Genzyme: Discounted Cash Flows

Prepared for:

Genzyme Board of Directors

Prepared by:

Justin Lisoway

April 17, 2021

Table of Contents

Executive Summary

Following a $69 per share tender offer from Sanofi-Aventis to acquire Genzyme and an open letter to Genzyme shareholders expressing their frustration with Genzyme executives, the Genzyme Board of Directors must determine through a quantitative and qualitative analysis what the Genzyme corporation is worth. Quantitatively, the market-based valuation values Genzyme at $71.80 per share and the management-based valuation values Genzyme at $90.89 per share. Pipeline revenues are the key difference between these valuations. The qualitative analysis provides support for management's perspective and discusses other qualitative value of Genzyme from Sanofi's perspective including drug diversification, market penetration, and complementary patent cliffs. It is recommended that the Genzyme Board of Directors counteroffer Sanofi-Aventis with management's valuation of $90.89 per share and otherwise address the concerns of its shareholders.

Introduction

On August 10th, 2010, Sanofi-Aventis announced an offer to acquire the Genzyme corporation at $69 per share. This represented a 38% premium on Genzyme's unaffected share price of $49.86. Sanofi followed up this offer with an open letter to Genzyme shareholders which expressed its frustration with Genzyme executives and claimed the offer was generous. Following an FDA contamination warning letter, Genzyme had seen a recent 30% drop of share price. Furthermore, as the manufacturing challenges continued, the share price steadily declined until Sanofi's initial offer. In order to please shareholders, the Genzyme Board of Directions must entertain Sanofi's offer. However, in order to accurately access Genzyme's value, a comprehensive quantitative analysis of management's perspective of forecasted revenues must be done. In order to support a higher counteroffer, key differences in the market's and management's valuation must be identified. This must be accompanied by an extensive qualitative analysis that provides additional evidence of why management's perspective is a more accurate estimate of Genzyme's value, and any other value that a Genzyme acquisition may provide Sanofi. Using this analysis, the Genzyme Board of Directors will be able to effectively counteroffer Sanofi-Aventis.

Mode of Analysis

To value the Genzyme corporation, quantitative and qualitative analyses were performed with the following methodologies.

Quantitative Analysis

The primary quantitative method used to determine Genzyme's share price was a discounted cash flow (DCF) model, which discounted forecasted free cash flows (FCF). In order to compare the market's perspective to management's perspective, the DCF analysis was repeated using FCFs forecasted from both perspectives.

To calculate FCFs, the NOPAT was used after adjusting for depreciation, amortization, capital expenditures (CapEx), and net working capital (NWC). Depreciation, amortization, and NOPAT forecasts were calculated directly from the case numbers. To forecast NWC, the change in NWC as a percentage of revenue was used and was assumed to be 0%, because the previous years trended towards 0%. A similar calculation was done for CapEx forecasts, except the most recent CapEx as a percentage of revenue (1.57%) was assumed to be constant for the foreseeable future.

Forecasted FCF calculations were completed up to and including 2015, from which a terminal value estimate was calculated. The terminal value was the 2015 EBITDA forecast multiplied by an exit multiple. The exit multiple method was used because the pharmaceutical industry is built on a series of projects (drug development) that once finished (patent cliffs), significantly impact cash flows. Thus, it was not appropriate to use the perpetuity method to estimate terminal value. The exit multiple used is an industry median EBITDA multiple (10.4x) from 5 market comparable companies.

To discount FCFs in the DCF model, the weighted average cost of capital (WACC) was used as the discount rate. To calculate the WACC, both the capital asset pricing model (CAPM) and the dividend growth model were used, and an average was taken to help eliminate uncertainty about which method produced a more accurate result. Using the dividend growth model, cost of equity was calculated assuming a dividend growth of 4%. Using the CAPM method, cost of equity uses a risk-free rate (2.8%) and beta (0.7) taken directly from the case, and a market risk (8.08%) calculated using real S&P 500 returns from 1971-2020. For both WACC methods, the cost of debt uses the 'A' Genzyme corporate bond rating required return of 3.76%,

the existing capital structure of Genzyme (99.1% equity), and the corporate tax rate, which is assumed to be 35%.

To calculate the per share value of Genzyme, the DCFs (including the terminal value) and net cash (including the $921 million sale of the genetics unit) were summed to give the implied equity value of the company. This was then divided by diluted shares outstanding to produce an appropriate per share valuation.

To determine how each quantitative assumption may impact Genzyme share price, a sensitivity analysis was performed. This analysis estimates the new share price if the WACC varied between 6.04%-8.04% and if the exit multiple varied between 9.4x-11.4x. Each sensitivity analysis holds the other variable constant at 7.04% for WACC and 10.4x for the exit multiple.

