Financial Analysis:

Merck & Co., Inc. vs. Pfizer Inc

Competitive Analysis Project: Team 6 Section B5

A preliminary financial analysis of Merck & Co., Inc. and Pfizer Inc. from the last 3 posted annual reports and SEC 10-k filings. All assumptions are based on formulaic calculations of the published balance sheets, income statements, and statements of cash flows. All tables and sources were derived from the listed financial statements. Appendix Includes: Balance Sheets, Income Statements, Cash Flow, and Calculated Ratios

Tommy Ahati
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Authored by: Tommy Ahati

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Introduction

In the 21st Century, the two major competing Global Researched Based Pharmaceutical Companies are Merck and Co., Inc. and Pfizer Inc. Currently these two companies are at the for front of the Pharmaceutical & Healthcare Business. Based both within the United States, Merck and Pfizer have been long standing competitors with several similar drugs. These two companies have the largest stakes and investments in Global Medical and Pharmaceutical Research.

Merck & Co., Inc. was originally a subsidy of The Merck Company from Germany. However, since 1917 and the implications involved with the United States and Germany during World War I, the company was firmly established as a separate entity within New Jersey. Currently the company prides itself as a top producer of drugs created from the 0 phase, meaning that each drug is researched and developed solely through Merck's research and development. Their operation focuses on the development of treatments and medication for Human and Animal health. One of the largest segments of the corporation is the "Vaccines Segment" which specializes on human health vaccine products aimed a joint ventures with research labs and hospitals throughout the world.

Pfizer Inc. is currently the largest Research Based Pharmaceutical Company in the World. The company is similar to Merck in that their operation specializes on human and animal health. Differing on their financial side, Pfizer deals heavily in scavenging smaller companies with Phase III drug research. Once allocated, Pfizer often acquires smaller companies and reorganizes them within the firm to gain rights to the drug development and research of the product. Since 2000, this operation of Pfizer has increased its size from

the 7th largest company to the number 1 largest company. Though research based, Pfizer gains most of its profits through external relations with smaller research labs and companies through a more financially leveraged system.

Growth Ratio

Comparing the P/E Ratios of the two companies, there seems to be a substantial difference between the two firms. Merck shows a much higher investment growth rate with a high P/E of 30.23, while Pfizer has a P/E Ratio of 18.52. Currently, this shows that that Merck is substantially increasing at a higher rate than Pfizer. In terms of simple valuation, the investor would consider Merck to be the better investment in terms of long term equity growth. However, it's important to note that both companies have had volatility within the past 6 months. Thus, the P/E Ratios have varied as much as 12 points for each company and as much as 25 points within the last 5 years for the Healthcare>Major Drugs Industry.

Column1	P/E Last 5 Yea	Column2
	Industry	Sector
High	40.91	42.02
Low	15.66	16.98
Difference	25.25	25.04
MRK P/E	**2/13/2008**	**31.59**
PFE P/E	**2/13/2008**	**18.83**

Liquidity Indicators

Comparing the two companies, Pfizer has a much higher Current Ratio than Merck's. This shows that Pfizer has a greater ability to pay off its liabilities, where both its current assets and current liabilities show a twice fold higher current ratio. Thus, Merck has the lesser ability to access liquidity to pay off debts while Pfizer has a higher stability to pay debt obligations.

Current Ratio Comparisons

12/31/2006	MRK	PFE
Current Assets	15,230.20	46,949.00
Current Liabilities	12,722.70	21,389.00
Working Cap	2,507.50	25,560.00
Current Ratio	1.20	2.20

When using the current ratio, it is always important to consider the quick ratio as a secondary test for a company's liquidity.

$$Quick\ Ratio = \frac{Current\ Assets - Inventory}{Curent\ Liabilities}$$

Because the Quick Ratio does not consider the inventories within the company, the ratio compares a company's cash and short-term investments, such as accounts receivables and minor market securities, to the fiscal liabilities that each company is required to record within a year. It was important to analyze the Quick Ratio for Pharmaceutical Companies such as Merck and Pfizer because these companies are not primary service based operated companies. Research Based companies such as these, have high inventory allocations (drugs, stocks, and current asset located equipment) as part of their operating tactics. When comparing the quick ratios of both companies, the differences are stark compared to the ratio comparisons of the current ratio.

