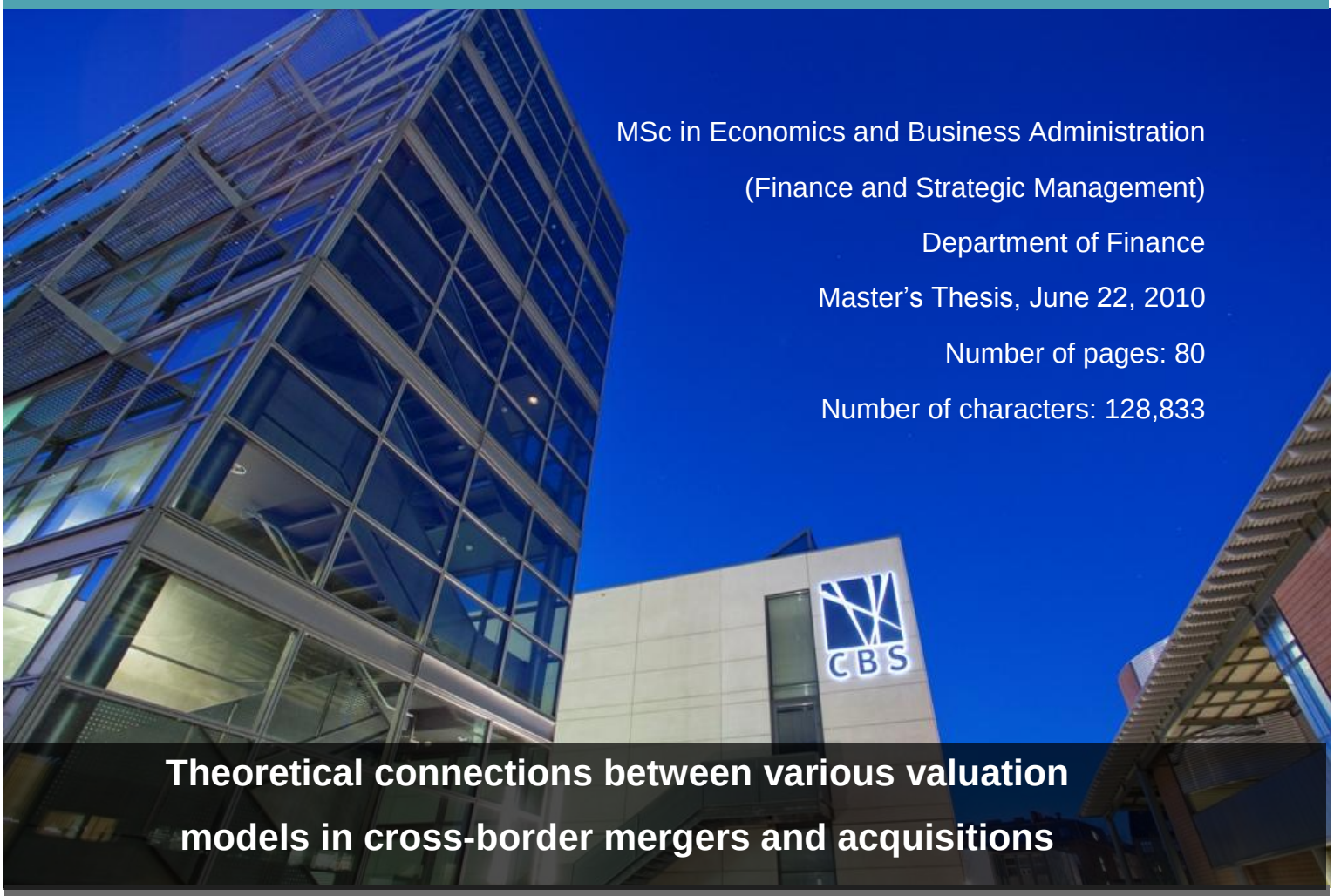

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Theoretical connections between various valuation models in cross-border mergers and acquisitions

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Executive Summary

Cross-border mergers and acquisitions are complex. Many acquisitions do not always meet its goal for a number of reasons. This is due to multinational regulations, antitrust concerns, wealth transfer across different claimants, and importantly a choice of the appropriate valuation techniques. All of these can bring a greater risk of failure.

An accurate and appropriate valuation of a target company is crucial. This process is necessary for both the acquiring and target company. It helps the acquiring company decide on the value of a potential acquisition, and allows for successful and fair negotiation. In addition, it aims for a comparison of various target companies and helps predict the success of a potential merger.

The purpose of this thesis is not only to review the process of international mergers and acquisitions by focusing on the techniques of business valuation but also to present theoretical topics associated with various valuation methods in both pre- and post-international takeover.

The thesis approaches these issues by using a hypothetical takeover situation of an US-based pharmaceutical firm, Eli Lilly & Company by a Danish pharmaceutical company, H. Lundbeck. Four primary valuation models; Discounted Cash Flow, Publicly Traded Comparable Company Peer Group and Comparable Change of Control Transaction, and Adjusted Present Value valuation methods are chosen. These models are selected because its simplicity. Moreover, they are widely used among valuation professionals, and are comparable among themselves. Variety of techniques of various complexities and utilities of each models are discussed. Necessary data are obtained from the public annual reports, published market researches, financial databases, strategic and industry analysis.

The thesis finds that successful acquisition is not only about getting the right assumptions, choosing the best valuation techniques and negotiation of a purchase acceptable for both the target and acquiring company. Valuation techniques depend on a company to company, and market to market. Other concerns are also involved in the successful acquisition process. These issues are related to cross-border mergers and acquisitions such as how the valuation affects the decision to tender an offer, and the negotiation process. The impact of different forms of acquisition on the negotiation process, the kinds of appropriate currency and discount rate to be used when evaluating a cross-border company and the implications of the transfer of wealth that occur as part of a merger.

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1. INTRODUCTION

1.1 Preface

Cross-border takeovers have received much attention over recent decades. In the past, takeovers were limited to certain industries and were mostly seen in domestic markets. Increasingly, more corporations are moving towards international takeovers, involving transactions and operations in multiple countries.

Cross-border acquisitions are becoming more popular for a number of reasons. To illustrate, a pharmaceutical company may take over another firm to increase its pipeline, expand its existing market, and grow sales. Nonetheless, international acquisitions can bring additional risk. For instance, financial liability incurred after merging, the impact of multinational regulation on corporate transactions, and the effects of antitrust law on competition can all be risky.

The success or failure of an acquisition proposal does not only require an understanding of the different components of the acquisition process, e.g. an analysis of business appraisal and financing, but also the negotiation of a fair price between merging companies involved in business integration.

Previous studies particularly focused on business valuation of a single company on a stand-alone basis. Such studies investigated whether the fair value of a company was priced according to the market perception, and provided information regarding buy, sell or hold strategy. However, there are many subtleties in conducting a business valuation. These can include, mergers and acquisitions, buy/sell agreements, acquisitions of capital, and litigation support.

1.2 Delimitations and Scope of Project

The scope of this thesis is to determine the value of a company in a theoretical business integration by using different valuation methods. We will examine a hypothetical cross-border takeover situation, i.e. a Danish pharmaceutical firm H Lundbeck A/S (“Lundbeck”) that wishes to acquire an American drug company, Eli Lily & Company (“Lilly”). This thesis will determine the most accurate and appropriate enterprise value for ”Lilly” in an international takeover setting by using different valuation models. This research does not intend to investigate whether the Company is correctly valued on a stand-alone basis by the market. Valuation will be examined in both a pre-merger, as well as post-merger environment. This research only includes US-based companies that

are publicly listed and who apply the General Accepted Accounting Principles (GAAP). The chosen companies are of medium to large size, measured by market share. The size of company is a focus because as size increases, firms develop a higher number of stakeholders, providing sufficient information for study Reporting quality is assumed to be high, therefore the quality of financial reports will not be a central point in this study.

1.3 Objectives and Problem Statement

A number of issues develop during the process of international acquisition. Two major analytical processes, pre-merger and post merger evaluations will be reviewed in detail.

Pre-merged business valuation examines business valuation prior to merger. This is the most important step for both acquiring and target firms during the negotiation of the appropriate enterprise value. During negotiation, one would use theoretical valuation methods to estimate the value of the business following merger.

There are a number of business valuation methods. This thesis will review the characteristics of the most useful evaluation models and select the most appropriate models for this hypothetical merger.

The selection of an appropriate valuation method requires financial justifications based on both economic conditions and business environments. Though mathematical models are an important component of this process, intuition and judgments are also invaluable. The primary concern of this project is to review the basic tools of each valuation process and to examine the advantages and drawbacks of each approach.

An important aspect of the evaluation process is the determination of the ‘fair value’ of a company. To illustrate, when a company is about to change hands, the assumption is that the company is not going to be liquidated but will continue to be operated as an ongoing enterprise. Therefore, the issue of the discount of the lack of marketability and discount for the control premium should be included on a going concern company. The issues will be discussed later in this project.

The achievement of a successful cross-border acquisition is not only limited to the most appropriate valuation model, but also the issues of wealth transfer, the forms of acquisition, as well as the negotiation of a purchase acceptable for both entities. These considerations form the second part of this project. i.e. the consequences that follow the post-merger.

The post merger environment raises other concerns for the bidding companies. Thus, specific issues and the risks of international takeover will be discussed. Tax consideration, currency transaction and antitrust regulation will be examined.

In summary, the thesis will examine the hypothetical cross-border acquisition of Eli Lilly & Company and will include:

1) The appropriate valuation models that can be use to determine the fair market value of Lilly as a target company.

2) The theoretical connections between valuation techniques in cross-border mergers and acquisitions.

3) An analysis of pre- and post-merger issues during an international takeover.

1.4 Methodology

This thesis begins with data acquisition. The process of acquiring data will be discussed in the next section.

The scope of this thesis is to acquire both theoretical and practical knowledge of value for change of control process in mergers and acquisitions by using strategic and financial valuation methods. Therefore, the main research questions will be answered through different mechanisms of valuation analysis, strategic, historic financial and forecasting of future prospects.

To expand, the primary focus is to employ the conceptual and analytical techniques that can be used to critique and interpret the financial health of the target organization both in historical and future terms. At both practical and theoretical levels, this thesis integrates research in the areas of accounting, strategy, quantitative methods and finance, which have proven useful in the financial analysis of organizations. These tools have been proved to be a prerequisite for valuation models.

A basis for evaluation and use of information from accounting and other business reports for decision-making by investors, creditors, and company management will be applied throughout the chapters. Thus, an informed-investor perspective or business appraisal will be adopted. In order to develop an understanding of how business reporting and other information can be used to assist

investors, creditors, and managers in making informed decisions about a company, both important qualitative and quantitative sources of corporate information will be analyzed and evaluated.
When evaluating a company it is necessary to identify which factors create value for the company and whether these factors will continue to create value in the future. Thus a valuation report needs to identify value drivers in order to determine the value created by the targeted company.

Therefore, primary concern on this thesis is to identify what are the specific key differences, characteristics, or specific actions that have contributed to differentiating the chosen (targeted) company from its competitors. In terms of differentiation, a firm can distinguish itself from others in a number of ways: 1) through product markets, i.e. relative market share, growth, and etc., 2) financial market results, e.g. relative Return on Investment, total returns, and etc.

Accordingly, a public-traded company with a growing business is a preferred choice, e.g. pharmaceutical or technological firm. In fact, since a public-traded company is subject to stringent regulations, it is required to obey the law and undergo independent auditing. As a consequence, this ensures greater validity of public information.

Nevertheless when assessing the buy-sell transactions, it is not only important to estimate the potential market value of a firm's financial assets but also its liability. Hence another critical issue is to evaluate the target firm by using collected information from the first phase and then proceed with an analysis of financial health of the organization with the help of analytical approaches. Two aspects of business valuations are involved: qualitative aspect and quantitative aspect.

Qualitative aspect will be reviewed through various strategic frameworks, i.e. business environment analysis, industry analysis, the company's internal and external factors analysis. The goal of these frameworks is to evaluate how the impact of a competitive business environment and industry structure affects the company both in near- and long-term. Through the viewpoint of these frameworks, it will be possible to understand the strategic focus of the company, where it stands relative to its competitors, and whether this strategic focus leads the company to a sustainable competitive advantage. After all, it should be noted that a strategic analysis will make it possible to create an estimate of the appropriate value for the company.

Quantitative aspect will be assessed through different techniques. A review of company's financial statement, in particular its accounting policies will be the focus. The major advantages of this analysis will be not only to find out whether the creation of the financial statement has shown any possible accounting missteps, but also to make required adjustments to the information before forecasting profits and cash flows.

In addition, historical financial information will be reviewed. This analysis primarily focuses on how well the company is performing financially relative its peers. Different ratios: profitability ratios, efficiency ratios, liquidity ratios and debt ratios will be assessed to benchmark the company to its peers.

Another important quantitative aspect is to forecast future sales and income statement estimates, i.e. pro forma financial statement analysis. This stage is to forecast the company's financial performance according to data collected from strategic analysis, the analysis of accounting policies and financial ratios. Once these estimates are obtained, it will be possible to calculate the company's estimate fair value by using various valuation models.

Since characteristics and differences between the models are to be discussed accordingly throughout the business valuation methods chapter, I will now only point out that the business valuation methods to be applied will be 1) Discounted Cash Flow ('DCF'), 2) Publicly Traded Comparable Company Peer Group, 3) Comparable Change of Control Transaction, and 4) Adjusted Present Value valuation methods. Though valuations can be done through different approaches: merger and acquisition transactions will mostly use the 'Discounted Cash Flow' method[1] and 'Comparable Valuation' method[2]. These two methods are the most recognized techniques among authors and proved to be widely used when valuing shares of publicly traded firms in mergers and acquisitions.

The DCF valuation model is determined by the value of estimating expected future earnings from owning the assets discounted to their present value. In other words, a company's present value is

[1] Kaplan, S. & Ruback R., ''The Valuation of Cash Flow Forecasts: An Empirical Analysis'', *the Journal of Finance,* pp. 1059 - 1093.

[2] Finnerty, D. & Emery, D. 2004, ''The Value of Corporate Control and the Comparable Company Method of Valuation'', *Financial Management*, pp. 91 - 99.

defined as the expected future cash flow discounted by the company's cost of capital. As a result of the uncertainty of the future, both historical analysis and prediction of the future assumptions are required in a valuation of a company. Thus, adjustments and assumptions will be evaluated in order to provide the most possible and accurate input to the formula.

Alternatively, the Comparable Valuation methods are a set of methods that use comparable situations to infer the value of the firm. The comparable valuation methods estimate a firm's value by multiplying a ratio estimated from comparable firms (valuation multiple) times Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA), Earnings before Interest, and Taxes (EBIT), revenue or some other performance measure.

Because this thesis will evaluate a business in cross-border acquisitions viewpoint, adjustments according to business valuations will be taken into account. For instance, the discounts for lack of comparability and the control premium offered to the target company. The two main business valuation methods will be presented, compared and applied to a real world company. The focal point for this is to offer the users, i.e. management and shareholders, the most accurate estimate and fair market value of the target company. This makes it possible to present the results of what can be learned through valuation methods in mergers and acquisitions.

1.5 Data

As determined previously, the qualitative tool is primary strategic analysis employed through analytical frameworks of industry and business environment, i.e. Political, Economic, Social and Technology, Porter's five forces, and Internal factors (Strengths and Weaknesses) and External factors (Opportunities and Threats). These frameworks will be adopted to successfully analyze a business situation, industry structure, risks and opportunities of the company. These tools will be concurrently applied to effectively communicate the results of analysis.

In relation to quantitative tools; accounting policies, financial ratios, forecast estimates (earnings and income statement) will be assessed to determine growth rate and free cash flow prediction in business valuation models (Discounted Cash Flow, and Multiples analysis).

The major source of financial and strategic information is acquired from the companies' annual reports. Only annual reports that were externally audited and filed with the Security Exchange Commission (SEC) will be used to ensure the standards of report.

In addition, trends in key financial figures and comparables, for example ratios and time-series data, were collected from external sources: Thomson Online Banker, Google Finance, Yahoo Finance, etc. These databases were used to compare the company to its peers within the industry.

Market and industry data were acquired through financial databases, for example, Thomson Online Banker, Stock exchanges and Standard & Poor's.

Lastly, the data and analysis will be illustrated through graphs, tables, and charts.

2. COMPANY OVERVIEW

Eli Lilly and Company 'Lilly' (NYSE: LLY) is a pharmaceutical company, which is principally engaged in the design, development, manufacture, and selling of pharmaceutical products by utilizing its most advanced technological tools. The Company was incorporated in 1901, and headquartered in Indianapolis, United States[3].

The Company develops, manufactures, and sells products in one business segment, pharmaceutical products. It also conducts research to discover products to treat disease in animals. The Company's products include Neuroscience products, Endocrinology products, Oncology products, Cardiovascular products, Animal health products, and other pharmaceuticals. Among patented

[3] Reuters, Eli Lilly & Company overview. May 2010. Web. 30 May 2010.

products produced and sold by the company are Humalog, Evista, Alimta, Byetta, Cialis, Cymbalta, Erbitux, Forteo, Gemzar, Zyprexa, and Prozac[4].

Lilly's famous neuroscience products include Zyprexa, for the treatment of schizophrenia and Prozac for the treatment of major depressive disorder, obsessive-compulsive disorder, bulimia nervosa, and panic disorder[5].

Endocrinology products include Humalog for the treatment of diabetes and Evista for the prevention and treatment of osteoporosis in postmenopausal women and for the reduction of the risk of invasive breast cancer in postmenopausal women with osteoporosis and postmenopausal women at high risk of invasive breast cancer[6].

Oncology products include Gemzar for the treatment of pancreatic cancer and Alimta, for the first-line treatment, in combination with another agent, of non-small cell lung cancer for patients with non-squamous histology[7].

Cardiovascular products include Cialis, for the treatment of erectile dysfunction and ReoPro, for use as an adjunct to PCI and Xigris, for the treatment of adults with severe sepsis at high risk of death[8].

Animal health products include Rumensin, a cattle feed additive that improves feed efficiency and growth and also controls and prevents coccidiosis; Tylan, an antibiotic used to control certain diseases in cattle, swine, and poultry; and so on[9].

Lilly owns over 134 subsidiaries operating throughout the world. The Company's geographic segment comprises three segments in the United States, Europe and other foreign countries. Products are sold in approximately 128 countries. Lilly distributes pharmaceutical products principally through independent wholesale distributors, with some sales directly to pharmacies.

[4] Reuters, Eli Lilly & Company overview. May 2010. Web. 30 May 2010.

[5] ibid.

[6] ibid.

[7] ibid.

[8] ibid.

[9] ibid.

Exhibit 1 illustrates Lilly's key financial figures from end of year 2005 to 2009. An in-depth analysis of the historical financial performance is exhibited in chapter 5, Financial Ratio Analysis.

Exhibit 1

5 Yr. Financial Key Figures

ELI Lilly & Company **Symbol: (C000002765)**

Source: ThomsonFinancial

Scaling Factor : 1000000 USD Currency: USD

5 YR KEY FIGURES	12/31/05	12/31/06	12/31/07	12/31/08	12/31/09
Revenue	14645.30	15691.00	18633.50	20378.00	21836.00
Earnings Before Income, Taxes, Depreciation & Amortization	2085.20	2758.00	3046.20	-2201.90	4321.30
Return on assets	8.28%	12.11%	12.70%	-6.86%	15.88%
Gross profit margin	76.28%	77.40%	77.20%	78.49%	80.55%
No. of shares	1087.49	1131.67	1134.31	1136.95	1149.03
Share price	56.59	52.10	53.39	40.27	35.71
Market value	61541.06	58960.01	60560.81	45784.98	41031.86

As shown, Lilly has seen a steady growth in revenue every year since 2005. Up until 2007, Lilly experienced a negative result in Earning Before Income, Taxes, Depreciation & Amortization (EBITDA), however it improved in 2009.

In terms of how effective the Company's management is at using its assets to generate earnings, Return on Assets (ROA) indicates the increasing trend since 2005 from 8.28 percent to 15.88 percent in 2009, with an exception in 2008 when ROA became negative.

Lilly's gross margin illustrates the difference between the sales and the production costs excluding overhead, payroll, taxes and interest payments. The higher gross margins for a company reflect greater efficiency in turning raw materials into income. Exhibit 1 shows that Lilly's gross margin had steadily increased since 2005 from 76.28 percent to 80.55 percent in 2009.

Because share price does not reflect an economic reality for a company, it will not be explicitly distinguished. An illustration of share prices above (Exhibit 1) exemplifies how much market value of Lilly is worth according to its share price each year since 2005.