Qualitative Analysis

In order to evaluate what qualitative value Genzyme will provide Sanofi, similarities, differences, specific fit attributes, and other relevant information of both companies were compiled in a table. From this data, the specific aspects of Genzyme's business model that can benefit Sanofi were used to support Genzyme's counteroffer.

Data and Analysis

Quantitative Analysis

The market's valuation of Genzyme uses average revenue forecasts from several Wall Street analysts. Compared to management's valuation, these forecasts are decidedly less optimistic and the largest difference in forecasted revenue stems from optimism surrounding the pipeline projects. Figures 1 and 2 show the forecasted pipeline revenue from the market's and management's perspective.

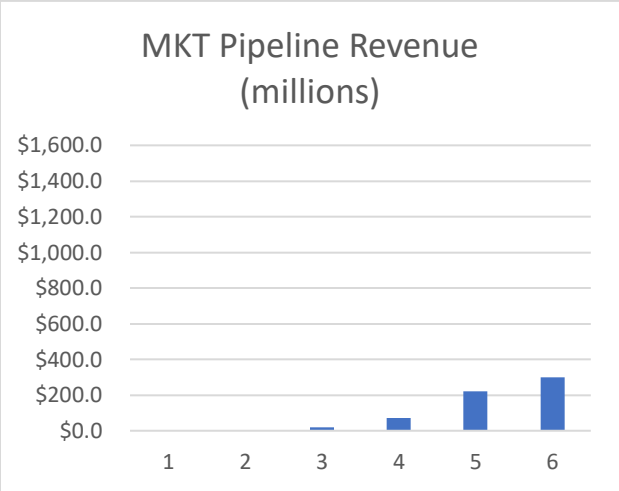

Figure 1

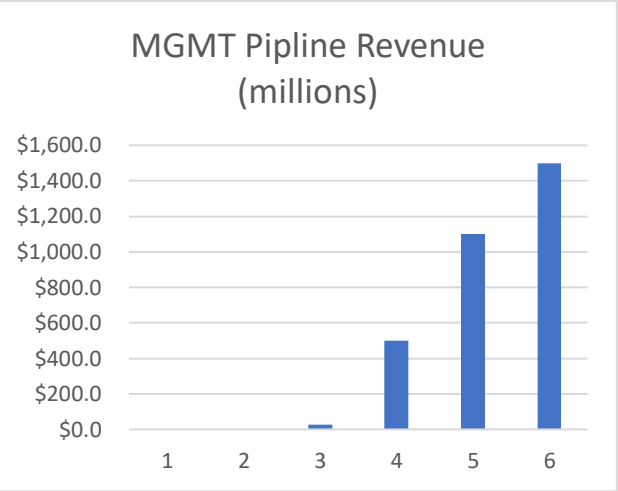

Figure 2

The impact of this difference effects major aspects of FCFs and greatly impacts the estimated share price of Genzyme from each perspective. The estimated WACC of 7.04% and the EBITDA multiple of 10.4x remain constant among both valuations.

Market-based Valuation

As shown in figure 3, the market's forecast suggests that Genzyme has an implied equity value of $19.3 billion, which yields a share price of $71.80 (See appendix 1 for more detail).

Enterprise Value (equity - debt)	$17,760.85
Plus Net Cash (cash - debt)	$1,540.91
Implied Equtiy Value	$19,301.76
Diluted Shares Outstanding	269
Share Price	**$71.80**

Figure 3

With pipeline revenue growing to just $300 million by 2015, the resulting forecasted revenues significantly impacts the terminal value estimate of approximately $25.6 billion. Compared to Sanofi's tender offer of $69 per share, this market perspective evaluation concludes that Sanofi's initial offer undervalued the Genzyme corporation by approximately $3 per share.

Management-based Valuation

As shown in figure 4, management's forecast suggests that Genzyme has an implied equity value of $24.4 billion, which yields a share price of $90.89 (See appendix 2 for more detail).

Enterprise Value (equity - debt)	$22,894.13
Plus Net Cash (cash - debt)	$1,540.91
Implied Equtiy Value	$24,435.04
Diluted Shares Outstanding	268.84
Share Price	**$90.89**

Figure 4

Compared to the market's perspective, management's forecasted pipeline revenue grows to a substantial $1.5 billion by 2015. This yields a terminal value estimate of approximately $33 billion.