Current and Quick Ratio		
12/31/2006	MRK	PFE
Current Ratio	1.20	2.20
Quick Ratio	0.73	0.55

Looking at the differences between the current and quick ratios, the liquidity analysis is very different. Originally within the Current Ratio, Pfizer wins with the higher liquidity to manage short-term debt. However, when inventory is not considered within the equation, Merck has the stronger liquidity to manage their short-term debt. This shows that a massive portion of Pfizer's liquidity is based upon inventory values. Considering the nature of the pharmaceutical companies in the world, it is not likely that either Merck of Pfizer would sell its entire inventory to manage short term debt, especially at the magnitude of these two Fortune 500 companies. In conclusion, with the actual

It is incredibly useful to compare the Price to Sales Ratios of the two companies. Merck has a Price/Sales ratio of 4.01, while Pfizer has a Price/Sales ratio of 3.11. Merck's higher P/S ratio indicates that for every dollar that the company earns in Revenues, investments grow $4.01. Thus, comparing the two companies' P/S ratios indicates that, currently, investors are willing to pay more for Merck's increase in revenues than Pfizer's. Unfortunately, for Merck, this also states the stock prices for the company is more volatile, considering a greater decrease in investments for a lower revenue earned year.

Asset Management

Tech Cycle Rate & PPE Turnover		
Column1	MRK	PFE
Tech Cycle	6.50	9.00
PPE Turnover	1.64	2.87

One of the most striking differences between the two companies are their technological cycle time rates. Merck has a machinery cycle time of approximately 6 ½ years where as Pfizer has a technological cycle time of 9 years. This difference of 2 ½ years indicates that Merck is faster than Pfizer at innovating their technological material. This is figure seems quite reasonable considering that Merck is much more concentrated on their research divisions than Pfizer. Merck, with their joint-venture programs with local hospital institutes, often require more frequent updates to the state-of-the-art technology.

In addition to the technological cycle time for these two science based companies, it is also useful to compare the Property, Plant, and Equipment turnover rate. Similar to the technological cycle rate, the PPE of the two companies follow the same trend. The close of the December 31st, 2006 SEC 10-K filings shows that the Merck has a low turnover rate 1.64 while Pfizer has a PPE turnover of 2.87. This indicates that Merck's has a higher rapidity in equipment updates than Pfizer which almost press 3 years. In this time of accelerating technology and high-tech competition, it would seem that Merck has a leading edge in keeping updated with the technological resources. This is most likely supported by Merck's late developments in the growth of Research Departments.

When looking at the Asset Turnovers for both companies, the two exude very close numbers. Since for both companies the turnover ratios are lower than one, it shows that both are very capital intensive. This is a very important ratio to consider for large, machine based companies such as Merck and Pfizer. It would be assumed that the Total Asset turnover for the two companies would be highly comprised of Fixed Assets considering the massive amounts of property, plant, and equipment that both companies own. This shows that, with the lower asset turnover ratio than 1, Merck and Pfizer are both capital heavy companies.

Asset Turnove	2006	2005	2004
Merck	0.42	0.43	0.44
Pfizer	0.51	0.5	0.55

When comparing the receivables turnover of the two companies, both Merck and Pfizer are quite responsible for the extension and the collection of their credit. However, as of late, Merck seems to be stricter in the collection of the credit from 3rd party sources than that of Pfizer who's Ratios have been steadily diminishing with its expansion. However, in the short-run, neither companies look as if they would be heading into trouble collecting their credits from outside parties.