Exhibit 2 below shows information regarding net sales by product and by geographic locations, which account for the total sales each year between 2007 and 2009. Lilly operates in one significant business segment, i.e. human pharmaceutical products. Because the animal health business segment is relatively small and shares many of the same characteristics as its human pharmaceutical

products, Lilly includes this segment into pharmaceutical products for purposes of segment reporting.

Exhibit 2

3 Yr. Segment Information

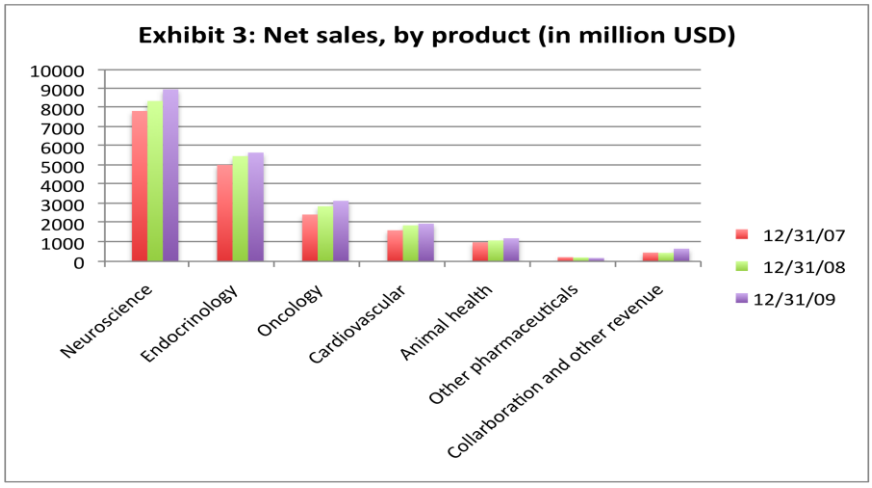
ELI Lilly & Company

Source: 2009 Annaul Report

Scaling Factor : 1000000 USD — Currency: USD

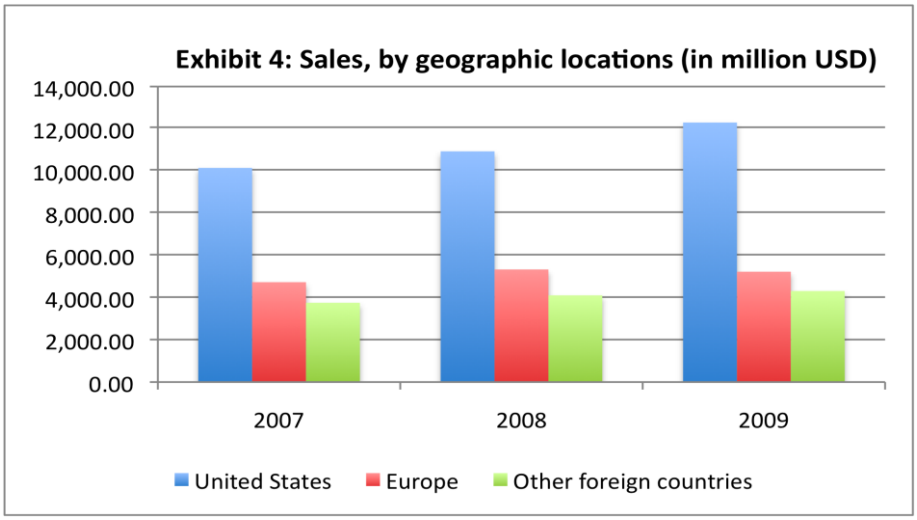
3 YR SEGMENT INFORMATION	12/31/07	12/31/08	12/31/09
Net Sales - by product			
Neuroscience	7,851.00	8,371.50	8,976.40
Endocrinology	5,037.70	5,493.50	5,677.40
Oncology	2,446.40	2,877.10	3,161.70
Cardiovascular	1,624.10	1,882.70	1,971.10
Animal health	995.80	1,093.30	1,207.20
Other pharmaceuticals	219.70	207.70	177.70
Collarboration and other revenue	458.80	446.10	664.50
Total revenue	18,633.50	20,371.90	21,836.00
Geographic Information			
United States	10,145.50	10,930.10	12,294.40
Europe	4,731.80	5,333.50	5,227.20
Other foreign countries	3,756.20	4,108.30	4,314.40
Total revenue	18,633.50	20,371.90	21,836.00

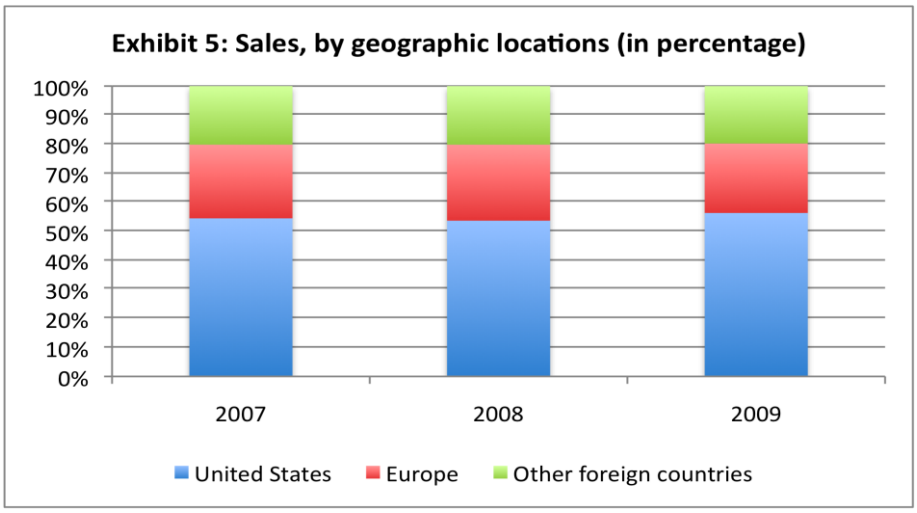
Exhibit 3 below indicates that between 2007 and 2009, neuroscience products generated the highest net sales of all Lilly's human pharmaceutical products. In 2009, the Company profited from selling neuroscience products at a net sale of $8,976.40 million. This was followed by, in order of diminishing of profitability, endocrinology, oncology, cardiovascular, animal health products, collaboration and other revenue and other pharmaceuticals products between 2005 and 2009. It is important to note that collaboration and other revenue includes shares of the U.S. gross margin on Byetta and the global Erbitux royalty as reported in Note 4, Lilly's Consolidated Financial Statements.



Source: 2009 Annual Report

As pointed out earlier, most of Lilly's pharmaceutical products are distributed through wholesalers that serve pharmacies, physicians and other health care professionals, and hospitals. Animal health products are sold primarily to wholesale distributors. In 2009, the three largest wholesalers accounted for between 12 percent and 17 percent of consolidated total revenue[10].





Source: 2009 Annual Report

Geographically, Lilly distributed its products in the United States more than other locations between 2007 and 2009, as shown in Exhibits 4 and 5. In 2009, Lilly generated revenue of approximately $12,300 million or about 56 percent of total revenue from selling its products in the United States. Europe is the second most profitable location in terms of net sales.

[10] Eli Lilly & Co.. 2009, *Annual Report*. Eli Lilly & Company. 2009. Web. 19 April. 2010.

Exhibit 6

5 Yr. Stock Price Performance

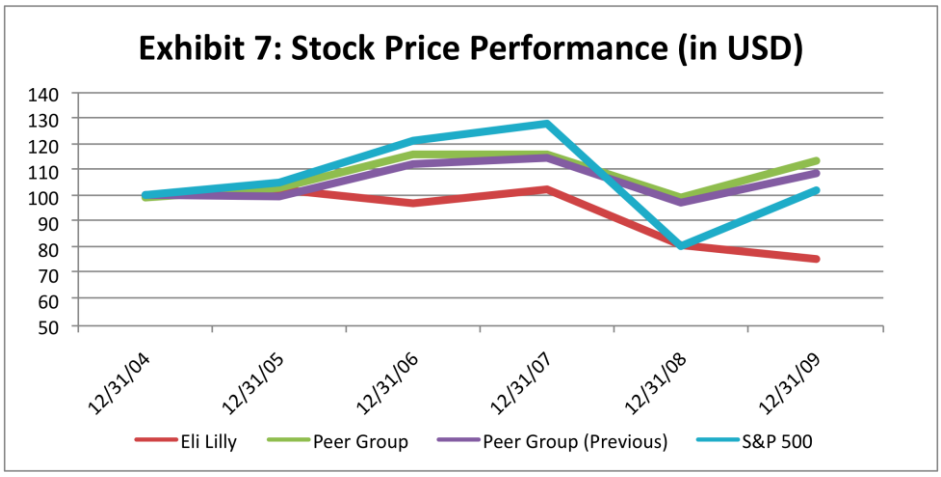
ELI Lilly & Company

Source: 2009 Annual Report
Currency: USD

5 YR STOCK PRICE PERFORMANCE	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08	12/31/09
Eli Lilly	100.00	102.53	97.18	102.70	80.74	75.80
Peer Group	100.00	103.28	116.07	116.21	99.55	113.46
Peer Group (Previous)	100.00	99.29	112.42	114.87	97.59	108.78
S&P 500	100.00	104.90	121.43	128.09	80.77	102.08

Exhibit 6 above presents a comparison of five-year cumulative total return among Lilly's stock price, the stock price of its Peer Group, Peer Group (Previous) and Standard & Poor's (S&P) 500 Stock Index for the year 2005 through 2009. The graph assumes that, on 31 December 2004, as a based year, a person invested $100 each in Eli Lilly stock, the peer group's common stock and the S&P 500 Stock Index. The graph measures total shareholder return, which takes into account both stock price and dividends. It assumes that dividends paid by a company are reinvested in that company's stock.

According to Lilly's 2009 annual report, the difference between Peer Group and Peer Group (Previous) is due to changes in the pharmaceutical industry. The Peer Group (Previous) excludes Schering-Plough Corporation and Wyeth as both companies were acquired during 2009. In addition, major distinction is that the Peer Group (Previous) used to benchmark 2008 whereas the Peer Group used to benchmark 2009. The 2009-benchmark Peer Group comprises the ten companies in the pharmaceutical industry: Abbott Laboratories; Amgen Inc.; AstraZeneca PLC; Bristol-Myers Squibb Company; GlaxoSmithKline plc; Johnson & Johnson; Merck & Co., Inc.; Novartis AG.; Pfizer Inc.; and Sanofi-Aventis.



As demonstrated in Exhibit 7, if a person invested $100 each in Lilly stock in 2004, he received a $2.53 additional return from $100 initial investment at the end of 2005. However, Lilly stock prices tend to deteriorate after 2007, at the same direction as its peers. The downward trend may have caused by the global economic downturn that started in 2007. In comparison to overall 5 years returns from the Peer Group, the Peer Group (Previous) and the S&P 500 Stock Index, Lilly stock return tends to perform worse than its peers. With an exception in 2008, Lilly stock return performed at the same level as the S&P 500 Stock Index. An important point to make here is that the stock price of a company may not reflect an economic reality and how the company performs relative to its peers. Thus, it is critical to keep in mind that stock price should not be weighted as much as other economic performance when evaluating performance of a company.

3. STRATEGIC ANALYSIS

In general, analyzing the competitive environment of a company is the most critical element of market analysis. To a certain extent, conducting merger and acquisition planning cannot be achieved without performing basic market analysis in an acquisition process. In fact, it is necessary for the acquiring firm to know the target competitive position and growth opportunities that can ultimately be imported when the businesses are combined. In other words, the goal of any acquisition should be to maximize the merged company's overall productivity and profitability.

In terms of valuation perspective, growth assessment is a significant input in forecasting estimates and subsequently evaluating a company. Therefore, a strategic appraisal is a prerequisite for an acquiring company to determine competitive challenges before any transactions can be made.

To begin with, the environment section of this thesis presents an assessment of the macro and microeconomic influences that essentially affect Lilly's operating environment. In practice, the aim of this analysis is to determine how strategically reasonable it is for a company to acquire Lilly as a target firm.

3.1 Business Environment – PEST Analysis

To understand the effects of the environment on any industry it is imperative to study the four cardinal influencers on the industry namely Political, Economic, Social and Technological ('PEST') factors. Thus, PEST analysis is employed as a framework of macro-business environmental factors. This framework will identify and evaluate the key environment factors that either have positive or negative impact on Lilly's operation.

Below is an analysis of the structure of the pharmaceutical industry using the PEST model. To begin with, tighter regulatory compliance overheads, rising takeover transactions, patent expiries and technological advancements have made the pharmaceutical industry an increasingly tough and competitive environment. As part of the pharmaceutical industry, Lilly faces an extremely competitive business environment. Hence such a challenge makes it tougher for the Company to compete.

Exhibit 8 highlights stringent regulations, the upturn of the world economy, as well as several other political, economic, social, and technological conditions that will affect the Company's future performance.

Exhibit 8: Eli Lilly's PEST analysis

Political	**Economic**
• The industry is highly regulated, with strict healthcare regulation. (-) • A number of governmental programs to support the healthcare. (+)	• Increase concerns on the global economic crisis, the volatility in the credit and capital markets (-) • Rising prices for commodities (-) • Rising acquisitions (+/-) • The emerging markets still have positive growth. (+) • Patent expiries (-)
Social	**Technological**
• Rising healthcare concern (+) • Positive consumers' perception toward high healthcare cost (+) • Eli Lilly has an outstanding reputation and brand name recognition (+)	• Increase in scientific and technological advancements (+)

3.1.1 Political Factors

The major political factor directly affecting pharmaceutical industry and Lilly is the recent approved healthcare bill in the United States. In general, the United States has very stringent pharmaceutical regulations. Hence Lilly's product offerings are accordingly limited. The pharmaceutical industry in the United States primarily regulates by the Food and Drug Administration (FDA), an agency that has a significant control over many pharmaceutical firms. In recent years, many lawsuits were filed and several states and local government across the United Stated have initiated legislation against Lilly. Undergoing federal investigations have been in place.

As a result, Lilly has incurred significant fines and settlement costs. At the same time, the Company has responded by developing new products with higher standard and better qualities, however these regulatory and compliance overheads have likely increased costs for research and development.

In recent years, the United States government has begun to request industry involvement in regulatory changes not to discourage innovation in the face of mounting global challenges from external markets. At the same time, the industry has witnessed increased political attention due to the increased recognition of the economic importance of healthcare as a component of social welfare. Political interests in healthcare reform have also been generated because of the increasing

social and financial costs of healthcare. Thus, these rising trends have positively impacted the industry and Lilly.

3.1.2 Economic Factors

The overall effect of economic factors is negative in the short term and neutral in the mid-term. As of today, the United States and the world economies are in a freefall. As a result of current recession, financial institutions and credit market are steadily volatile. The ability to raise funds has been vital to the growth of small-cap companies. Rising capital through borrowing and value creation in stock market as a source of fund for new investment and company growth become more costly.

Moreover, commodity prices also have risen, translating into higher costs of raw materials and subsequently final products. While management has attempted to hedge commodity prices, the poor economic conditions could weaken Lilly's financial performance for quite some time. Management has addressed the poor economic conditions and market saturation in the United States by developing initiatives to expand abroad. Demonstrated by its recent acquisitions, the Company sees great opportunities in emerging markets such as China, India, and Latin America.

With large growth both in the United States and international markets, the pharmaceutical industry witnessed high volume of mergers and acquisitions in the recent decades. The majority of pharmaceutical sales originate in the United State, European and Japanese markets and are globally distributed.

Patent drugs allow pharmaceutical companies to become a monopoly and enjoy a period of market exclusivity to maximize profitability and recoup the cost of developing a particular medicine. However, once a patent has expired, the generic companies will be permitted to legally manufacture and sell drugs at a lower cost. Limited patent lifetime has long been an issue for pharmaceutical industry and Lilly itself.

3.1.3 Social Factors

While the economic conditions facing Lilly are mostly neutral, the social environment tends to favor the Company. Good health is an important personal and social requirement. Therefore, the unique role pharmaceutical firms play in meeting society's need for popular wellbeing cannot be

underestimated. In recent times, the impact of various global epidemics e.g. SARS, AIDS and etc. has also attracted popular and media attention to the industry. Subsequently, the effect of the intense media and political awareness has resulted in increasing industry efforts to create innovations and maintain its position due to raising concerns over healthcare.

In addition, awareness of medical care has allowed pharmaceutical companies to offset some of the commodity costs. The recent trend of commodity prices and consumer acceptance of increasing drug prices are among the primary social factors affecting the industry. The fact that industry customers became more willing to accept higher drug prices can significantly offset some of the commodity costs.

Moreover, with its strong reputation, significant market share and geographically diverse revenue streams, Lilly's brand names and revenue demographics place it in a relatively good position within the pharmaceutical industry. As illustrated, the overall effect of social factors on Lilly is positive.

3.1.4 Technological Factors

While up-to-date manufacturing and distribution systems allow companies within the industry to compete with their peers, technological factors will depend on the individual company's capital expenditure strategy.

Lilly has invested substantially in developing new products and technology to maintain its reputation for the highest quality and performance in the industry. The Company has many patents and trademarks, which do not only build a portfolio of the industry's top brands but also place the Company in good standing relative to some of the less established companies within the industry. Modern scientific and technological advances are forcing industry players to adapt ever faster to the evolving environments in which they participate. Scientific and technological advancements have also increased the need for increased spending on research and development in order to encourage innovation.

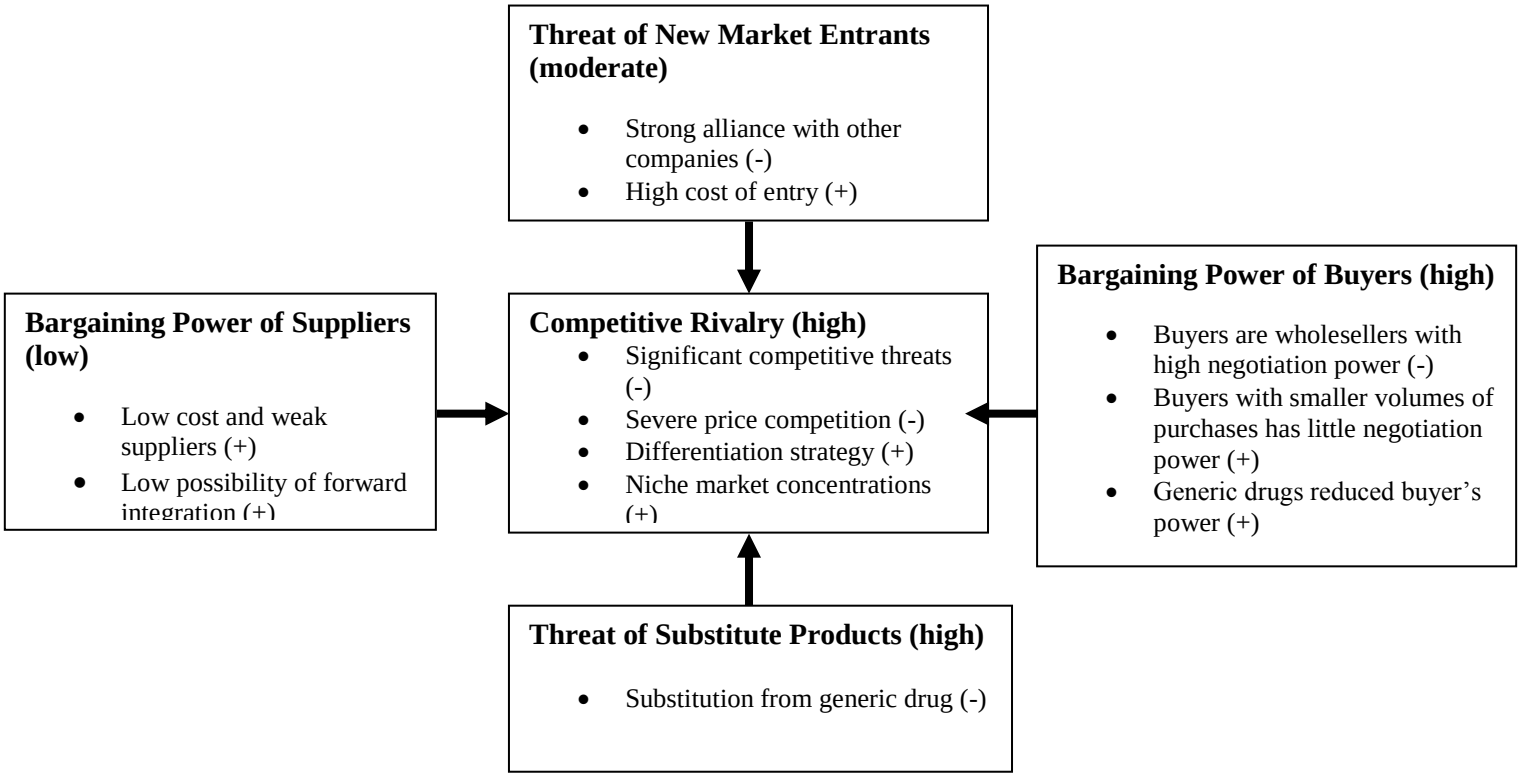
Overall, pharmaceutical industry is experiencing an extremely competitive business environment. The PEST analysis also indicates moderate growth in the near-term for the industry due to slow domestic activity cause by global economic downturn, which offset somewhat by growing international demand.

