

Advanced Financial Modeling

– Certification Quiz Questions

Module 4 – 1-Week, Open-Ended Valuation and DCF Case Study (Jazz Pharmaceuticals)

- You are completing a set of Comparable Public Companies (“Public Comps”) in the valuation of Jazz Pharmaceuticals. As part of this process, you review each company’s filings and decide which line items, if any, you should adjust for when calculating financial metrics such as EBITDA and Pro-Forma Net Income.

Consider the excerpts of BioMarin Pharmaceuticals’ Income Statement and Cash Flow Statement shown below:

REVENUES:			
Net product revenues	\$ 1,805,861	\$ 1,661,043	\$ 1,470,356
Royalty and other revenues	54,594	43,005	20,856
Total revenues	1,860,455	1,704,048	1,491,212
OPERATING EXPENSES:			
Cost of sales	524,272	359,466	315,264
Research and development	628,116	715,007	696,328
Selling, general and administrative	737,669	680,924	604,353
Intangible asset amortization and contingent consideration	66,658	74,108	48,791
Gain on sale of nonfinancial assets	(59,495)	(25,000)	(50,000)
Total operating expenses	1,897,220	1,804,505	1,614,736
LOSS FROM OPERATIONS	(36,765)	(100,457)	(123,524)
Equity in the loss of BioMarin/Genzyme LLC	(6)	(587)	(553)
Interest income	16,610	22,748	22,831
Interest expense	(29,309)	(23,460)	(43,664)
Other income, net	7,148	6,945	2,205
LOSS BEFORE INCOME TAXES	(42,322)	(94,811)	(142,705)
Benefit from income taxes	(901,422)	(70,963)	(65,494)
NET INCOME (LOSS)	\$ 859,100	\$ (23,848)	\$ (77,211)

CASH FLOWS FROM OPERATING ACTIVITIES:

NET INCOME (LOSS)	\$	859,100	\$	(23,848)	\$	(77,211)
Adjustments to reconcile net income (loss) to net cash used in operating activities:						
Depreciation and amortization		105,172		105,300		95,671
Non-cash interest expense		16,511		13,960		31,186
Amortization of premium on investments (accretion of discount)		567		(2,000)		358
Stock-based compensation expense		189,711		159,865		148,819
Gain on sale of nonfinancial assets		(59,495)		(25,000)		(50,000)
Inventory reserves, net of stock-based compensation		75,609		—		—
Deferred income taxes		(888,907)		(82,760)		(68,378)
Unrealized foreign exchange loss (gain)		8,011		1,025		(17,766)
Non-cash changes in the fair value of contingent consideration		4,500		5,205		9,296
Other		(997)		(2,393)		(2,347)
Changes in operating assets and liabilities:						

You are calculating Pro-Forma Net Income for BioMarin. Note that the company also has convertible bonds outstanding, which explain some of the line items above.

Based on this description and the images above, which of the following line items should you NEVER reverse, adjust, or add back in the Pro-Forma Net Income calculation?

- Gain on sale of nonfinancial assets.
- Inventory reserves, net of stock-based compensation.
- “Benefit from income taxes” (i.e., modify the book tax rate here somehow).
- Stock-based compensation expense.
- Unrealized foreign exchange loss / (gain).
- Non-cash changes in the fair value of contingent consideration.
- Non-cash interest expense.
- Answer choices D, E, F, and G.
- Answer choices B, D, and F.
- Answer choices C, E, and G.

2. You have completed extensive outside research on this company (Jazz Pharmaceuticals) and built financial projections that represent its transition from Xyrem (the patents are expiring within the next few years) to Xywav (a similar drug for narcolepsy but with patent protection that extends further into the future).

