Access the Rest of the Fundamentals Course

Financial Modeling Fundamentals, Module 10: M&A Deals and Merger Models – More Advanced Items and Other Ways to Evaluate Deals

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Key Rule #6: Other Ways to Evaluate Mergers and Acquisitions

There are many ways to evaluate a merger or acquisition, and you don't necessarily use an accretion/dilution analysis in all scenarios.

Accretion/dilution makes the most sense when the Buyer and Seller are fairly close in size, profitable, and cash flow-positive, and when the deal is motivated by **financial reasons** rather than "fuzzy" reasons.

But in many M&A deals, one or more of those conditions is false.

Another problem is that **not all Buyers care about EPS**.

All companies *record* figures for Earnings per Share because all companies record something for Net Income, and all companies – even private ones – have shares outstanding.

But if the Buyer is private or its EPS is extremely negative (e.g., Tesla), then it won't care about the results of an EPS accretion/dilution analysis.

So here are some alternative methods for evaluating M&A deals:

Qualitative / "Strategic" Analysis

This method comes up in many acquisitions of small tech and biotech startups (e.g., Facebook acquiring WhatsApp or Pfizer acquiring NextCure).

These small companies have no profits, no cash flow, and no revenue or almost no revenue, so acquisitions are not based on financial criteria such as EPS accretion/dilution.

Instead, the rationale comes down to:

1) **Potential for Extremely High Growth** – For example, if NextCure ends up discovering a universal cure for cancer, then Pfizer might become the biggest and most valuable company in the world.

2) **Defensive Acquisition / Fear of Competition** – Facebook knew that the high user growth and engagement of both Instagram and WhatsApp were threats to its core business, so it paid huge prices for both companies. If there's a threat, devour it!

There isn't much in-depth financial analysis in these deals, but you might justify them with back-of-the-envelope math. For example:

- WhatsApp had 430 million monthly active users at the time of the deal.
- Facebook believed this user base would increase to 700 million over time.

- Each user was worth $1.00 per year at the time.
- But Facebook believed it could increase the revenue per user figure to $10.00.
- Also, Facebook might have lost ~200 million of its own users if it had *not* acquired WhatsApp. The average Facebook user was worth $5.00 per year.

Potentially, the WhatsApp users were worth $10.00 * 430 million = $4.3 billion per year, and more like $7.0 billion per year in the long term.

Not only would Facebook lose out on $4.3 – $7.0 billion in annual revenue if it did not do the deal, but it might *also* lose 200 million * $5.00 = $1 billion per year of its existing revenue.

You don't need to open Excel to see that a $19 billion purchase price is easily worth it if it means billions in extra revenue and the *prevention* of a $1 billion loss in revenue.

The main problem is that this analysis is highly speculative: Could Facebook *really* boost WhatsApp's average revenue per user (ARPU) from $1.00 to $10.00? How long would it take, and how much would it cost?

No one knows the answers, but CEOs and Boards still need to justify such acquisitions to shareholders. So you'll often see this type of speculative analysis in presentations and meetings.

IRR vs. Discount Rate (WACC)

Rather than setting up an accretion/dilution analysis, you could do something much simpler to evaluate an acquisition: Estimate the internal rate of return (IRR) of the deal and compare it to the Acquirer's Discount Rate (usually WACC).

For this analysis to make sense, the Buyer must plan to *sell* the Seller in the future. It's almost impossible to realize a positive IRR otherwise because the Seller's annual cash flow is a tiny percentage of the purchase price.

Alternatively, the Seller must grow so big and generate so much in cash flow that its cash flow alone could generate a positive IRR.

That scenario is unlikely unless you're acquiring startups or you're in an emerging or frontier market that is in hyper-growth mode.

So if the Buyer acquires the Seller and plans to sell it in the future, the logic we used much earlier for "Virgin Galactic" applies here as well:

Virgin - Assumptions and WACC by Division:	WACC:
Virgin - Entire Company:	10.0%
Virgin Galactic:	15.0%
Virgin Asia:	8.0%
Initial Investment Required for Jupiter Fleet:	£ 1,000
Annual Cash Flows Earned from Trips to Jupiter:	100
Resale / Long-Term Value of Fleet Beyond Year 5:	1,200

Represents the acquisition price.

Since the projected IRR is below WACC for Virgin Galactic, *if this were an acquisition*, it would **not** make sense.

Cash Flows from Jupiter Fleet:	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Cash Flows from Jupiter Trips:	£ -	£ 100	£ 100	£ 100	£ 100	£ 100
Fleet (Purchase) / Sale:	(1,000)	-	-	-	-	1,200
Net Cash Flows:	**-£ 1,000**	**£ 100**	**£ 100**	**£ 100**	**£ 100**	**£ 1,300**
Internal Rate of Return (IRR):	**13.1%**					

Represents cash flows generated by this acquired company.

Represents proceeds from selling the acquired company in the future.

This analysis works well when the Acquirer is more concerned about the **long-term consequences of a deal** than the short-term impact.

It also works well when the Seller has fairly predictable cash flows and when valuation in the industry doesn't change tremendously over time – because you'll have to assume an exit multiple for the *re-sale* of this acquired company.

Even though this analysis makes sense from the perspective of finance theory, it's not that common in real life for a few reasons:

1) **Negative Signaling** – Most Buyers don't like to *admit* that they might re-sell acquired companies in the future, even though it happens all the time. It's sort of like admitting, as a parent, that one of your children is a failure.

2) **Short-Term Focus** – The stock market as a whole, and institutional investors, in particular, focus heavily on short-term results, such as EPS changes in the next quarter. So it's hard to get the market to buy into arguments for "longer-term value creation."

3) **Tricky Setup** – It's simple to project the next year or two of an acquired company's Net Income, as you do in an accretion/dilution model, but it's much harder to estimate its long-term cash flows and resale value in 5-10 years.

This analysis makes the most sense when the Seller is *substantial* but still *far smaller* than the Buyer. For example, you might use it to analyze a potential acquisition of a regional commercial bank by JP Morgan or Wells Fargo.

Bankers might not show the analysis publicly, but they might reference it in internal presentations.

"Value Creation" Analysis (Valuation Before and After a Deal)

You can also evaluate an M&A deal by seeing if it **increases the Acquirer's Implied Value**.

In a previous section of this guide, we stated these two rules:

1. **Combined Equity Value** = Acquirer's Equity Value + Value of Stock Issued in Deal.

2. **Combined Enterprise Value** = Acquirer's Enterprise Value + Purchase Enterprise Value of Target.

These principles are helpful for answering case study questions and doing quick math in interviews, but like many simple rules, **they don't always hold up in real life**.

Immediately after an acquisition is announced, there's a good chance that the Combined Equity Value and Combined Enterprise Value will change as described above.

But after that, almost anything could happen.

For example:

- What if the Combined Company's **FCF Growth Rate** slows down after the acquisition closes? Its value will likely decrease.

- What if the Combined Company's **margins increase** because it realizes higher-than-expected synergies after the deal closes? Its value will likely increase.

To account for these possibilities, you could **value the Combined Company** and see how it compares with the Implied Value of the Buyer as a standalone entity.

To complete this process, you would set up a DCF analysis for the Combined Company, select and use Public Comps and Precedent Transactions, and make sure that you've **reflected the Cash, Debt, and Stock used in the deal**.

So if the Buyer funded the acquisition with Debt, you'd have to subtract out that new Debt at the end of the DCF when you move from Implied Enterprise Value to Implied Equity Value and the Implied Share Price.

The Combined Company will have higher revenue, EBITDA, and other financial metrics after the deal, but the acquisition effects make the analysis more complex than that.

For example, if the Acquirer had $100 million in revenue before the deal and traded at an EV / Revenue multiple of 2x, its Enterprise Value was $200 million.

It had $20 million of Cash and $10 million of Debt, so its Equity Value was $210 million. And it had 100 million shares outstanding and, therefore, a share price of $2.10.

If the Acquirer purchases a Target for $30 million and gets an additional $10 million in revenue from that company, you might *think* that its Enterprise Value would increase to 2x * $110 million = $220 million.

But that might not happen.

For example, if the company's size changes significantly, you might have to apply a **different multiple** because the peer companies might change, and the new peer companies might trade at different multiples.

So that 2x multiple could easily become 1.5x or 2.5x depending on the industry.

The other issue is that you have to look at the valuation on a *per-share basis* to reflect the full impact of the Cash, Debt, and Stock used in the deal.

