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Nottingham Business School of Nottingham Trent University

The Role of Financial Analysis for Business Management and Decision Making

Management and Accounting for Financial Recourses

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I certify that this is entirely my own work and that all collaboration or material from other sources has been clearly attributed in accordance with the requirements of the module and the university regulations.

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Abstract

Aim of this work is to evaluate financial data of biotechnological company Genzyme in order to recommend managerial actions in respect with financial management. Another principal interest is investor point of view. Genzyme was chosen as it is good example of established biotechnological company. There is enough data for analysis of Genzyme and its competitors as they are listed on Nasdaq stock exchange. In order to minimize effect of different accounting practices in the ratio analysis all company compared are also listed on American stock markets. The evaluation mostly rely on ratio analysis. Additional information on financial and stock performance are presented.

Genzyme was founded in 1981 and started to float with IPO of June 1986. It focus on segments of genetic conditions, renal disease, oncology, cardiovascular disease and orthopedics. Fundamental financial data improved during last years. Net profit $ 441 M of 2005 was the best result in company history. Ratio analysis confirmed some positive trends in company economics.

From managerial point of view needs for diversification of product portfolio and handling ambiguity of company manufacturing capabilities were identified. As financial performance is improving there is opportunity for higher debt financing of the company.

Genzyme produced fair stock returns during last ten years although also volatile. Investors expect substantial rise of Genzyme profits in future what is expressed in its Price/Earnings Ratio 42.9. This expectation is realistic considering prospective portfolio of late-stage development products. Therefore value of the company is adequate to its prospects and investment risk. Genzyme was found to be suitable company for long term portfolio investment to investors willing to accept investment risk associated with biotechnology sector.

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Introduction

Efficient Stock Market

Discussion on effectiveness of stock market remain profound and unresolved issue. Generally there is a broader consensus that stock markets operate with high efficiency. Under term efficient stock market it is assumed that information on market is processed quickly and accurately and therefore share prices faithfully reflect all relevant information available. In this market prices are determined in a rational manner and represent the best estimate of the true worth of the shares. In this view investors do not have perfect knowledge on business and future prospects and it is not necessary for efficient function of the market.

Based on its efficiency equity markets can be divided into the three forms:

- The weak form of efficiency – where movements in share prices are follow a random path
- The semi-strong form of efficiency – describes the situation where all publicly available information, including past share prices, is reflected in the current share price.
- The strong form of efficiency – share prices fully reflect all available information, whether or not it is publicly available.

The concept is described by the Efficient Markets Hypothesis (EMH). The EMH maintains that future price changes can not be predicted from past price changes. Pattern of share price movement that do not incorporate any market relevant information is random. There are not any seasonal or cycle changes. This principle of random share prices movements had been described as “random walk” model also popularized by Burton Markiel in his influential book A Random Walk Down Wall Street

(1973).

At each point in time all securities of the same risk are priced to offer the same expected rate of return. This is a fundamental characteristic of prices in well-functioning markets (Brealey, 2001). In view of EMH over-average investment return can be achieved only through accepting higher (than average) investment risk. Relationships between return and risk are closely related to Modern Portfolio Theory which roots back Harry Markowitz`s 1952 book Portfolio Selection. Markowitz suggested that the goal of portfolio management is to maximize what he called expected utility which is measure the returns and level of risk that an investor is comfortable with. The EMH is related to the coherent market hypothesis (CMH) which suggests that market are not always truly efficient. Periods of instability must be expected when prices transition between the growth and decline states associated with chaotic markets. (Vaga, 1994).

However, efficiency and inability to predict future returns have been questioned. Against mainstream EMH view behovorial finance school defenders claim substantial influence of human psychology to trading. Other opposition groups back their views by sophisticated computional analysis of large sets of historical financial data. In some cases the research produced results suggesting not random pattern of equity returns. It should be noted that other research works based on computional analysis support EMH conclusions (Atril, 2006) . Some other phenomenons pointing to market inefficiency are seasonal effects (recommendation to open positions on Mondays, “Santa Claus” effect) or fact that some individuals have been able to achieve considerably over-average returns over long period of time (like George Soros or Warren Buffet).

I would conclude this evaluation with my opinion that all the evidence available point to the fact that established stock markets operate with high efficiency. However, they could hardly be considered to be perfectly efficient and there can ever by some sources of “inefficiencies”. We should acknowledge

limitations of human judgment on future prospect of a business or market. Different availability of an information can cause different evaluation of a stock value between investors. There is immense amount of data in financial history and it is apparent that sophisticated and technologically advanced approaches are required for their scientific analysis which may put new light into this topic.

Financial Ratios

Financial ratios provide a quick and relatively simple means of assessing the financial health of a business. A ratio simply relates one figure appearing in the financial statements to some other figure. Ratios can be very helpful when comparing different businesses. Differences may exist between businesses in the scale of operations, and so direct comparison would be misleading. There is no generally accepted list of ratios that can be applied to the financial statements, nor is there a standard method of calculating many ratios. Variations in both the choice of ratios and their calculation will be found in practice.

Ratios can be grouped into categories, each relating to a particular aspect of financial performance or position. There are five broad categories of ratios with examples:

- Profitability – Return On Capital Employed (ROCE), Net profit margin, Gross profit margin
- Efficiency – Average stock (inventory) turnover period, Average settlement period for debtors, Average settlement period for creditors, Sales revenue to capital employed, Sales revenue per employee,
- Liquidity – Current ratio, Acid test ratio
- Gearing – Gearing ratio, Interest cover ratio
- Investment – Dividend payout ratio, Dividend yield ratio, Earning per share, Price/earnings

ratio

Use of a particular ratios depend upon objective of the analysis. Key steps in financial analysis can be stated as:

1. Identify users and their information needs
2. Select and calculate appropriate ratios
3. Interpret and evaluate the results

When using ratios in financial analysis it is important to realize their limitations. Some of the most important are:

- Accounting conventions – as the ratios are based on financial statements and therefore the results of ratio analysis are dependent on the quality of the underlying statements.
- Creative accounting – there is evidence that the directors of some companies have employed particular accounting policies or structured particular transactions in a way that portrays a picture of company financial performance in more positive light.
- Inflation – financial results of businesses can be distorted as a result of inflation – the values of assets held for any length of time may bear limited relation to current values.
- Different accounting policies, financing methods.
- Unlikely to report seasonal or short term changes when they based on annual Balance sheet.

Fundamental Analysis

Fundamental analysis is a technique that attempts to determine a security's value by focusing on underlying factors that affect a company's actual business and its future prospects. Base for fundamental analysis are figures on company performance including balance sheet, income statement, cash flow statement. Therefore financial ratios are substantial instruments of fundamental analysis. However, term fundamental analysis is broader and include also qualitative factors from within and outside of the company (management, corporate governance, regulation of the industry, competition). The work is focused to some most substantial issues related to financial ratios analysis only.

