasons:

1. The buyer wants to gain market share by buying a competitor
2. The buyer needs to grow more quickly and sees an acquisition as a way to do that
3. The buyer believes the seller is undervalued
4. The buyer wants to acquire the seller's customers so it can up sell and cross sell to them
5. The buyer thinks the seller has a critical technology, IP or some other “secret sauce” it can use to significantly enhance its business

6. The buyer believes it can achieve significant synergies and therefore make the deal accretive for its shareholders

158. Why would an acquisition be dilutive?

An acquisition is dilutive if the additional amount of NI the seller contributes is not enough to offset the buyer's foregone interest on cash, additional interest paid on debt, and the effects of issuing additional shares

Acquisition effects – such as amortization of intangibles – can also make an acquisition dilutive

159. Is there a rule of thumb for calculating whether an acquisition will be accretive or dilutive?

If the deal involves just cash and debt, you can sum up the interest expense for debt and the foregone interest on cash, then compare it against the seller's pre-tax income

And, if it's an all-stock deal, you can use a shortcut to assess whether it is accretive. If acquirer's p/e > target's p/e then deal is accretive, if acquirer's p/e < target's p/e then deal is dilutive

But if the deal involves cash, stock and debt, there's no quick rule of thumb you can use unless you're really good at mental math

160. A company with a higher P/E acquires one with a lower P/E – is this accretive or dilutive?

Trick question. You can't tell unless you also know that it's an all stock deal. If it's an all cash or all debt deal, the P/E multiples of the buyer and seller don't matter bc no stock is being issued

Sure, generally getting more earnings for less is good and more likely to be accretive but there's no hard and fast rule unless again it's an all stock deal

161. What is the rule of thumb for assessing whether an M&A deal will be accretive or dilutive?

In an all stock deal, if the buyer has a higher P/E than the seller, it will be accretive. If the buyer has a lower P/E, it will be dilutive

On an intuitive level if you're paying more for earnings than what the market values your own earnings at, you can guess that it will be dilutive; and likewise, if you're paying less for earning than what the market values your own earnings at, you can guess that it would be accretive

162. What are the complete effects of an acquisition?

1. Foregone interest on cash: the buyer loses the interest it would have otherwise earned if it uses cash for the acquisition
2. Additional interest on debt: the buyer pays additional interest expense if it uses debt
3. Additional shares outstanding: if the buyer pays with stock, it must issue additional shares
4. Combined financial statements: after the acquisition, the seller's financials are added to the buyer's
5. Creation of goodwill and other intangibles: these BS items that represent a premium paid to a company's fair value also get created

Note: There's actually more than this (see the advanced questions), but this is usually sufficient to mention in interviews

163. If a company were capable of paying 100% in cash for another company, why would it choose not to do so?

It might be saving its cash for something else or it might be concerned about running low if business takes a turn for the worst; its stock may also be trading at an all time high and it might be eager to use that instead (in finance terms this would be "more expensive" but a lot of executives value having a safety cushion in the form of a large cash balance)

164. Why would a strategic acquirer typically be willing to pay more for a company than a private equity firm would?

Bc the strategic acquirer can realize revenue and cost synergies that the private equity firm cannot unless it combines the company with a complementary portfolio company. Those synergies boost the effective valuation for the target company

Synergy: collective benefit that two companies achieve when they merge or form strategic alliances

165. Why do goodwill and other intangibles get created in an acquisition?

These represent the value over the fair market value of the seller that the buyer has paid. You calculate the number by subtracting the book value of a company from its equity purchase price

More specifically, goodwill and other intangibles represent things like the value of customer relationships, brand names and IP – valuable, but not true (tangible) financial assets that show up on the BS

166.What is the difference between goodwill and other intangible assets?

Goodwill typically stays the same over many years and is not amortized. It changes only if there's goodwill impairment (or another acquisition)

Other intangible assets, by contrast, are amortized over several years and affect the IS by hitting the pretax income line

There's also a difference in terms of what they each represent, but bankers rarely go into that level of detail – accountants and valuation specialists worry about assigning each one to specific items

167.Is there anything else intangible besides goodwill and other intangibles that could also impact the combined company?

Yes. You could also have a purchased in process R&D write-off and a deferred revenue write-off

The first refers to any research and development projects that were purchased in the acquisition but which have not been completed yet. The logic is that unfinished R&D projects require significant resources to complete, and as such, the expense must be recognized as part of the acquisition

The second refers to cases where the seller has collected cash for a service but not yet recorded it as revenue, and the buyer must write-down the value of the deferred revenue to avoid double counting revenue

168.What are synergies, and can you provide a few examples?