If we assume that the Acquirer's Enterprise Value increases to $220 million and that it uses $30 million of additional Debt to do the deal:

- **Implied Equity Value** = $220 million Enterprise Value + $20 million Cash – $40 million Debt = $200 million.
- **Implied Share Price** = $200 million / 100 million shares = $2.00.

The Acquirer's implied per-share value has *decreased* as a result of this deal.

You would go through a similar process for the other multiples and methodologies and also create a "Combined DCF Analysis" to assess the full impact.

Like the IRR vs. Discount Rate approach, this method is theoretically correct, but not terribly common for several reasons:

1. **It Takes A LOT of Extra Work** – You need not only separate projections for the Combined Company, but also separate sets of Public Comps and Precedent Transactions.

2. **It May Not Tell You Anything New** – For this analysis to be meaningful, you have to incorporate something unexpected, such as margins or growth rates higher or lower than what the market expects. But if you already had that information, shouldn't your merger model already reflect it?

3. **It's Even More Speculative** – In addition to projecting two companies' future earnings, now you have to project the Discount Rate for the Combined Company, its FCF and FCF growth, and its likely trading multiples.

Contribution Analysis

One final way to assess mergers and acquisitions that's **common in real life**, unlike the others above, is the **Contribution Analysis**.

The idea is simple: **If the Acquirer contributes 80% of the Combined Company's Revenue, EBITDA, and other financial metrics, will it *own* 80% of the Combined Company afterward?**

If it owns *less than* 80%, then perhaps it is paying *too much* for the Target; if it owns *more than* 80%, then perhaps it is paying *too little* for the Target.

With this analysis, you sum up the financials from the Acquirer and Target across a range of metrics and calculate the percentages that each one contributes.

So if the Acquirer contributes an average of 75% and the Target contributes 25%, then the Acquirer might be justified in owning 75% of the Combined Company.

Based on that, you might suggest a purchase price that results in the Acquirer owning 75% and the Target owning 25% of the Combined Company.

The Contribution Analysis is **most** relevant for:

- **100% Stock Deals** – In these deals, all changes to the purchase price **directly affect ownership** since the Buyer is issuing shares to the Seller.

- **"Mergers of Equals" (MOE) Deals** – These transactions almost always use 100% Stock because the Buyer and Seller are close in size.

- **Private Company M&A Deals** – Private Buyers don't care about EPS as much as public Buyers, so the Contribution Analysis is the most relevant methodology for them in 100% Stock deals.

- **Majority-Stock Deals** – If the Buyer uses at least 50% Stock, the Contribution Analysis could still be meaningful because the ownership of the Combined Company will change substantially when the purchase price changes.

This analysis isn't relevant for 100% Cash or 100% Debt deals because the Combined Company's ownership won't change: The Acquirer will still own everything.

Even for majority-Cash or majority-Debt deals, this analysis is less meaningful because the ownership won't change by *that much*.

You start this analysis by summing up all the metrics for the Acquirer and Seller:

	Acquirer		Seller	
	Amount:	%:	Amount:	%:
Revenue:				
FY14	₩ 532,135	*61.1%*	₩ 339,495	*38.9%*
FY15	577,188	*53.8%*	496,519	*46.2%*
EBITDA:				
FY14	89,312	*33.5%*	177,104	*66.5%*
FY15	68,223	*21.0%*	256,229	*79.0%*
Operating Income (EBIT):				
FY14	49,089	*22.7%*	167,271	*77.3%*
FY15	24,862	*9.3%*	241,333	*90.7%*
Net Income:				
FY14	33,371	*20.5%*	129,299	*79.5%*
FY15	16,075	*8.2%*	180,514	*91.8%*
Monthly Active Users (MAUs):				
FY14	26.150	*22.7%*	88.875	*77.3%*
FY15	25.550	*20.9%*	96.412	*79.1%*

Then, you calculate the Combined Pro-Forma Enterprise Value and Equity Value for each metric based on the Seller's **purchase values** and the Buyer's **current values**.

So if the Seller's Purchase Enterprise Value is $3 billion and it contributes 40% of the revenue in the deal, then the Combined Pro-Forma Enterprise Value is $3 billion / 40%, or $7.5 billion:

	C	E	F	H	I	K	L
6							
7	**Seller - Equity Value and Enterprise Value:**			**Acquirer - Equity Value and Enterprise Value:**			
8							
9	**Purchase Equity Value:**		₩ 3,148,418	**Equity Value:**		₩ 992,784	
10	(-) Cash & Cash-Equivalents:		(162,205)	(-) Cash & Cash-Equivalents:		(125,628)	
11	(-) Equity Investments:		-	(-) Short-Term Investments:		(153,126)	
12	(-) Other Non-Core Assets, Net:		-	(+) Total Debt:		2,368	
13	(-) Net Operating Losses:		-	(+) Noncontrolling Interests:		14,482	
14	(+) Total Debt:		30,199	**Enterprise Value:**		₩ 730,880	
15	(+) Noncontrolling Interests:		-				
16	**Purchase Enterprise Value:**		₩ 3,016,412				
17							
18							**Combined**
19		**Acquirer**		**Seller**			**Pro-Forma Value**
20		**Amount:**	**%:**	**Amount:**	**%:**	**Enterprise Value:**	**Equity Value:**
21	**Revenue:**						
22	FY14	₩ 532,135	*61.1%*	₩ 339,495	*38.9%*	=+F16/I22	₩ 8,138,340
23	FY15	577,188	*53.8%*	496,519	*46.2%*	6,522,899	6,916,809

Then, all the usual adjustments apply when you move from Combined Pro-Forma Enterprise Value to Equity Value.

Divide the Seller's Purchase Enterprise Value by its contribution % to get this.

Once you have that, you subtract the Buyer's Current Enterprise Value to calculate the Seller's Implied Enterprise Value for each metric:

Acquirer - Equity Value and Enterprise Value:		
Equity Value:	₩	992,784
(-) Cash & Cash-Equivalents:		(125,628)
(-) Short-Term Investments:		(153,126)
(+) Total Debt:		2,368
(+) Noncontrolling Interests:		14,482
Enterprise Value:	₩	730,880

The Seller's Implied Enterprise Value equals the Combined Pro-Forma EV minus the Acquirer's Current EV.

Then, you back into its Implied Equity Value by making the normal set of adjustments.

Seller		Combined Pro-Forma Value		Implied Seller Value	
Amount:	%:	Enterprise Value:	Equity Value:	Enterprise Value:	Equity Value:
₩ 339,495	*38.9%*	₩ 7,744,430	₩ 8,138,340	=+K22-K14	₩ 7,145,556
496,519	*46.2%*	6,522,899	6,916,809	5,792,019	5,924,025

Then, you calculate the Pro-Forma ownership that each metric *implies* – if one company contributes 40% for one metric, it should own roughly 40% based on that metric:

Combined Pro-Forma Value		Implied Seller Value		Implied Pro-Forma Ownership	
Enterprise Value:	Equity Value:	Enterprise Value:	Equity Value:	Acquirer:	Seller:
₩ 7,744,430	₩ 8,138,340	₩ 7,013,550	₩ 7,145,556	*12.2%*	=+O22/L22
6,522,899	6,916,809	5,792,019	5,924,025	*14.4%*	*85.6%*

1 - the Seller's Implied Ownership %.

Based on the Seller's Equity Value relative to the total.

This rule doesn't hold up well here because there's a big difference between the Buyer's Enterprise Value and Equity Value.

As the final step, you calculate the Seller's Implied Share Price and how much of a discount or premium it represents vs. the Buyer's offer price:

	Acquirer		Implied Share Price (₩ as Stated):	Premium / (Discount) to Offer Price:	Implied Exchange Ratio:
	Amount:	%:			
Revenue:					
FY14	₩ 532,135	*61.1%*	₩ 106,786	*127.0%*	0.6854802
FY15	577,188	*53.8%*	88,531	*88.2%*	0.8268259
EBITDA:					
FY14	89,312	*33.5%*	58,861	*25.1%*	1.2435977
FY15	68,223	*21.0%*	48,131	*2.3%*	1.5208363

Buyer Share Price / Implied Seller Share Price. All-stock M&A deals are almost always priced with this Exchange Ratio.