Dividend Payout Ratio and Dividend Yield Ratio can be useful in many cases. However, they do not apply to all stocks. Investors distinguish between growth and income stocks. They seem to buy growth stocks primarly in the expectation of capital gains and they are interested in the future growth of earnings rather then in next year`s dividends. On the other hand, they buy income stocks principally for the cash dividends. Growth oriented companies often do not pay dividends for long period of time. This strategy is rational if the company can generate higher return on investment (return on equity) then investors could otherwise achieve (Brealey, 2001). It is understood that income stocks bear higher investment risk as future dividend payments are less certain then present.

Price/Earnings (P/E) is fundamental figure, often the first checked by investment analysts. Its basic interpretation is that it reflects market confidence concerning the future of the business. This interpretation can be too narrow or even misleading. It is also important that we can observe substantial differences of P/E ratios in different industries. In October 2004 the figure was 10.14 for construction, 13.85 in banking sector or 20.95 for pharmaceuticals and biotechnology (Atril, 2006). Some research support idea that portfolio with lower P/E provide higher returns (De Bonth, 1985). On the other hand

stock market bubbles have always been associated withs unrealistically high P/Es. However, another point is that established viewpoint can mislead us in appreciating value creation. One explanation of high P/Es of technology companies is of-course their ability to produce future returns. Their P/Es would be lower if companies were not spending heavily on intangible assets such as R&D, software, training. It is clear that this kind of spending (not considered investment in bookkeeping) are more important for businesses of this kind than machineries or buildings accounted for investment (Brealey, 2001). Thus, market seems to efficiently evaluate technology stocks accepting higher P/E ratios. The similar problem of evaluating intangible assets is evident in Price/Book ratio.

Chart 1: Return on Equity related to share price for Genzyme (www.morningstar.com, 2007)

Technical Analysis

Technical analysis can be defined as study of any market that uses price and volume information only in order to forecast future price movements and trends. Technical analysts and technically oriented investors or traders rely on historical and current price and volume information (Stevens, 2002) . History of technical analysis trace back to Japan commodities market of 18th century (Wikipedia, 2007). However, technical analysis evolved independently in the west and Dow theory is considered to be one of its milestones.

Market technicians and chartrists have long been seeking systems for predicting the future path of stock prices reading chart patterns for evidence of cycles or trading signals. However, the utility of these endeavors has been the subject of hot debate and ridicule within academic circles (Vaga, 1994). Until now majority of academics do not consider evidence for utility of technical analysis to be adequate contrary to 90 % of traders that use some technical input. In respect to EMH it is worth to remark that many technical analysts do not deny market to be efficient but they rather rely on less orthodox interpretation of EMH. Also most technical analysts acknowledge usefulness of fundamental analysis. In general there are three assumptions on which which are a base for technical analysis:

- The market discounts everything – company`s fundamentals, along with broader economic factors and market psychology are all priced into the stock, removing the need to actually consider these factors separately.
- Price moves in trends – after a tend has been established, the future price movements is more likely to be in the same direction as the trend to be against it.
- History tends to repeat itself – repetitive nature of price movements is attributed to market psychology.

Here is description of some instruments used in technical analysis:

Trendline – simple charting technique that add a line to a chart to represent the trend in market or a stock.

Channels – addition of two parallel trendlines that act as strong areas of support and resistance. The upper trendline connects a series of highs, while the lower trendline connects a series of lows. The price is bounded off of these lines.

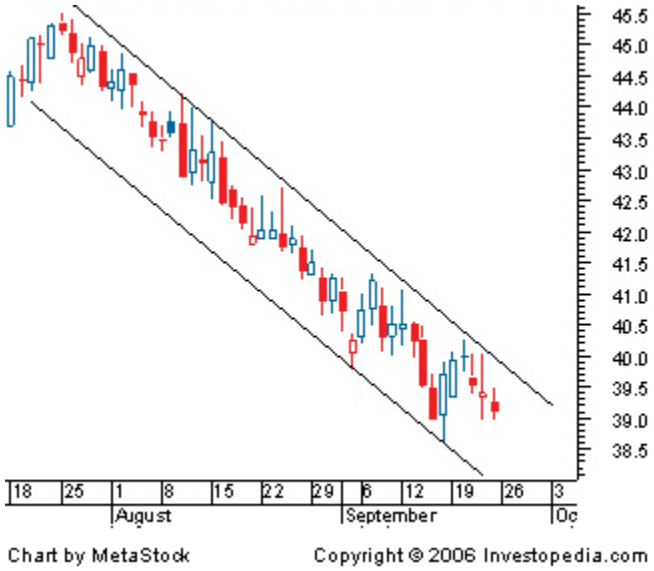

Chart 2: Descending channel on stock chart

Support and Resistance - support and resistance levels are seen as important in terms of market psychology, supply and demand. Support and resistance levels are the levels at which a lot of traders are willing to buy the stock (in the case of a support) or sell it (in the case of resistance). When these trendlines are broken, the supply and demand and the psychology behind the stock's movements is

thought to have shifted, in which case new levels of support and resistance will likely be established.

Volume - is the number of shares or contracts that trade over a given period of time. Volume is an important aspect of technical analysis because it is used to confirm trends and chart patterns. Any price movement up or down with relatively high volume is seen as a stronger, more relevant move than a similar move with weak volume.

Head and Shoulders – are chart patterns that when formed, signals that the security is likely to move against the previous trend.

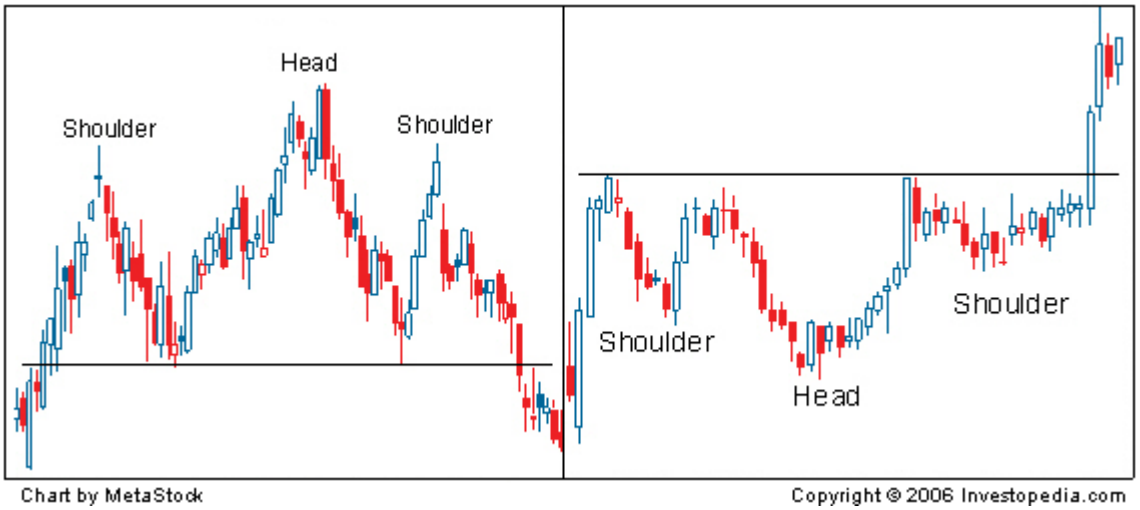

Chart 3: Head and shoulders chart pattern

Symmetrical triangle - is a chart pattern in which two trendlines converge toward each other. This pattern is neutral in that a breakout to the upside or downside is a confirmation of a trend in that direction.