The most significant difference between management's and the market's perspective that impacts the per share price valuation is the forecasted pipeline revenue. Figures 5 and 6 compare this revenue source to the total forecasted revenue, which is what forecasted FCFs are based on. The resulting difference in FCFs is vital for the valuation process. It can be seen that the exponential growth in revenue forecasted by management is largely due to the forecasted pipeline revenue. Without this revenue, management's forecast would be far more similar to the market's forecast.

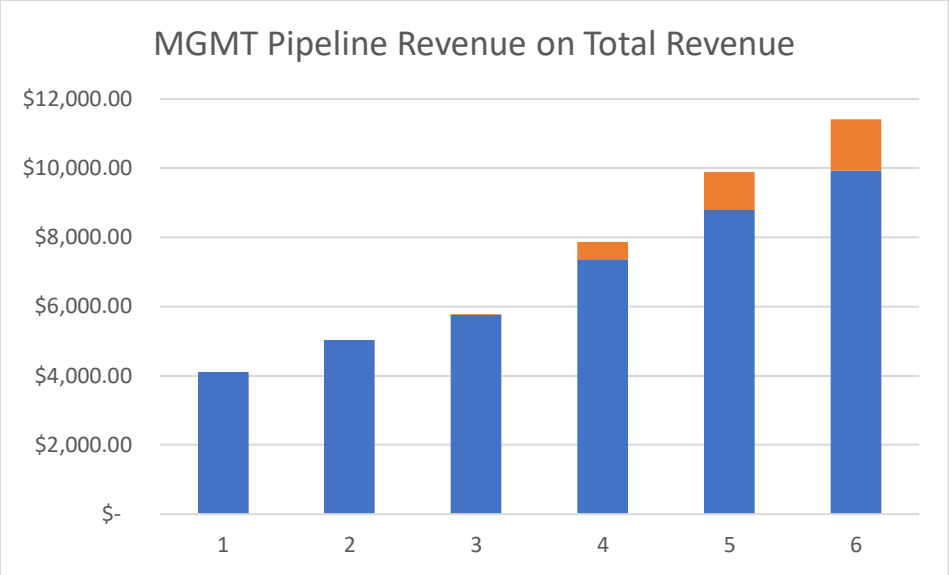

Figure 5

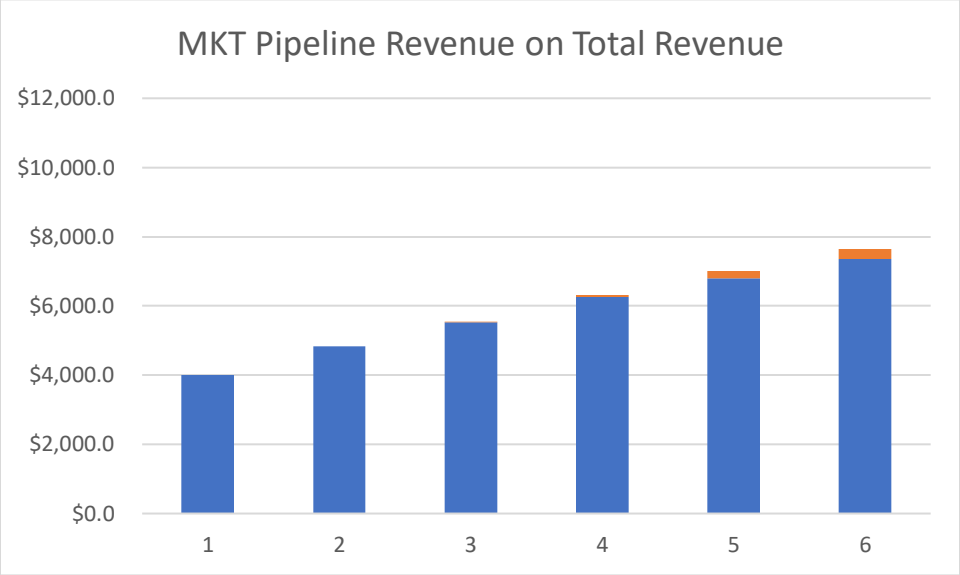

Figure 6

Based on this quantitative analysis, in order to justify management's valuation of $90.89 per share, the Genzyme Board of Directors must find qualitative evidence to support management's optimistic pipeline revenue contributions. If these more optimistic pipeline revenue forecasts are grounded in evidence, Genzyme will have more leverage in the acquisition.

Sensitivity Analysis

This analysis will further support the quantitative analysis in this report by showing how altering major assumptions does not largely impact the final conclusions. The analysis considers a WACC that varies by 1% above and below what was previously estimated, and an exit multiple that varies by 1x above and below what was previously estimated.