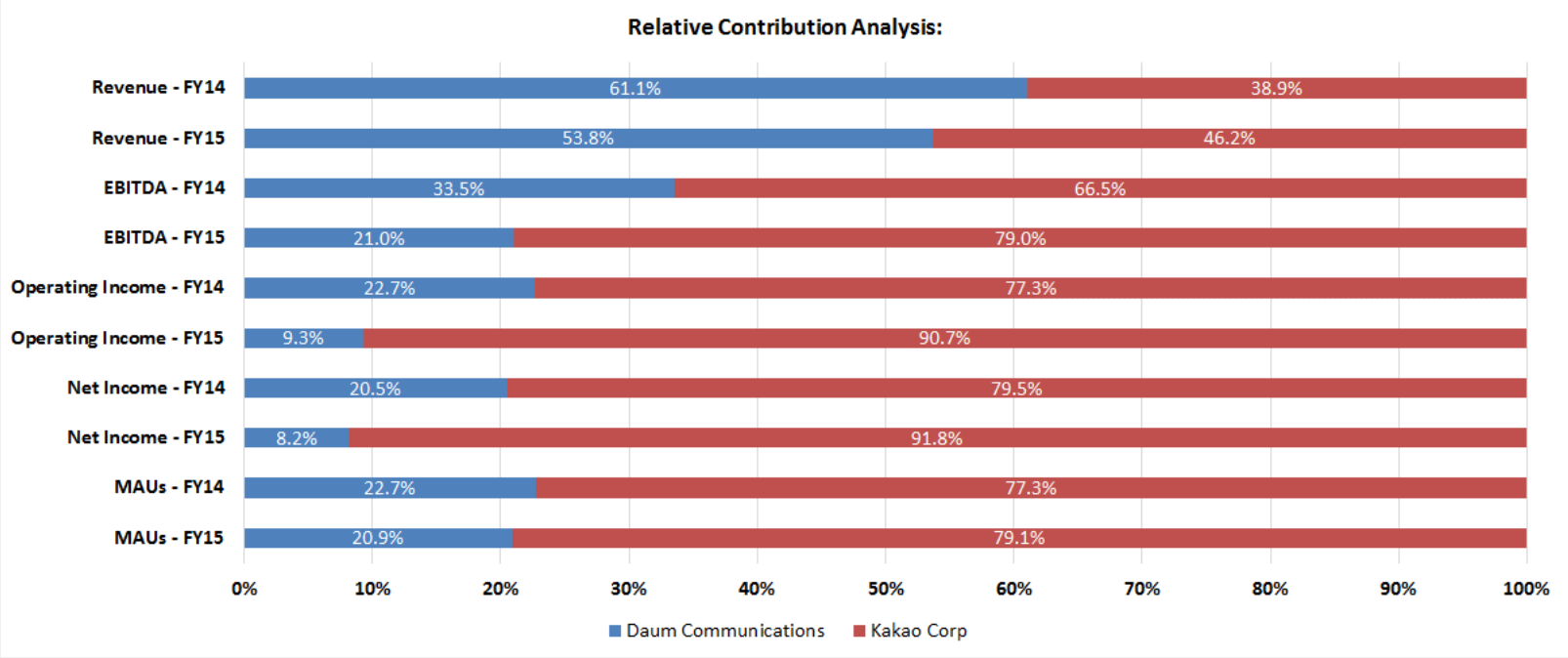
Implied Seller Equity Value / Seller Share Count.

Use this to argue for a lower or higher price.

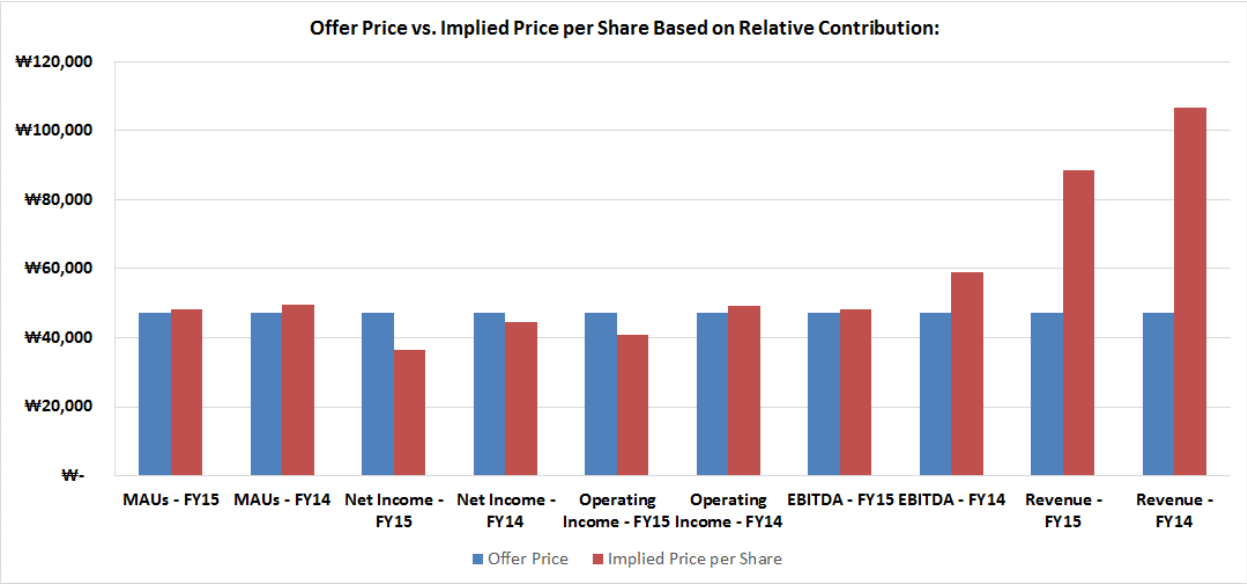
The numbers in this analysis are strange because they're from a **reverse merger** between Daum and Kakao (Internet/mobile gaming companies in South Korea).

The Buyer is normally bigger than the Seller, and metrics such as the Combined Pro-Forma Enterprise Value are based on the *Buyer's* Enterprise Value and its contribution percentages.

You can now create graphs to illustrate the contribution percentages of the Buyer and Seller:



The most useful graph is the one that compares the **Buyer's Offer Price** to the **Seller's Implied Share Price** from the Contribution Analysis:



From this graph, **you can tell that the Buyer's Offer Price was reasonable**.

It's always close to the Seller's Implied Share Price, except for the implied share prices produced by the revenue-based metrics.

But no one takes revenue-based metrics seriously in this type of M&A deal, so you would focus on the others.

If we got a *different* result here, such as an Offer Price that was well below the Seller's Implied Share Price across all these metrics, then we might go to the Buyer and use the analysis as part of our argument for a higher Offer Price.

The **Contribution Analysis** is very common because:

1. It is more grounded in reality than the other methods in this section;
2. It doesn't take much additional time or effort to set up; and
3. It is sometimes the *only* way to analyze a deal in a meaningful way.

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Key Rule #7: Bankers Gone Wild: Failed M&A Deals

In investment banking interviews, career changers such as consultants, lawyers, and accountants often say something like the following to explain their motivation:

"I want to influence major deals and take an active role in closing transactions instead of sitting on the sidelines or reviewing the paperwork after everything is closed."

This response is OK in an interview, but **it's incredibly ironic** for several reasons:

1. Most M&A deals **die** before closing.

2. Of the M&A deals that *do* close, many end up **killing the Acquirer**.

3. *Any* deal is a good one to bankers because they get paid via "success fees" when the deal closes.

So even though merger models and "deal analysis" purport to determine whether or not a transaction makes sense, **in investment banking, you use them mostly to pitch clients and potential clients on deals**.

You take a more critical view of deals in buy-side roles such as private equity and corporate development, but there's still a lot of irrational hype mixed in with the logic.

Even though you'll be pitching many deals and always attempting to buy and sell companies as a banker, most of these processes will **fail**.

It's like how most **relationships in real life fail:** You might date dozens of people, but you'll only get married to one… or two… or three… or some number less than "dozens."

And even when you get married, there's a 50-60% chance your marriage will **end in divorce** – at least in many developed countries.

The same factors that cause relationships to fail also cause deals to fail:

1) Time Kills Deals

Similar to how men never want to commit to relationships, Buyers and Sellers often spend too much time "window shopping" and looking for potentially better deals.

Or they take forever to conduct due diligence and keep requesting more and more information.

After enough time passes, momentum and motivation are lost.

2) Price Kill Deals

Your company might currently trade at $25 / share, so an offer for $30 / share might look decent to you.

But if the company has traded at $35 / share *in the last year*, or its historical average was in that range, $30 / share might be a travesty.

Even outside of this scenario, Buyers and Sellers often can't agree on a price at all, even after extended negotiations.

I won't make a real-world analogy here, but if I did, it would involve plastic surgery.