Ascending/Descending triangle - In an ascending triangle, the upper trendline is flat, while the bottom trendline is upward sloping. This is generally thought of as a bullish pattern in which chartists look for

an upside breakout. In a descending triangle, the lower trendline is flat and the upper trendline is descending. This is generally seen as a bearish pattern where chartists look for a downside breakout.

Simple Moving Average (SMA) - This is the most common method used to calculate the moving average of prices. It simply takes the sum of all of the past closing prices over the time period and divides the result by the number of prices used in the calculation.

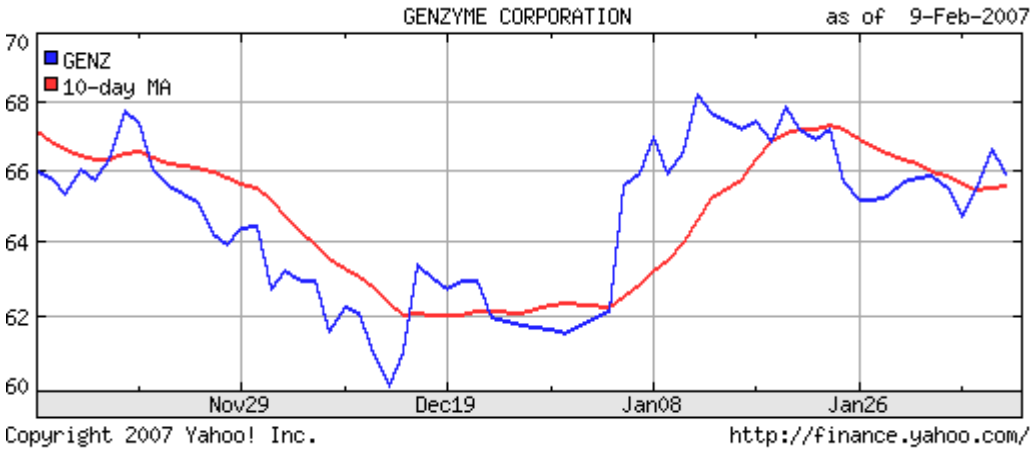

Chart 4: 10 day Simple Moving Average for Genzyme.

Exponential Moving Average (EMA) - This moving average calculation uses a smoothing factor to place a higher weight on recent data points and is regarded as more efficient than the linear weighted average.

Relative Strength Index (RSI) - this indicator helps traders to identify whether a security's price has been unreasonably pushed to current levels and whether a reversal may be on the way. RSI helps to signal overbought and oversold conditions in a security

Financial Analysis of Genzyme Corporation

Industry Overview

The value of global pharmaceutical market is estimated to be $ 603.9 billions. Global market is considerably segmented in favor of rich developed countries when the US alone comprise 47.4 % of its value following Europe with 23.3 % (Datamonitor, Global pharmaceuticals industry profile, 2004). Specifics in management of pharmaceutical industry are relatively long time of return of investments, higher level of state regulation, intellectual property issues.

Long period of investment return is related to time-consuming process in product development. Development of a new drug from preclinical development to marketing authorization (MA) takes several years and cost $ 1 billion in average. Additional funds are needed for product launch. Naturally, this do not apply to generic industry.

Strict government rules apply for both product development and marketing. Stellar development costs are related to extensive requirements on proper conduct of clinical trials. Every drug is subject of marketing authorization in each developed country. However, requirements on data content and format are largely harmonized throughout the developed world. After MA granting product have in most countries 10 years data exclusivity period after which generic companies can launch products based on the same active substance. The period can be extended in case new clinical trials present new findings on extension of indications. Patent protection (such as patented manufacturing method) that is not related to data exclusivity can apply in some cases and additionally prolong effective market exclusivity. Some special rules apply for orphan drugs which are medicines for treatment of rare

diseases. As their development is less economical, regulatory incentives and possibly also research funding is available in both the US and EU. Medicinal products marketing is regulated in a way that the companies can not primarly address public and focus on health care professionals. Another issue is medicines reimbursement. In general each country has specific criteria and priorities.

So called defensive medicine is term from the US that describe practice of solving healthcare disputes by lawsuits. Recently large US companies faced court battles over their products and this is becoming serious issue for pharmaceutical companies in American market.

Cases of medicines forgery are still more common even in developed countries. In addition, western companies will be pressed by emerging manufacturers from Asia where in some cases local governments are not interested or capable to enforce data exclusivity periods and patent protection established in the western countries.

Genzyme

Genzyme is biotechnological company headquartered from Cambridge, MA, USA. The company was founded in 1981 and started to float with IPO of June 1986 on Nasdaq market. Since that time the company has grown to a diversified enterprise with annual revenues exceeding $2 billion. It currently employs more then 8,500 employees.

Genzyme focus on segments of genetic conditions, renal disease, oncology, cardiovascular disease and orthopedics. Genzyme is especially strong in enzyme replacement therapy applied in some rare disorders like Fabry, Gaucher diseases. More of the products received orphan designation status which award innovative products in rare disorders therapy with special incentives. The company is also

leading business in development of gene therapy products. All of its launched products are in growth phase. The company has great advantage in possessing portfolio (at least 15) of late stage development products which can be launched in following years. Beside development and marketing of biotechnological products Genzyme is engaged in providing genetic testing in oncology and rare disorders. Genzyme products are established in markets of developed countries and now the comany penetrates markets in Latin America and South-East Asia. Despite utilizing some contractual manufacturing company produce most of its products in its own plants in the USA, UK, Belgium and France.

Its main competitors are largest American biotechnological companies – Genentech, Amgen, Biogen. Another group is research oriented drug manufacturers – Schering Plough, Eli Lilly, Sanofi-Aventis. However, as no other major company is so focused on segment of rare disorders in Genzyme holds semi-monopoly position there.

Financial Performance

At end of 2005 Genzyme held total assets $6,878 M and total liabilities $1,72$8 M. In balance decrease in cash and cash equivalents can be observed to values close to those of 2003. Cash binded in inventory remained similar despite significant rise in sales. Rise of intangible assets was substantial in 2005 from $1,069M to $1,591M. In liabilities amount of long term debt did not change substantially compared to 2004 but decreased from 2003. Total stockholder equity increased from its 2003 value of $2,936M to $5,150M in 2005.