3.2 Pharmaceutical Industry – Porter's Five Forces Analysis

In order to examine the industry and competitive forces for Lilly, Porter's five forces analysis is used as primary framework to evaluate pharmaceutical industry structure. Each force starts with the conclusion of evaluation and then explains the reasons that validate such conclusion. The five forces are illustrated in Exhibit 9 as follows.

Inevitably, while Lilly currently faces a competitive business environment, management has developed solid strategies to continue improving the Company's revenues and profitability. As shown in exhibit 9, weak supplier and high buyer power, combined with a moderate threat of new entrants, will contribute to Lilly's success as the leading company and a product innovator.

Exhibit 9: Eli Lilly's Porter's five forces



3.2.1 Threats of New Entrants

Threat of new entrants is relatively moderate. This can be explained by a number of facts. First, demand for pharmaceutical manufacture is driven by the desire to cure illness and disease. Therefore, the profitability of individual companies depends on their ability to discover and market new medicines that are highly effective. Large companies benefit from economies of scale in research, manufacturing, and marketing. The marketing efforts are achieved through large sales forces directly target to doctors, hospitals, wholesalers and pharmacists. While small companies can compete effectively through specializing in drugs that target one or two specific illnesses. However, smaller companies cannot compete in marketing with big firms, thus they license their drugs or enter into marketing agreement with big companies.

Other companies forming alliances can be potential rivals. Even if earlier such company was not considered to be a threat, after merging with a research and development company or forming alliance with another pharmaceutical company, it would become a rival to Lilly. The threat is however weakened by significant research and development costs necessary to successfully enter the business. Even though research and development is the major activity and source of revenue for most drug companies, the whole process of drug development can take many years. In addition, the opportunity of a company to discover a new drug is slim, with only a small percentage of candidate drugs surviving the testing and approval process.

In general, the industry is capital-intensive and required a high investment for a company to develop a new drug. The success of pharmaceutical industry is determined by the advanced scientific knowledge. Hence, general pricing decisions are based on market demand and the sunk cost of development.

Because large research budgets do not guarantee new products, many large companies supplement their own efforts by buying or licensing products from other companies. Companies often buy smaller ones that have a promising research program to ensure a future stream of products. In addition, there is an increasing trend for traditional drug manufactures that are becoming development and marketing companies to acquire new drugs from smaller research companies.

The pharmaceutical market in the United States is among the highest ranking in terms of barriers to entry. The cost associated with years of research and development, government regulatory compliance and risk associated with the industry discourages new entrants from entering the market. Eli Lilly’s focus on a relatively narrow market of sedatives and antidepressants drugs which

weakens the threat of new entrants, but other products that form lesser part of company's sales such as insulin and others are exposed to high threat of new entrants. The need of obtaining certificates and licenses also weakens the threat of new entrants. This leads to the conclusion that threat of new entrants is medium.

3.2.2 Bargaining Power of Suppliers

Suppliers have a low bargaining power. For a pharmaceutical firm, there exists a possibility to switch supplier at low cost. In addition, supplier brands are not powerful. The chemical industry has an incentive to maintain competitive pricing practices, which enhance the competitiveness of the major player's products in the pharmaceutical industry.

The pharmaceutical industry is a major customer of the chemical industry. Relatively, there exists a little possibility of forward integration for chemical companies. The concentration of the majority of industry sales among large pharmaceutical companies has decreased the bargaining power of suppliers. All of the above makes the bargaining power of supplier low.

3.2.3 Bargaining Power of Buyers

Buyers for pharmaceutical firms are distinguished in two groups: wholesalers and individual buyers. As main sales are done using whole sales, in general, bargaining power of buyers tends to be high in pharmaceutical business. This due to the fact that wholesalers that purchase drugs in large quantities are considering the discounts that drug manufactures are willing to give and therefore are able to influence price. As long as Lilly have competitors with similar products it is obvious that bargaining power of buyers is high for the pharmaceutical industry.

In contrast, buyers with smaller volumes of purchases such as retailers do not influence price policy, but such buyers are outnumbered by wholesale-buyers. It is also important to note that people purchasing drugs for themselves are usually covered by healthcare insurance and therefore are not interested in pulling price down. However, recent price increases in alternatives such as generic drugs have reduced buyer's bargaining leverage. Yet the volumes of sales to such buyers are not significant.

3.2.4 Competitive Rivalry

Rivalry among competitive sellers is relatively moderate. This is a strong force as competition has increased among the major players in this industry. The US pharmaceuticals industry includes about 1,500 companies with combined revenue of more than $200 trillion. The industry is highly concentrated with the 50 largest companies accounting for more than 80 percent of revenue[11]. Major companies include Abbott, Bristol-Myers Squibb, Eli Lilly, Johnson and Johnson, and Pfizer.

Differentiation strategies have been focused on alternative use research for drug formulations in an effort to increase the product life of individual pharmaceutical products and extend their use to treatment of other diseases. Niche market is concentrated to provide higher returns by some competitors but the majority of manufacturers have an extensive assortment of products to offer customers.

3.2.5 Threats of Substitute Products

As previously mentioned in the PEST analysis, the pharmaceutical firms are facing substitute products offered by generic drug companies. A strong force affecting branded pharmaceutical products is the increasing demand for generic pharmaceuticals as a way to contain cost. Generic drug companies do not have the investment costs associated with research and development. As a result, generic drugs usually sell for retail prices below prices offered by branded name drug companies. Thus, the threats of substitute products remain high for pharmaceutical firms.

To increase the profit and mitigate potential the cash flow issues that can stem from patent drug development costs, some large companies offer a more diverse product line by manufacturing over-the-counter (OTC) medications, dietary supplements, or personal care products in addition to patent drugs. Furthermore, joint research and development is also becoming more common as the cost of research tend to rise.

[11] Hoover's Inc. ''Pharmaceutical Industry Profile.'' Dec. 2009. Web. 25 May 2010.

3.3 SWOT Analysis

SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis is employed as a framework to evaluate Eli Lilly's current situation and identify the internal and external factors that are favorable or unfavorable to achieve Lilly's business objectives. This framework also helps explain how well Lilly is performing objectively and financially.

Exhibit 10: Eli Lilly's current situation – SWOT analysis

Strengths	**Weaknesses**
• Focused research and development activities • Constant revenue growth • Collaborations	• Declining operating margin • Limited liquidity position • Product litigations and government investigations • Low return on assets
Opportunities	**Threats**
• Growth in emerging markets • Rising healthcare expenditure in the US	• Competitive pressures • Non-compliance of government regulations

Source: 2009 Annual report and Company website

3.3.1. Strengths

The focus on research and development (R&D) activities at Lilly allowed for the introduction of various innovative products and also helped the company to earn additional revenues. According to Lilly's 2009 annual report, the Company has incurred research and development expenses of $4,326.5 million (19.8% of total revenues), $3,840.9 million (18.8%), $3,486.7 million (18.7%) and $3,129.3 million (19.9%) during the fiscal years 2009, 2008, 2007 and 2006 respectively.

The R&D activities are focused on the discovery and development of products for four therapeutic categories, which included the central nervous system and related diseases; endocrine diseases,

including diabetes, obesity and musculoskeletal disorders; cancer; and cardiovascular diseases. Additionally, Lilly also is involved in biotechnology research programs, therapeutic proteins and antibodies as well as genomics, biomarkers, and targeted therapeutics. Furthermore, Eli Lilly also conducts research in animal health including animal nutrition and physiology, control of parasites, and veterinary medicine.

The constant rise in revenues has also been another major strength of Lilly, which helped the company to earn higher profits. Eli Lilly exhibited a continuous increase in its revenues over the years boosting the confidence of its customers and shareholders. There had been a significant growth in revenues of the company over the last five years (2005-2009). Lilly's total revenues during the period recorded a Compound Annual Growth Rate (CAGR) of 8.3 percent, increasing from $14,653 in 2005 million to $21,836 million in 2009. The revenue growth of the company is due to the constant increase of the revenues of its largest geographic segment, the United States. This region accounted for almost 53.66 percent of the total revenues of the company in 2009 as illustrated in Exhibits 6 and 7.

Furthermore, the company extended a potential line of new drugs through acquisition, collaboration with other companies and a biotechnology research program. During 2008, the company entered into various strategic alliances relating to product development, distribution and joint marketing. Maintaining and expanding these alliances is a major strength of the company that resulted in its diversified product base reaching out to wider geographic locations. The company entered into a license and a supply agreement with United Therapeutics Corporation concerned with the US commercialization rights for the PAH indication of tadalafil. The company also increased outsourcing efforts in 2008 by forming partnerships with several contract research organizations (CROs), including firms Quintiles, i3, and Covance[12].

3.3.2. Weaknesses

As shown in Exhibit 16, the company's operating margin was -6.4 percent for the fiscal year ended December 2008. This was below its peers' performance. Its operating margin was -6.4 percent in 2008, as against 20.8 percent for the fiscal year 2007, however has been improved to 24.54 in 2009. A lower than sector average operating margin may indicate inefficient cost management or weak

[12] Eli Lilly & Co.. 2009, *Annual Report*. Eli Lilly & Company. 2009. Web. 23 April. 2010.

pricing strategy by the company. As a result, the operating loss of the company was $1,307.6 million during the fiscal year 2008 as indicated in Exhibit 15, as against an operating income of $3,876.8 million in 2007. The operating margin has decreased 2,720 basis points over 2007, which may indicate management's low focus on profitability.

Exhibit 13 shows that the company's current ratio was 0.9 at the end of the fiscal year 2008 but improved to 1.90 in 2009. This was below its peer group. A lower than sector average current ratio indicates that the company was in a weaker financial position than other companies in the sector.

On the other hand, as Lilly continues to expand, the company's revenues and its reputation might be affected by various government investigations against the company. Some of Lilly's products are under scrutiny and might be subject to further investigations. The result of these investigations might include criminal charges and fines, penalties, or other monetary or non-monetary remedies that could adversely affect Lilly financial performance.

In addition, the product liability and litigations against the company might enhance the company's costs and also bring a negative impact on its public image. Currently, Lilly is caught up in various patent litigations. The Company lost a popular drug Zyprexa in 2007, when it agreed to settle a lawsuit from patients complaining of the side effect[13].

According to Exhibit 11, the company's Return on Assets (ROA) was -6.86 percent at the end of the fiscal year 2008, however improved to 15.88 percent at the end of 2009. This was below the peer group average. A lower than sector average ROA may indicate that the company might not be using its assets efficiently as other companies in the sector to generate earnings.

Subsequently, Lilly saw sales drop dramatically in 2008. At the end of fiscal year 2008, the Company's Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) declined to -$2,201.90 million from $3,046.20 million in 2007 as shown in Exhibit 15. In September 2009, Lilly announced a reorganization plan to cut $1 billion in costs by 2011[14]. The company gradually reduced its workforce by more than 10 percent between 2003 and 2008 and formed five core

[13] Eli Lilly & Co.. 2008, *Annual Report*. Eli Lilly & Company. 2008. Web. 20 April. 2010.

[14] Pepitone, J. CNN. ''CNN Money''. Web. 20 May 2010.

business units (oncology, diabetes, established markets, emerging markets, and animal health)[15]. As a result, the Company's EBITDA improved dramatically to $5,356.80 million in 2009.

3.3.3 Opportunities

Emerging markets offer a strong growth opportunity for the pharmaceutical companies to leverage its strong brand and product portfolio to take advantage of rapid growth in these markets. More than 10 percent growth of Lilly is expected in emerging economies like India, China, Brazil, Russia and Taiwan over the next seven years according to the Company's forecasts. The growth is high in all market segments such as ophthalmic, orthopedic and other related medical segments[16]. Emerging markets offer new opportunities and an alternative for medical device companies that are registering low growth in mature markets such as the United State, Eurozone and Japan.

Moreover, rising healthcare expenditure in the United States, coupled with approved healthcare reform provide significant opportunities for Lilly to continue to generate revenue growth. According to the US government's Center for Medicare and Medicaid Services (CMS), healthcare expenditure in the United States rose recently by 6.8 percent to surpass $2 trillion and represented 16 percent of the country's gross domestic product (GDP)[17]. According to the Congressional Budget Office, if the growth in healthcare spending continues at its current pace, CMS spending and private health costs will increase from the current 16 percent of GDP to 25 percent in 2025[18].

The increasing populations of people aged above 65, who consume more medical solutions than younger people and are more at risk to chronic diseases. This senior group holds a significant market potential for Lilly. According to the United Nations Population Division, people aged 60 are projected to account for 22 percent of the total world population by 2050, up from 11 percent in 2007[19]. Whereas, in the United States, the Census Bureau projected that the 65 and older segment of the population will expand from 38.7 million in 2008 to 72.1 million by 2030. As a percentage of the total population, persons 65 and older are expected to account for over 19 percent of all

[15] Eli Lilly & Co.. 2009, *Annual Report*. Eli Lilly & Company. 2009. Web. 23 April. 2010.

[16] Eli Lilly & Co.. 2009, *Annual Report*. Eli Lilly & Company. 2009. Web. 23 April. 2010.

[17] The Center for Medicare and Medicaid Service, 2010. Web. 29 April. 2010.

[18] The Congressional Budget Office, 2010. Web 29 April. 2010.

[19] Department of Economic and Social Affairs, the United Nations Population Division, 2010. Web 30 April 2010.

Americans, up from 13 percent in 2008[20].

Product approvals by various government authorities, in particular US Food and Drug Administration (FDA) provide a major opportunity for Lilly to enhance its sales and profitability. Recently, on March 23, 2009, the FDA approved a new indication for Symbyax, the first drug approved for the acute treatment of treatment-resistant depression (TRD) by the FDA[21].

The ongoing acquisitions provide the company a growth opportunity to expand its reach across various markets and also offer a broad product portfolio. Lilly completed three acquisitions during 2008. The pace of investments in acquisitions increased in 2008, after the company's investments of $3 billion in 2007. The company's Elanco animal health business acquired the global rights to the dairy cow supplement Posilac, and also supporting operations, from Monsanto. SGX Pharmaceuticals, a biotech company based in San Diego was acquired by Lilly. It provides important tools for the company's drug discovery efforts. Additionally, on November 24, 2008, the Company completed the purchase of ImClone Systems[22]. Standard & Poor's expected that drug partnering will remain robust and acquisition activity will increase in 2010, as big pharmaceutical firms and large biotech companies need new products and technologies to bolster their pipelines[23].

3.3.4. Threats

Lilly's performance can be adversely affected by competitive business environment within the industry. This explains the demand for its products that is impacted by competitive conditions, including the timely development and introduction of new products and the response of the company towards downward pricing to sustain competition. Factors such as changing customer order patterns, and competitors' new products can impact the company's competitive positioning.

The company is subject to various locals, states, federal, foreign and trans-national laws and regulations. These include the operating and security standards of the Drug Enforcement Administration (DEA), the Food and Drug Administration (FDC), various state boards of

[20] The United States Census Bureau, 2010. Web 30 April 2010.

[21] Eli Lilly & Co.. 2009, *Annual Report*. Eli Lilly & Company. 2009. Web. 25 April. 2010.

[22] Eli Lilly & Co.. 2009, *Annual Report*. Eli Lilly & Company. 2009. Web. 23 April. 2010.

[23] Standard & Poor's. ''The Outlook Market's Insight: Healthcare'' Jan. 2010. S&P Outlook. Web. 22 May 2010.

pharmacy, state health departments, the National Research Council (NRC), the Department of Health and Human Services (DHHS), the European Union member states and other comparable agencies. Any non-compliance by the company with applicable laws and regulations or the failure to maintain, renew or obtain necessary permits and licenses could have an adverse effect on the company's operations and financial condition.

The company is likely to face increased pricing pressure domestically in the United States following the changed political climate under US President Obama's administration. The recent change in the existing Medicare Part D program allowed the government to negotiate the pricing of Medicare Part D drugs, which is currently prohibited. According to Standard & Poor's, the governmental price negotiations, which are likely to lead to lower prices, could potentially lead to 10 percent reduction in sales values in 2010 when compared to 2007's total US pharmaceutical sales[24].

Additionally, Lilly may be forced to lower its prices due to industry consolidation in the healthcare market. Many companies operating in the healthcare industry, including medical device companies are creating new entities through consolidation. This consolidation poses a potential threat as the larger players formed as a result of consolidation might use their influence to negotiate price concessions. This may result in decreasing revenues for Lilly.

Moreover, the Company's products face the threat of substitution from cheaper generic products manufactured in developing countries, especially in Asia such as China, India and Korea. Emerging economies like India and China are seeing a rapid increase in the quality of products along with low price of manufacturing. Subsequently, this is resulting in an influx of cheaper substitutes with comparable quality, which may lead to loss of revenue for the company.

To conclude, Lilly is one of the leading innovation-driven pharmaceutical companies. It is principally focused on the development of human pharmaceutical products through its latest research activities. These research activities are performed by its own worldwide laboratories and through collaborations with various scientific organizations. The constant rise in the revenues has

[24] Standard & Poor's. ''The Outlook Market's Insight: Healthcare'' Jan. 2010. S&P Outlook. Web. 25 May 2010.

been a major strength of Lilly, which enabled the company to earn huge profits. However, the company's performance can be unfavorably affected by competitive environment within the industry and tighter governmental regulations.

4. CRITICAL ACCOUNTING POLICIES ANALYSIS

In this chapter will focus on a review of company's financial statement, in particular its accounting policies. The major objective of this analysis is not only to find out whether there were any financial accounting missteps but also to make required adjustments to the information before forecasting profits and cash flows and consequently to obtain an accurate estimate of the value of Lilly.

Lilly relies significantly on patents along with other intellectual property, the ability to product drugs on demand, and research and development activities, which allow the company to develop new and innovative drugs while remaining competitive. Some of the Company's most critical accounting policies include sales return, rebates and discounts accruals and their impact on revenue recognition, product litigation liabilities and other contingencies, and pension and retiree medical benefit costs. Like any other publicly traded company, Lilly is required to prepare financial statements in which some estimates and judgments have to be completed by the Company's management. Lilly bases its estimates and judgments on past experience and assumptions concerning the future. Thus, some of Lilly's management estimates might be different from actual results.

On the whole, Lilly has superb disclosure and accounting policies. The Company has a storied tradition of financial excellence and management takes pride in its commitment to shareholders. I have identified only a few areas for concern in regards to the Company's accounting policies.

First, research and development is a key element of Lilly's success because discovery of new drugs drives the pharmaceutical industry. According to Notes to Consolidated Financial Statement, Lilly immediately expenses research and development (R&D) costs, capitalizing them only after regulatory product approval is received. If the product has obtained regulatory approval, the Company capitalizes the expense milestones and amortizes them over the life of the product. Milestones paid prior to regulatory approval of the product are generally expensed when the event

requiring payment occurs. Research and development costs for Lilly are properly capitalized once the benefits from the R&D are realized. Otherwise the costs are expensed. Hence, there are no obvious reasons to capitalize additional R&D expenses in order to further adjust Lilly's net income[25].

Second, the Company recognizes its sales rebates and discount accruals in the same period as other related sales. These rebates and discounts are recorded as other current liabilities. Sales rebates and discounts that require the use of judgment in the establishment of the accrual include Medicaid, managed care, Medicare, chargeback, long-term-care, hospital, and various other government programs. The Company bases these accruals primarily upon their historical rebates and discount payments made to their customer segment groups[26].

Third, as mentioned previously, Lilly is subject to significant pending litigation liabilities and other contingencies relating to its sales of products and government investigation. Product litigation liabilities and other contingencies are uncertain and based upon complex judgments and probabilities, thus these lawsuits represent substantial risk. In accordance with Financial Accounting Standards (FAS) no. 5, the Company's policy is to accrue for contingencies when an outcome is probable and a loss can be reasonably determined. Eli Lilly has accrued for certain product liability claims incurred, but not filed, to the extent they can formulate a reasonable estimate of their costs. Therefore, Lilly's estimates for litigation expenses are based mainly on historical claims experience and data about product usage[27].