3) Deal Terms Kill Deals

And now we arrive at the deal equivalent of the **prenuptial agreement.**

The Buyer might want key management to stick around for 3-5 years, but the team might want to leave after 1-2 years, or the Buyer might forbid them from going to a competitor.

Buyers and Sellers might also fail to agree on the **Reps and Warranties**, which are "promises" each party makes to the other.

4) Ego Kills Deals

Many deals are motivated not by financial or "strategic" reasons, but by **ego and office politics**.

For example, the VP of Business Development might be making a run for the CEO role, so he wants to push through a deal just to say he "accomplished something" and deserves the job.

But then another faction within the company hates this VP, so they conspire to make the deal fail, so he doesn't get promoted.

5) "Material Adverse Changes" Kill Deals

You're about to close a deal – but then multiple banks suddenly fail, a financial crisis begins, and the country enters a recession. Oops!

Many deal agreements have clauses related to "Material Adverse Changes" or "Material Adverse Effects" that let the Buyer escape if something catastrophic happens.

Those are a few reasons why a deal might fail before it ever closes, but even if a deal *does* close, there are plenty of reasons why it might end up **failing**.

There are a few ways to define "failure":

- **Massive write-down** after the fact, as the Buyer acknowledges that the Seller wasn't so valuable after all (e.g., Yahoo / Tumblr and eBay / Skype).

- **Mass exodus of talent** from the Seller (e.g., Credit Suisse / Donaldson, Lufkin & Jenrette).
- **Buyer divests the Seller** as it realizes that the entire deal was a mistake (e.g., Wendy's / Arby's). The equivalent of getting a divorce after your drunken marriage in Vegas.
- **The Buyer goes bankrupt**, consumed by the stupidity of the deal (e.g., New York Central / Pennsylvania Railroad.

Deals fail after closing for the same reasons that most marriages end in divorce:

Cultural Mismatch

Two people start off with very similar mindsets, but over time one person becomes more family-oriented, and the other does not. Communication goes downhill as a result.

It's the same with companies – the Buyer is a media company at first, but after a few years, it has turned into a technology company, and the Seller no longer fits in.

Romance != Successful Marriage

You might be madly in love with someone, but it doesn't mean you should *marry* the person. For example, he or she might be a drug addict or a serial killer.

Similarly, two companies might work well in a sales or distribution *partnership*, but not as part of a combined entity.

What You Didn't Know

You didn't get to know the person well enough, so you didn't notice that he/she has gone to jail 5 times – or that you can't live in the same house together.

No matter how much due diligence the Buyer conducts, there will *always* be surprises, whether they're legal problems, customer issues, employee conflicts, or anything else.

Financial Failings

Right after you get married, the other person loses his/her job, becomes bored at home all day while you go to work, and then steals your money and your dog and flees halfway across the world. True story; it happened to a friend.

And with deals, there are dozens, if not hundreds, of cases where the Buyer and Seller failed to perform financially and reported numbers far below expectations.

Your Reasons Were Stupid

For example, maybe you got married due to familial pressure or because of the other person's killer body. Or maybe you just made a drunken mistake one night.

One real-life example of this one is the **AOL / Time Warner** deal. Google it and read all about the dumbest M&A transaction of all time.

It's Easy to Get Divorced

In many countries, it's relatively easy to get a divorce; sometimes there isn't even much social stigma. So why bother to work things out if you can hit the "reset" button and walk away?

Similarly, an Acquirer can hire a banker to sell the acquired company if things don't work out. Or it could just shut down the company and end things there.

In short, many M&A deals fail **because of the human element**.

An acquisition can't be reduced to an Excel spreadsheet; the spreadsheet might tell you *something* about the deal, but it can't tell you *everything*.

And even if you "worked on a deal," or "closed a deal," you haven't necessarily done anything useful for the world.

You might have just helped to kill a company and destroy thousands of jobs. Congrats!

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Key Rule #8: More Advanced Merger Model Features [OPTIONAL]

This last section of this guide is **optional** because these topics are **unlikely** to come up in interviews or case studies.

You sometimes use these more advanced features when you're on the job, but you use surprisingly simple models in many cases because of time pressure.

So if you have limited time or you haven't had full-time work experience, you should **skip** this part of the guide.

Different Deal and Offer Structures: Tender Offers and Stock vs. Asset vs. 338(h)(10) Deals

So far, we've been acting like all M&A deals work the same way: The Buyer makes an offer to acquire the Seller, and then it uses Cash, Debt, and Stock to make the acquisition.

All the Seller's shares go away, and the Buyer gets all the Seller's Assets and Liabilities, plus all its off-Balance Sheet items.

But in real life, there are many different deal structures and ways to negotiate a deal.

Two of the main ways to execute a deal are through a **merger** and a **tender offer**.

In a **merger**, the Board of Directors of the Buyer and the Board of the Seller agree on a price, negotiate the deal agreement, and announce the deal, and then shareholders vote to approve or reject the deal.

In a **tender offer**, the Buyer proposes an offer price directly to the Seller's shareholders, and each shareholder can decide whether or not to sell their shares for that price.

Decades ago, Buyers used tender offers mostly in **hostile takeovers**, but in modern times they use them mostly for **speed**.

It's faster for a Buyer to execute a tender offer because it doesn't need to negotiate a long agreement with the Seller, but the control premium also tends to be higher because the Buyer must convince *individual* shareholders to sell.

The Buyer is not obligated to pay for the shares until a set number has been tendered, which reduces the risk of paying for some shares but not being able to complete the deal.

Mergers are more common when the Seller initiates the M&A process and when the Buyer would rather negotiate a lower price, even if it means a more time-consuming deal.

Stock vs. Asset vs. 338(h)(10) Deals

Just like there are multiple ways to negotiate a deal, there are also multiple ways to **structure** a deal.

The main two methods are known as **Stock Purchases** and **Asset Purchases**.

"Stock Purchase" does **NOT** refer to the *form of consideration*, i.e. "Stock Purchase" does **NOT** mean that the Buyer issued Stock to make the acquisition.

100% Cash deals, 100% Debt deals, and 100% Stock deals could all be structured as *either* Stock Purchases or Asset Purchases.

In a **Stock Purchase**, the Buyer purchases all the Seller's shares outstanding and gets all its Assets, Liabilities, and off-Balance Sheet items.

In an **Asset Purchase**, the Buyer purchases only *selected* Assets of the Seller and assumes only *selected* Liabilities. And it gets only the off-Balance Sheet items listed in the agreement.

These two methods exist **worldwide** and work similarly under both U.S. GAAP and IFRS, though the specifics differ from country to country.

Asset Purchases are far more common for divestitures, spin-offs, and acquisitions of smaller private companies; Buyers can rarely acquire only "certain" Assets and Liabilities of large, public companies.

Buyers tend to favor **Asset Purchases** because:

1) They let Buyers pick and choose exactly what they get in deals, which reduces risk; and

2) Assets are written up for *both* Book and Tax purposes, meaning that Buyers can deduct D&A on Asset write-ups for tax purposes and that no DTL is created.

There are other differences as well: For example, Goodwill and Other Intangible Assets both amortize for tax purposes and are deductible for cash-tax purposes in Asset Purchases.

But in Stock Purchases, Goodwill doesn't amortize at all, and the Amortization of Other Intangible Assets is not deductible for cash-tax purposes.

Net Operating Losses (NOLs) are also treated differently, but we'll get to that in the section on NOLs below.

Sellers tend to prefer **Stock Purchases** because:

1) Sellers must pay taxes on the entire Purchase Price *plus* Gains on Assets in Asset Purchases rather than just the Purchase Price in Stock Purchases; and

2) There's more post-transaction risk in Asset Purchases because Sellers will keep some of their Assets, Liabilities, and off-BS items.

Stock Purchases also tend to be much faster to execute than Asset Purchases because the Buyer and Seller don't need to specify the treatment of every single Asset and Liability.

To compromise, Buyers and Sellers can use a **338(h)(10) Election** to treat a Stock Purchase like an Asset Purchase.

The 338(h)(10) Election is specific to the U.S. tax code, so you don't need to know about it if you're in another country; however, similar structures sometimes exist in other countries.

In a 338(h)(10) deal, the Buyer purchases all the Seller's shares and gets all its Assets, Liabilities, and off-Balance Sheet items, but taxes work the same as they do in an Asset deal.

So D&A on Asset write-ups is deductible for cash-tax purposes, no DTL gets created, and Goodwill, Other Intangible Assets, and NOLs follow the same treatment as in Asset Purchases.