Market-based Valuation:

WACC	Share Price
6.04%	**$75.60**
7.04%	**$71.80**
8.04%	**$68.21**

Exit Multiple (x)	Share Price
9.4	**$65.80**
10.4	**$71.80**
11.4	**$77.97**

Management-based Valuation:

WACC	Share Price
6.04%	**$95.80**
7.04%	**$90.89**
8.04%	**$86.27**

Exit Multiple (x)	Share Price
9.4	**$83.16**
10.4	**$90.89**
11.4	**$98.85**

From the market's perspective, Sanofi's $69 per share tender offer only undervalues Genzyme in the most extreme WACC and exit multiple assumptions. From management's persepctive, altering these assumptions in Sanofi's favor suggests that Genzyme should still be worth at least $83.16. Thus, if some major quantitative assumptions in this analysis are not accurate, the conclusion that Sanofi has undervalued Genzyme is still true.

Management and Market Forecast: 7.00% Discount Rate (Question 4)

Due to the fact that the discount rate is not impacted by forecasted revenues and cash flows, the outcome of this analysis yields extremely similar results to that of using the estimated WACC as the discount rate. At a discount rate of 7.00%, management's more optimistic forecasts yield an estimated implied equity value of $24.5 billion and a per share value of $91.07 per share. Similarly, using the market's revenue forecasts, Genzyme's estimated implied equity is $19.3 billion, which yields a per share value of $71.93 per share.

Qualitative Analysis

In order to account for benefits to Sanofi that are not represented in the preceding quantitative analysis but must be accounted for in a fair tender offer, the qualitative aspects of the deal must also be considered. This analysis covers qualitative aspects of Genzyme that would complement, and thus add value, to Sanofi in an acquisition, and provides support for management's pipeline revenue forecasts, both of which will support a higher $90.89 per share counteroffer.

Pipeline Drugs and Patent Cliff Analysis

Comparing Genzyme's patent cliffs with those of Sanofi, it is evident that Sanofi would greatly benefit by offsetting their patent cliff position with a Genzyme acquisition. Genzyme has at least 4 stage 3 drugs that are expected to receive FDA and patent approval in 2011, whereas Sanofi has at least 4 patent cliffs in the same year. By acquiring Genzyme, Sanofi will be minimizing the negative financial impact of its incoming patent cliffs. Furthermore, most of Genzyme's patent cliffs extend beyond 2015 and most of Sanofi's products have a patent cliff in that period. Thus, this aspect of the acquisition will likely benefit Sanofi well into the future. Figure 7 summarizes Genzyme pipeline projects (many will be approved in 2011) and figure 8 shows when the patents of many of Sanofi's most profitable drugs will expire (many are in 2011).

Selected Pipeline Drugs under Development

Name	Main Indication	Clinical Trial Phase	Potential Approval**
Alemtuzumab/Campath	Multiple sclerosis	III	2011
Mipomersen	Hypercholesterolemia	III	2011
Ataluren	Cystic fibrosis	III	2011
Eliglustat	Gaucher's disease	III	2013
Clolar	Leukemia, MDS	Different stages	2010–16
Mozobil	Tumor sensitization	I	2016

**Genzyme estimation.

Figure 7

Name	Main Indication	2009 Sales (in millions of euros)	Main Patent Expiration*	% of Total Sales
Lantus	Diabetes	3,080	2014	11.9%
Lovenox	Thrombosis	3,043	2011 in Europe,** no patent in United States	11.8%
Plavix	Atherothrombosis	2,623	2011 in United States, 2013 in Europe	10.2%
Taxotere	Cancers	2,177	2010	8.4%
Aprovel/CoAprovel	Hypertension	1,236	2011 in United States, 2012 in Europe	4.8%
Eloxatine	Colorectal cancer	957	Expired***	3.7%
Apidra	Diabetes	137	2018 in United States, 2019 in Europe	0.5%
Multaq	Atrial fibrillation	25	2011	0.1%
Stilnox/Ambien/Myslee	Sleep disorders	873	Expired	3.4%
Allegra	Allergic rhinitis	731	Expired	2.8%
Copaxone	Multiple sclerosis	467	2014 in United States, 2015 in Europe	1.8%

Figure 8

One of the most important differences in management's and the market's financial forecasts is this pipeline revenue. Thus, the difference in share price can largely be attributed to the high likelihood of Genzyme's pipeline drugs being approved and thus significantly increasing FCFs.