Receivables Turnover	2006	2005	2004
Merck	7.25	6.72	5.98
Pfizer	4.79	5.06	5.46

Asset Management – Cash Conversion Cycle

Ultimately, with asset management, the Cash Conversion Cycle is possibly the most effective tool to measure and value a company's efficiency in working capital management as well as the company's ability to pay off short-term liabilities. When looking at the who companies it's important to note that the units are in days and are helpful in comparing the company's rapidity int converting inventory to sales, and sales into cash, which is used to pay supplies for raw material and other services. The CCC is comprised of 3 other indicators: The DIO (Days Inventory Outstanding), DSO (Days Sales Outstanding), and DPO (Days Payable Outstanding). [1]

[1] For References of the calculations of the DIO, DSO, and DPO indicators see the appendix

$$Cash\ Conversion\ Cycle = DIO + DSO - DPO$$

Pfizer Inc. vs. Merck & Co., Inc. – Cash Conversion Cycle

Pfizer Days Inventory Outstanding	2006	2005
Cost of Sales Per day	20.93	23.36
Average Inventory	6075.00	6349.50
Days Inventory Outstanding	290.23	271.86

Merck Days Inventory Outstanding	2006	2005
Cost of Sales Per day	16.44	14.11
Average Inventory	1713.75	1778.40
Days Inventory Outstanding	104.23	126.05

Pfizer Days Sales Outstanding	2006	2005
Net Sales Per Day	132.52	140.54
Average Acc Receivable	9772.00	9760.00
Days Sales Outstanding	73.74	69.45

Merck Days Sales Outstanding	2006	2005
Net Sales Per Day	62.02	60.31
Average Acc Receivable	3121.05	3277.50
Days Sales Outstanding	50.33	54.35

Pfizer Days Payable Outstanding	2006	2005
Cost of Sales Per Day	20.93	23.36
Average Acc Payable	2122.50	2449.00
Days Payable Outstanding	101.40	104.85

Merck Days Payable Outstanding	2006	2005
Cost of Sales Per Day	16.44	14.11
Average Acc Payable	483.85	446.25
Days Payable Outstanding	29.43	31.63

Pfizer Derived Calculations	2006	2005
Cash Conversion Cycle (Days)	262.57	236.45

Merck Derived Calculations	2006	2005
Cash Conversion Cycle (Days)	125.13	148.77

By looking the Cash Conversion Cycle for the two companies, Merck has a much higher frequency for converting their assets to a high liquid form. For Pfizer, the CCC has increased a good deal to 262.57 days from 236.45 days. With a much higher Days Inventory Outstanding, Pfizer seems to have much more cash allocated towards their inventories to pay off their Accounts Payable. Thus, in comparison with Merck, Pfizer has a much shower hand on their cash availabilities. Merck with the lower CCC and lower DIO shows that Cash is quickly slotted through their Operating Cycles of the company. Merck is able to convert cash at a much higher rate than Pfizer, giving them a much high ability to allocate more liquid sources of currency.

From 2005 to 2006, Pfizer's DIO has decreased, possibly indicating that there is a higher demand of the company's products. Conversely, Merck's DIO has increase showing that the inventories are staying within the company longer, possibly indicating some difficulty in selling the products. However, both DIOs are incredibly short showing the both companies do not have trouble taking their products off the shelves and into the hands of consumers.

Profitability

The Return on Assets is a very useful indicator for pharmaceutical investors. With a high dependency on assets as a function due to research and development allocations, the ROA shows investors how well the company is able to manage their total assets to make a profit. With the Vioxx problem, Merck has been shutting down several of its plants, lessening the value of their assets. The dwindling ROA shows that Merck is losing its efficiency to make a profit based off the company's assets. Pfizer showed a very volatile jump from 2005 to 2006 in their ROA. Recently Pfizer sold a branch of their ConsumerHealth allocation to Johnson & Johnson, minimizing their assets and converting the sales into Shareholder's Equity. With little change in net income, Pfizer's 2006 allocations of their assets rise from 6.7 in 2005 to a 16.64 in 2006. It would be very dangerous to assume that Pfizer made such a dramatic increase in Net Income with a steady asset change. The high ROA does not seem to be permanent in the long run considering this vast change of assets.