338(h)(10) deals have certain requirements as well: For example, the Buyer must be a C corporation, the Seller must be domestic, and only certain types of Sellers qualify (S corporations, subsidiaries in consolidated groups, etc.).

So the Buyer and Seller **cannot** use this structure in *any* deal.

Here's a summary of the main differences:

Structure:	Stock Purchase	Asset Purchase	338(h)(10) Election
Buyer Acquires:	All Assets and Liabilities + Off-Balance Sheet Items	Only *Certain* Assets and Liabilities of the Seller	All Assets and Liabilities + Off-Balance Sheet Items
Seller Pays Taxes On:	Purchase Price	Purchase Price PLUS (Total Value Assigned to All Assets – Book Value of All Assets)	Purchase Price PLUS (Total Value Assigned to All Assets – Book Value of All Assets)
Assets Written Up on Tax Balance Sheet?	No	Yes	Yes
Can Buyer Deduct New D&A on Asset Write-Ups for Cash-Tax Purposes?	No	Yes	Yes
Creates New DTL?	Yes	No	No
Goodwill & Other Intangibles:	Not amortized for tax purposes and not tax-deductible	Amortization is tax-deductible; amortized over 15 years for tax purposes	Amortization is tax-deductible; amortized over 15 years for tax purposes
Most Common Sellers:	Public companies and large private companies	Private companies, divestitures, distressed public companies	Private companies, divestitures, distressed public companies
Favored By:	Sellers	Buyers	Both

The exact structure rarely makes a big impact on the output of a merger model unless the deal is very unusual (e.g., the Seller has a massive amount of NOLs or the Seller's Assets are written up by a huge percentage).

But it's still good to be familiar with these transaction structures because they could come up in more advanced interviews and on the job.

Earn-Outs, Exchange Ratios, Collars, and Other Purchase Price Variations

We've also been acting as if there's only one "Purchase Price," and that the Buyer instantly decides on the exact percentages of Cash, Debt, and Stock to use.

But the reality is not so simple: For example, the Purchase Price might consist of an upfront payment and then a deferred payment if the Seller meets certain conditions.

And while it's straightforward to state the Purchase Price for Cash and Debt deals, Stock deals are often priced with an **exchange ratio** rather than a specific amount of Stock.

For example, if the Seller has 10 million shares, the Buyer might agree to a **2:1 exchange ratio** where it issues 2 shares to the Seller for each of the Seller's shares. This structure means the Seller will receive 20 million shares.

So if the Buyer has 100 million shares before the deal takes place, the Combined Company will have 120 million shares after, and the Seller will own 20 / 120, or 16.7%, of the entity.

Earn-Outs and Deferred Consideration

A simple example of a Purchase Price that includes an Earn-Out might be the following:

"We'll pay you $100 million for your company now, and if you achieve EBITDA of $20 million in 2 years, we'll pay you an additional $50 million then."

A Purchase Price with an Earn-Out for a biotech startup might be:

"We'll pay you $100 million for your company now, and if your drug makes it to Phase 3 clinical trials within 2 years, we'll pay you an additional $50 million."

The Buyer pays some amount upfront and an additional amount later on **based on whether or not the Seller achieved certain goals**.

Earn-Outs are very common in acquisitions of private companies and tech, biotech, and pharmaceutical startups where the Buyer and Seller might disagree strongly on the Seller's value and future performance.

If the Buyer believes the Seller is worth $100 million, and the Seller believe it is worth $200 million, they could use a structure like the one above to **compromise**: "We'll pay you the $100 million upfront, and if you perform well 2 years, we'll pay you closer to what you want."

In most cases, Buyers cannot use Earn-Outs in acquisitions of public Sellers because shareholders tend to demand upfront compensation.

Earn-Out structures can get very complex, and real-life deals often include multiple performance tiers with different deferred compensation in each tier.

On the financial statements, the Buyer records an Earn-Out as a "Contingent Consideration" Liability, and it adjusts the value of this Liability on the Income Statement over time.

If the probability of paying an Earn-Out *decreases*, the Buyer records the change as a *positive* on the Income Statement – the Buyer is more likely to *save money* in the future!

The opposite happens if the probability decreases: The Change in Value is a negative on the IS.

These adjustments are all **non-cash**, so the Buyer reverses them in the non-cash adjustments section of the Cash Flow Statement.

If the Buyer finally pays the Earn-Out to the Seller, it will record a cash outflow in the Cash Flow from Financing section and reduce the Liability to $0.

If the Earn-Out period expires and the Buyer doesn't pay anything to the Seller, it will write down this Contingent Consideration Liability to $0, with the non-cash write-down shown as a positive on the Income Statement.

Here's a summary:

Purchase Price Allocation:

Goodwill Calculation:		
Equity Purchase Price:	$	825.0
(-) Seller Book Value:		(613.0)
(+) Write-Off of Existing Goodwill:		-
Total Allocable Purchase Premium:		**212.0**
(-) Write-Up of PP&E:		(11.1)
(-) Write-Up of Intangibles:		(101.0)
(-) Write-Down of Deferred Tax Liabilities:		(15.0)
(+) Contingent Consideration Liability:		50.0
(+) New Deferred Tax Liability:		33.6
Total Goodwill Created:		**168.5**

END RESULT: Goodwill increases as a direct result of this Contingent Consideration from the earn-out.

If it's worth more, Goodwill increases by even more; if it's worth less, Goodwill does not increase by as much.

<--- This is what corresponds to the earn-out. Represents the "best guess" for its value as of the transaction closing date.

Earn-Outs affect Goodwill Created but not the Sources & Uses schedule because they don't change the upfront cash price of an acquisition.

Combined Income Statement:	Units	Projected FY14	FY15	FY16	FY17	FY18
Gross Profit:	$M	**1,168.3**	**1,217.0**	**1,260.3**	**1,299.0**	**1,339.5**
(+) Acquirer - SG&A Expense:	$M	428.2	447.9	469.3	483.1	500.4
(+) Target - SG&A Expense:	$M	422.8	437.2	453.6	466.8	479.8
(+) Acquirer - Rental Expense:	$M	78.6	82.1	87.3	89.9	92.1
(+) Target - Rental Expense:	$M	89.1	92.1	94.8	101.1	103.9
(-) OpEx Synergies:	$M	-	(25.0)	(25.0)	(25.0)	(25.0)
(-) Change in Contingent Consid. Value:	$M	-	-	-	-	-
Operating Expenses:	$M	**1,018.7**	**1,034.3**	**1,080.0**	**1,115.9**	**1,151.2**
Operating Income:	$M	**149.5**	**182.7**	**180.3**	**183.1**	**188.3**

As the payout probability of the Earn-Out changes, the Buyer records changes in the value of the Contingent Consideration Liability here.

Mini-Cash Flow Statement:	Units	Projected FY14	FY15	FY16	FY17	FY18
Cash Flow from Operations:						
Net Income:	$M	**$ 67.9**	**$ 89.8**	**$ 87.9**	**$ 90.8**	**$ 95.7**
Combined Non-Cash Adjustments:						
Depreciation & Amortization:	$M	49.1	51.1	53.3	54.9	57.0
Change in Contingent Consid. Value:	$M	-	-	-	-	-
Loss on Disposition of Assets:	$M	-	-	-	-	-
Other Items:	$M	-	-	-	-	-
Asset Impairment Charge:	$M	-	-	-	-	-
Deferred Taxes:	$M	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)
Changes in Operating Assets & Liab.:	$M	(18.8)	(32.9)	(33.5)	(26.2)	(31.9)
Total Cash Flow from Operations:	$M	**97.9**	**107.7**	**107.4**	**119.3**	**120.4**
Cash Flow from Investing:						
Capital Expenditures:	$M	(65.8)	(68.6)	(78.0)	(80.3)	(89.8)
Total Cash Flow from Investing:	$M	**(65.8)**	**(68.6)**	**(78.0)**	**(80.3)**	**(89.8)**
Cash Flow from Financing:						
Contingent Consideration Payment:	$M	-	(50.0)	-	-	-
Total Cash Flow from Financing:	$M	**-**	**(50.0)**	**-**	**-**	**-**

Changes in the value of the Contingent Consideration Liability are non-cash adjustments.

If and when the Earn-Out is finally paid out to the Seller, it will be shown in the CFF section; the Liability also goes to 0 at that point.

Exchange Ratios and Collars

One problem with any M&A deal funded by Stock is the **risk** that both parties assume because of possible changes to the Buyer's share price.