Manufacturing Stoppage

Management's and the market's financial forecasts are estimations based on 2009 income statements. It is important to understand that the 2009 and even 2010 income statements do not accurately reflect Genzyme's value as a company–they undervalue Genzyme. Thus, management's more optimistic projections, and higher resulting share price, is a more realistic estimate of Genzyme's true value. The reason for this is largely due to the manufacturing stoppage at one of Genzyme's primary facilities in early 2009. This manufacturing stoppage was caused by an FDA warning letter and caused a major shortage of two Genzyme drugs that had accounted for over 40% of 2008 revenue. Due to the warning letter, Genzyme's per share valuation plummeted close to 30%, as shown in figure 9.

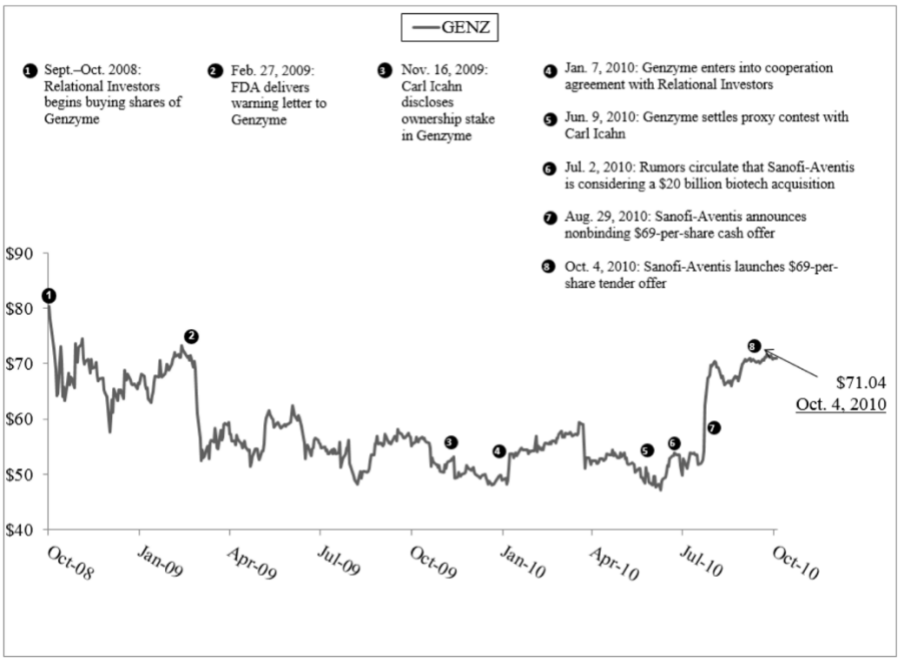

Figure 9

The manufacturing difficulties and resulting strain on Genzyme's financials halted growth, which caused abnormally pessimistic financial statements in 2009 and 2010 that do not accurately represent Genzyme's value. The result being that Genzyme's share price had not yet recovered before Sanofi submitted its tender offer. This analysis of the impact of the FDA warning letter largely explains Sanofi's seemingly generous offer at 38% over unaffected share value; however, it is evident based on the singular nature of the event that Genzyme's value would have likely recovered and that the tender offer was actually slightly below the market's perspective of Genzyme's value. Combining this information with the value that Genzyme's pipeline drugs would provide Sanofi, Sanofi's tender offer of $69 per share is actually well below Genzyme's value, because it is evident that management's $90.89 per share valuation is more accurate.

Drug Diversification and Market Penetration

Strategically, Sanofi would greatly benefit from the drug portfolio diversification that a Genzyme acquisition would provide. Currently, Sanofi's portfolio of drugs relies mostly on diabetes, vaccines, and oncology, whereas Genzyme has a focus on rare genetic diseases, renal diseases, and MS. By acquiring Genzyme, Sanofi will be diversifying its drug portfolio, making it much less susceptible to market volatility in any of these areas and thus a more stable company.

Furthermore, Sanofi currently operates in a largely individual consumer-based market with an inexpensive drug portfolio, whereas Genzyme's drug portfolio covers a niche market willing to pay a high premium. This acquisition would allow Sanofi to quickly establish itself in an entirely new market. This provides immediate and long-lasting growth that comes with no internal competition from its current customers.

Considering these qualitative benefits to Sanofi, including complementary pipeline drugs, drug diversification, and market penetration, and combining that knowledge with justification for Genzyme's unaffected share price of just $49.86, it is evident that management's quantitative analysis is far more accurate and should be used to determine a fair per share valuation of Genzyme ($90.89 per share).

Conclusions

This comprehensive quantitative and qualitative analysis concludes that Sanofi's tender offer of $69 per share greatly undervalues Genzyme. From the market's perspective, Genzyme is at least worth $71.80 per share. From management's perspective, Genzyme is worth $90.89. Management's perspective more accurately accounts for future pipeline revenue (a key difference between the perspectives) and is further supported by the qualitative analysis. These analyses conclude that Genzyme should only accept an offer which accurately represents Genzyme's valuable pipeline revenue, drug portfolio, and recent manufacturing difficulties. The current offer of $69 per share does not account for these factors, whereas management's valuation of $90.89 per share does.