Lastly, Lilly has significant defined benefit pension obligations. While the Company is in compliance with FAS no. 158, the funding of these assets and the potential liabilities are based on significant estimates. Lilly occasionally adjusts its pension costs and costs of healthcare to represent recent trends. The Company uses the discount rate, retirement age, health-care-cost trend rate, and the expected return on plan assets in their defined benefit pension and retiree health benefit plans, which they adjust periodically[28]. These obligations could be a drain on the Company's future performance if assumptions are wrongly estimated or not realized. However, Lilly appears to be

[25] Eli Lilly & Co. 2009 *Annual Report*. Eli Lilly & Company. 2009. Web. 23 April, 2010.

[26] ibid.

[27] ibid.

[28] ibid.

taking the proper initiative to adjust its accounting methods to recognize the increasing costs of healthcare.

Lilly provides adequate disclosure and follows accounting principles generally accepted in the United States. Ernst & Young, LLP, the Company's auditor, issued an unqualified opinion on the Company's financial statements. While I have some concerns as outlined above, I feel that there is no need to adjust my valuation based on my analysis of the Company's accounting policies.

For these reasons, there appears to be no compelling needed to adjust Lilly's income statements for any possible accounting missteps. Lilly's financials seem to be a very accurate representation of the company's actual performance and appears to be on the same level as that of its rivals.

5. FINANCIAL RATIOS ANALYSIS

The rationale for this section is to perform a financial ratio analysis on Lilly. From the information collected in the ratio analysis we will be able to benchmark individual competitors and compute an entire industry average. By finding the industry average we will be able to compare the performance of Lilly with the rest of the pharmaceutical industry.

Ratio analysis is significant because it allows us to analyze and compare Lilly's ratios and financials to other companies within the industry. By performing ratio analysis, we will be able to focus in depth on financial strengths and weaknesses of Lilly.

I obtained financial ratios from Thomson One Banker for fiscal years 2005 to 2009 for Lilly and three of its competitors, Johnson & Johnson, Pfizer Inc., and Abbott Laboratories. Analyzing the time-series and cross-sectional financial ratios will give a better understanding of the Company's recent performance and future prospects. Please refer to Exhibits 11 to 14 for a graphical presentation of selected ratios.

A company's Return on Assets (ROA) is a measure of how effectively the company utilizes its assets to generate income. Eli Lilly's ROA has improved steadily from 2005 to 2009, despite the 2008 global economic turmoil that negatively affected the Company. A lower than peer group average ROA may indicate that the company might not be using its assets efficiently as other companies in the sector to generate earnings. However, the development in 2009 reflected the Company's improving operations and net income levels. Between 2005 and 2008, Lilly had substantially lower returns on its assets compared to Johnson & Johnson. In 2008, Lilly's return on assets were deteriorate to -6.86 percent, a decrease of over 15 percent. However, Lilly continued to improve in 2009, as it generated a return on its assets of 15.88 percent, higher than any of its competitors. This trend is a testament to the Company's excellent management team.

According to the recent five-year income statement, Lilly's net sales had grown steadily since 2005. Exhibit 11 shows that Lilly has been able to maintain its gross margin and cost of good sold percentages at approximately 80 and 13 respectively since 2005. The 2009 gross margin increased to 80.55 percent of total revenue compared with 78.49 percent for 2008. This increase was due to the impact of changes in foreign currencies compared to the U.S. dollar on international inventories

sold during the year, which decreased cost of sales as in 2009[29]. In 2009, marketing, selling, and administrative expenses rose to 4 percent from 2008. The increase was driven by the increased marketing and selling expenses outside the United States., higher incentive compensation, and the impact of the ImClone acquisition[30]. In comparison to its competitors, Lilly has gross profit margins higher than Johnson & Johnson and Abbott Laboratories but has changed at the same rate as Pfizer.

A company's ability to manage its inventory effectively is a strong determinant of its. This is especially true for the pharmaceutical industry, where inventory costs can be among the biggest drains on a company's earnings. Lilly has a limited control over its supply chain as it delivers most of its products to distributors. Examining data from the past five years, Exhibit 12 indicates that Lilly's inventory turnover and average days in inventory peaked in 2007 but deteriorated greatly from 2007 to 2009. The Company's inventory ratios have trended consistently with Pfizer, but significantly worse than both Johnson & Johnson and Abbott Laboratories. Effective inventory management is crucial during inflationary periods when finished products can be sold at higher price. Lilly's future success hinges partly on its ability to sustain its improvements in inventory management and maintain better inventory turnover rates than its peers. Because Lilly has maintained consistent inventory ratio and has performed well, I expect this ratio to remain constant, along with the Company's performance.

A company's capital structure may play an important role in its success. While the capital structure may not affect a company's operations, it is a determining key factor of the net returns available to its stakeholders.

As illustrated in Exhibit 14, Lilly has increased its long-term debt as a percentage of total firm capitalization from over 25 percent in 2007 to 41 percent, at the end of 2009. In addition, the Company's liquidity has deteriorated over the past five years. Exhibit 13 indicates that, in 2008, Lilly's current ratio fell below one. Relatively, Eli Lilly's current ratio was the lowest compared to its peers. However, Lilly's current ratio improved at the end of 2009 to 1.90 percent, and quick ratio increased from 0.70 in 2008 to 1.27, in 2009. A lower than sector average current ratio may indicate that Lilly was in a weaker financial position than other companies in the sector.

[29] Eli Lilly & Co. 2009 *Annual Report*. Eli Lilly & Company. 2009. Web. 23 April, 2010.

[30] Eli Lilly & Co. 2009 *Annual Report*. Eli Lilly & Company. 2009. Web. 23 April, 2010.

6. PRO FORMA FINANCIAL STATEMENT ANALYSIS

Another important quantitative process is the forecasting future sales and income statement estimates, i.e. pro forma financial statement analysis. This portion of the thesis will provide the forecast of the company's financial performance according to data collected from strategic analysis, the analysis of accounting policies and financial ratios. Once these estimates are obtained, it will be possible to calculate the company estimate fair value by using various valuation models.

I begin with Exhibits 15 and 16, which contain the condensed historical income statements and common size income statement of Lilly for 2005 to 2009. The task at hand is the development of projected sales and financial statement forecast for 2010 to 2014.

6.1 Sales Forecast

To forecast the net sales for Lilly for 2010 to 2014, I first began by collecting historical sales data from 2005 to 2009 as can be seen in Exhibit 15. Thereafter, the year-on-year sales growth for these periods were calculated and I found that the Company's sales growth has varied widely from 3 to 10 percent over this timeframe. Using the two theories purposed in Palepu & Healy[31], random walk and mean reversion growth expectations, which are based on Compound Annual Growth Rate (CAGR) from historical data. However, while these two theories are not specifically used in this analysis to forecast Lilly's sales due to the fact that CAGR is not the actual return in reality, they were useful in understanding the context of my forecast estimates.

As discussed in the previous chapter on the strategic analysis, which involves an analysis of the business environment and the pharmaceutical industry, I expect that the outlook for the pharmaceutical industry for the near- and long-term future to be positive. However, there is a great concern that the business environment for Lilly is still highly competitive. On the other hand, in the recent interim report, Lilly disclosed strong sales growth in the first-quarter of 2010[32]. This explains by the new products, firmer pricing, the nature of non-cyclical business, and a more favorable foreign exchange against U.S. dollar.

[31] Palepu, G. K. & Healy, M. P. 2007, *Business Analysis and Valuation: Using Financial Statements, Text and Cases*, South-Western College Publication.

[32] Eli Lilly & Co. 2010, *Interim report – 1Q*. Eli Lilly & Company. 2010. Web. 26 April, 2010.

Nevertheless, in the short-term, the recent approved 2009 healthcare reform bill in the United States has an adverse affect on a number of pharmaceutical firms in that the charges and rebates can lower corporate profits. Because Lilly has a large exposure to the market in the United States and a high concentration of American business, therefore there will be a significant impact from the recent approved US health care reform.

Despite near-term uncertainties over R&D productivity and patent expirations, I believe pharmaceuticals will remain one of the largest profit margin U.S. industries. Long-term prospects will also be enhanced by demographic growth in the elderly as well as new products and developments from discoveries in biotechnology.

Even though the industry still faces a major patent protection in the coming years, it is expected that prospects for the generic drug sector remain favorable[33]. A large number of major drugs will be losing the patent protection over the next few years, and the recent passed healthcare bill will provide significant opportunities for generic drug companies. Hence, pricing pressure and competitions and the competitions will remain high.

However, in the long run, I believe that this short-term negative result will be offset by a positive growth to the industry through new taxes, price reductions and the expanded health insurance coverage for currently uninsured American. Investor confidences has been boosted by recent consolidation, for example, Pfizer acquired rival drug producer Wyeth Corporation in 2009[34], and increasing mergers and acquisitions activities in the industry will boost investor confidence.

Based on historical information and the above analysis, I believe sales and earnings trends for Lilly in the rest of 2010 and for the next four years will improve.

Although the five-year annualized data to date through 3 June 2010, the S&P Pharmaceuticals Index was up 5.27 percent[35], versus .31 percent in the S&P 500 Composite Index[36]. However,

[33] Standard & Poor's. ''S&P Select Industry Indices.'' June 2010. Web 4 June 2010.

[34] New York Times. ''Deal Book.'' New York Times. March 2007. Web 12 April 2010.

[35] Saftlas, Herman. ''Healthcare: Pharmaceuticals.'' Standard & Poor's Industry Survey, Standard & Poor's, 4 June 2009. S&P Net Advantage. Web. 4 June 2010.

[36] Standard & Poor's., S&P 500., 3 June 2010. Web. 4 June 2010.

Lilly's annual report discloses that the company's five-year annual growth rate for revenue has been approximately 8.3 percent, although the growth rate for revenues from 2008 to 2009 was 3.5 percent. In comparison to the industry, Lilly has proven to have a much better return in terms of its historical revenue growth. Furthermore, Standard & Poor's forecast for growth in the pharmaceutical industry was 14.6 percent in 2009[37], whereas New Constructs[38], a specialty equity research firm forecasted net operating revenue growth for Eli Lilly of 6.71 percent in 2010. The New Constructs' growth forecast is close to the historical five-year performance for Lilly, and represents is less than half of S&P growth forecast.

For the purpose of projection to my sales forecast estimates, I begin by using Lilly's earning result from the first quarter of 2010. I expect Eli Lilly sales growth to increase to approximately 5.5 percent for the rest of 2010. Due to my optimistic outlook for the pharmaceutical industry, the global economy and Lilly's expansion, I expect the Company's sales growth to increase by 1.5 percent every year, i.e. 7 percent, 8.5 percent, 10 percent and 11.5 percent in 2011, 2012, 2013 and 2014 respectively as seen in Exhibit 17.

6.2 Income Statement Forecast

Lilly's effective operations strategy generates ample cash that can potentially be used to acquire businesses and improve profitability. However, the Company has needed extra capital in the form of short- and long-term debt to complete past acquisitions. The obstacles created by the recent global recession and financial crisis will limit Lilly's ability to finance new deals. As seen in the 2009 annual report, the Company has increased its short-term borrowings. These are more sensitive to changes in borrowing costs, which have risen dramatically in the current credit crunch. Therefore, I expect an increase in Lilly's interest expense as a percentage of net sales, which is reflected in my income statement forecasts in Exhibits 15 and 17. These common size income statement forecasts are based on Exhibits 16 and 18.

I expect that Lilly will experience higher raw materials costs due to the changes in foreign currencies against the U.S. dollar on international inventories sold during 2010 and 2011. Although

[37] Standard & Poor's. ''The Outlook's Market Insight: Healthcare'', January 2010. Web. 22 May 2010.

[38] New Constructs. ''Eli Lilly Company Snapshot.'' DCF Forecast Drivers Summary. Feb 2010. Web. 22 May 2010.

the suppliers have little or no impact on the pharmaceutical industry in raising price of raw materials, sales rebate from healthcare reform bill and changes in foreign currencies could adversely affect an increase in cost of good sold (COGS). As a result, I expect that COGS as a percent of sales to 15 percent and 17 percent in 2010 and 2011. Thereafter, I predict COGS to decrease, setting at around 16 over the five-year forecast period.

Selling, general, and administrative (SG&A) expenses have averaged over 51.32 percent of Eli Lilly's net sales. Because I expect the Company's sales growth to increase steadily due to higher marketing and selling expenses outside the United States, acquisition expense, and the impact of foreign exchange rates, I predict that SG&A expenses as a percentage of sales will rise to 51.40 percent and 51.45 percent in 2010 and 2011. Thereafter, the increase will be partially offset by lower litigation expense and research and development expenses, thus I predict that SG&A expenses will decline to approximately 51.30 percent, 51.20 percent and 51.10 percent in 2012, 2013 and 2014.

According to Exhibit 25, Lilly incurred average income taxes of approximately 22.4 percent of pre-tax earnings from 2005 to 2009. I expect this trend to continue in the future, translating into an effective tax rate of 4.75 percent and 4.80 percent of sales in 2010 and 2011 and approximately decrease to 4.60 onward.

Based on my income statement forecast, I expect net income as a percentage of sales to be 21.11 percent in 2010, decreasing to 18.36 percent in 2011 and approximately 19.34 percent thereafter. This would equate to net income of $5,5055.00 million in 2010 and $4,734.65 million in 2011.

It is important to note that I did not include the potential effect of pending litigation liabilities and other contingencies relating to its sales of products and government investigation as well as future benefit pension obligations for employees on the Company's forecasted financial statements. Unfavorable rulings and predictions in such liabilities and obligations could also materially affect Lilly's financial performance.

7. Business Valuation Analysis

7.1 Discounted Cash Flow Valuation Method

In this chapter, three valuation methods will be presented and each will be discussed from a conceptual as well as an implementation perspective. First, Discounted Cash Flow (DCF) valuation method or income approach will be applied to determine the value of Lilly as a target company. DCF is applied in formula as follows:

$$PV_{DCF} = \frac{FCF_H}{(1+WACC)^H} + \frac{PV_H}{(1+WACC)^H} \tag{7.1}$$

,where FCF_H is the firm's future cash flow by weighted average cost of capital (WACC), plus PV_H by *WACC* which is predict horizon value (terminal value) of the business.

DCF is one of the most fundamental methods to value a firm. According to Equation 7.1, each year cash flow will be forecasted out to a valuation horizon (H) and predict the business's value at that horizon (PV_H). The cash flows and horizon value are then discounted back to the present value.

In general, DCF method determines a firm's fair market value by multiplying the benefit stream generated by a company times a discount rate or WACC. This rate converts the infinite stream of benefits into present value. It is important to note that DCF approach looks at the company's adjusted historical financial data for a single period. Therefore, when the time period for the analysis is infinite, then the analysis is referred to as a capitalization analysis, as it is said to capitalize adjusted future earnings. In contrast, if the business has a limited earnings life, it is reasonable to assume that after that period of time the business will still have some residual value. This residual value will have to be approximated and then incorporate into the terminal valuation estimate. This analysis will be done in this section.

To calculate an appropriate per-share value of Lilly's stock, I will perform such a discounted cash-flow valuation. In addition, I will evaluate observed stock market prices for Eli Lilly during the past 52-weeks in the sensitivity analysis.

7.1.1 Working Capital Analysis

I analyze portions of the balance sheet rather than forecasting a complete balance sheet for Eli Lilly. Start with the Company's working capital trends, as demonstrated in Exhibit 19.

Net working capital can be defined by:

Net Working Capital = Net current assets – Net current liabilities

Lilly has average total current assets of approximately $11.5 billion over the period. Its net current liabilities totaled about $7.18 billion. The Company's average incremental working capital was about $209 million, compared to its average annual incremental net sales of $1,797 million.

As a firm grows, working capital can be expected to grow at a rate proportionate to its net sales growth. From 2006 to 2009, Eli Lilly's change in net working capital varied widely as a percent of change in the Company's net sales, with a range of -431.97 percent to 77.16 percent. In contrast, on an average over this period, net working capital grew approximately 12.78 percent of the change in Eli Lilly's net sales. This amount was used to estimate the projected change in working capital in the forecast of free cash flows.

7.1.2 Free Cash Flow Forecast

The first step in DCF valuation is to project the firm's free cash flows (FCF). FCF is determined as follows:

FCF = Profit after tax + depreciation + investment in fixed assets + investment in working capital

Please refer to Exhibit 20 for my cash flow projections for years 2010 to 2014. Earning Before Interest, Taxes, and Depreciation (EBITDA) figures are based on those contained in Eli Lilly's forecasted income statement in Exhibit 17. For simplification, interest paid was assumed to be equal to the Company's forecasted interest expense for each year. Taxes paid were based on the Company's 5-year historical tax rate of approximately 22.4 percent of pre-tax earnings as illustrated in Exhibit 25.

In my free cash flow forecast, I assumed the capital expenditures would fluctuate as a percentage of the Company's depreciation expense. This is an appropriate simplification because a firm's depreciation expense approximates the wear on its fixed assets, which must be replaced periodically to maintain functionality. From 2005 to 2009, the Company's capital expenditures as a percentage of depreciation expense ranged from 58.95 percent to 178.70 percent, with an average of 111.95 percent. This historical average was used to forecast capital expenditures in year 2010 through 2014, based on projected depreciation expense. This forecast yielded free cash flows to the firm

(FCFF), in millions, of $4,671.05, $4710.37, $5369.87, $5938.06, $7,163.54 for 2010 through 2014.

7.1.3 Weighted Average Cost of Capital Calculation

After calculating free cash flow to the firm (FCFF) for the next five years, the next step is to discount these back to present value dollars at the Company's after-tax weighted-average cost of capital (WACC). WACC is determined by:

$$WACC = r_D(1 - T_C)\frac{D}{V} + r_E\left(\frac{E}{V}\right) \tag{7.2}$$

,where D and E are the market values of the firm's debt and equity, V = D + E is the total market value of the firm, r_D and r_E are the costs of debt and of equity, and T_c is tax the marginal corporate tax rate.

Please see Exhibit 22 for the WACC calculation. I first calculate the cost of debt. By using Lilly's 2009 annual report, the Company disclosed total short- and long-term debt of 6,662.1 million. These values were used to approximate the Company's capital structure, which was determined to be 24 percent debt and 76 percent equity.

The weighted interest rate for the Company's long-term debt was determined based on the notes to its 2009 financial statement[39]. The weighted-average effective borrowing rates based on debt obligations and interest rates at December 31, 2009 and 2008, including the effects on interest rate swaps for hedged obligations, were 3.07 percent and 4.77 percent, respectively. The previous two years' average interest expense to long-term debt was used as pre-tax cost of debt. This number implicitly assumed that the debt structure for the forecast period remains similar to the current debt structure. This yielded a weighted-average cost of debt of approximately 3.92 percent. The common equity as a percent of total assets for the year ended 31/12/09 was assumed to be the best available measure of the firm's current and planned capital structure. Using the Company's estimated tax rate of 22.4 percent, the after-tax cost of debt was calculated at just 3.04 percent.

Another important component to find WACC is to calculate the cost of equity. The Capital Asset Pricing Model (CAPM) is a useful tool to estimate a firm's estimated cost of equity based on the risk-free interest rate, the return on the market, and the firm's stock price volatility as compared to

[39] Eli Lilly & Co.. 2009, *Annual Report*. Eli Lilly & Company. 2009. Web. 30 May. 2010.

the market. Therefore, the weighted average cost of capital (WACC) was calculated by using the capital asset pricing model (CAPM) for the cost of equity. CAPM defined as:

$$r = r_f + \beta(r_m - r_f) \tag{7.3}$$

,where r is expected return on asset, r_f is risk-free interest rate, ß is risk of asset, $r_m - r_f$ is market risk premium.

When using the CAPM, the most recent 10 years constant maturity US treasury security return of 3.22 percent was used as the risk free rate[40]. The most recent 20 years average of the annual returns on the Down Jones Index Average of 6.51 percent was used as the return on the market[41]. Eli Lilly's idiosyncratic risk was estimated at its Beta of 0.80, as calculated by Yahoo Finance. These figures translated into a cost of equity of 5.85 percent for Lilly.

Therefore, the Company's weighted average cost of capital was determined to be 5.17 percent.

7.1.4 Discounted Cash Flow and Sensitivity Analysis

Using Eli Lilly's weighted-average cost of capital of 5.17 percent, the free cash flows projected for year 2010 through 2014 were discounted back to present value, for a total of approximately $2.37 billion (Exhibit 20). The free cash flow projected in the terminal year of 2014 was approximately $.716 billion as illustrated in Exhibit 23. I used this figure to calculate the terminal value of Lilly, which is equal to the terminal free cash flow divided by the Company's WACC reduced by its perpetual growth rate.