Genzyme net income was $441M in 2005 what is the best result in history of the company. 2005 result is considerably better compared to previous years as the company earned $87M in 2004 and produced losses in preceding years - $68M in 2003, $13M in 2002 and $112M in 2001. As of February 2007 there is estimate of 2006 net income $358.08 M. Trend of rising net profit had been fueled by rise of product sales and less significantly also with service sales. Net product sales rose steadily from $1,110M in 2001 to $2,453M in 2005. Total volume of net service sales present $261M and produced together with net product sales and R&D revenue total revenues of $2,735M. Total operating costs reached $2,134M with selling, administrative and R&D costs contributing by largest portion. Total other incomes were equal to $28M. The company produced losses on total other incomes in previous years. Income statement, balance sheet and cash flow are included in appendices.

Genzyme achieved rise in revenues in most of its products in 2005. Cerezyme remain crucial product which is in mature phase after more then 10 years of market presence. It brings approx. 34% of total product revenues but its importance is decreasing as a result of successful portfolio diversification. Cerezyme achieved double digit revenues growth in last two years. This growth was mostly related to outside the US sales as weakening US dollar positively impacted overseas performance. Company was

successful in establishing still fast growing Fabrazyme which became no. 2 in product revenues and improved by 46% in 2005. Also in this case sales rose more sharply in Europe and Japan. Another successful product is Synvisc with 148 rise in 2005 revenues. During last two years revenues decreased only in products with marginal importance to the company. Decrease in sales of biosurgery products were primarily due to absence of revenues from line of cardiac device products following sale of the product line in 2003. About 45% of product revenues were earned internationally (outside of the US) and this portion remained similar in last three years period.

Stock Performance

Currently Genzyme market capitalization (as of Feb 12th 2007) is $17.17 B. There are 262.86M outstanding shares. Shares are traded at $65.31 with 50 day SMA of $65.42. Current P/E ratio is 49.48 and beta 0.85. Genzyme is included in both S&P 500 and Nasdaq indexes. Genzyme is considered speculative stock by investors with high volatility and return potential.

Variability of returns was high for Genzyme stocks in last five years period. As seen in chart no.1 share value fell sharply in 2002 loosing 50.6%. However, the price rebounded in following years with dramatic 66.7% gain in 2003 and strong 17.8% and 21.9% in the next two years. This trend reversed in 2006 when 13.0 % negative returns were listed. However, the stock returns are more positive in longer period. On January 1997 trading closed at $13.55 (adjusted for dividends and splits). The price peaked in 2001 with $61.00 (adj.) in June and another local peak occurred in December 2001 with $59.86 (adj.). Six months later on June 2002 shares were traded at just $19.24 (adj.) what was the turning point with strong rebound following.

	2006	2005	2004	2003	2002
Genzyme	-13.00%	21.90%	17.80%	66.70%	-50.60%
Genentech	-12.30%	69.90%	16.40%	182.20%	-38.90%
Biogen	8.60%	-32.00%	81.50%	10.60%	51.90%
Targeted Genetics	9.60%	-68.40%	-29.20%	447.50%	-85.20%
Gilead Sciences	23.50%	50.20%	20.10%	71.40%	3.50%
Vertex Pharmaceuticals	35.20%	161.80%	2.10%	-34.70%	-35.50%
Eli Lilly	-5.20%	2.50%	-17.60%	13.10%	-17.60%
Schering-Plough	14.60%	0.90%	21.60%	-19.10%	-36.40%
Pfizer	15.20%	-10.60%	-22.30%	17.80%	-22.20%

Table. 1: Investment returns in pharmaceuticals and biotechnology sector (www.morningstar.com, 2007)

Volatility of Genzyme was higher compared to industry (biotechnology) average, S&P 500 and Nasdaq stock index. However, in comparison of five years returns Genzyme do not stand bad beside biotechnology sector leaders. Genzyme shares over performed Nasdaq index and both Amgen and Biogen. Market capitalization of Amgen is $ 79.86 B and $ 16.62 B for biogen what is slightly lower compared to Genzyme. Genzyme returns were lagging behind growth of Genentech which is now biotech company with highest market capitalization - $ 90 B. Genzyme returns were much lower when compared to Gilead Sciences which produced stellar returns nearing 300 % in last five years and third largest capitalization in biotech sector equal to $ 32.56 B. Genzyme distinctively outperformed related drug manufacturers – Pfizer, Eli Lilly, Sanofi-Aventis and Schering Plough in five year returns.

Financial Ratios

Profitability, efficacy, liquidity, debt and investment ratios were used in the analysis and are presented in this chapter. All data are also summarized in tables 6 – 9 in appendices.

Genzyme gross profit margin was 76.9% in 2005. There is also clear trend of steady increase in the margin from 70.3% in 2001 up to its 2005 value. Even more positive development can be observed in net profit margin which was only 3.7% in 2001. Also this figure rose during following five years with exception of 2003. There is visible relation between company net profit and operating margins, especially net profit margin as the company produced loss in years from 2001 to 2003. When comparing Genzyme ratios to its closest competition – Genentech and Amgen it is clear that the competitors performed better. Genentech had vary stable gross profit margin oscilating around 85% and much better and stable values of net profit margin in last three years. Also Amgen reported similar gross profit margins or even slightly better and really excellent 39% net profit margin in 2005. With exception of 2002 the figures were similarly good. Interesting is example of Schering-Plough which clearly suffered from profitability problems. Schering-Plough figures seems to be good in 2001 and 2002 but are falling sharply since 2003 with clear decline trend.

Margins are related to return on assets and equity figures. As Genzyme financial performance was steadily improving this is also reflected in the assets and equity returns. Return on equity was also steadily rising from -4.69% in 2003 to 9.28% in 2005. Competitors (Genetech and Amgen) outperformed Genzyme in both returns in each year with exception of Amgen 2002 data. Schering-Plough followed trend of the margins also in equity and assets returns. In general Genzyme visibly improved its profitability ratios in last five years but it was not so successful as its closest competitors.

Underlying importance of efficacy ratios is clearly visible in some cases only. Cash conversion cycle

(CCC) is most important indicator as it compile inventory turnover period, outstanding sales days and outstanding payable days. Some CCC improvement can be observed in Genzyme. The figure was 229.2 in 2002 and started to decline in following years to 194.3. This is relatively good number compared to Genzyme competitors. The figure was even 332.3 in 2001 in for Genentech but improved since then. Interesting are relatively high CCC numbers of Gilead Sciences which performed well financially in the period and achieved strong share price rise. The best CCC numbers from appendixes examples produced Schering-Plough in 2001 and 2002. However following decline is likely to be among underlying factors of its profitability crisis in the last years.

From liquidity and debt point of view there are no abnormalities in Genzyme economics. Current ratio is higher and Debt/Equity ratio lower then average. However, this is not surprising as equity is preferred form of financing in companies associated with high investment risk. This fact is clearly visible when comparing biotechnological companies and established drug manufacturers. Shering-Plough an Eli Lilly debt/equity ratios are close to 0.6 while the value oscillate around 0.2 for biotechnology companies.