So rather than pricing deals with the % Stock Used, most Buyers offer a **fixed number of shares** or a **fixed price**.

The **fixed share option** is called a **Fixed Exchange Ratio**, and it corresponds to the example given above: In a deal with a 2:1 Exchange Ratio where the Seller has 10 million shares, it will always receive 20 million shares from the Buyer.

So if the Buyer's share price increases from $10.00 to $12.00, the Seller will get an effective purchase price of $240 million rather than $200 million.

However, the Seller's ownership won't change: It will still own ~16.7% of the Combined Company regardless of the Buyer's share price.

With a **Floating Exchange Ratio**, the opposite happens: The Seller always receives the same *price* but a different number of shares depending on the Buyer's share price.

For example, both parties might agree on a price of $220 million. The Buyer's share price is initially $11.00, so it has to issue 20 million shares to the Seller.

But if the Buyer's share price increases to $12.00, now it will issue ~18.3 million shares; and if the share price decreases to $10.00, the Buyer will issue 22 million shares.

So the Seller's ownership in the Combined Company will change from ~16.7% to ~15.5% or ~18.0%.

The Buyer tends to favor a **Fixed Exchange Ratio** if it wants to limit dilution and prefers certainty over the number of new shares issued, even at the expense of paying the Seller a lower price (if the Buyer's share price falls, for example).

Sometimes the market interprets a Fixed Exchange Ratio as a sign that the Buyer is not confident in the value of its shares, so there may be a negative signaling effect.

The Seller tends to favor a **Floating Exchange Ratio** if it believes the Buyer's Stock Price will fall: It still gets the same price, but it will own a higher percentage.

To compromise, the Buyer and Seller can use a **collar** to establish a Fixed Exchange Ratio within certain share price ranges and a Floating Exchange Ratio within others.

For example, a typical collar might be structured like this:

- **Buyer's Share Price Between $50.00 and $60.00:** The Seller always gets 10 million of the Buyer's shares, so its ownership percentage is fixed, but its effective purchase price ranges from $500 million to $600 million.

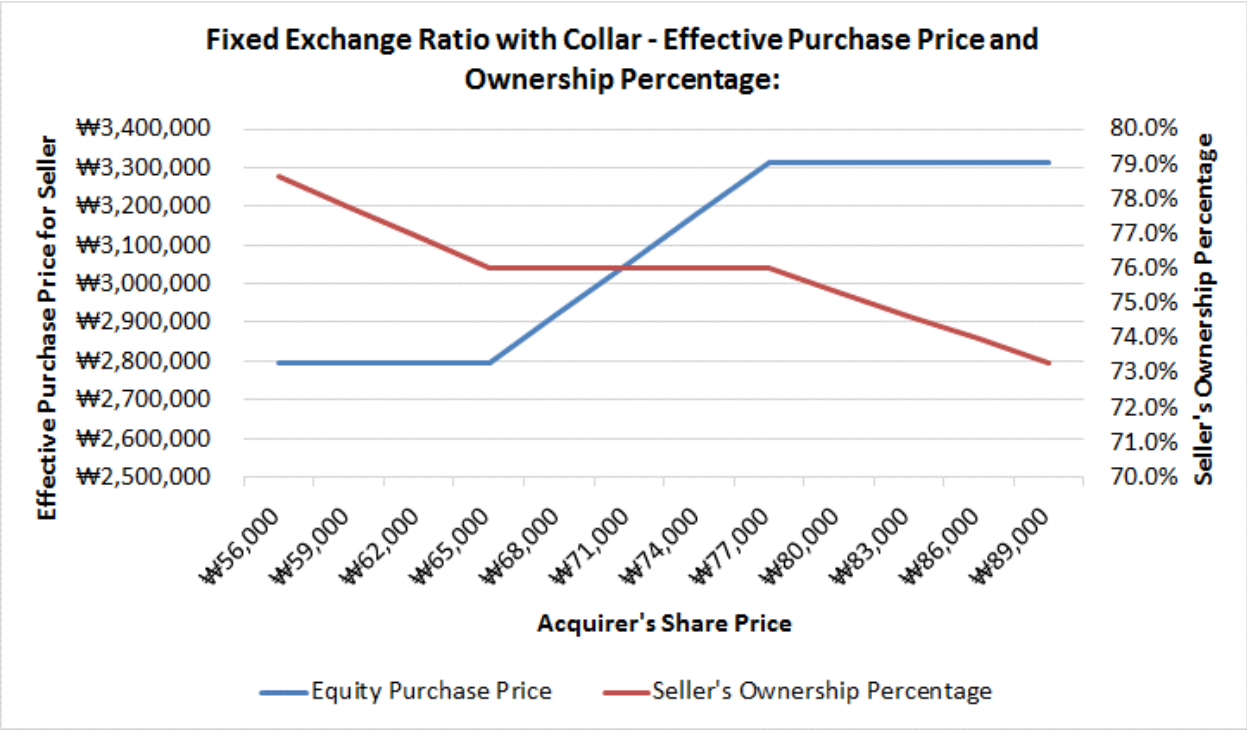
- **Buyer's Share Price Above $60.00:** The Seller gets a maximum price of $600 million, so it will receive fewer shares if the Buyer's stock price increases (e.g., 7.5 million shares at a Buyer Share Price of $80.00).

- **Buyer's Share Price Below $50.00:** The Seller gets a minimum price of $500 million, so it will receive more shares if the Buyer's stock price falls (e.g., 12.5 million shares at a Buyer Share Price of $40.00).

They could also do the opposite and set up the collar such that the region in the middle has a Floating Exchange Ratio and the ones outside it have Fixed Exchange Ratios.

These structures let the Buyer and Seller hedge the risk of 100% Stock and mostly Stock deals.

For example, with a Fixed Exchange Ratio Collar, the Seller's purchase price risk is reduced because it will always be within a certain range:



A collar is *most useful* when:

- The Seller is **moderately sized** relative to the Buyer – maybe ~10-20% its size. So it's not a Merger of Equals, but it's also not a tiny acquisition.

- The parties want the **risk protection** of a Cash deal and the **tax benefits** of a Stock deal.

- The deal is **cross-border** and different currencies are involved (collars can reduce FX risk).

- The Buyer's share price has been **volatile**, or the Buyer and Seller strongly disagree about the value of the Buyer's share price.

- The deal is a **competitive auction**, and one Buyer wants to stand out by offering an attractive deal term.

- The deal will take **a long time to close**. A 100% Stock deal that takes 12 months to close is much riskier than one that takes only 2-3 months to close.

Net Operating Losses (NOLs)

The basic idea behind Net Operating Losses in M&A deals with U.S.-based Buyers is simple:

In Asset Purchases and 338(h)(10) deals, the Seller's NOLs are written down 100% and cannot be used at all post-transaction; in Stock Purchases, the Buyer can use a *limited amount* of the Seller's NOLs each year, but it may have to write down a portion of the total balance.

Let's say the Seller has $100 million in off-Balance Sheet NOLs, which are represented as $40 million within its Deferred Tax Asset since it has a 40% tax rate.

The Buyer pays an Equity Purchase Price of $1 billion for the Seller.

In an Asset Purchase or 338(h)(10) deal, the Buyer writes down this $40 million of NOLs within the DTA, the $100 million off-BS number goes to $0, and the Buyer cannot utilize *any* of the Seller's NOLs in the future.

But in a Stock Purchase, this full write-down does **not** happen, and the Buyer can use a limited amount of NOLs annually.

For U.S.-based Buyers, the following rule applies:

- **Allowable Annual NOL Usage** = Equity Purchase Price * Highest of Past 3 Months' Adjusted Long-Term Rates

Note that the rules vary WIDELY in different countries – we don't have the time or space to explain the rules in 190+ countries, so please do a Google search and look for Big 4 firms' coverage of this topic.

These "Adjusted Long-Term Rates" are linked to prevailing interest rates on government bonds.

So if the past 3 months had "Adjusted Long-Term Rates" of 2.0%, 1.7%, and 1.8%, the Buyer could use a maximum of $1 billion * 2% = $20 million in NOLs each year.

In this case, therefore, the Buyer could use the Seller's $100 million NOL balance over 5 years and utilize the entire balance to reduce its cash taxes.

No write-down is required because the Buyer can use the entire NOL balance before it expires.

As the Buyer uses these NOLs, the off-Balance Sheet figure will decline by $20 million per year, and the portion within the DTA will decline by $20 million * 40% = $8 million per year.

On the other hand, if these NOLs were set to expire in **3 years**, the Buyer could **not** use the entire balance.