To estimate the perpetual growth rate, I began with a baseline of annual real growth in the gross domestic product (GDP) of the United States for the period 1990 to 2009 (Exhibit 21), as obtained from the Bureau of Economic Analysis of the United States Department of Commerce. The average growth per year was calculated to be approximately equal to 2.56 percent[42].

Due to the sound competitive advantage of Eli Lilly as outlined in the previous chapters, I believe that a perpetual growth rate of 2.80 percent is more appropriate. The Company has excellent

[40] The Wall Street Journal, ''Market: 10-Year Note Bonds Data'' May 2010. Web. 30 May 2010.

[41] Samuel H. Williamson, ''Annualized Growth Rate and Graphs of the DJIA, S&P500, NASDAQ in the United States Between Any Two Dates'', Measuring Worth, 2008. Web. 30 May 2010.

[42] The Bureau of Economic Analysis, the United States Department of Commerce. May 2010. Web. 2 June 2010.

product lines of business and has made successful acquisitions in the past. Moreover, the Company has a potential research and development team that could substantially create a business growth opportunity and I strongly believe that it will continue to do so. Importantly Lilly is by far the leader in its industry, with its extensive brand portfolio. Thus, I believe that the Company could promptly manage growth of 3.35 percent in perpetuity.

As can be seen in Exhibit 23, these inputs yield a net terminal value of approximately $39.36 billion for Lilly. When added to the present value of cash flows for the forecasted period, the total firm value of Eli Lilly is over $41.73 billion. After subtracting the Company' total liabilities and add non-operating asset (cash), the equity value of Lilly is approximately $41.51 billion, equivalent to approximately $36.00 per share (with 1,153,141,000 shares outstanding). Lilly's market capitalization on 7 June 2010 was $37.56 billion (with stocks closed at $32.58 per share).

I feel that the price of $36.00 per share is the most accurate value of Lilly as opposed to $32.58 per share on 7 June 2010. This represents a premium of $3.42 per share. However, I preformed a sensitivity analysis at Exhibit 24 to determine an appropriate range of the Company's value. With a pessimistic growth rate of just 2.0 percent, less than the average real GDP growth of the United States, and a weighted cost of capital (WACC) of 5.0 percent, the value of Lilly would be approximately $22.58 per-share. With the same growth rate but a more expensive WACC of 6.5 percent, the value would be just $15.68.

If Lilly were to grow at a rate of 4.0 percent in perpetuity and if its WACC were only 5 percent, the Company would be worth over $63.99 per-share. If it were to grow at 3.6 percent and Eli Lilly had a WACC of 6.5 percent, it would have an approximate per-share value of $26.72. Other than the optimistic value of $63.99, these values are all within the Company's 52-week trading range of $32.02 - $37.92 as of 8 June 2010.

7.2 Multiples Analysis

7.2.1 Publicly Traded Company Valuation Method

In addition to the discounted cash flow valuation method, another means to value a company is to observe different comparables readily available through market. This method is called publicly traded proxy companies valuation method or market approach. The publicly traded company method is based on the premise that the value of the business enterprise maybe estimated based on what rational capital market investors would pay to own the stock in the subject company[43].

Comparable publicly traded company method works well with publicly traded companies since public firms are subjected to stringent regulation, thus expected financial result must be readily available. In contrast to valuation method using discount cash flow, comparable company method looks at expect financial result, for example, in contrast to historical data. In addition, it ignores the value of corporate control, i.e. firm that undergoing change of control.

To implement this method, a set of presumed-to-be comparable publicly traded companies must be identified and sufficient information on each to verify the extent of comparability from different perspective must be obtained. For instance, the market price of the stocks of publicly traded companies engaged in the same or similar line of business can be a valid indicator of value when the transactions in which stocks are traded. For a private company, the equity is less liquid than for a public company, its value is considered to be slightly lower than such a market-based would give.

Comparable publicly traded company method relies on the same two sources of information that reported on the income statement as well as on comparable industry information for adjustment purposes.

For each company in the sample of publicly traded companies, several company market pricing multiples are calculated. These capital market pricing multiples may include: price-earnings/ revenue/ -EBITDA/ -dividends multiples. The result of multiplying the selected pricing multiples by the subject company's financial data is the range of estimates of the fair market value of the subject business enterprise. Thereafter, the various indications of fair market value are weighted in order to conclude a point estimate of the value of the target business. However, the preliminary

[43] Reilly, R. Jr. & Schwiehs R. 1998, *Valuing Intangible Assets*, McGraw-Hill Higher Education.

point estimate may need to be adjusted for any lack of comparability. These adjustments may include; lack of marketability discount, lack of ownership control, ownership control premium and so on. The adjusted point estimate indicates the fair market value of the subject business enterprise.

Using this method, the first step is to select a sample of companies that are comparative to the target company, Lilly. The guideline publicly traded company are selected through Standard & Poor's as a common means to acquire the need information based on reasonable comparability criteria, i.e. 1) all companies that are publicly and actively traded on capital market exchanges, 2) has the same or similar size measured in terms of revenues or assets, 3) not too diversified across product lines, 4) has similar or same line of business as Lilly, and 5) not pending on mergers and acquisitions.

As a general rule, the larger in size and the less limited the scope of activities of the business being valued, the more likely there will be a set of publicly traded companies that are comparable. For the most part, publicly traded companies are large and they are diversified across product lines. Most small closely held companies are not diversified, and this characteristic makes financial comparisons difficult.

7.2.2 Adjustments Analysis

Two major areas of comparability must be adjusted before any preliminary point estimate can be made: 1) controlling interest level or control premium, and 2) lack of marketability or liquidity discount.

First, controlling interest level is the value that an investor would be willing to pay to acquire more than 50 percent of a company's stock, thereby gaining the attendant prerogatives of control. This level of value contains a control premium over the intermediate level of value, which can, in general range from 25 to 50 percent. Besides, an additional premium maybe paid by strategic investors who are motivated by synergistic motives.

In this analysis, data on control premium are primarily collected from Thomson Online Banker, which represents the control premium on mergers and acquisitions transactions during the recent three years and based on companies that have similar business line to that of Lilly. Another way to collect control premium data is through Mergerstat, which defines the control premium as the percentage difference between the acquisition price and the share price of the freely-traded public shares five days prior to the announcement of the mergers and acquisitions transaction. Although,

the data source from Mergerstat is widely accepted within the valuation profession, it is not without valid criticism. Thus, I believe that control premium data collected from Thomson Online Banker is more appropriate.

Lilly's data on control premium is based on three assumptions. First, recent years control premium on mergers and acquisitions transactions ranged from 0 - 60 percent and this results in an average of around 25.8 percent as shown in exhibit 28. However, I do not rely on either type of studies when determining a control premium discount to impute a valuation based on publicly traded companies. As a general rule, I apply a base discount factor and deviate from that percentage to take into account relevant aspects of the economic environment of the business. The more competitive the current and expected future environment, the higher percentage is adjusted, because of fewer barriers to entry into the market. In fact, if a new business can enter into such an industry more easily, the owner has less of a need to purchase a going concern. Thus, the less competitive the current and expected future environment, the higher control premium and the lower the marketability discount.

Because Lilly is the leader of the industry and considered to be the top large global pharmaceutical firm, a control premium of 30 percent seems to be more appropriate. However, Lilly has significant lines of business, and its product portfolios. On the other hand, synergies such as cost saving can be significant when two businesses are combined. I believe that 35 percent control premium are based on evaluation of relevant aspects of the economic environment of the business should be applied for an investors to pay when acquire Lilly. Thus, based upon my review, I applied an ownership control premium of 35 percent to estimate the value of Lilly on a controlling ownership interest basis on the indicated results of the two valuation methods.

Second, lack of marketability or liquidity discount. This discount is defined as the ability to convert the business interest into cash quickly with minimum transaction and administrative costs and with a high degree of certainty as to the amount of net proceeds. To consider whether the lack of marketability discount is applied to Lilly, different facts must be taken into account. First, Lilly is a large publicly and actively traded company, its stocks are readily marketable and its business interest should be promptly converted into cash quickly. Second, Lilly operates by management team and has Board of Directors overseas the management. Based on the fact, Lilly should be worth more than private and non-management owned-operations, which may run a great risk of failure.

Because Lilly is readily marketable and operates under management team, it should be worth more and should not be subjected to any lack of marketability discount

To evaluate Lilly by using publicly traded comparable company approach, I applied the concept purposed by Arzac (2005)[44]. As shown in Exhibit 26, Abbott Laboratories, Bristol Myers, Merck, Johnson & Johnson, Novartis AG, Pfizer and Sanofi-Aventis were chosen as guideline companies. I then collected the most recent information in the guideline companies' historical financial statement. The three major multiples from guideline companies were averaged; revenue multiple (ratio), EBITDA multiple and Price/Earning (P/E) multiple. According to Exhibit 27, first the average revenue ratio was estimated at 2.86 times Lilly's 2010-projected revenue of $2.3 billion, then subtracted net funded debt of $.2164 billion and added control premium of $1.64 billion. This would project to a total equity value of approximately $8.59 billion.

Second, the average EBITDA multiple was estimated at 8.41 times Lilly's 2010-EBITDA of $7,391.41 million. The total equity value, including its liabilities and control premium, would be approximately $7.5 billion.

Lastly, the average net income multiple was estimated at 11.16 times Lilly's 2010-net income of 2,586.66 million. The total equity value, including control premium, would be approximately $3.6 billion on June 8, 2010.

7.2.3 Comparable Change of Control Transaction Valuation Method

Comparable change of control transaction valuation method or asset-based approach determines value by comparing the target company to other companies in the same industry of the same size and or within the same region. In this thesis, as seen in Exhibit 29, data on comparable companies are collected from Thomson Online Banker based on companies that undergone mergers and acquisitions in the past three years. In addition, the companies involved in the same or similar line of business are selected. Lastly transactions that accounted more than 70 percent of ownership control are included.

In contrast to the income-based approach or discount cash flow valuation method, which requires subjective judgments about discount rates, the asset-based approach is relatively objective.

[44] Enrique, R. A.. 2005, *Valuation for Mergers, Buyouts, and Restructuring*. John Wiley & Sons, Inc.

However, this approach is not the most probative method of determining the value of going business concerns since it is impossible to determine intangible assets. Consequently, the asset-based approach yields a result that is lesser than the fair market value of the business. Therefore the valuation by using Comparable Change of Control Transaction will be done on a conceptual basis to illustrate the estimate value of Lilly, however the thesis does not intend to apply this concept into practice.

As shown in exhibit 29, by adopting four multiples; revenues, net income, EBIT and EBITDA, it is possible to estimate the value of Lilly, taking into account the adjusted variables, liabilities, and control premium. The net equity value is equal to $6.85 billion, $9.41 billion, $14.76 billion, and $10.08 billion respectively.

7.3 Business Valuation Summary

Three major valuation approaches are presented in this chapter and each is discussed from both conceptual and implementing perspectives. It is important to note that the three methods discussed do not represent a complete menu of choices. There are other several valuation methods discussed throughout the academic and professional literatures.

Another points to make here are the advantages and drawbacks of different valuation models. First, a major advantage of DCF valuation method is its flexibility in making projections on a year-by-year basis. It is expressed in financial statement and data are year-by-year with balance sheet or income statement accounts. However, DCF approach has some pitfalls in that it is highly complex and the number used in the projections maybe subject to error and uncertainty, thus create a misleading result and the illusion that the numbers are the actual or correct.

Second, valuation based on the multiples for comparable firm is less demanding compared to DCF method because it avoid some vulnerability to the analyst's idiosyncratic estimation error by letting the market decide some of the valuation parameters. For instance, application of a price earnings multiple does not require explicit specification of a firm's cost of capital or growth rate. Also, it can be useful to apply Comparable Public Traded Company valuation method when evaluating a closely held company as the implicit assumption underlying this method is the fair market value of comparable publicly traded businesses. However, comparable publicly traded company approach only works well with public traded company since public firms are subjected to stringent regulation,

hence a greater abundance of public information. Nonetheless, application of price multiples is not so simple as it would appear. Because identification of firms that are really comparable is often quite difficult. There are also some choices to be made concerning how the multiples will be calculated. Finally, explaining why multiples vary across firms, and how applicable another firm's multiple is to the one at hand, requires a sound understanding of the determinants of each multiple.

The major advantage for an asset-based valuation method is that implementing this method is relatively straightforward as the assets are adjusted on the balance sheet to their economic or market values and then subtracts from these adjusted total assets total liabilities to arrive at adjusted net assets. However, it should be noted that assets as reflected on the balance sheet are not intended to be representative of the economic value of assets. Balance sheets prepared in accordance with General Accounting Accepted Principles reflect assets at their cost at the time of acquisition and not at their current fair market value, for example either intangible assets or the forecast estimates of sales and income statement are not considered. In particular when a firm is undergoing mergers and acquisitions, misestimating in discounts for lack of comparability and control premium can be subject to error, causing an overestimate or underestimate of value than the true value of the firm.

The choice of a valuation method requires thought and contemplation. Each of the alternatives offers its own set of advantage. When evaluating a business, it is always important to first learn about the business and then select the one valuation method that is the most appropriate based on the relationship between the circumstances for understanding the valuation and the assumptions that underlie each of the valuation methods.

To illustrate, income-based approach or discounted cash flow valuation method uses the company's income statement as the starting point for the analysis. In contrast, asset-based approach or comparable change of control transaction valuation method uses the company's balance sheet as the starting point. In fact, all financial information should be considered in detail when valuing a company. Income statements and balance sheets describe aspects of the financial condition of the business, and hence, both should be examined.

It is applicable to think of multiples methods as being straightforward. However, the use of multiples falls into the trap of being a backward-looking exercise instead of the forward-looking analysis critical to any valuation. As a result, I focus on DCF analysis.

An important underlying assumption of all business valuations is that the financial performance of the business should be accurately characterized. If the financial statements are incorrectly prepared, or if they overstate or understate the true financial reflection of company, then it follows logically that the valuation will be imprecise. Critical accounting policies must be reviewed and the quality of accounting review must be measured. It is important to keep in mind that, several contingencies of Lilly, including the outcome of pending litigation against the Company and the Company's ability to fund its pension obligation could adversely affect the Company's performance and valuation.

As a worldwide leading manufacturer and distributor of medical products and devices, Lilly is best known for its financial strength and excellent management team. The Company has proven, sustainable competitive advantage and a portfolio of the industry's best-known brands. While the Company faces an unfavorable outlook in the near-term, its long-term growth prospects outside the United States remain positive. Based on the Company's discounted cash-flow valuation, I have established a total equity value of approximately $ 41.51 billion for Lilly.

7.4 Reflection: Issues related to post cross-border mergers and acquisitions

Many concerns raised in previous chapters are closely related to the theoretical connections between valuation models in cross-border mergers and acquisition in 'pre-merger' perspective. However, other concerns raised after the merger also should not be taken for granted. Thus, the final reflection will engage an analysis of theoretical connection between valuation models in 'post-cross border merger' viewpoint for both bidding and acquiring companies.

These include, but not limited to, issues such as evaluations, risks and rewards associated with international takeover. For example, winner's curse[45] in bidding competition for an acquisition between acquirer, target and other acquiring firms. In addition, the impact of change in capital structures that potentially affect discount rate and value of the company. Moreover, tax considerations from different forms of acquisition, the choice of currency, and the regulation that affect the bidding company in cross-border acquisition.

[45] Winner's curse determines as a tendency for the winning bid in an auction to exceed the intrinsic value of the items purchased according to Investopedia.com

First, any valuation should consider not only what the target may be worth to the acquirer, but what the target's next best alternative is likely to be. For instance, when valuing a business in mergers and acquisition, suppose that when valued as a stand-alone, Lilly as a target is worth $32 per share, whereas, due to substantial synergies, Lilly is worth $36 as part of the acquiring firm. If all the synergies are unique to an acquirer, such an acquirer may purchase Lilly for $32.01. On the other hand, if the synergies, for example increasing in pipelines and tax benefits are equally available to many potential bidders, Lundbeck, the acquirer must raise the bid as close as possible to $37. As a result, a full valuation must take into account the uniqueness of synergies and the characteristics of other bidders, rather than be conducted solely on information about the target and bidder.

Second, in a real world where taxes and information asymmetries are existed, the acquirer must consider the appropriate forms of acquisition payment to the target's shareholders. The forms of payment can play a significant role in that, for instance, target shareholders may prefer shares to cash. According to tax status in many countries, including the United States, realization of capital gains can be deferred in equity offers, by offering the target cash, they can minimize personal tax liabilities. In contrast, in the target owners' perspective, a share offering may cast doubts about the future of the acquirer. Consequently, a successful evaluation must also consider these possible effects in looking for a value, which can be paid for the target.

Third, as globalization of the world economy brings mobile capital to more countries, valuation becomes more important in many aspects. Certainly valuation models can be even more highly complex. In particular, DCF method is certainly more difficult to use in these environments, and is subjected to a greater error.

To illustrate, the starting point is whether to use foreign currency, foreign tax rates, and what discount rate should be used when forecast free cash flow and subsequently value a foreign acquisition. Various literatures suggest that valuing foreign companies follows the same basic approach and employs the same principles as valuing business units of domestic companies. However, there are several things to be considered: foreign currency translation, differences in foreign tax and accounting regulations, the need to evaluate political risk, the lack of good data, determining the appropriate cost of capital.

In relation to discount rate or weighted average cost of capital, Ferris & Pécherot Petitt (2002)[46] suggest the only theoretically defensible discount rate to use is the rate which best reflects the riskiness of the target's free cash flows and match the discount rate to the particular country and industry risk profile.

Accordingly, when forecast Lilly's revenues in the United States for Lundbeck in Denmark, the US Dollar should be applied. Thereby it should be note that any cash flow from Eli Lilly's subsidiaries abroad that are non-US dollar should be convert into USD by using forward exchange rates. Once all expected cash flow are converted into USD, it is important to discount it at the US cost of capital. Thereafter, the resulting USD value is to be converted to Danish kroner, the home currency, by using the spot Foreign Exchange (FX) rate. In a cross-border context, WACC should be discounted by the implicit riskiness of Lilly's cash flows and according to capital market conditions in the United States.

Fourth, the most critical success in acquiring a business is to assess the wealth transfers between different claimants. Because wealth transfers can provide important incentives for or against an acquisition. As a number of highly levered transactions have shown the link between the value of the entire firm and the distribution of that value is more complex when there is a chance in capital structure.

According to Miller & Modigliani: proposition II theorem, as leverage increases, while the burden of individual risks is shifted between different investor classes, total risk is conserved and hence no extra value created[47]. To illustrate, consider Lilly whose value ($V_{Eli\ Lilly}$) is the sum of the values of debt (V_D) and equity (V_E). Assume that prior to a takeover Lilly's value is as follows:

$$V_{Eli\ Lilly} = V_D + V_E = \$6.66 + \$20.80 = 27.46 \text{ million.}$$

Now suppose Lundbeck employs substantial borrowing (an additional $9.99 billion in long-term debt of over above Lilly's existing debt) to buy the equity of Lilly. Assume that after the takeover, the value of Lilly remains at $27.46 billion. According to MM proposition II theorem, no net value is created. However, the new value of the firm is distributed as follows:

[46] Ferris, R. K. & Pécherot Pettit, S. B. 2002, *Avoiding the Winner's Curse*, Prentice Hall.

[47] Breadley A. R., et al. 2007, *Principles of Corporate Finance*, McGraw Hill Higher Education.

$$V_{\text{Lundbeck Lilly}} = V_{D(new)} + V_{E(new)} = \$13.32 + \$6.93 = \$27.46 \text{ million.}$$

Notice that I have assumed that the value of debt goes from \$6,662.10 to \$13,324.20 million even though an additional \$9.99 million is borrowed. The important question is how can \$6.66 + 9.99 = \$13.32 million? The answer is that existing debt owners suffer a value loss as their debt becomes more risky and is downgraded. This wealth loss of \$3.33 million is a direct transfer to the buyer. The buyer has used \$9.99 million of borrowing plus \$3.33 million of his own capital to purchase the \$20.79 million of equity in the target. At the end of the transaction, the buyer has equity value of \$6.93 million having had to invest \$3.33 million of his own money. The difference is the wealth transfer from existing debt owners.

The above concept can be illustrated numerically as follows. Please refer to Exhibit 31, the pro forma balance sheet of Eli Lilly. An overall cost of capital is defined as:

$$r_A = r_D \frac{D}{V} + r_E \frac{E}{V} \tag{7.4}$$

,where r_D and r_E are the cost of debt and equity, and D and E are the market values of the firm's debt and equity, $V = D + E$ is the total market value of the firm.