When evaluating investment ratios high P/E values of biotechnological companies are not surprising. In 2005 Genzyme was traded at P/E 42.9 Eli Lilly 30.9 and Genentech even 78.4. 30.9 of Gilead Sciences could be viewed rather low at the industry average. As more of the companies mentioned have not produced profit in some years they P/E are subsequently negative where applied. In comparison S&P 500 P/E was 17.3 in 2005 and higher in previous years. P/E ratio of Genzyme can be viewed as quite realistic taking into consideration that new product launch present opportunities for future growth. This high P/E is another sign that Genzyme is rather speculative stock what can be observed on volatility of its shares. Investors should rather be careful about too high ratio of Genentech. For company which now has highest capitalization in biotech sector it is not sustainable to

hold unrealistically high P/Es over long time period. The company produced superb returns from 2003 to 2005 but failed to substantially rise profit. In this case high P/E may signal that shares are "overvalued". On the other hand results of Gilead Sciences could point to opposite development. Investors were in this case able to predict rise of profits and accepted P/Es of over 100 in 2001. It turned into good investment which produced double digit returns in four following years with low of 20.1% return in 2004. However as company prospects are still good it may be worth higher share price. Price/Book ratio is usually not considered crucial in evaluating tech stocks as tangible assets are less important for them then intellectual property. Common pattern is high P/B values. This is the case when Genetech had 13.1, Eli Lilly 5.9 and Gilead Sciences 8. All these numbers are well over S&P 500 average of 2.8 in 2005. While Genzyme P/B is still over S&P it is considerably lower than in the other biotech companies. This may be explained by the fact that Genzyme competitors rely more on contract manufacturing while Genzyme invested heavily into its own facilities. Price/Cash Flow ratio value 26.3 can also sound positively for Genzyme while lower to other compared companies. Also in this case value of Price/Cash Flow ratios are higher for biotechnology sector compared to S&P 500 average values.

Conclusions and Recommendations

Aim of this work was to assess financial performance of Genzyme primarily from both managerial and investor points of view. Underlying assumptions of this analysis were view on stock market as efficiently working mechanism. There is strong evidence that established stock markets works with high efficiency and as it is described in Efficient Markets Hypothesis which is most widely accepted view on functioning of stock markets.

The analysis was performed utilizing financial ratios as simple and effective tool of assessing financial health of a company. As ratios relate one figure of financial data to another they can be useful in comparison of businesses of different size in many areas such as efficacy, profitability, liquidity. Financial ratios are also core of fundamental analysis used by investors in evaluating shares. Also technical analysis is mentioned as controversial tool of stock market evaluation often used by speculative investors. Additional data from various sources are presented in the assignment which cover general view on company operations, stock performance. Preferably larger sets of data were used in order to identify trends in financial performance and drawing more detail picture of the company and its main competitors.

Genzyme is established biotechnological company which belongs to broader group of leaders in the sector. Over its 25 years of existence it brought more products to the market and posses prospective pipeline. Genzyme investors have more reasons to be satisfied and some reasons for concerns as well. In long run Genzyme shares provided considerable returns. Its shares were valued around $ 10 ten years ago and $ 65 is current price. This rise was weighted against high volatility. Genzyme also outperformed biotechnology and pharmaceuticals composed indexes in last five years.

Financial data of Genzyme were improving in last five years. 2005 net income $ 441 M was the best result in the company history. When evaluating profitability ratios trend of improving both gross and net profit margins is evident. However, the results were not as good as results of its main competitors Genentech and Amgen. The same assertion apply to return on assets and return on equity figures. Not so evident but trend in improvement is also visible in efficacy ratios indicated by moderate improvement in cash conversion cycle. Interestingly Genzyme outperformed its competitors in efficacy ratios. Liquidity and gearing ratios are in range of expectation while feature of equity financing is widespread in biotechnology sector. From this point of view financial situation is stable and problems with liquidity are unlikely to occur. From investor point of view investment ratios play substantial role. Current Genzyme P/E is 49.48 and the figure was 42.9 at end of 2005. This place the company into group in which investors are expecting substantial rise in profits in future. This is likely to happen because of extensive list of products in late stage of clinical development. Furthermore product revenues are still rising almost in all marketed products and profit margins improving. When compared to P/E of Genentech with much higher capitalization Genzyme P/E seems to be realistic.Genzyme has lower Price/Book ratio but this figure is not considered crucial in biotechnology sector.

From managerial point of view there remain some threats and ambiguities worth eliminating. It is clear that company revenues are now dependent on sales of few products. The fact that company is focused on narrow market segment bring some advantages and limitations. Genzyme position is unlikely to be challenged in next years in area of rare disorders what is core of the business. Genzyme heavily depends on relationships with third party users – insurance companies. There are some indications that under rapidly rising number of approved orphan medicines authorization (in other indications) regulatory bodies responsible for pricing are pressed not to increase their budget. After 10 years data exclusivity applications based on biosimilarity can be expected from other companies and

there is not other company more vulnerable then Genzyme. We have to keep in mind that producing medicines for treating rare disorders mean only 1200 patients taking Cerezyme in the US who have to pay off stellar R&D costs. Genzyme is taking successful steps in diversifying its portfolio to other therapeutical areas and it seems to be necessity for future growth. As also seen in P.B ratio Genzyme invested heavily into its manufacturing in four countries. There are some advantages of this move. Good efficacy figures (CCC) may be related to better logistics. The company is not dependent on other producers (as most biotechnology companies which are heavily dependent in contract manufacturing) and even could serve as contract manufacture in future. This may be also related to the company value chain as Genzyme face little competition now and there is not strong pressure on manufacturing costs. If market circumstances changed it might affect company very negatively. Therefore Genzyme should be very careful in overseeing manufacturing efficiency. Improving financial results can lead to better lending position of the company. Debt/equity ratio of Genzyme is low so this can be opportunity for changing capital structure in favor of gearing.

From investment point of view Genzyme provided fair and over average returns since its introduction on stock market. Financial performance is relatively stable and improving. Genzyme is realistically expected to substantially increase its product portfolio in foreseeable future resulting in higher profits. This stock can be good portfolio investment for those who are willing to accept risk associated with biotechnology stocks. Some observable trend of providing more stable financial results could resulted in decrease of share price volatility. It is understood that this kind of portfolio investment is suitable for those whose expected investment period is at least five years.