Recommendations

The Genzyme corporation is being undervalued by Sanofi and the rest of the market. In order to receive an appropriate value for the Genzyme corporation, including all of its quantitative and qualitative value, the Genzyme Board of Directors should:

1. Counteroffer Sanofi-Aventis with a $90.89 per share valuation.
2. Write an open letter to Genzyme shareholders explaining the situation with Sanofi-Aventis from its perspective.

Appendix

Appendix 1 – Market-based Valuation

	Reported			Projected					
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Revenue Sources									
Personalized Genetic Health			$1,850.0	$1,665.0	$2,164.5	$2,489.2	$2,787.9	$3,122.4	$3,497.1
% Growth				*-10.0%*	*30.0%*	*15.0%*	*12.0%*	*12.0%*	*12.0%*
Renal and Endocrinology			$1,008.0	$1,038.2	$1,069.4	$1,101.5	$1,134.5	$850.9	$595.6
% Growth				*3.0%*	*3.0%*	*3.0%*	*3.0%*	*-25.0%*	*-30.0%*
Biosurgery			$513.7	$590.8	$679.4	$781.3	$898.5	$1,033.2	$1,157.2
% Growth				*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*12.0%*
Hematology and Oncology			$509.8	$688.2	$894.7	$1,118.4	$1,342.0	$1,543.4	$1,774.9
% Growth				*35.0%*	*30.0%*	*25.0%*	*20.0%*	*15.0%*	*15.0%*
Other			$29.1	$20.4	$21.0	$21.6	$22.3	$22.9	$23.6
% Growth				*-30.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
Pipeline (probability adjusted)			$0.0	$0.0	$0.0	$20.0	$70.0	$220.0	$300.0
% Growth							*250%*	*214%*	*75%*
Revenues	$3,457.8	$4,196.9	$4,076.7	$4,002.6	$4,828.9	$5,531.9	$6,255.2	$6,792.8	$7,348.4
% Growth	-	*$0.2*	*-2.9%*	*-1.8%*	*20.6%*	*14.6%*	*13.1%*	*8.6%*	*8.2%*
COGS	($927.3)	($1,148.6)	($1,386.1)	($1,280.8)	($1,472.8)	($1,604.3)	($1,720.2)	($1,766.1)	($1,910.6)
% of Revenues	*-27%*	*-27%*	*34%*	*32.0%*	*30.5%*	*29.0%*	*27.5%*	*26.0%*	*26.0%*
Gross Profit	$2,530.4	$3,048.3	$2,690.6	$2,721.8	$3,356.1	$3,927.7	$4,535.0	$5,026.7	$5,437.8
% Gross Margin	*$0.7*	*$0.7*	*66%*	*68%*	*70%*	*71%*	*73%*	*74%*	*74%*
General & Administrative	($1,187.2)	($1,338.2)	($1,428.6)	($1,300.8)	($1,497.0)	($1,631.9)	($1,845.3)	($2,003.9)	($2,167.8)
% of Revenues	*-34.3%*	*-31.9%*	*-35.0%*	*32.5%*	*31.0%*	*29.5%*	*29.5%*	*29.5%*	*29.5%*
R&D	($737.7)	($1,308.3)	($865.3)	($840.5)	($1,014.1)	($1,161.7)	($1,313.6)	($1,426.5)	($1,543.2)
% of Revenues	*-21%*	*-31%*	*-21%*	*21%*	*21%*	*21%*	*21%*	*21%*	*21%*
Service and R&D Revenues	$355.7	$408.1	$438.9	$400.3	$482.9	$553.2	$625.5	$679.3	$734.8
% of Revenues	*10%*	*10%*	*11%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
EBITDA			$835.6	$980.6	$1,328.0	$1,687.2	$2,001.7	$2,275.6	$2,461.7
Depreciation & Amortization	($201.1)	($226.4)	($266.3)	($280.2)	($338.0)	($387.2)	($437.9)	($475.5)	($514.4)
% of Revenues	*($0.1)*	*($0.1)*	*-7%*	*7%*	*7%*	*7%*	*7%*	*7%*	*7%*
Other Expenses	($106.4)	($2.0)	($65.6)	($200.1)	($48.3)	($55.3)	($62.6)	$0.0	$0.0
% of Revenues	*($0.0)*	*($0.0)*	*($0.0)*	*$0.1*	*$0.0*	*$0.0*	*$0.0*	*$0.0*	*$0.0*
Operating Income (EBIT)	$653.9	$581.5	$503.7	$500.3	$941.6	$1,244.7	$1,501.2	$1,800.1	$1,947.3
% EBIT Margin	*$0.2*	*$0.1*	*$0.1*	*$0.1*	*$0.2*	*$0.2*	*$0.2*	*$0.3*	*$0.3*
Taxes	($255.5)	($204.5)	($121.4)	($175.1)	($329.6)	($435.6)	($525.4)	($630.0)	($681.6)
% Tax rate	*-35%*	*-33%*	*-22%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
NOPAT (Net Op Profit After Tax)	$398.4	$377.0	$382.3	$325.2	$612.1	$809.0	$975.8	$1,170.1	$1,265.8
NOPAT as a % of Revenue			*9.4%*	*8.1%*	*12.7%*	*14.6%*	*15.6%*	*17.2%*	*17.2%*
Depreciation & Amooritization			$266.3	$280.2	$338.0	$387.2	$437.9	$475.5	$514.4
Capital Expenditures			$ (661.71)	$ (724.55)	$ (800.37)	$ (887.22)	$ (985.42)	$ (1,092.07)	$ (1,207.44)
Change in Working Capital			$ 6.52	$ (17.92)	$ 199.93	$ 170.08	$ 174.99	$ 130.08	$ 134.43
Free Cash Flow			($19.66)	($101.24)	($50.20)	$138.98	$253.25	$423.40	$438.29
FCF Margin %			-0.48%	-2.53%	-1.04%	2.51%	4.05%	6.23%	5.96%