According to Exhibit 31, at year-end of 2009, Lilly had financed its operation by using debt and equity at market value of 66.62 million and 27.40 million, which translated to 24 and 76 percent of total firm value, respectively. Its cost of debt was 3.04 percent and cost of equity was 5.85 percent. Apply the formula from equation 7.4, this equals to the cost of capital of 5.17 percent.

$$\left(3.04 \times \frac{24}{100}\right) + \left(5.85 \times \frac{76}{100}\right) = 5.17\%$$

Suppose that at year-end of 2014, after Lundbeck took over and refinanced its acquisition and firm's operation by using more debt. Lundbeck's debt to equity ratio changes to 76:24. The cost of debt increases from 3.04 to 4.59 and cost of equity goes up from 5.88 to 7 percent, while the cost of capital remained at 5.17 percent.

$$\left(4.59 \times \frac{76}{100}\right) + \left(7 \times \frac{24}{100}\right) = 5.17\%$$

$$r_A = (r_D \times .76) + (r_E \times .24)$$

$$(4.59 \times .76) + (7 \times .24) = 5.17\%$$

In a perfect capital market, leveraged restructuring by raising the amount of debt increases debt holder risk and leads to a rise in the return that debt holders required. The higher leverage also made the equity riskier and increased the return that shareholders required. The weighted-average return on debt and equity remained the same.

Previous example shows how leveraged restructuring affect expected return. In addition to that, the change in capital structure also affect company's beta. To begin with, the beta of a firm is illustrated by

$$\beta_A = \beta_{portfolio} = \beta_D \frac{D}{V} + \beta_E \frac{E}{V} \tag{7.5}$$

,where $ß_A$ is the firm's asset beta, $ß_D$ and $ß_E$ are betas of debt and equity, and D and E are the market values of the firm's debt and equity, $V = D + E$ is the total market value of the firm.

Thus the firm's asset beta is equal to the beta of a portfolio of all the firm's debt and its equity. To illustrate, if the debt before the refinancing has a beta of .07 and the equity has a beta of 1.04, then

$$\beta_A = (.07 \times .24) + (1.04 \times .76) = .8$$

After refinancing, the risk of the total portfolio is unaffected, but both the debt and the equity are now more risky. Assume that the debt beta increases to .1, then

$$.8 = (.1 \times .76) + (\beta_E \times .24)$$

$$\beta_E = 3$$

In conclusion, borrowing can create financial leverage but does not affect the risk or the expected return on the firm's assets, however it pushes up the risk of the common stock as shareholders demand a higher return because of financial risk.

Adjusting WACC when capital structure and business risk differ

Nonetheless, in the real world with taxes, default risk and agency costs, Miller & Modigliani's proposition II no longer hold true that debt and value are unrelated. In fact, even though firms can benefit from tax shied when increasing debt ratio to equity, however debt financing can increase business risk as existing debt and equity holders demand higher compensation. This leads to higher cost of financing in the future and creates a financial distress as well as cost of bankruptcy. This situation will subsequently decrease the value of firm.

Trade-off theory of capital structure indicates the benefits and costs of debt financing that as a company chooses to finance by debt, cost of debt increases, equity will become riskier, beta and cost of equity will increase, thus higher WACC and lower value of a company[48].

Several tools for assessing the effects of debt are illustrated in financial world, however I will apply the Adjusted Present Value (APV) approach because of the simplicity and flexibility of this method. In contrast to Discounted Cash Flow (DCF) method, APV approach does not implicitly assume that the capital structure of a target firm is stable over the forecast horizon. In fact, when a firm's capital structure changes, the discount rate or WACC also changes, which in turn affects the present value of the target company.

When capital structure instability is present, one option for an analyst is to recalculate the WACC each time the capital structure changes. Nevertheless, this leads to a problem of circularity in which the weights of equity and debt in the circulation of the WACC depends on the market value of equity and debt. In addition, the market value of equity is not observable.

The Adjusted Present Value (APV) method comes into play as an alternative to a mentioned problem when the capital structure of a target company materially changes over the forecast horizon. The APV method framework distinguishes between two categories of cash flows: 1) the free cash flow associated with a target's operations (or the value of the firm without debt), and 2) the cash flows associated with a target's financial policies (or the effect of debt on firm value). The major cash flow for most target companies is the interest tax shield associated with any outstanding debt. Because interest payments are tax deductible, the use of debt financing actually decreases a target's cash outflow for taxes and thus increase cash inflow from operations and free cash flows. APV replies on the principle of value additivity, as follows:

APV = base-case value + value of financing side-effects ⇔

PV of the target's FCF + PV of a target's financial policies ⇔

Unlevered Firm Value + (Tax Benefits of Debt – Expected Bankruptcy Cost of the Debt)

[48] Breadley A. R., et al. 2007, *Principles of Corporate Finance*, McGraw Hill Higher Education.

In applicable, when the riskiness of the two components of APV differs, the two cash flow streams are discounted using different discount rates. The free cash flows are discounted at a rate that reflects the riskiness of the target's assets or the cost of unlevered equity, i.e. the cost of equity assuming that the target is 100 percent equity financed. Whereas the cash flows associated with the interest tax shield are discounted using the target's cost of debt.

The cost of unlevered equity can be calculated using the Capital Asset Pricing Model (CAPM) as follows:

$$r_{ue} = r_f + \beta_{ue}(r_m - r_f) \tag{7.6}$$

To illustrate the use of the APV framework, consider the data for Lilly presented in Exhibits 17, 20 and 31. The first step is to calculate the free cash flows from Lilly's operations. This is given in Exhibit 17. The second step is to calculate the cost of unlevered equity. The unlevered equity beta is given as

$$\beta_{ue} = \frac{\beta_u}{\left[1 + \frac{D}{E}(1 - tx)\right]} \Leftrightarrow \frac{0.8}{\left[1 + \frac{6.66}{12.19}(1 - 22.38\%)\right]} = 0.56 \tag{7.7}$$

From Equation 7.7, the cost of unlevered equity can be calculated as

$$r_{ue} = 3.22\% + .56 \text{ x } 3.32\% = 5.08\%$$

The third step is to discount Lilly's free cash flows and its terminal value[49], using the cost of unlevered equity. It is assumed that after year 2014, the company will grow by 3.35 percent per year to perpetuity. As illustrated in Exhibit 34, the terminal value equals to $41.40 billion and total present value discounted at 5.08 percent is approximately $34.70 billion.

The fourth step is to calculate the interest tax shield and its terminal value[50] and discount these values at the cost of debt. According to Exhibit 31 pro forma balance sheet, it is assumed that between 2010 and 2014, net current asset will increase 10 percent every year. Furthermore, it is assumed that every year, net funded debt increases by 15 percent and equity reduces by 15 percent.

[49] The terminal value is calculated using the free cash flow method (see Exhibit 20), with a discount rate of 5.08 percent (cost of unlevered equity) and a growth rate of 3.35 percent.

[50] The terminal value is calculated using the free cash flow method (see Exhibit 20), with a discount rate of 7.12 percent (cost of levered equity) and a growth rate of 3.35 percent.

From year 2014, Lilly's capital structure is stable and interest tax shield will grow by 3.35 percent per year to perpetuity. Thus, at year-end of 2014, the Company's debt to equity ratio is 51 to 49.

Taken into account the costs of financial distress, the terminal value equals to approximately $19.01 billion and total present value of interest tax shield discounted at 7.12 percent is approximately $13.69 billion. Notice that, as seen in Exhibit 32, the after-tax cost of debt increases from 3.04 to 3.59[51] percent, and cost of equity doubles from 5.88 to 10.79 percent due to higher beta of 2.3[52]. WACC goes up from 5.17 to 5.28 percent.

According to Exhibit 34, the fifth step is to add the present value of the free cash flows, the present value of the interest tax shield and the present value of expected bankruptcy cost of debt[53]. Subtracting the value of current liabilities and add cash from the aggregate entity value yields the APV value of equity of approximately $30.13 billion.

As shown in Exhibit 34, the equity value of Lilly under DCF is approximately $41.51 billion or 1.33 times the equity value approximately $31.13 billion of the firm under APV. In this instance, DCF leads to a biased estimate of the value of the target firm's equity for two reasons.

First, DCF assumes that the capital structure of Eli Lilly is stable between years 2010 and 2015, however, the capital structure of the company changes from one year to another. In year 2010, the capital structure is composed of 24 percent debt and 76 percent equity. By year 2015, the capital structure is composed of 51 percent liabilities and 49 percent equity. As the cost of debt is greater than the cost of equity, the WACC under DCF method is underestimated, and thus the entity value of Lilly is overestimated.

Second, under DCF approach, WACC is calculated by using the book values of debt and equity to estimate the proportion of equity and the proposition of debt. Because the market value of equity is not observable, the calculation of the WACC and the entity value under DCF model results in

[51] r_A = (4.62 x .24) + (7 x .76) = 6.42%, hence after-tax cost of debt = 4.62 x (1-.22.38%) = 3.59%

[52] $ß_A$ = (.1 x .24) + (3 x .76) = 2.30%

[53] Present value of Expected Bankruptcy Cost of Debt determines by the direct costs of legal and administrative fees and indirect costs of uncertainty about firm's long-term prospects. Hypothetically, in this case when the firm defaults, legal and administrative fees are paid first, then creditors usually get the full amount of principles (100 percent), and then what left are paid to equityholders (20%). Thus, PV of expected banktrupcy costs equals to percentage of PV of interest tax shield ($136,999.98 x 1.20 = $179,182.71 million).

biased estimate. In contrast, under APV method, market values of debt and equity are used. This reflects a better estimate of total firm value and hence reduces these biases when calculating the present value of a company. The APV method proves to be useful when evaluating a company that continue to operate under leveraged restructuring after the merger.

Similarities and differences between leveraged restructurings and leveraged buyouts

Companies often reorganize by adding new businesses or disposing of existing ones. Such a hypothetical situation when Lundbeck pursue an acquisition strategy by merging with Lilly can be seen as an example of such a practice.

It should be note that a hypothetical leveraged restructuring, a practice that Lundbeck pursues following the merger by increasing debt to finance its acquisition has some similar and different characteristics to leveraged buyouts ('LBOs') by the private equity firms.

'An LBO is a takeover or buyout of a company or division that is financed mostly with debt'[54]. Relatively, LBOs differ from ordinary acquisitions in two ways. First, LBO's stock is held privately, usually by an investment partnership, and its shares no longer trade on the open market. Frequently, this is a partnership of institutional investors, for example the private equity firms and pension funds. In contrast, leveraged restructuring is organized by existing management team and there is no change of ownership control.

Second, a large fraction of the purchase price in LBOs is financed by debt. Some of this debt is below investment grade or junk. For both an LBO and leveraged restructure firm, increasing debt may create financial instability, and increase the prospect of financial distress and bankruptcy. Existing debt holders for both entities become more adversely affected***(don't understand the use of the word "severe" following the restructure due to the fact that debt turn into junk when the borrower rate goes up.

Though quite different, a leverage restructuring in many ways can demonstrate similarities to an LBO, especially in its financial characteristics. As previously mentioned LBOs use a high percentage of debt relative to equity. This is identical to of leverage restructuring. However, high debt is not intended to be permanent and is a means to an end. The requirement to generate cash for

[54] Breadley A. R., et al. 2007, *Principles of Corporate Finance*, McGraw Hill Higher Education.

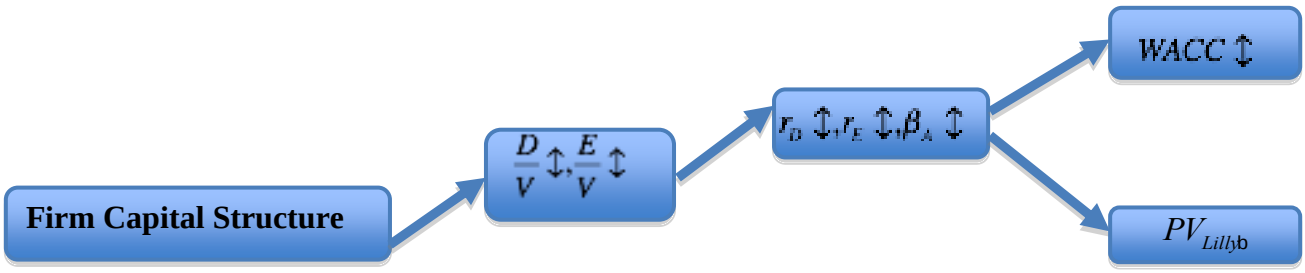
debt service is intended to encourage managers to eliminate unneeded assets, forgo wasteful expenditure, and enhance operating efficiency. The managers and employees are given a significant stake in the business through ownership of shares and stock options to generate cash for debt services.

Firms engaged in an LBO and a leverage restructuring finance operations with debt. As previously discussed, lending money may save taxes due to the value of interest tax shield.

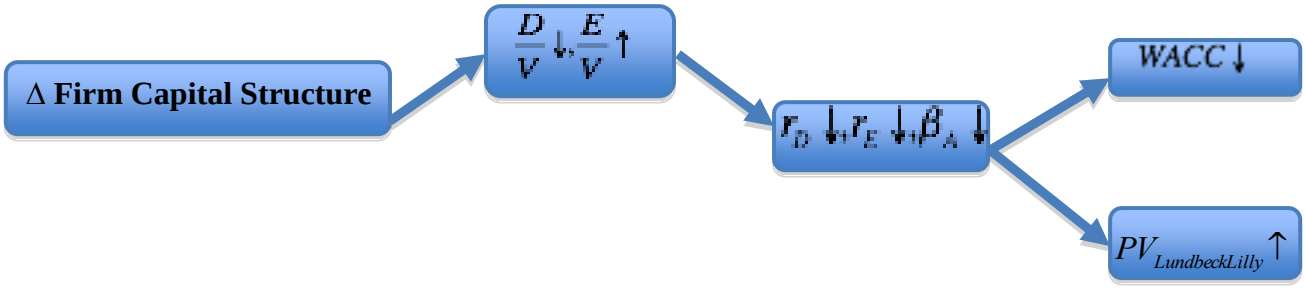
Although, an LBO is privately held and owned by a partnership of private investors, this private ownership is intended to be temporary (as high debt financing). If successful, LBOs will continue as public companies once debt has been paid down sufficiently and improvement in operating performance have been demonstrated. As the LBOs go public, this is an identical feature as that to leveraged restructurings.

7.4.1 Scenario Analysis

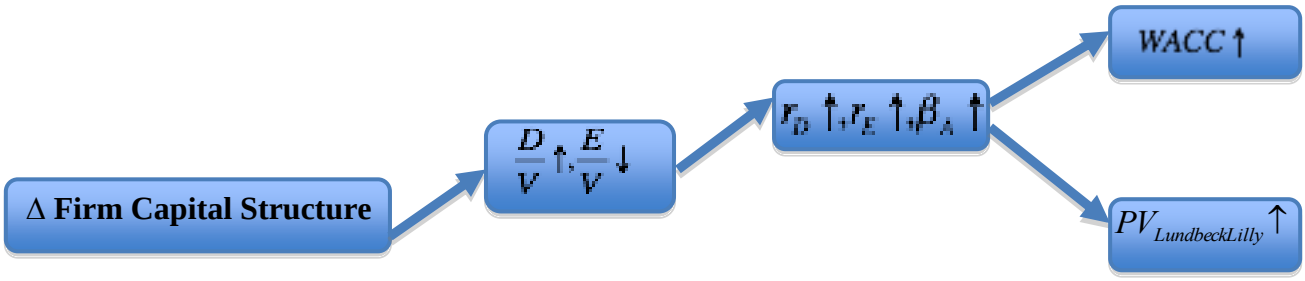
Pre-merger value of a mixed equity and debt financed firm



Post-merger value of unleveraged firm



Post-merger value of leveraged firm



Note: D and E are the market values of the firm's debt and equity, $V = D + E$ is the total market value of the firm, r_D and r_E are the cost of debt and equity, $ß_A$ is the firm's asset beta, WACC is weighted average cost of capital, PV_{Lilly} is pre-merger present value of Lilly, and $PV_{LundbeckLilly}$ is post-merger present value of LundbeckLilly. Furthermore, ↕ (both directions arrow) represents no change factor. For example, prior to merger, Lilly has no change in capital structure, thus debt to equity, r_D, r_E, $ß_A$,WACC, PV_{Lilly} remained stable.

7.5 Future study

Valuation a cross-border merger and acquisition is a broad subject. The choice of the best valuation method may vary from company to company and market to market. The use of historical information and the forecast of future estimates do not fully determine a potential purchase price, but it is a means to facilitate negotiation, and create a standard of reference. There has been little research into the valuation of cross-border acquisitions. Further understanding of why some cross-border acquisitions succeed, and others fail, could be the study of future research. Issues to be examined would include:

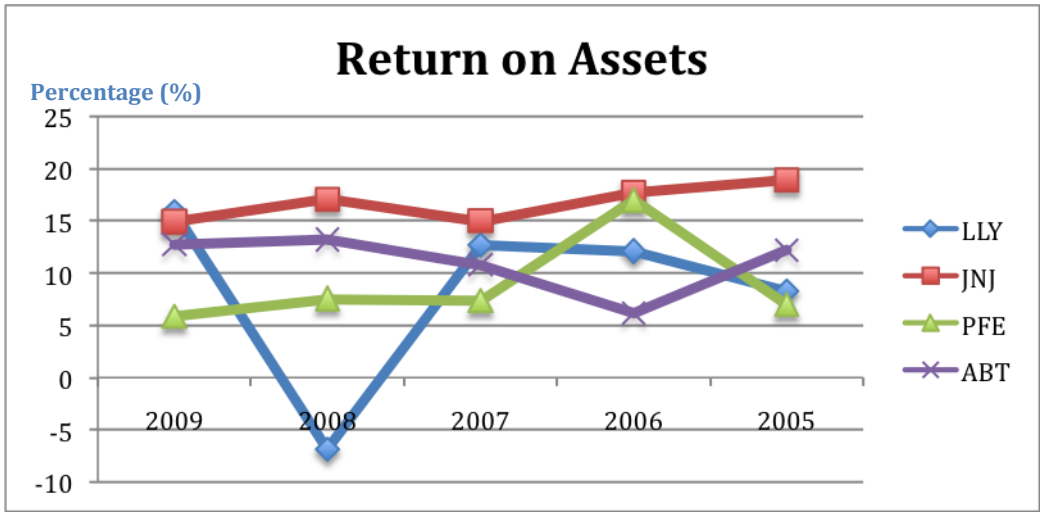
1) Measuring true value of gains and costs from cross-border merger and acquisition activities both from acquirer's viewpoint and target's viewpoint.

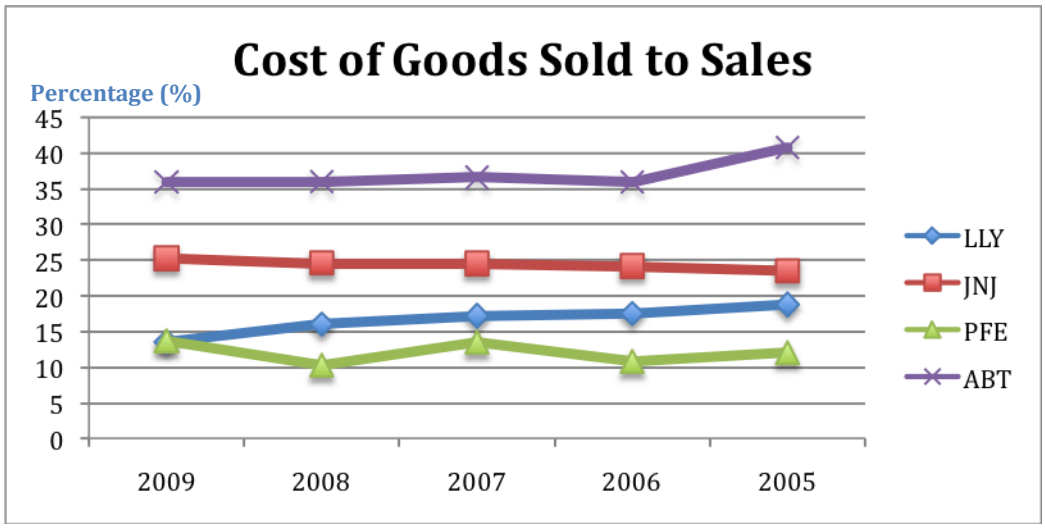
2) Examining how different forms of acquisition finance, (e.g. cash or stock offering) contribute to the net gain or cost between two sides that engaged in acquisitions activities.