In that case, the Buyer could use only $60 million of the NOLs, which corresponds to $24 million of the DTA balance.

So the Buyer, **in the initial transaction**, would have to write down $40 million of the off-BS NOL balance and $16 million of the DTA balance.

After that initial write-down, the NOL and DTA balances change the same way in the first 3 years: The off-Balance Sheet NOLs will decline by $20 million per year, and the DTAs will decline by $8 million per year.

Here's how everything, including the D&A on Asset write-ups, differs in a Stock Purchase vs. an Asset or 338(h)(10) deal:

Stock Purchase – Book vs. Cash Taxes

	GAAP		
	Year 1	Year 2	Year 3
Book Taxable Income:	$ 29,316	$ 32,248	$ 34,588
Book Income Tax Expense:	8,795	9,674	10,376
Cash Tax Calculation:			
(+) Book Amortization of Intangibles Write-Up:	1,491	1,491	1,491
(+) Book Amortization of Goodwill:	-	-	-
(+) Book Depreciation of Asset Write-Up:	23	23	23
(-) Tax Amortization of Intangibles Write-Up:	-	-	-
(-) Tax Amortization of Goodwill:	-	-	-
(-) Tax Depreciation of Asset Write-Up:	-	-	-
Pre-NOL Taxable Income:	**30,830**	**33,762**	**36,102**
Potential NOL Usage:	1,162	-	-
Allowed NOL Usage:	1,162	-	-
NOL-Adjusted Pre-Tax Income:	**29,668**	**33,762**	**36,102**
Remaining NOLs:	-	-	-
Cash Taxes Payable:	**$ 8,900**	**$ 10,129**	**$ 10,831**

Asset / 338(h)(10) Purchase – Book vs. Cash Taxes

	GAAP		
	Year 1	Year 2	Year 3
Book Taxable Income:	$ 29,316	$ 32,248	$ 34,588
Book Income Tax Expense:	8,795	9,674	10,376
Cash Tax Calculation:			
(+) Book Amortization of Intangibles Write-Up:	1,491	1,491	1,491
(+) Book Amortization of Goodwill:	-	-	-
(+) Book Depreciation of Asset Write-Up:	23	23	23
(-) Tax Amortization of Intangibles Write-Up:	497	497	497
(-) Tax Amortization of Goodwill:	1,982	1,982	1,982
(-) Tax Depreciation of Asset Write-Up:	30	30	30
Pre-NOL Taxable Income:	**28,321**	**31,252**	**33,593**
Potential NOL Usage:	-	-	-
Allowed NOL Usage:	-	-	-
NOL-Adjusted Pre-Tax Income:	**28,321**	**31,252**	**33,593**
Remaining NOLs:	-	-	-
Cash Taxes Payable:	**$ 8,496**	**$ 9,376**	**$ 10,078**

The NOLs are written down and cannot be used at all in the Asset or 338(h)(10) deal, while they *can* be used, in limited quantities, in the Stock Purchase (in this case, the entire NOL balance is used up in a year).

But the Asset and 338(h)(10) structures offer a big advantage: The D&A on Asset Write-Ups *and* the Amortization of Goodwill are both deductible for cash-tax purposes.

If the Seller has a huge NOL balance, both parties might prefer a Stock Purchase, but if its balance is smaller or non-existent, an Asset Purchase or 338(h)(10) Election might offer more benefits for the Buyer.

Here's a summary:

Structure:	Stock Purchase	Asset Purchase	338(h)(10) Election
Allowable Annual NOL Usage	Equity Purchase Price * Maximum of Past 3 Months' Adjusted Long-Term Rates	None	None
Off-Balance Sheet NOL Write-Down	MAX(0, NOL Balance – Allowable Annual Usage * # Years Until Expiration)	100%	100%
Write-Down of NOL Portion of DTA	MAX(0, NOL Portion – Allowable Annual Usage * Buyer's Tax Rate * # Years Until Expiration)	100%	100%

Acquisitions for Less Than 100% of Companies

A Buyer doesn't "have" to acquire 100% of a Seller: It could acquire 10%, 40%, 70%, or any other percentage as well.

Most interview questions and case studies deal with 100% acquisitions, so that's what we have focused on.

Acquisitions for *less than* 100% of other companies are treated differently depending on whether the percentage acquired is over 50% or under 50%.

If the Buyer acquires **less than 50%** of another company, the stake is treated as an "Equity Investment" or "Associate Company," and the financial statements are **not** consolidated at all.

In other words, very little from the Seller shows up on the Buyer's statements; they remain almost the same as the Buyer's standalone statements.

The Buyer does **not** complete the Purchase Price Allocation process, it creates **no** Goodwill, and it does **not** write up the Seller's Assets.

On the Balance Sheet, it makes the following adjustments:

- **Cash, Debt, and Stock:** These will decrease (Cash) or increase (Debt and Stock) to reflect the purchase method the Buyer uses in the deal.

- **Equity Investments:** The Buyer creates a new Asset to reflect the price it pays for the minority stake it acquires.

So if the Buyer pays $1,000 in Cash for a 10% stake in the Seller, the Buyer's Cash balance falls by $1,000 and the "Equity Investments" Asset increases by $1,000 to balance the change.

After the transaction closes, the Buyer will record 10% * Seller's Net Income at the bottom of its Income Statement and will add that figure to its own Net Income to get the total.

On the Cash Flow Statement, it will subtract 10% * Seller's Net Income because it doesn't have control of the Seller, but it will add 10% * Seller's Dividends because it *does* receive a portion of the Seller's Dividends.

On the Balance Sheet, the Equity Investments line item increases by 10% * Seller's Net Income and decreases by 10% * Seller's Dividends, so it acts as a "mini-Shareholders' Equity."

Acquisitions of more than 50% but less than 100% of other companies work differently because the companies **consolidate their financial statements** and create a "Noncontrolling Interest."

In other words, the Buyer and Seller's financial statements are added together and look significantly different from the Buyer's standalone statements.

The Buyer **does** complete the Purchase Price Allocation process, it creates **Goodwill**, it writes up the Seller's Assets, and it creates a Deferred Tax Liability (if necessary).

And the Goodwill is based on the *Equity Purchase Price for 100% of the Seller*, not the actual percentage the Buyer acquired.

Let's assume that a Buyer currently owns 30% of a Seller and decides to purchase an additional 40% for $480 million using 1/3 Cash, 1/3 Debt, and 1/3 Stock:

Transaction Assumptions:

Existing Stake in Target:	30.0%
Additional Stake Acquired in Target in Deal:	40.0%
Purchase Equity Value of 100% of Target:	$ 1,200.0
(+) Equity Value of Existing 30.0% Stake in Target:	360.0
(+) Purchase Equity Value of Additional 40.0%:	480.0
Equity Value of Total 70.0% Stake in Target:	**$ 840.0**

Price Paid per Target Share Acquired:	$ 40.00
Target's Shares Outstanding:	30.00
Debt Issuance Fee %:	3.0%
Acquirer's Tax Rate:	40.0%

Purchase Consideration:	%:	Amount:
Cash:	33.3%	$ 160.0
Debt:	33.3%	160.0
Stock:	33.3%	160.0

The Sources & Uses schedule reflects this $480 million price plus the $4.8 million in financing fees. $160 million of Cash, Debt, and Stock pay for that, and some excess cash covers the financing fees.

Then, you allocate the purchase price as if the Buyer *had acquired 100% of the Seller*:

Purchase Price Allocation:

Goodwill Calculation:	
Purchase Equity Value of 100% of Target:	$ 1,200.0
(-) Seller Book Value:	(777.0)
(+) Write-Off of Existing Goodwill:	1.8
Total Allocable Purchase Premium:	**424.8**
(-) Write-Up of PP&E:	(14.9)
(-) Write-Up of Intangibles:	(63.7)
(-) Write-Down of Deferred Tax Liabilities:	(11.2)
(+) New Deferred Tax Liability:	31.4
Total Goodwill Created:	**366.5**

Fixed Asset Write-Up:	
PP&E Write-Up %:	10.0%
PP&E Write-Up Amount:	$ 14.9
Intangible Asset Write-Up:	
Purchase Price to Allocate:	$ 424.8
% Allocated to Other Intangibles Assets:	15.0%
Intangibles Write-Up Amount:	$ 63.7
New Deferred Tax Liability:	$ 31.4

The Purchase Equity Value is **always** based on 100% of the Seller, even if the Buyer acquired a percentage between 50% and 100%.