Discounted Cash Flows

Assumptions		
WACC	7.04%	
EDITDA Multiple	10.4x	*<< Assumption: industry multiple (median from comparable companies)*
Perpetuity Growth Rate	3.00%	*<< Assumption: long-term inflation estimate + real growth*
TV Perp (1), Multiple (0)	0	

Year Counter	1	2	3	4	5	6
Free Cash Flows	($101)	($50)	$139	$253	$423	$438
Terminal Value Estimate						$25,566
Total Cash Flows	($101)	($50)	$139	$253	$423	$26,004
Present Value of Cash Flows	($94.58)	($43.82)	$113.33	$192.94	$301.36	$17,291.63

Enterprise Value (equity - debt)	$17,760.85
Plus Net Cash (cash - debt)	$1,540.91
Implied Equtiy Value	$19,301.76
Diluted Shares Outstanding	269
Share Price	**$71.80**

Terminal Value	
Exit Multiple	Perpetuity
$25,565.91	$11,182.03

Appendix 2 – Management-based Valuation

	Reported			Projected					
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Revenue Sources									
Personalized Genetic Health			$1,850.0	$1,757.5	$2,284.8	$2,513.2	$3,015.9	$3,468.3	$3,815.1
% Growth				*-5%*	*30%*	*10%*	*20%*	*15%*	*10%*
Renal and Endocrinology			$1,008.0	$1,058.4	$1,111.3	$1,166.9	$1,225.2	$980.2	$784.1
% Growth				*5%*	*5%*	*5%*	*5%*	*-20%*	*-20%*
Biosurgery			$513.7	$590.8	$679.4	$781.3	$976.6	$1,171.9	$1,347.7
% Growth				*15%*	*15%*	*15%*	*25%*	*20%*	*15%*
Hematology and Oncology			$509.8	$688.2	$929.1	$1,254.3	$1,630.6	$2,038.2	$2,445.9
% Growth				*35%*	*35%*	*35%*	*30%*	*25%*	*20%*
Other			$29.1	$20.4	$21.4	$22.0	$22.7	$23.4	$24.1
% Growth				*-30%*	*5%*	*3%*	*3%*	*3%*	*3%*
Pipeline (probability adjusted)			$0.0	$0.0	$0.0	$25.0	$500.0	$1,100.0	$1,500.0
% Growth							*1900%*	*120%*	*75%*
Revenues	$3,457.8	$4,196.9	$4,076.7	$4,115.3	$5,025.9	$5,762.7	$7,371.0	$8,782.0	$9,916.9
% Growth	-	*$0.2*	*-3%*	*1%*	*22%*	*15%*	*28%*	*19%*	*13%*
COGS	($927.3)	($1,148.6)	($1,386.1)	($1,316.9)	($1,532.9)	($1,671.2)	($2,027.0)	($2,283.3)	($2,578.4)
% of Revenues	*-27%*	*-27%*	*34%*	*32.0%*	*30.5%*	*29.0%*	*27.5%*	*26.0%*	*26.0%*
Gross Profit	$2,530.4	$3,048.3	$2,690.6	$2,798.4	$3,493.0	$4,091.5	$5,344.0	$6,498.6	$7,338.5
% Gross Margin	*$0.7*	*$0.7*	*$0.7*	*$0.7*	*$0.7*	*$0.7*	*$0.7*	*$0.7*	*$0.7*
General & Administrative	($1,187.2)	($1,338.2)	($1,428.6)	($1,337.5)	($1,558.0)	($1,786.4)	($2,285.0)	($2,722.4)	($3,074.2)
% of Revenues	*-34.3%*	*-31.9%*	*-35.0%*	*32.5%*	*31.0%*	*31.0%*	*31.0%*	*31.0%*	*31.0%*