Synergies refer to cases where $2 + 2 = 5$ (or 6 or 7) in an acquisition. Basically, the buyer gets more value than out of an acquisition than what the financials would predict

There are 2 types: revenue synergies and cost (or expense) synergies

1. Revenue synergies: the combined company can cross-sell products to new customers or up sell new products to existing customers. It might also be able to expand into new geographies as a result of the deal
2. Cost synergies: the combined company can consolidate building and administrative staff and can lay off redundant employees. It might also be able to shut down redundant stores or locations

169.How are synergies used in merger models?

Revenue synergies: Normally you add these to the revenue figure for the combined company and then assume a certain margin on the revenue – this additional revenue then flows through the rest of the combined IS

Cost synergies: Normally you reduce the combined COGS or operating expenses by this amount, which in turn boosts the combined pre-tax income and thus NI, raising the EPS and making the deal more accretive

170. Are revenue or cost synergies more important?

No one in M&A takes revenue synergies seriously bc they're so hard to predict. Cost synergies are taken more seriously bc it's more straightforward to see how buildings and locations might be consolidated and how many redundant employees might be eliminated

That said, the chances of any synergies actually being realized are almost 0 so few take them seriously at all

171. All else being equal, which method would a company prefer to use when acquiring another company – cash, stock or debt?

Assuming the buyer had unlimited resources, it would always prefer to use cash when buying another company. Why?

1. Cash is cheaper than debt bc interest rates on cash are usually under 5% whereas debt interest rates are almost always higher than that. Thus, foregone interest on cash is almost always less than additional interest paid on debt for the same amount of cash/debt
2. Cash is also less risky than debt bc there's no chance the buyer might fail to raise sufficient funds from investors
3. It's hard to compare the cost directly to stock, but in general stock is the most expensive way to finance a transaction – remember how the cost of equity is almost always than the cost of debt. That same principle applies here
4. Cash is also less risky than stock bc the buyer's share price could change dramatically once the acquisition is announced

172. How much debt could a company issue in a merger or acquisition?

Generally you would look at comparable companies/precedent transactions to determine this. You would use the combined company's LTM EBITDA figure, find the median debt/EBITDA ratio of whatever companies you're looking at, and apply that to your own EBITDA figure to get a rough idea of how much debt you could raise

You would also look at debt comparables for companies in the same industry and see what types of debt and how many tranches (portions) they have used

173. How do you determine the purchase price for the target company in an acquisition?

You use the same valuation methodologies we already discussed. If the seller is a public company, you would pay more attention to the premium paid over the current share price to make sure it's sufficient (generally in the 15-30% range) to win shareholder approval

For private sellers, more weight is placed on the traditional methodologies

174. Let's say a company overpays for another company – what typically happens afterwards and can you give any recent examples?

There would be an incredibly high amount of goodwill and other intangibles created if the price is far above the fair market value of the company. Depending on how the acquisition goes, there might be a large goodwill impairment charge later on if the company decides it overpaid

An example is the eBay / Skype deal, in which eBay paid a huge premium and extremely high multiple for Skype. It created excess goodwill and other intangibles, and eBay later ended up writing down much of the value and taking a large quarterly loss as a result

175. A buyer pays \$100 million for the seller in an all stock deal, but a day later the market decides it's only worth \$50 million. What happens?

The buyer's share price would fall by whatever per-share dollar amount corresponds to the \$50 million loss in value. Note that it would not necessarily be cut in half

Depending on how the deal was structured, the seller would effectively only be receiving half of what it had originally negotiated

This illustrates one of the major risks of all-stock deals: sudden changes in share price could dramatically impact valuation

176. Why do most mergers and acquisitions fail?

Like so many things, M&A is easier said than done. In practice it's very difficult to acquire and integrate a different company, actually realize synergies and also turn the acquired company into a profitable division

Many deals are also done for the wrong reasons, such as CEO ego or pressure from shareholders. Any deal done without both parties' beset interests in mind is likely to fail

177. What role does a merger model play in deal negotiations?

The model is used as a sanity check and is used to test various assumptions. A company would never decide to do a deal based on the output of a model

It might say, “Ok, the model tells us this deal could work and be moderately accretive – it’s worth exploring more.”

It would never say, “Aha! This model predicts 21% accretion – we should definitely acquire them now!”

Emotions, ego and personalities play a far bigger role in M&A (and any type of negotiation) than numbers do

178. What types of sensitivities would you look at in a merger model? What variables would you look at?

The most common variables to look at are purchase price, % stock/cash/debt, revenue synergies and expense synergies. Sometimes you also look at different operating sensitivities, like revenue growth or EBITDA margin, but it’s more common to build these into your model as different scenarios instead

You might look at sensitivity tables showing the EPS accretion/dilution at different ranges for the purchase price vs. cost synergies, purchase price vs. revenue synergies, or purchase price vs. % cash and so on