3) Determining the impact of the control premium paid to acquire a company that affect merger accounting and the balance sheet of the buying firm.

4) Examining the incentives of merger and acquisition activities, and identify the winners and losers from such activities.

Exhibit 11: Profitability ratios





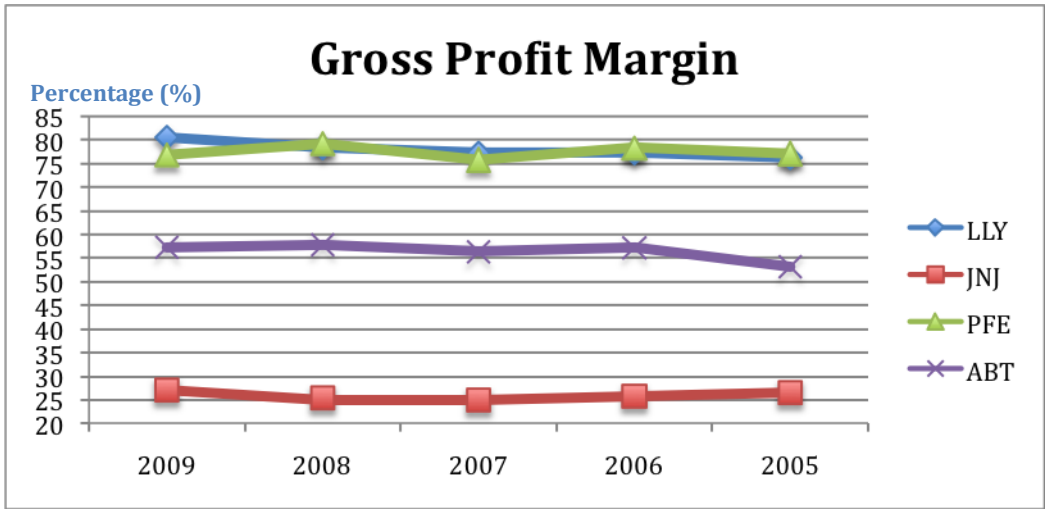
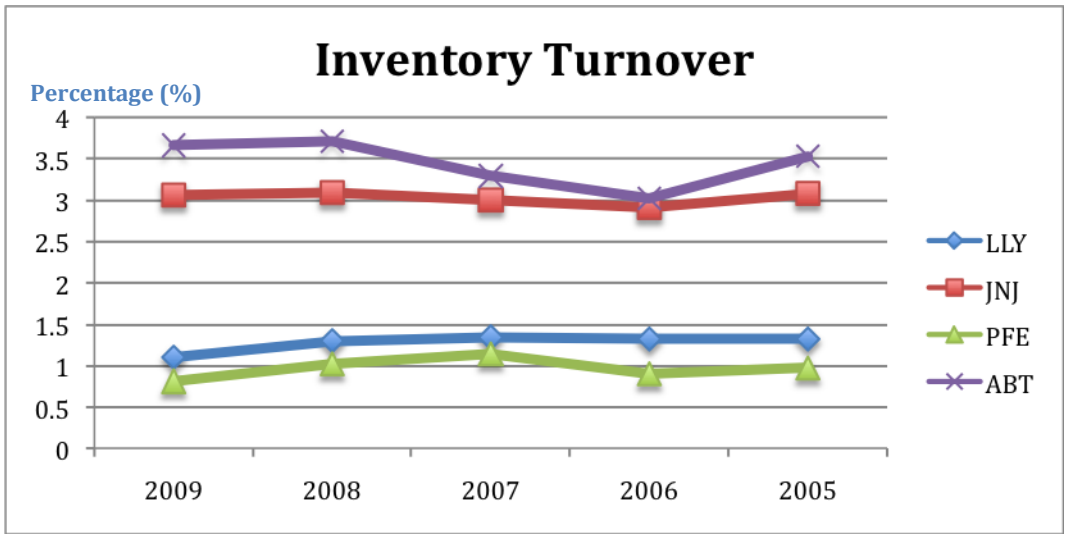


Exhibit 12: Efficiency ratios



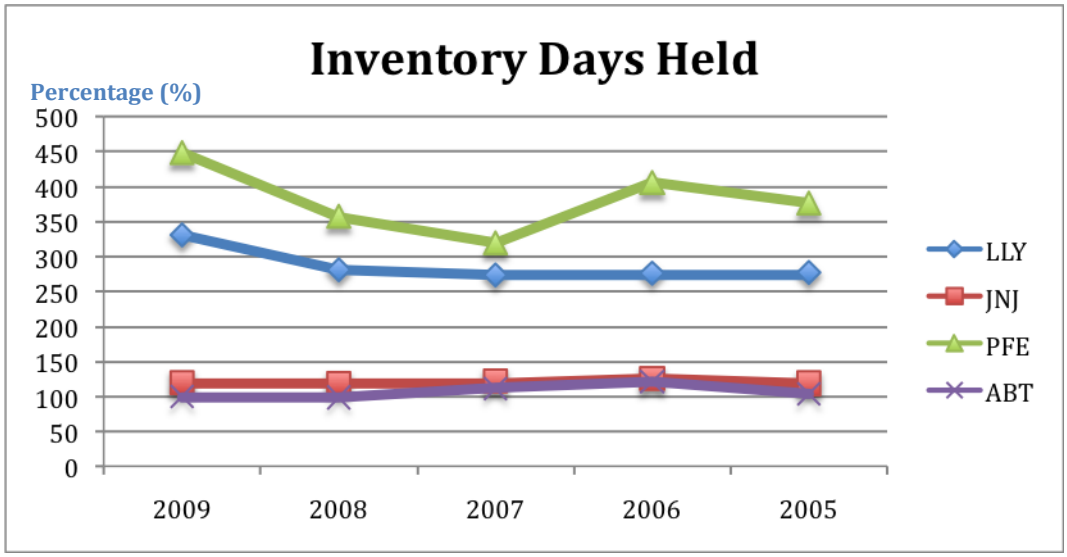
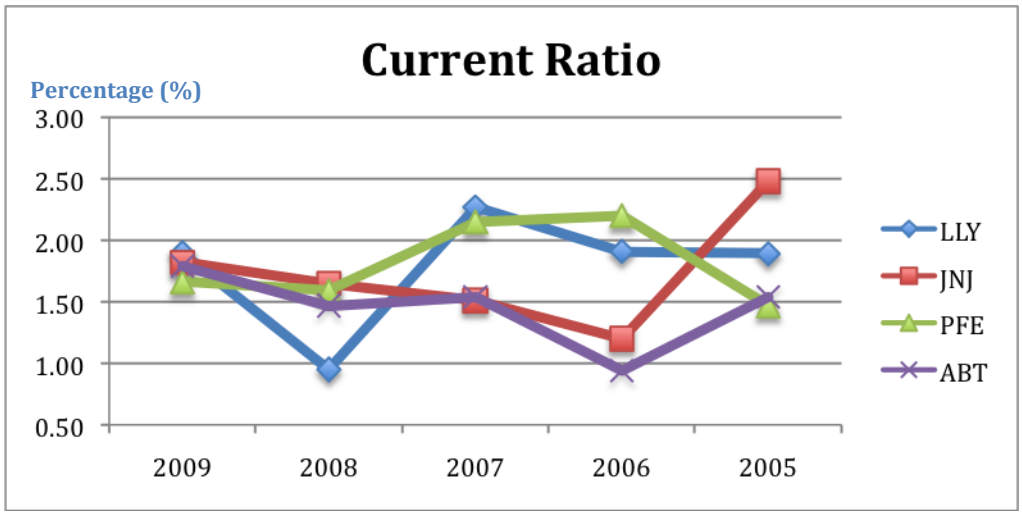


Exhibit 13: Liquidity ratios



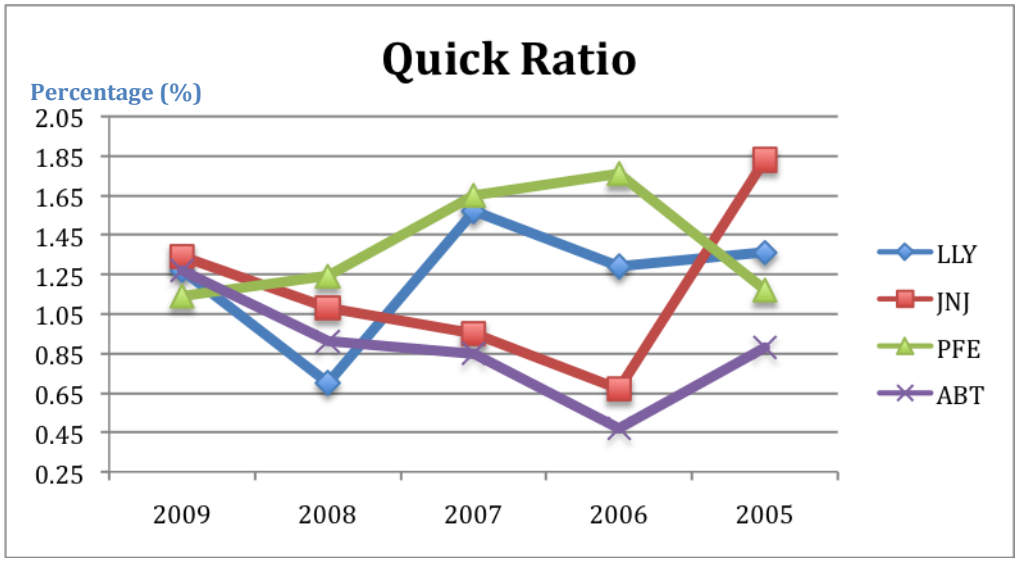
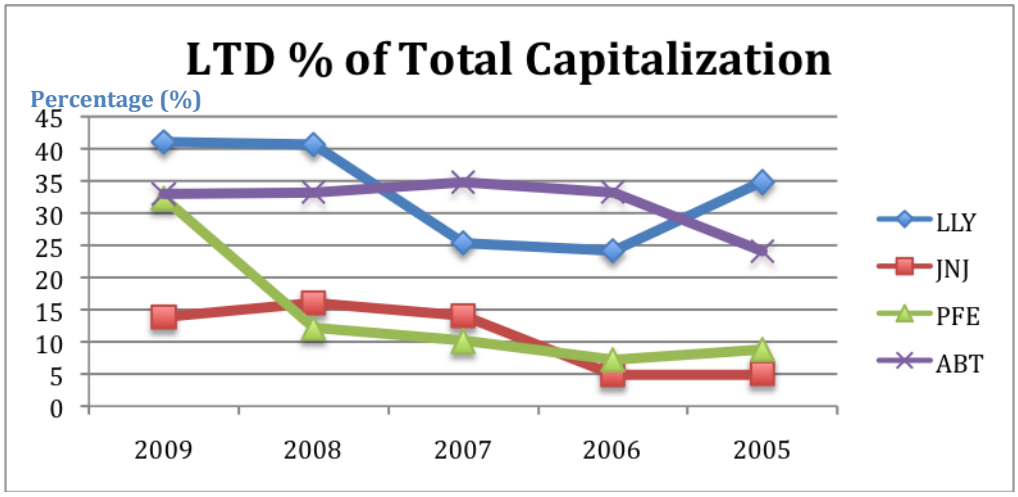


Exhibit 14: Debt ratios



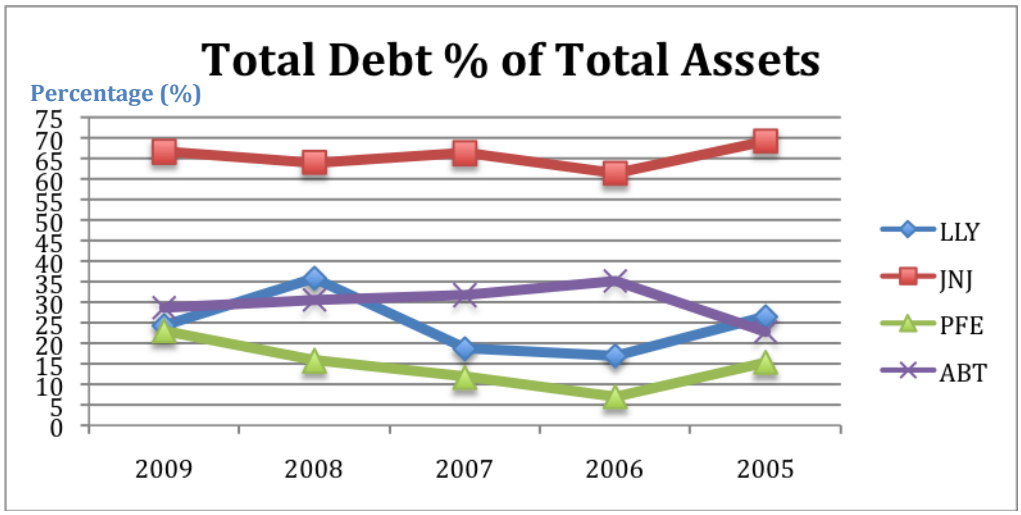


Exhibit 15 — **Financial 5 Yr. Income Statement**

ELI Lilly & Company — **Symbol: (C000002765)**

http://www.lilly.com		**CUSIP:**	532457108
Exchange:		**DCN:**	E560000000
	NYSE		
Country:		**ISIN:**	US53245710
	USA		83
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Source: ThomsonFinancial

Scaling Factor : 1000000 USD — Currency: USD

5 YR INCOME STATEMENT	**12/31/05**	**12/31/06**	**12/31/07**	**12/31/08**	**12/31/09**
Net Sales or Revenues	14,645.30	15,691.00	18,633.50	20,378.00	21,836.00
Cost of Goods Sold	2,747.80	2,744.70	3,200.90	3,260.20	2,949.20
Depreciation, Depletion & Amortization	726.40	801.80	1,047.90	1,122.60	1,297.80
Gross Income	11,171.10	12,144.50	14,384.70	15,995.20	17,589.00
Selling, General & Admin Expenses	7,522.50	8,019.10	9,581.80	10,467.30	11,219.00
Operating Expenses - Total	10,996.70	11,565.60	13,830.60	14,850.10	15,466.00
Operating Income	3,648.60	4,125.40	4,802.90	5,527.90	6,370.00
Non-Operating Interest Income	#N/A	261.90	215.30	210.70	75.20
Earnings Before Interest And Taxes (EBIT)	2,811.60	3,559.80	4,094.10	-1,079.30	5,619.10
Earnings Before Interest, Taxes, Depreciation & Amortization (EBITDA)	2,085.20	2,758.00	3,046.20	-2,201.90	4,321.30
Interest Expense On Debt	245.70	344.80	323.60	276.50	291.50
Pretax Income	2,706.40	3,321.70	3,865.80	-1,307.60	5,357.80
IncomeTaxes	715.90	755.30	923.80	764.30	1,029.00
Minority Interest	0.00	0.00	0.00	0.00	0.00
Equity In Earnings	11.10	96.30	11.00	0.00	0.00
Net Income Before Extra Items/Preferred Div	2,001.60	2,662.70	2,953.00	-2,071.90	4,328.80
Extr Items & Gain(Loss) Sale of Assets	-22.00	0.00	0.00	0.00	0.00
Net Income Before Preferred Dividends	1,979.60	2,662.70	2,953.00	-2,071.90	4,328.80
Preferred Dividend Requirements	0.00	0.00	0.00	0.00	0.00
Net Income Available to Common	**2,001.60**	**2,662.70**	**2,953.00**	**-2,071.90**	**4,328.80**
Rate Used to Translate From USD to USD	1.00	1.00	1.00	1.00	1.00

Exhibit 16 — **5 Yr. Common Size Income Statement**

ELI Lilly & Company — **Symbol: (C000002765)**

http://www.lilly.com		**CUSIP:**	532457108
Exchange:		**DCN:**	E560000000
	NYSE		
Country:		**ISIN:**	US53245710
	USA		83
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Source: ThomsonFinancial

Currency: USD

5 YR. COMMON SIZE INCOME STATEMENT	**12/31/05**	**12/31/06**	**12/31/07**	**12/31/08**	**12/31/09**	**Average**
Net Sales or Revenues	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Goods Sold	18.76%	17.49%	17.18%	16.00%	13.51%	16.59%
Selling, General & Admin Expenses	51.36%	51.11%	51.42%	51.37%	51.38%	51.33%
Depreciation, Depletion & Amortization	4.96%	5.11%	5.62%	5.51%	5.94%	5.43%
Operating Profit	24.91%	26.29%	25.78%	27.13%	29.17%	26.66%
Earnings Before Interest And Taxes (EBIT)	19.20%	22.69%	21.97%	-5.30%	25.73%	16.86%
Interest Expense On Debt	1.68%	2.20%	1.74%	1.36%	1.33%	1.66%
Pretax Earnings	18.48%	21.17%	20.75%	-6.42%	24.54%	15.70%
IncomeTaxes	4.89%	4.81%	4.96%	3.75%	4.71%	4.62%
Minority Interest	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income Before Extra Items/Preferred Div	13.67%	16.97%	15.85%	-10.17%	19.82%	11.23%
Extr Items & Gain(Loss) Sale of Assets	-0.15%	0.00%	0.00%	0.00%	0.00%	-0.03%
Net Income Before Preferred Dividends	13.52%	16.97%	15.85%	-10.17%	19.82%	11.20%
Preferred Dividend Requirements	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income Available to Common	**13.67%**	**16.97%**	**15.85%**	**-10.17%**	**19.82%**	11.23%
Rate Used to Translate From USD to USD	1.00	1.00	1.00	1.00	1.00	1.00

Exhibit 17 — **5 Yr. Income Statement Forecast**

ELI Lilly & Company — **Symbol: (C000002765)**

http://www.lilly.com		**CUSIP:**	532457108
Exchange:	NYSE	**DCN:**	E560000000
Country:		**ISIN:**	US532457108
	USA		3
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Source: ThomsonFinancial

Scaling Factor : 1000000 USD — Currency: USD

5 YR INCOME STATEMENT FORECAST	**12/31/10**	**12/31/11**	**12/31/12**	**12/31/13**	**12/31/14**
Net Sales or Revenues	23,036.98	24,649.57	26,744.78	29,419.26	32,802.48
Cost of Goods Sold	3,455.55	4,190.43	4,279.17	4,854.18	4,920.37
Depreciation, Depletion & Amortization	1,443.66	1,652.84	1,883.00	2,164.51	2,509.97
Gross Income	18,137.77	12,144.50	14,384.70	15,995.20	17,589.00
Selling, General & Admin Expenses	11,841.01	12,682.20	13,720.07	15,062.66	16,762.06
Operating Expenses - Total	16,740.21	18,525.47	19,882.24	22,081.35	24,192.40
Operating Income	6,296.77	6,124.09	6,862.54	7,337.91	8,610.07
Non-Operating Interest Income	190.78	210.00	215.30	210.70	205.00
Earnings Before Interest And Taxes (EBIT)	6,487.55	6,334.09	7,077.84	7,548.61	8,815.07
Earnings Before Interest, Taxes, and Depreciation (EBITDA)	5,043.89	4,681.25	5,194.84	5,384.10	6,305.10
Interest Expense On Debt	338.29	416.26	460.68	516.88	587.85
Pretax Income	6,149.26	5,917.83	6,617.16	7,031.73	8,227.23
IncomeTaxes	1,094.26	1,183.18	1,230.26	1,338.58	1,476.11
Minority Interest	0.00	0.00	0.00	0.00	0.00
Equity In Earnings	0.00	0.00	0.00	0.00	0.00
Net Income Before Extra Items/Preferred Div	5,055.00	4,734.65	5,386.90	5,693.15	6,751.11
Extr Items & Gain(Loss) Sale of Assets	0.00	0.00	0.00	0.00	0.00
Net Income Before Preferred Dividends	5,055.00	4,734.65	5,386.90	5,693.15	6,751.11
Preferred Dividend Requirements	0.00	0.00	0.00	0.00	0.00
Net Income Available to Common	**5,055.00**	**4,734.65**	**5,386.90**	**5,693.15**	**6,751.11**
Rate Used to Translate From USD to USD	1.00	1.00	1.00	1.00	1.00

Exhibit 18 — **5 Yr. Common Size Income Statement Forecast**

ELI Lilly & Company — **Symbol: (C000002765)**

http://www.lilly.com		**CUSIP:**	532457108
Exchange:	NYSE	**DCN:**	E560000000
Country:		**ISIN:**	US53245710
	USA		83
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Source: ThomsonFinancial