R&D	($737.7)	($1,308.3)	($865.3)	($864.2)	($1,055.4)	($1,210.2)	($1,547.9)	($1,844.2)	($2,082.5)
% of Revenues	*-21%*	*-31%*	*-21%*	*21%*	*21%*	*21%*	*21%*	*21%*	*21%*
Service and R&D Revenues	$355.7	$408.1	$438.9	$411.5	$502.6	$576.3	$737.1	$878.2	$991.7
	10%	*10%*	*11%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
EBITDA			$835.6	$1,008.2	$1,382.1	$1,671.2	$2,248.1	$2,810.2	$3,173.4
Depreciation & Amortization	($201.1)	($226.4)	($266.3)	($288.1)	($351.8)	($403.4)	($516.0)	($614.7)	($694.2)
% of Revenues	*($0.1)*	*($0.1)*	*-7%*	*7%*	*7%*	*7%*	*7%*	*7%*	*7%*
Other Expenses	($106.4)	($2.0)	($65.6)	($205.8)	($50.3)	($57.6)	($73.7)	$0.0	$0.0
% of Revenues	*($0.0)*	*($0.0)*	*($0.0)*	*$0.1*	*$0.0*	*$0.0*	*$0.0*	*$0.0*	*$0.0*
Operating Income (EBIT)	$653.9	$581.5	$503.7	$514.4	$980.1	$1,210.2	$1,658.5	$2,195.5	$2,479.2
% EBIT Margin	*$0.2*	*$0.1*	*$0.1*	*$0.1*	*$0.2*	*$0.2*	*$0.2*	*$0.3*	*$0.3*
Taxes	($255.5)	($204.5)	($121.4)	($180.0)	($343.0)	($423.6)	($580.5)	($768.4)	($867.7)
% Tax rate	*-35%*	*-33%*	*-22%*	*35%*	*35%*	*35%*	*35%*	*35%*	*35%*
NOPAT (Net Op Profit After Tax)	$398.4	$377.0	$382.3	$334.4	$637.0	$786.6	$1,078.0	$1,427.1	$1,611.5
NOPAT as a % of Revenue			*9.4%*	*8.1%*	*12.7%*	*13.7%*	*14.6%*	*16.3%*	*16.3%*
Depreciation & Amooritization			$266.3	$288.1	$351.8	$403.4	$516.0	$614.7	$694.2
Capital Expenditures			$ (661.71)	($726.32)	($805.23)	($895.70)	($1,011.43)	($1,149.31)	($1,305.00)
Change in Working Capital			$ 6.52	$ 9.34	$ 220.33	$ 178.26	$ 389.11	$ 341.38	$ 274.59
Free Cash Flow			($19.66)	($113.23)	($36.71)	$116.04	$193.43	$551.12	$726.08
FCF Margin %			-0.48%	-2.75%	-0.73%	2.01%	2.62%	6.28%	7.32%

Discounted Cash Flows

Assumptions

WACC	7.04%	
EDITDA Multiple	10.4x	*<< Assumption: industry multiple (median from comparable companies)*
Perpetuity Growth Rate	3.00%	*<< Assumption: long-term inflation estimate + real growth*
TV Perp (1), Multiple (0)	0	

Year Counter	1	2	3	4	5	6
Free Cash Flows	($113)	($37)	$116	$193	$551	$726
Terminal Value Estimate						$32,957
Total Cash Flows	($113)	($37)	$116	$193	$551	$33,683
Present Value of Cash Flows	($105.78)	($32.04)	$94.62	$147.37	$392.26	$22,397.71

Enterprise Value (equity - debt)	$22,894.13
Plus Net Cash (cash - debt)	$1,540.91
Implied Equtiy Value	$24,435.04
Diluted Shares Outstanding	268.84
Share Price	**$90.89**

Terminal Value	
Exit Multiple	Perpetuity
$32,956.95	$18,524.57