ROA Comparison	12/31/2006	12/31/2005	12/31/2004
MRK	9.92	10.6	13.94
PFE	16.64	6.7	9.42

Because both companies are heavily based in capital, it would be wiser to see lower ROA's considering a larger denominator. Because both companies are similar in that they are both Research and Development companies, the ROA for shows a better utilization of their assets and capital to make profits. The massive cuts within Pfizer shows a conversely lower efficiency in maintaining a more efficient use of the assets to make a great Profit Return.

Du Pont ROE Analysis

Dupont Breakdown	12/31/2006		12/31/2005		12/31/2004	
	MRK	PFE	MRK	PFE	MRK	PFE
Profits	4,433.80	19,337.00	4,631.30	8,085.00	5,813.40	11,361.00
Sales	22,636.00	48,371.00	22,011.90	51,298.00	22,938.60	52,516.00
Total Asset Turnover	0.51	0.42	0.50	0.43	0.55	0.44
Total Assets	44,569.80	114,837.00	44,845.80	117,565.00	42,572.80	123,684.00
Equity	17,559.70	71,358.00	17,916.60	65,627.00	17,288.20	68,278.00
	MRK	PFE	MRK	PFE	MRK	PFE
Profit Margin	0.20	0.40	0.21	0.16	0.25	0.22
Total Asset Turnover	0.51	0.42	0.50	0.43	0.55	0.44
Equity Multiplier	2.54	1.61	2.50	1.79	2.46	1.81
Du Pont Analysis ROE	**25.36%**	**27.02%**	**26.33%**	**12.14%**	**34.32%**	**17.24%**

Using the Du Pont analysis of the ROE, Investors can draw in several factors of an increase of return for the company based on asset management, leverage, and profits. Merck's profit margins have slowly decreased between the period of 2004 and 2006. This was due to lower leverage, lower profit margins, and also a lower financing leverage. The ROE is quite sensitive to the change in the profit margins from 2004 to 2005. While the other ratios decreased, the ROE seemed to have stayed stable between the 2005 and 2006 areas. So far Merck shows a downward trend for the return on equity. However, it is still not too late to reap off good returns from the company's investments.

Pfizer shows a uncharacteristic boom in the Profit margins from 2005 to 2006. With a massive increase of a Profit Margin of 0.16 to 0.40, the company was able sharply to jump from a 12% ROE to a record high 27%. Investors should be willing to invest more into Pfizer for their high return on their equity. With lower operating and financial leverage, Pfizer's return is heavily based on the Stockholder's Equity sections of their Balance Sheets. With Pfizer's continuing expansion, it would be wiser to invest from the 2006 comparisons into Pfizer, though Merck is not a bad choice either. Both companies still maintain high efficiency in utilizing investments to make profits.

Debt Management

The Debt to Equity ratio indicates another form of leverage comparison. This ratio shows how much creditors and lenders have given the company compared to the stockholders investments. By looking at the table, it can be seen that the leverage of both companies heavily depends on the investments handled by the stockholders. This is to be expected considering the nature of Merck and Pfizer, two well-established companies within the United States. With high credit ratings, these two companies are able to push the numbers much higher than shown below. However, due to the nature of Research and Development, investments from the Shareholders are incredibly important in establishing Property, Plant, and Equipment Allocations. With the high P/E Ratios, both companies are talked more about with the stocks than with the banks. However, this shows that their obligation to the Stockholder's dividends is very high. Pfizer, with their recent expansions have heavily relied on their shareholders to establish high leverage due to the surprising change from 2005 to 2006.

Debt to Equity Comparison	12/31/2006	12/31/2005	12/31/2004
MRK	0.39	0.45	0.4
PFE	0.11	0.27	0.27