Your revenue projections for both drugs, based on “peak sales” estimates from research analysts and a standard 5-year ramp from introduction to peak sales, are shown below:

Revenue Assumptions:	Units:	Projected										
		FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
Total Market Size (# Potential Patients):	# People	165,330	166,157	166,987	167,822	168,661	169,505	170,352	171,204	172,060	172,920	173,785
# Patients On Medication at End of Year:	# People	13,400										
Average # of Patients Throughout the Year:	# People	14,175	11,631	10,019	8,391	6,746	5,085	3,407	1,712	860	865	869
Growth Rate in # of Patients:	%	(3.1%)	(17.9%)	(13.9%)	(16.3%)	(19.6%)	(24.6%)	(33.0%)	(49.8%)	(49.8%)	0.5%	0.5%
% of Market on Xyrem Medication:	%	8.6%	7.0%	6.0%	5.0%	4.0%	3.0%	2.0%	1.0%	0.5%	0.5%	0.5%
Xyrem - Annual Price Increases Pre-Generics:	%	10.0%										
Xyrem/Xywav - Price Decrease Following Generics:	%	90.0%										
Xyrem - Annual Price Increases Post-Generics:	%	3.0%										
Annual Price Per Patient - Xyrem:	\$ as Stated	\$ 122,875	\$ 135,163	\$ 148,679	\$ 163,547	\$ 16,355	\$ 16,845	\$ 17,351	\$ 17,871	\$ 18,407	\$ 18,960	\$ 19,528
Upside	\$ as Stated		135,163	148,679	163,547	179,902	17,990	18,530	19,086	19,658	20,248	20,856
Base	\$ as Stated		135,163	148,679	163,547	16,355	16,845	17,351	17,871	18,407	18,960	19,528
Downside	\$ as Stated		135,163	148,679	14,868	15,314	15,773	16,247	16,734	17,236	17,753	18,286
Xyrem - Revenue:	\$ M	\$ 1,741.8	\$ 1,572.1	\$ 1,489.7	\$ 1,372.3	\$ 110.3	\$ 85.7	\$ 59.1	\$ 30.6	\$ 15.8	\$ 16.4	\$ 17.0
Annual Growth Rate:	%	6.0%	(9.7%)	(5.2%)	(7.9%)	(92.0%)	(22.4%)	(31.0%)	(48.2%)	(48.2%)	3.5%	3.5%
Xywav - Patients:	# People	950	4,154	5,511	6,713	7,590	8,475	8,007	7,704	7,399	7,090	6,778
Growth Rate in # of Patients:	%	N/A	337.3%	32.7%	21.8%	13.1%	11.7%	(5.5%)	(3.8%)	(4.0%)	(4.2%)	(4.4%)
% of Market on Xywav:	%	0.6%	2.5%	3.3%	4.0%	4.5%	5.0%	4.7%	4.5%	4.3%	4.1%	3.9%
Upside	%		2.5%	3.5%	4.5%	5.5%	6.5%	6.3%	6.1%	5.9%	5.7%	5.5%
Base	%		2.5%	3.3%	4.0%	4.5%	5.0%	4.7%	4.5%	4.3%	4.1%	3.9%
Downside	%		2.0%	3.0%	3.3%	3.5%	3.7%	3.5%	3.3%	3.1%	2.9%	2.7%
Annual Price Per Patient - Xywav:	\$ as Stated	\$ 64,269	110,000	112,000	114,000	116,000	118,000	120,000	122,000	12,200	12,500	12,750
Xywav - Revenue:	\$ M	\$ 15.3	\$ 456.9	\$ 617.2	\$ 765.3	\$ 880.4	\$ 1,000.1	\$ 960.8	\$ 939.9	\$ 90.3	\$ 88.6	\$ 86.4
Annual Growth Rate:	%		2893.5%	35.1%	24.0%	15.0%	13.6%	(3.9%)	(2.2%)	(90.4%)	(1.8%)	(2.5%)

The Base Case numbers are selected above. Which of the following is the biggest POTENTIAL PROBLEM with this forecast methodology?