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Appendices

Genzyme – Consolidated Statements of Operations Data	2005	2004	2003	2002	2001
Revenues					
Net product sales	2453303	1976191	1563509	1199617	1110254
Net service sales	261379	212392	130984	114493	98370
Research and development revenue	20160	12562	19378	15362	15006
Total revenues	2734842	2201145	1713871	1329472	1223630
Operating costs and expanses:					
Cost of product sold	462177	448442	399961	309634	307425
Cost of services sold	170475	140144	75683	66575	56173
Selling, general and administrative	787839	599388	519977	438035	424640
Research and development	502657	391802	335256	308487	264004
Amortization of intangibles	181632	109473	80257	70278	121124
Purchase of in-process research and development	29200	254520	158000	1879	95568
Charge for impaired goodw ill	0	0	102792	0	0
Charge for impaired assets	0	4463	10894	22944	0
Total operating costs and expanses	2133980	1948232	1682820	1217832	1268934
Operating income (loss)	600862	252913	31051	111640	-45304
Other income (expanse)					
Equity in income (loss) of equity method investments	151	-15624	-16743	-16858	-35681
Gains (losses) on investments in equity securities	5698	-1252	-1201	-14497	-25996
Minority interest	11952	5999	2232	0	2259
Loss on sale of product lines	0	0	-27658	0	-24999
Other	-1535	-357	959	40	-1993
Investment income	31429	24244	43015	51053	50504
Interest expense	-19638	-38227	-26600	-27152	-37133
Total other income (expenses)	28057	-25217	-25996	-7429	-73039
Income (loss) before income taxes	628919	227696	5055	104211	-118343
(Provision for) benefit from income taxes	-187430	-141169	-72647	-19015	2020
Net income (loss) before cumulative effect of changes in accounting principles	441489	86627	-67592	85196	-116323
Cumulative effect of changes in accounting principles	0	0	0	-98270	4167
Net income (loss)	441489	86527	-67592	-13074	-112156

Table 2: Consolidated Statements of Operations Data

PERIOD ENDING	31-Dec-05	31-Dec-04	31-Dec-03
Assets			
Current Assets			
Cash And Cash Equivalents	291,960	480,802	292,774
Short Term Investments	193,946	70,994	120,712
Net Receivables	781,185	709,450	531,146
Inventory	297,652	293,658	267,472
Other Current Assets	100,256	78,725	110,872
Total Current Assets	**1,664,999**	**1,633,629**	**1,322,976**
Long Term Investments	746,332	689,697	936,912
Property Plant and Equipment	1,320,813	1,310,256	1,151,133
Goodwill	1,487,567	1,290,916	621,947
Intangible Assets	1,590,894	1,069,399	895,844
Accumulated Amortization	-	-	-
Other Assets	68,260	75,524	75,716
Deferred Long Term Asset Charges	-	-	-
Total Assets	**6,878,865**	**6,069,421**	**5,004,528**
Liabilities			
Current Liabilities			
Accounts Payable	529,353	482,283	364,778
Short/Current Long Term Debt	5,652	129,503	20,410
Other Current Liabilities	15,018	12,612	6,837
Total Current Liabilities	**550,023**	**624,398**	**392,025**
Long Term Debt	815,652	810,991	1,415,349
Other Liabilities	23,048	20,310	51,431
Deferred Long Term Liability Charges	340,275	233,566	209,311
Minority Interest	-	-	-
Negative Goodwill	-	-	-
Total Liabilities	**1,728,998**	**1,689,265**	**2,068,116**
Stockholders' Equity			
Misc Stocks Options Warrants	-	-	-
Redeemable Preferred Stock	-	-	-
Preferred Stock	-	-	-
Common Stock	2,593	2,491	2,247
Retained Earnings	329,456	(112,033)	(198,560)
Treasury Stock	-	-	-
Capital Surplus	4,687,775	4,217,357	2,957,578
Other Stockholder Equity	130,043	272,341	175,147
Total Stockholder Equity	**5,149,867**	**4,380,156**	**2,936,412**
Net Tangible Assets	**$2,071,406**	**$2,019,841**	**$1,418,621**

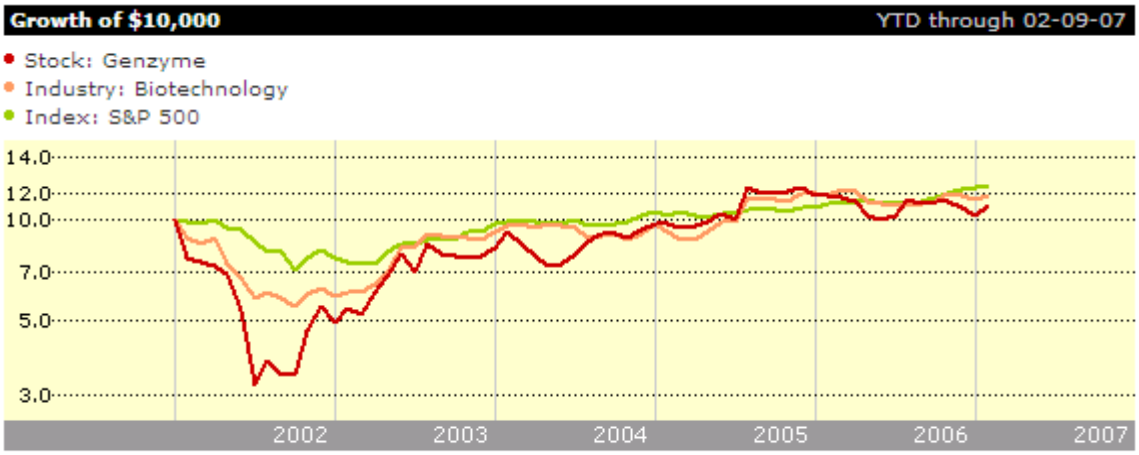
Table 3: Balance Sheet

PERIOD ENDING	**31-Dec-05**	**31-Dec-04**	**31-Dec-03**
Net Income	**441,489**	**86,527**	**(67,592)**
Operating Activities, Cash Flows Provided By or Used In			
Depreciation	284,620	205,114	160,459
Adjustments To Net Income	143,015	386,427	372,940
Changes In Accounts Receivables	(93,931)	(111,345)	(65,608)
Changes In Liabilities	(5,945)	(13,882)	6,895
Changes In Inventories	(17,241)	18,751	11,844
Changes In Other Operating Activities	(20,230)	5,920	(31,080)
Total Cash Flow From Operating Activities	**731,777**	**577,512**	**387,858**
Investing Activities, Cash Flows Provided By or Used In			
Capital Expenditures	(192,461)	(187,400)	(259,598)
Investments	(132,038)	318,453	(216,746)
Other Cashflows from Investing Activities	(866,484)	(176,749)	(551,848)
Total Cash Flows From Investing Activities	**(1,190,983)**	**(45,696)**	**(1,028,192)**
Financing Activities, Cash Flows Provided By or Used In			
Dividends Paid	-	-	-
Sale Purchase of Stock	366,131	140,311	119,519
Net Borrowings	(128,770)	(515,818)	374,847
Other Cash Flows from Financing Activities	21,212	21,780	(310)
Total Cash Flows From Financing Activities	**258,573**	**(353,727)**	**494,056**
Effect Of Exchange Rate Changes	12,395	9,335	32,241
Change In Cash and Cash Equivalents	**($188,238)**	**$187,424**	**($114,037)**