On the Balance Sheet, you make all the normal adjustments for Cash, Debt, Stock, Goodwill, and Asset write-ups. There are 3 items to note:

1) **Equity Investments** – If the Buyer went from a minority stake to a majority stake, as it did here, then you must write this item down to $0 because this minority stake no longer exists.

2) **Shareholders' Equity** – You *still* write down the Seller's Common Shareholders' Equity even though the Buyer did **not** acquire 100% of the Seller. You also deduct one-time transaction fees here, or *effectively* here if you show them on the Income Statement in the year after the deal closes.

3) **Noncontrolling Interests** – You must also create a line item for the portion of the Seller the Buyer did *not* acquire.

   In this case, the Buyer does **not** own 30% of the Seller. That remaining 30% is worth $1,200 * 30%, or $360, so we create a Noncontrolling Interest within the Equity section for that amount.

Here are the adjustments on the Assets side:

Balance Sheet Combination:	Units	Buyer	Seller	Pro-Forma Adjustments: Debit	Credit	Post-Deal
ASSETS:						
Current Assets:						
Cash & Cash Equivalents:	$M	$ 59.3	$ 445.5	$ -	$ (164.8)	$ 340.0
Accounts Receivable:	$M	63.2	13.6	-	-	76.7
Inventory:	$M	599.5	304.3	-	-	903.8
Other Current Assets:	$M	93.2	23.1	-	-	116.3
Total Current Assets:	$M	**815.1**	**786.5**			**1,436.8**
Long-Term Assets:						
Plants, Property & Equipment:	$M	408.2	149.0	14.9	-	572.0
Goodwill:	$M	126.0	1.8	366.5	(1.8)	492.5
Other Intangible Assets:	$M	58.0	-	63.7	-	121.7
Equity Investments:	$M	360.0	-	-	(360.0)	-
Other Assets:	$M	5.1	0.3	-	-	5.4
Total Long-Term Assets:	$M	**957.3**	**151.1**			**1,191.7**
TOTAL ASSETS:	$M	**$ 1,772.4**	**$ 937.6**			**$ 2,628.4**

Must eliminate the Equity Investment line item if the Buyer now owns over 50% of the Seller.

And then here's the Liabilities & Equity side:

Balance Sheet Combination:	Units	Buyer	Seller	Pro-Forma Adjustments: Debit	Credit	Post-Deal
LIABILITIES & EQUITY:						
Current Liabilities:						
Accounts Payable:	$M	$ 148.8	$ 32.9	-	-	181.7
Accrued Expenses & Other Liabilities:	$M	175.8	115.0	-	-	290.8
Income Taxes Payable:	$M	0.7	-	-	-	0.7
Total Current Liabilities:	$M	**325.3**	**148.0**			**473.3**
Long-Term Liabilities:						
Long-Term Debt:	$M	97.5	-	-	-	97.5
New Transaction Debt:	$M	-	-	(4.8)	160.0	155.2
Deferred Tax Liability:	$M	109.3	11.2	(11.2)	31.4	140.7
Other Noncurrent Liabilities:	$M	-	1.4	-	-	1.4
Total Long-Term Liabilities:	$M	**206.8**	**12.6**			**394.9**
Total Liabilities:	$M	**$ 532.1**	**$ 160.5**			**$ 868.1**
Shareholders' Equity:	$M	$ 1,240.3	$ 777.0	(777.0)	160.0	1,400.3
Noncontrolling Interests:	$M	-	-	-	360.0	360.0
Total Equity:	$M	**$ 1,240.3**	**$ 777.0**			**$ 1,760.3**
TOTAL LIABILITIES & EQUITY:	$M	**$ 1,772.4**	**$ 937.6**			**$ 2,628.4**
Balance Sheet Check:		*OK!*	*OK!*			*OK!*

Reflect the new Debt and deduct the financing fees.

Write down the Seller's Shareholders' Equity and reflect Stock issued.

New NCI to represent the 30% the Buyer does NOT own.

After the deal takes place, the Buyer and Seller's financial statements are consolidated 100%, and the Buyer will subtract Portion of Seller It Does Not Own * Seller's Net Income at the bottom of its Income Statement.

So if this Seller earns $100 in Net Income each year, the Buyer subtracts 30% * $100 = $30 at the bottom of its Income Statement each year.

It then adds back this amount on the Cash Flow Statement since the Buyer has control of the Seller and therefore receives these earnings in cash.

You rarely focus on EPS accretion/dilution in < 100% acquisitions.

Instead, you focus on the Seller's valuation and determine whether or not the price the Buyer pays for its stake is reasonable.

Private Companies

The *mechanics* of merger models do not differ for private companies – regardless of whether the Buyer or Seller is private (or even if both are private).

You still allocate the Purchase Price, create a Sources & Uses schedule, make the same Balance Sheet adjustments, combine the Income Statements, create a Combined Cash Flow Statement, and so on.

The main differences relate to the **setup**, **assumptions**, and the **focus** of the analysis:

- **Purchase Price:** It's based on a multiple of EBITDA, revenue, or some other financial metric rather than a share-price premium.

- **Form of Consideration:** If the Buyer is private, it probably can't use Stock to do the deal. Exceptions apply for certain private-to-private deals and large and well-known private Buyers (e.g., Ikea or Cargill).

  Also, Earn-Outs are common in acquisitions of private Sellers, while they're rare for public Sellers.

  Sometimes the Seller must maintain a targeted level of Working Capital as well, and the Buyer may end up paying more or less based on actual vs. targeted Working Capital.

- **Deal Structure:** The Buyer is more likely to use an Asset Purchase or 338(h)(10) Election for a private Seller because there's more risk related to the company's Assets, Liabilities, and off-Balance Sheet items; public companies undergo more scrutiny.

- **Meaningful Analysis:** EPS accretion/dilution is the same if the deal involves a public Buyer and private Seller, but it's less meaningful *if the Buyer is private*.

  It's **not** that private companies "don't have EPS" – all companies earn Net Income and have shares outstanding, so all companies have EPS.

  It's just that private companies *care less* about EPS than public companies do.

  You'll focus more on the valuation of the Seller and other analytical methods, such as the Contribution Analysis or IRR vs. WACC.

- **Accounting Adjustments:** Before you can value a private Seller or build a merger model for it, you may have to adjust its financial statements and make sure they conform to the standards of U.S. GAAP or IFRS.

But this step depends heavily on the *type* of Seller: If it has $1 billion in revenue and thousands of employees, its financial statements should already be in good shape.

But if it's a barber shop with 4 employees, you'll need to sharpen your pencil.

Calendarization and Stub Periods

We've been assuming that M&A deals always close at the end of Buyers' fiscal years and that Buyers and Sellers have the *same* fiscal years (e.g., ones that end on December 31st).

In real life, both assumptions are often false:

- The Buyer's fiscal year might end on June 30th but the Seller's fiscal year might end on December 31st.
- The deal might close on September 30th or August 14th or another random date in between those two.

The first problem is easier to deal with: **You always use the Buyer's fiscal year in merger models**.

So if the Buyer's fiscal year ends on June 30th but the Seller's ends on December 31st, you'd take the results from the last 6 months of the Seller's fiscal year and add them to the ones from the first 6 months of its next year.

And then you combine those results with those of the Buyer since they cover the same period (January 1st – December 31st) if you do that.

You build many merger models on a **quarterly basis**, so in practice, this may not be too difficult: You just add the quarters such that the calendar periods match up.

The second problem is more annoying to deal with.

If the deal closes in between fiscal years or in between quarters, then you have to create a **combined stub period** in the model.

For example, if the deal closes on August 14th, and we're building a quarterly model, we'd have to create a stub period with the Buyer and Seller's results from August 14th to September 30th.

It will be almost impossible to get results for that *exact period* because you normally only project entire quarters, so you might just divide the projected results for the July 1st – September 30th quarter by 2.

Then, the first "full" combined quarter will run from October 1st to December 31st.

Combining stub Income Statements and Cash Flow Statements isn't too bad, but it's annoying to project Balance Sheets for these types of irregular dates.

You can't just divide items by 2 because the Balance Sheet is a **snapshot** in time.

So you'll have to take the Balance Sheet from June 30th, "roll it forward" based on the IS and CFS results between July 1st and August 14th, and link the Balance Sheet items to that.

This process isn't exactly brain surgery, but it is time-consuming and doesn't add much value.

Even if stub periods exist because the acquisition closed on an irregular date, the Buyer, Seller, and investors tend to focus on the **first full year** of combined results.

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