- a. The ~90% drops in Xyrem and Xywav pricing once generics enter the market are too much; generic drugs typically only force down patent-protected drug prices by ~50%.
- b. The concept of scenarios may not make logical sense because Xywav’s market penetration percentage doesn’t necessarily have anything to do with how quickly Xyrem generics enter the market.

- c. It's inconsistent to incorporate scenarios into some, but not all, of the drivers.
 - d. Xywav revenue falls below \$100 million too quickly; patent-protected drugs typically maintain their pricing power for at least a decade.
3. You've calculated the Terminal Value and the Implied Enterprise Value for Jazz Pharmaceuticals in this analysis using the Perpetuity Growth Method and the Multiples Method.

Your calculations also incorporate the mid-year convention and a stub period representing approximately 1/3 of the first projected year remaining as of the valuation date. They also reflect a changing Discount Rate; it falls from 7.0% to 5.4% over 10 years.

The Terminal Value assumptions and calculations are shown below:

Terminal Value - Multiples Method:		Terminal Value - Perpetuity Growth Method:	
Baseline Terminal EBITDA Multiple:	10.7 x	Baseline Terminal FCF Growth Rate:	(1.0%)
Upside	11.5 x	Upside	(0.5%)
Base	10.7 x	Base	(1.0%)
Downside	10.0 x	Downside	(1.5%)
Baseline Terminal Value:	\$ 15,679.9	Baseline Terminal Value:	\$ 15,679.9
Implied Terminal FCF Growth Rate:	(1.0%)	Implied Terminal EBITDA Multiple:	10.7 x
(+) PV of Terminal Value:	8,989.0	(+) PV of Terminal Value:	8,989.0
(+) Sum of PV of Free Cash Flows:	8,093.0	(+) Sum of PV of Free Cash Flows:	8,093.0
Implied Enterprise Value:	\$ 17,081.9	Implied Enterprise Value:	\$ 17,081.9
% of Implied TEV from Terminal Value:	52.6%	% of Implied TEV from Terminal Value:	52.6%

Which of the following statements about these calculations is/are CORRECT?

- a. A negative Terminal FCF Growth Rate does not make sense for a non-distressed company like this one with multiple growth opportunities.
- b. Since the Terminal Value is the same under each calculation method, the PV of each Terminal Value should also be the same, as it is in the image above.

- c. You could potentially argue that the PV of the Terminal Value represents too much of the Implied Enterprise Value, given that the company's products may lose patent production and experience steep revenue declines in the Terminal Period.
 - d. With the provided information, we cannot tell whether the Terminal EBITDA Multiples here (assumed and implied) are plausible.
 - e. Since the Discount Rate changes over the forecast period, it is impossible to use the NPV function in Excel to discount and sum up the Terminal Value and Free Cash Flows.
 - f. All the statements above are correct.
 - g. Only statements A, B, D, and E are correct.
 - h. Only statements C, D, and E are correct.
 - i. Only statements A, C, D, and E are correct.
4. You're calculating the Cost of Debt for a company with several convertible bonds by checking to see whether each bond counts as Equity or Debt first. If it counts as Debt, you calculate its Yield to Maturity (YTM) using the higher coupon rate if it were traditional Debt and include it in a weighted average of the YTM's on all Debt tranches. If it counts as Equity, it does not factor into the Cost of Debt.

Although this method seems logical, why might it also create some INCONSISTENCIES in the Cost of Equity and WACC calculations?

- a. If you calculate the Cost of Equity using the company's historical Levered Beta, you don't necessarily know how the calculations for Beta treated the convertible bonds.
- b. If you calculate the Cost of Equity based on the median Unlevered Beta from the comparable companies, re-levered based on their capital structure percentages, it's not possible to apply the same treatment to their convertible bonds.

- c. If you calculate WACC with the Cost of Equity based on the comparable companies and the capital structure percentages based on the company's current capital structure, the Cost of Equity and Cost of Debt may be based on different debt levels.
- d. All of the above represent potential inconsistencies.