Table 4: Cash flow

Genzyme – Product Revenues	2005	2004	2003
Renal			
Renagel	417485	363720	281701
Hectorol	34515	0	0
Total renal	452000	363720	281701
Therapeutics			
Cerezyme	932322	839366	733817
Fabrazyme	305064	209637	80617
Thyrogen	77740	63454	43438
Other therapeutics	6119	2462	1802
Total therapeutics	1321245	1114919	859674
Transplant			
Thymoglobulin/Lymphoglobuline	127739	108928	29953
Other transplant	18143	42125	14367
Total transplant	145882	151053	44320
Biosurgery			
Synvisc	218906	88296	108498
Sepra products	68171	61647	47731
Other biosurgery	27402	30415	60700
Total biosurgery	314479	180358	216929
Diagnostics/Genetics			
Diagnostic products	104202	90955	88588
Other diagnostics/genetics	0	753	607
Total diagnostics/genetics	104202	91708	89195
Other product revenue	115495	74433	71690
Total product revenue	2453303	1976191	1563509

Table 5: Product revenues



Total Returns %	2002	2003	2004	2005	2006	YTD
Stock	-50.6	66.7	17.8	21.9	-13.0	7.1
+/- Industry	-11.7	11.2	8.4	-0.7	-10.4	3.3
+/- S&P 500	-27.2	40.3	8.8	18.9	-26.6	5.7

Chart 5: Genzyme share returns compared to the industry (www.morningstar.com, 2007)

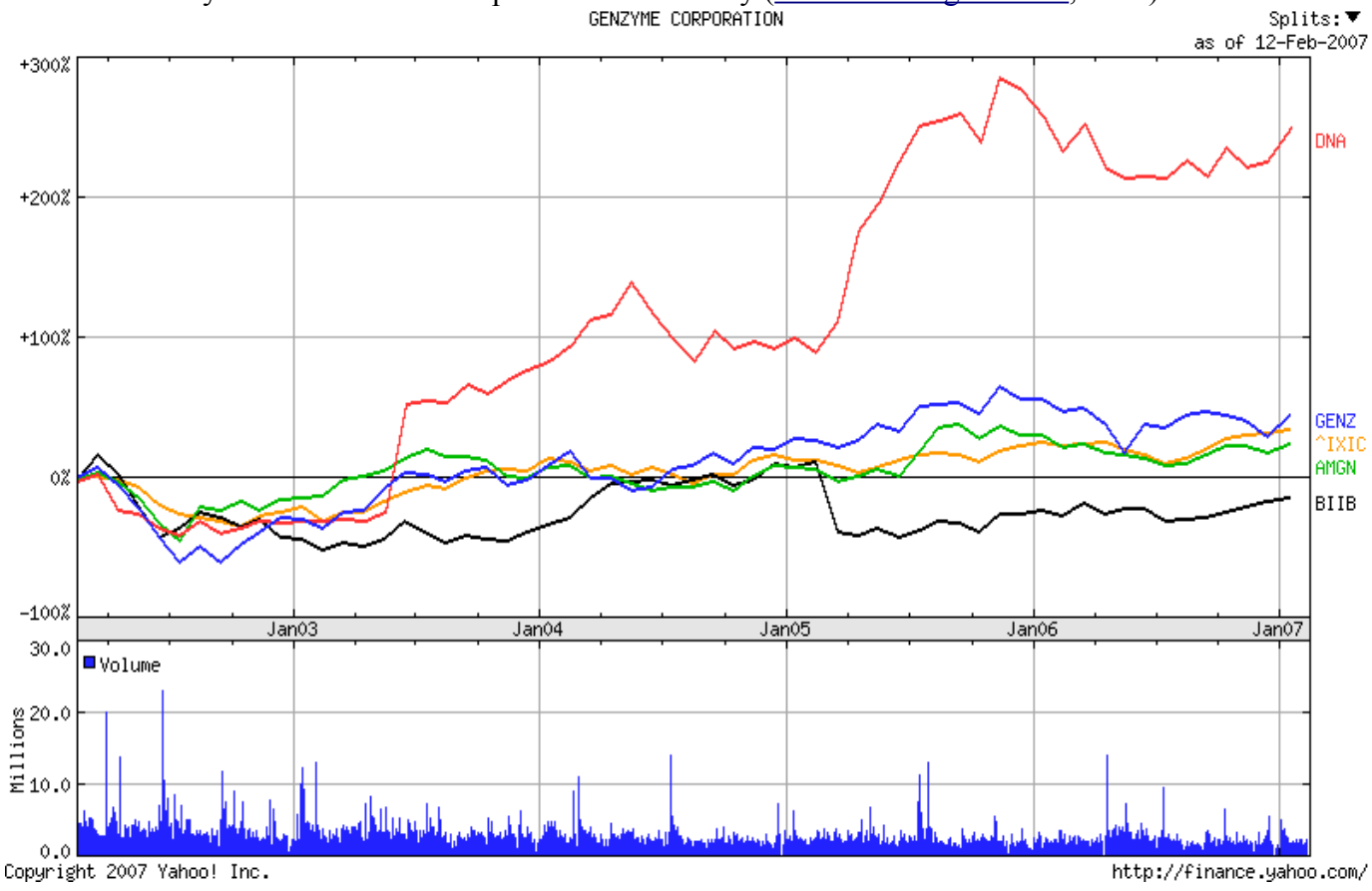


Chart 6: Returns of selected biotechnological companies

Genzyme – Profitability Ratios					
	2005	2004	2003	2002	2001
Gross Profit Margin	76.90%	73.30%	72.20%	71.70%	70.30%
Net Profit Margin	22.00%	11.50%	1.80%	8.40%	3.70%
Return on Assets	6.82%	1.56%	-1.49%	-0.33%	-3.09%
Return on Equity	9.28%	2.41%	-2.39%	-0.49%	-4.69%

Genentech – Profitability Ratios					
	2005	2004	2003	2002	2001
Gross Profit Margin	84.80%	85.40%	85.50%	83.80%	84.00%
Net Profit Margin	29.00%	24.60%	24.40%	1.10%	13.10%
Return on Assets	11.87%	8.65%	7.25%	0.92%	2.17%
Return on Equity	17.88%	11.80%	9.46%	1.13%	2.59%

Amgen – Profitability Ratios					
	2005	2004	2003	2002	2001
Gross Profit Margin	83.30%	83.60%	84.00%	86.70%	89.00%
Net Profit Margin	39.00%	31.70%	37.00%	-14.20%	38.10%
Return on Assets	12.56%	8.53%	8.93%	-9.01%	18.91%
Return on Equity	18.30%	12.08%	11.99%	-11.59%	23.51%

Schering Plough – Profitability Ratios					
	2005	2004	2003	2002	2001
Gross Profit Margin	64.80%	62.90%	66.00%	75.40%	78.80%
Net Profit Margin	-3.90%	-2.60%	-0.50%	25.20%	25.70%
Return on Assets	1.17%	-6.33%	-0.63%	15.01%	16.91%
Return on Equity	3.03%	-14.74%	-1.19%	25.85%	29.38%

Table 6: Profitability ratios

Genzyme – Efficacy Ratios					
	2005	2004	2003	2002	2001
Inventory Turnover Period	170.6	174	194.3	199	171.5
Cash Conversion Cycle	194.3	194.7	212.7	229.2	203.6
Payables Period	53.4	57.6	54.5	44.8	37.2

Genentech – Efficacy Ratios					
	2005	2004	2003	2002	2001
Inventory Turnover Period	233.4	287.6	328.1	310.1	320.7
Cash Conversion Cycle	209.4	303.5	340.8	323.6	332.3
Payables Period	80.1	44.7	42.2	35	34.9

Schering Plough – Efficacy Ratios					
	2005	2004	2003	2002	2001
Inventory Turnover Period	173.7	192.1	190.1	163.6	166.5
Cash Conversion Cycle	117	133.1	124	72.3	41.2
Payables Period	112.1	119.4	134.8	155.8	185

Eli Lilly – Efficacy Ratios					
	2005	2004	2003	2002	2001
Inventory Turnover Period	219	240.9	235.9	214.3	164.2
Cash Conversion Cycle	198.4	206.1	181.1	155.9	103.6
Payables Period	75.1	86.3	105.9	109.1	108.7

Gilead Sciences – Efficacy Ratios					
	2005	2004	2003	2002	2001
Inventory Turnover Period	247.4	256.5	242.5	238	249.6
Cash Conversion Cycle	240.3	248.9	221	201.8	217.3
Payables Period	76.2	91.2	97.3	114.1	128.4

Table 7: Efficacy ratios

Genzyme – Liquidity and Gearing Ratios					
	2005	2004	2003	2002	2001
Current Ratio	3.03	2.62	3.37	1.96	3
Acid Test Ratio	1.99	1.76	2.07	1.32	2.02
Debt/Equity	0.16	0.21	0.49	0.33	0.33

Genentech – Liquidity and Gearing Ratios					
	2005	2004	2003	2002	2001
Current Ratio	2.75	3.16	3.22	3.39	3.99
Acid Test Ratio	2.11	2.39	2.25	2.53	3.24
Debt/Equity	0.28	0.06	0.06		0.03

Schering Plough – Liquidity and Gearing Ratios					
	2005	2004	2003	2002	2001
Current Ratio	2.09	1.92	1.98	1.75	1.66
Acid Test Ratio	1.52	1.39	1.33	1.23	1.15
Debt/Equity	0.62	0.65	0.47	0.17	0.08

Eli Lilly – Liquidity and Gearing Ratios					
	2005	2004	2003	2002	2001
Current Ratio	1.89	1.69	1.58	1.54	1.33
Acid Test Ratio	1.29	1.25	1	1.05	0.99
Debt/Equity	0.6	0.6	0.5	0.59	0.48

Pfizer – Liquidity and Gearing Ratios					
	2005	2004	2003	2002	2001
Current Ratio	1.47	1.5	1.26	1.34	1.35
Acid Test Ratio	1.14	1.13	0.89	0.99	1.02
Debt/Equity	0.27	0.27	0.22	0.59	0.49

Table 8: Liquidity and gearing ratios

Genzyme – Investment Ratios	2005	2004	2003	2002	2001
Price/Earnings	42.9				
Price/Book	3.6	3.3	3.8	2.4	4.9
Price/Cash Flow	26.3	24	28	28.8	53.9

Genentech – Investment Ratios	2005	2004	2003	2002	2001
Price/Earnings	78.4	74.6	81.4		
Price/Book	13.1	8.4	7.6	3.2	4.8
Price/Cash Flow	42.3	49.1	40	29.6	60.4

Eli Lilly – Investment Ratios	2005	2004	2003	2002	2001
Price/Earnings	30.9	34.2	29.7	25.4	30.4
Price/Book	5.9	5.9	8.1	8.6	12.4
Price/Cash Flow	33.5	22.4	21.7	34.5	24.1

Gilead Sciences – Investment Ratios	2005	2004	2003	2002	2001
Price/Earnings	30.6	35.3		97.1	131.4
Price/Book	8	8.4	12.4	11.8	14.1
Price/Cash Flow	34.9	31.8	50	94.4	

S&P 500 – Investment Ratios	2005	2004	2003	2002	2001
Price/Earnings	17.3	19	21.1	20.1	23.8
Price/Book	2.8	3	3.2	2.6	3.3
Price/Cash Flow	14.1	14.9	14.4	17.8	27.6

Table 9: Investment ratios

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Assignment Submission and Tutor Feedback to Students Form
Students must attach a copy of the form to each piece of submitted work after completing Sections A And C: Sections B and D to be completed by University Staff.

Section A	**For office use only**
Student ID Number N0166764	

Degree Programme	Flexi MBA	Level year 1
Module Title	Managing and Accounting for Financial Resources	
Assignment Title	The Role of Financial Analysis for Business Management and Decision Making	
Tutor's Name Miroslava Vinczeová	Date Due 21.2.2007	Seminar Group

Please refer to your module documentation for details of the criteria for this assessment.

Section B Tutor's Comments

Criterion 1 – **Clarity and comprehension of the topic**
The report is well focused containing interesting however rather general justification given for the choice of the topic. The assignment shows your thorough understanding of the topic.

Criterion 2 – **The literature and elaboration of the theoretical part**
You have used the sources of literature beyond the basic course titles including internet and industry data which has helped you use and compare several approaches and methods of the analysis. However you could still extend the range of used literature sources. Despite of that, you have tried to treat them in a critical manner and apply consistently to business practice.

Criterion 3 – **The application of theories to practice**
You have presented the description of the industry with its specific features that are significant for understanding the results of the financial analysis of the analyzed company. The analysis provides a good insight into the company issues. It is imaginatively evidenced and reasoned. There has been an attempt to discuss alternative viewpoints with sound reflection on the theories. You present an excellent comparative analysis using data of the industry.

Criterion 4 – **The conclusions and recommendations**
Your conclusions are logical and justified. The recommendations you present seem to be reasonable, you have also tried to concern on some strategic recommendations. They are however rather general and too brief.

Criterion 5 – **The language and formal side of the assignment**
The formal and language standard of the assignment is good and sufficient. The report contains a lot of graphs and tables which support its high level of quality.

Assessed by Miroslava Vinczeová Date 23.2.2007 Mark (%)

Section C (Assignment submission receipt)

I certify this submission is the result of my own work, and does not contravene the University Regulation on Academic Misconduct.

Student ID Number Student Signature [redacted]

Module Title

Assignment Title

Section D

Received By Date Received