Currency: USD

5 YR COMMON SIZE INCOME STATEMENT FORECAST	**12/31/10**	**12/31/11**	**12/31/12**	**12/31/13**	**12/31/14**
Net Sales or Revenues	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Goods Sold	15.00%	17.00%	16.00%	16.50%	15.00%
Selling, General & Admin Expenses	51.40%	51.45%	51.30%	51.20%	51.10%
Depreciation, Depletion & Amortization	6.27%	6.71%	7.04%	7.36%	7.65%
Operating Profit	27.33%	24.84%	25.66%	24.94%	26.25%
Earnings Before Interest And Taxes (EBIT)	27.33%	24.84%	25.66%	24.94%	26.25%
Interest Expense On Debt	1.47%	1.69%	1.72%	1.76%	1.79%
Pretax Earnings	25.86%	23.16%	23.94%	23.19%	24.46%
IncomeTaxes	4.75%	4.80%	4.60%	4.55%	4.50%
Minority Interest	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income Before Extra Items/Preferred Div	21.11%	18.36%	19.34%	18.64%	19.96%
Extr Items & Gain(Loss) Sale of Assets	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income Before Preferred Dividends	21.11%	18.36%	19.34%	18.64%	19.96%
Preferred Dividend Requirements	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income Available to Common	**21.11%**	**18.36%**	**19.34%**	**18.64%**	**19.96%**
Rate Used to Translate From USD to USD	1.00	1.00	1.00	1.00	1.00

Exhibit 19 — **Working Capital Analysis - Calculation**

ELI Lilly & Company — **Symbol: (C000002765)**

http://www.lilly.com		**CUSIP:**	532457108
Exchange:	NYSE	**DCN:**	E560000000
Country:	USA	**ISIN:**	US5324571083
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Source: ThomsonFinancial

Scaling Factor : 1000000 USD — Currency: USD

WORKING CAPITAL ANALYSIS	12/31/05	12/31/06	12/31/07	12/31/08	12/31/09	Average
ASSETS						
Cash And ST Investments	5,037.70	3,891.00	4,831.20	5,926.10	4,497.60	4,836.72
Receivables (Net)	2,761.70	2,694.40	3,704.80	3,277.30	3,831.80	3,254.00
Total Inventories	1,878.00	2,270.30	2,523.70	2,493.20	2,849.90	2,403.02
Other Current Assets	756.40	519.20	642.80	382.10	271.00	514.30
Current Assets - Total	10,795.80	9,694.40	12,316.10	12,453.30	12,486.50	11,549.22
LIABILITIES						
Accounts Payable	781.30	789.40	924.40	885.80	968.10	869.80
ST Debt & Current Portion of LT Debt	734.70	219.40	413.70	5,846.30	27.40	1,448.30
Income Taxes Payable	884.90	640.60	238.40	229.20	346.70	467.96
Other Current Liabilities	2,330.10	2,365.10	2,522.90	4,840.60	3,793.70	3,170.48
Current Liabilities - Total	5,716.30	5,085.50	5,436.80	13,109.70	6,568.10	7,183.28
Net Working Capital	5,079.5	4,608.9	6,879.3	-656.4	5,918.4	4,365.94
Incremental Working Capital (Decrease)	N/A	-470.6	2,270.4	-7,535.7	6,574.8	209.73
Incremental Sales (Decrease)	N/A	1,045.7	2,942.5	1,744.5	1,458.0	1,797.68
Increase Working Capital (% of sales)	N/A	-45.00%	77.16%	-431.97%	450.95%	12.78%

Exhibit 20 — **5 Yr. Forecasted Earnings and Cash-Flow Measures**

ELI Lilly & Company — **Symbol: (C000002765)**

http://www.lilly.com		**CUSIP:**	532457108
Exchange:	NYSE	**DCN:**	E560000000
Country:	USA	**ISIN:**	US53245710 83
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Source: ThomsonFinancial

Scaling Factor : 1000000 USD — Currency: USD

5 YR. EARNINGS AND CASH-FLOW MEASURES	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14
Earnings Before Interest, Taxes, Depletiation & Amortization (EBITDA)	5,043.89	4,681.25	5,194.84	5,384.10	6,305.10
Less: Depreciation, Depletion & Amortization	1,443.66	1,652.84	1,883.00	2,164.51	2,509.97
Earnings Before Interest And Taxes (EBIT)	6,487.55	6,334.09	7,077.84	7,548.61	8,815.07
Less: Interest Paid	338.29	416.26	460.68	516.88	587.85
Earning Before Taxes (EBT)	6,149.26	5,917.83	6,617.16	7,031.73	8,227.23
Less: Provision for Taxes	1,376.20	1,324.41	1,480.92	1,573.70	1,841.25
Net Income (NI)	4,773.06	4,593.42	5,136.24	5,458.03	6,385.97
Plus: Depreciation & Amortization	1,443.66	1,652.84	1,883.00	2,164.51	2,509.97
Less: Incremental Working Capital	610.15	587.19	656.58	697.71	816.33
Operating Cash Flow (OCF)	5,606.56	5,659.08	6,362.67	6,924.83	8,079.61
Plus: Net After-Tax Interest Expense	75.71	93.16	103.10	115.68	131.56
Less: Increase in Fixed Capital	1,011.22	1,041.86	1,095.90	1,102.44	1,047.63
Free Cash Flow to the Firm (FCFF)	4,671.05	4,710.37	5,369.87	5,938.06	7,163.54
Present Value (Discounted at WACC of 5.17%)	4,441.43	4,258.65	4,616.24	4,853.75	5,567.60
Total Present Value	23,737.67				

Exhibit 21: Annaul Real Growth in GDP

Current-Dollar and "Real" Gross Domestic Product
Annual

	GDP in billions of current dollars	GDP in billions of chained 2005 dollars
1990	5,800.5	8,033.9
1991	5,992.1	8,015.1
1992	6,342.3	8,287.1
1993	6,667.4	8,523.4
1994	7,085.2	8,870.7
1995	7,414.7	9,093.7
1996	7,838.5	9,433.9
1997	8,332.4	9,854.3
1998	8,793.5	10,283.5
1999	9,353.5	10,779.8
2000	9,951.5	11,226.0
2001	10,286.2	11,347.2
2002	10,642.3	11,553.0
2003	11,142.1	11,840.7
2004	11,867.8	12,263.8
2005	12,638.4	12,638.4
2006	13,398.9	12,976.2
2007	14,077.6	13,254.1
2008	14,441.4	13,312.2
2009	14,256.3	12,987.4
CAGR	**2.56%**	

Source: The Bureau of Economic Analysis, the United States Department of Commerce

Exhibit 22: Weighted Average Cost of Capital Calculation

WAAC	**5.17%**

Cost of Debt	
Cost of Debt	3.92%
Pre tax cost of debt	3.92%
Tax shield	0.88%
After tax cost of Debt	**3.04%**

Cost of Equity	
Risk Free Rate	3.22%
Equity Risk Premium	3.29%
Company Beta	0.8
Cost of Equity	**5.85%**

Funded Debt	
Current Debt	27.4
Long Term Debt	6,634.7
Total Funded Debt	6,662.1

Assets	
Current Assets	12,486.5
Fixed Assets	14,973.5
Total Assets	27,460.0

Capital Structure	
Debt	24%
Equity	76%
Total Value	100%

Scaling Factor : 1000000 USD

Notes

Cost of Debt from Eli Lilly's 2009 Annual report

Risk free rate, 10-year constant maturity US treasury security return from the Wall Street Journal

Company Beta from Yahoo finance

Assets taken from Eli Lilly's Balance sheet, 2009 Annual report

Debt taken from Eli Lilly's Balance sheet, 2009 Annual report

Exhibit 23 — **Discounted Cash Flow Valuation**

ELI Lilly & Company — **Symbol: (C000002765)**

http://www.lilly.com		CUSIP:	532457108
Exchange:	NYSE	DCN:	E560000000
Country:	USA	ISIN:	US53245710 83
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Scaling Factor : 1000000 USD — Source: ThomsonFinancial

TERMINAL VALUE AND DISCOUNT CASH FLOW VALUATION — Currency: USD

12/31/2014 Forecasted Free Cash Flow to the Firm	7,163.54
Weighted-Average Cost of Capital (WACC)	5.17%
20-Year Average of Annual Real US GDP Growth	2.56%
20-Year Geometric Average Annaul Down Jones Index Growth	6.51%
Perpetual Growth Rate	3.35%
Terminal Value	393,600.99
Total Present Value FCF Year 2010 through 2014	23,737.67
Total Firm Value	417,338.66
Less: Total Liabilities	6,662.10
Plus: Cash	4,497.60
Equity Value	415,174.16
Share outstanding	11,531.14
Per Share	36.00

Exhibit 24 — **Sensitivity Analysis of Per-Share Value**

ELI Lilly & Company — **Symbol: (C000002765)**

http://www.lilly.com		CUSIP:	##########
Exchange:	NYSE	DCN:	E560000000
Country:	USA	ISIN:	US53245710 83
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Source: ThomsonFinancial

SENSITIVITY ANALYSIS OF PER-SHARE VALUE — Currency: USD

Growth Rate \ Weighted Average Cost of Capital	4.00%	4.50%	5.00%	5.25%	5.50%	6.00%	6.50%	7.00%
1.50%	26.72	22.58	19.62	18.66	17.40	15.68	14.30	13.17
2.00%	32.93	26.72	22.58	21.28	19.62	17.40	15.68	14.30
2.50%	43.29	32.93	26.72	24.88	22.58	19.62	17.40	15.68
3.00%	63.99	43.29	32.93	30.11	26.72	22.58	19.62	17.40
3.20%	79.53	49.66	36.38	32.93	28.88	24.06	20.70	18.22
3.30%	90.62	53.64	38.41	34.57	30.11	24.88	21.28	18.66
3.40%	105.41	58.35	46.24	36.38	31.45	25.76	21.91	19.13
3.60%	157.18	70.90	46.09	40.70	34.57	27.76	23.29	20.14
4.00%	N/G	126.12	63.99	53.64	43.29	32.93	26.72	22.58
4.50%	-122.38	N/G	126.12	90.62	63.99	43.29	32.93	26.72

Approximate per-share 52-week trading range of $32.02 - $37.92 as of 08/06/2010
Approximate per-share value calculated using WACC of 5.25% and perpetual growth of 3.40%
Appropriate per-share values calculated using pessimistic assumptions
Appropriate per-share values calculated using optimistic assumptions

Exhibit 25: Effective Tax Rate Estimation

Year	Effective Tax Rate
2009	19.20%
2008	20.50%
2007	23.80%
2006	22.10%
2005	26.30%
Average	22.38%

Notes

Tax rates are taken from Eli Lilly's 2009 Annual Report

Exhibit 26

Publicity Traded Comparable Company Peer Group Valuation Method

Company	# Stocks	Stock Price	Market Equity	Book Equity	Equity M/B	Funded Debt	D/C Ratio	Firm Value	Revenues	Revenue Ratio	EBITDA	EBITDA Ratio	Net Income	P/E
Abbott Laboratories	1,543.50	47.20	72,853.20	22,855.63	3.19	14,833.00	0.65	87,686.20	30,764.71	2.85	9,409.25	9.32	5,745.84	12.68
Bristol Myers	1,719.60	25.08	43,127.57	14,843.00	2.91	6,361.00	0.43	49,488.57	18,808.00	2.63	5,840.00	8.47	4,420.00	9.76
Merck	3,118.20	34.86	108,700.45	59,058.00	1.84	6,240.40	0.11	114,940.85	27,428.30	4.19	15,868.30	7.24	13,024.20	8.35
Johnson & Johnson	2,758.00	58.46	161,232.68	50,588.00	3.19	14,541.00	0.29	175,773.68	61,897.00	2.84	18,891.00	9.30	12,266.00	13.14
Novartis AG	2,287.90	48.25	110,391.18	57,387.00	1.92	14,479.80	0.25	124,870.98	45,103.00	2.77	12,263.00	10.18	8,454.00	13.06
Pfizer	8,066.13	15.46	124,702.43	90,014.00	1.39	48,662.00	0.54	173,364.43	50,009.00	3.47	16,071.00	10.79	8,630.00	14.45
Sanofi - Aventis	1,318.66	30.06	39,638.83	69,138.00	0.57	8,827.00	0.13	48,465.83	38,611.45	1.26	13,590.42	3.57	5,904.29	6.71
Peer Average	2,973.14	37.05	94,378.05	51,983.38	2.14	16,277.74	0.34	110,655.79	38,945.92	2.86	13,133.28	8.41	8,349.19	11.16
Eli Lilly	1,153.10	33.67	38,824.88	9,523.70	4.08	6,662.10	0.70	45,486.98	21,836.00	2.08	6,634.40	6.86	4,328.80	8.97

Revenue ratio	**2.86**
EBITDA ratio	**8.41**
P/E ratio	**11.16**

Scaling Factor : 1000000 USD

Notes
Only publicly traded companies involved in the same or similar business line are chosen
No. of Stocks (shareoutstanding) and stock prices are taken from Thomson Online Banker, as of 08/06/10
Book Equity = Total Stockholder Equity, obtained from Yahoo Finance as of 08/06/09
Funded debt (short-term and long term liabilities only), as of 08/06/09
Revenues, EBITDA, and Net Income taken from Google Finance

Exhibit 27

Valuation Using Publicly Traded Proxy Companies

Lack of Marketability	0%
Control Premium	35%

	Revenue	EBITDA	Net Income
Target Company Variable	23,036.98	7,391.41	2,586.66
Peer Group Average Multiple	2.86	8.41	11.16
Gross Firm Value	65,827.51	62,169.81	28,877.68
Less: Funded Debt	6,662.10	6,662.10	
Plus: Cash	4,497.60	4,497.60	
Net Funded Debt	2,164.50	2,164.50	-
Gross (Unadjusted) Equity Value	63,663.01	60,005.31	28,877.68
Lack of marketability	-	-	-
Control Premium	16,431.42	15,487.37	7,453.33
Total Equity Value	**80,094.43**	**75,492.67**	**36,331.01**

Scaling Factor : 1000000 USD

Notes
EBITDA = 2010 sales x operating margin + depreciation as a percentage of revenues
Net Income = Net Income percentage of revenues
For this approach by using net income, net funded debt is not to include in calculation
Since all companies are publicly traded, lack of marketability/liquidity is not to be discounted

Exhibit 28

Comparable Change of Control Transactions

Date Effective	Target Company	Arquiror Company	Deal Value	Aquired	Premium	Revenues	Net Income	Revenue Ratio	Net Income Ratio	EBIT Ratio	EBITDA Ratio
11/03/09	Schering - Plough	Merck	38,406.40	100.00%	33.90%	18,502.00	1,903.00	2.08	20.18	45.60	12.70
10/20/09	Sepracor Inc	Aptiom inc	2,574.20	91.40%	27.60%	1,333.80	187.90	2.11	14.99	9.40	8.30
10/15/09	Wyeth	Pfrizer	67,285.70	100.00%	29.20%	22,833.90	4,417.80	2.95	15.23	9.70	8.50
12/23/08	Barr Pharmaceuticals Inc	Teva Pharmaceutical Ind	8,810.20	100.00%	40.20%	2,651.30	151.40	3.32	58.19	26.80	13.60
10/09/08	Sciele Pharma	Shionogi & CO ltd	1,023.30	100.00%	60.90%	407.40	41.00	2.51	24.96	14.30	9.80
06/18/08	Zenitiva NV	Sanofi - Aventis	1,951.70	71.80%	10.60%	878.50	67.20	3.09	40.45	23.10	15.30
03/27/08	Symbion Health Ltd	Primary Health Care Ltd	2,458.80	100.00%	0.00%	3,209.30	77.60	0.77	31.69	17.10	12.90
02/25/08	Axcan Pharma Inc	TPG Capital LP	1,382.10	100.00%	23.40%	387.80	79.40	3.56	17.41	11.00	9.20
10/31/07	PolyMedica Corp	Medico Health Solutions	1,279.20	100.00%	17.00%	710.20	39.10	1.80	32.72	17.90	8.60
07/27/07	Actavis Group hf	Novator Partners LLP	4,629.40	100.00%	15.30%	1,923.30	137.90	2.41	33.57	19.80	12.50

Average Premium	**25.81%**
Average Revenues Ratio	**2.46**
Averga Net Income Ratio	**28.94**
Average EBIT ratio	**19.47**
Average EBITDA ratio	**11.14**

Scaling Factor : 1000000 USD

Notes

Data taken from Thomson Online Banker
Only companies involved in the same or similar line of business are chosen
Only last-three years completed and disclosed transactions are included
Acquisitions of more than 70 percentage own after transaction are included

Exhibit 29

Valuation Using Change of Control Transactions

Lack of Marketability	0%
Control Premium	35%

	Revenues	Net Income	EBIT	EBITDA
	23,036.98	2,586.66	6,140.69	7,391.41
Multiple	2.46	28.94	19.47	11.14
Gross Firm Value	56,674.08	74,852.88	119,559.30	82,340.34
Funded Debt	6,662.10		6,662.10	6,662.10
Cash	4,497.60		4,497.60	4,497.60
Net Funded Debt	2,164.50	-	2,164.50	2,164.50
Gross Equity Value	54,509.58	74,852.88	117,394.80	80,175.84
Lack of marketability	-	-	-	-
Control Premium	14,068.92	19,319.53	30,299.60	20,693.38
Net Equity Value	**68,578.50**	**94,172.40**	**147,694.40**	**100,869.23**

Scaling Factor : 1000000 USD

Notes

EBITDA = 2010 sales x operating margin + depreciation calculated as a percentage of revenues
Net Income as percentage of revenues
For this method, discount for lack of liquidity will not be taken into account

Exhibit 30: Valuation Summary

Comparable Peers	
Multiple of Revenues	80,094.43
Multiple of EBITDA	75,492.67
Multiple of Net Income	36,331.01

Comparable Transactions	
Multiple of Revenues	68,578.50
Multiple of Net Income	94,172.40
Multiple of EBIT	147,694.40
Multiple of EBITDA	100,869.23

Discounted Cash Flows	415,174.16

Average Equity Value	127,300.85

Scaling Factor : 1000000 USD

Exhibit 31 — **Post-Merger Pro Forma Balance Sheet**

ELI Lilly & Company — **Symbol:** (C000002765)

http://www.lilly.com		**CUSIP:**	532457108
Exchange:	NYSE	**DCN:**	E560000000
Country:	USA	**ISIN:**	US5324571083
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Scaling Factor : 1000000 USD — Currency: USD

POST-MERGER PRO FORMA BALANCE SHEET	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14
Cash And ST Investments	4,497.60	4,947.36	5,442.10	5,986.31	6,584.94	7,243.43
Receivables (Net)	3,831.80	4,214.98	4,636.48	5,100.13	5,610.14	6,171.15
Total Inventories	2,849.90	3,134.89	3,448.38	3,793.22	4,172.54	4,589.79
Other Current Assets	271.00	298.10	327.91	360.70	396.77	436.45
Current Assets - Total	12,486.50	12,595.33	13,854.86	15,240.35	16,764.38	18,440.82
Property Plant & Equipment - Net	8,197.40	9,017.14	9,918.85	10,910.74	12,001.81	13,201.99
Total Investments	N/A	N/A	N/A	N/A	N/A	N/A
Other Assets	5,621.20	6,183.32	6,801.65	7,481.82	8,230.00	9,053.00
Total Assets	27,460.90	25,412.85	23,785.08	22,538.05	21,638.95	21,060.90
ST Debt & Current Portion of LT Debt	27.40	28.77	30.21	31.72	33.30	34.97
Long Term Debt	6,634.70	7,298.17	8,027.99	8,830.79	9,713.86	10,685.25
Shareholders' equity	20,798.80	18,085.91	15,726.88	13,675.55	11,891.78	10,340.68
Total Liabilities & Shareholders' Equity	27,460.90	25,412.85	23,785.08	22,538.05	21,638.95	21,060.90

Capital Structure						
Debt	24%	29%	34%	39%	45%	51%
Equity	76%	71%	66%	61%	55%	49%
Total Value	100%	100%	100%	100%	100%	100%

Exhibit 32: Post-Merger Weighted Average Cost of Capital Calculation

WAAC	**7.12%**

Cost of Debt	
Cost of Debt	4.62%
Pre tax cost of debt	4.62%
Tax shield	1.03%
After tax cost of Debt	**3.59%**

Cost of Equity	
Risk Free Rate	3.22%
Equity Risk Premium	3.29%
Company Beta	2.3
Cost of Equity	**10.79%**

Funded Debt	
Current Debt	35.0
Long Term Debt	10,685.3
Total Funded Debt	10,720.2

Assets	
Current Assets	12,486.5
Fixed Assets	8,574.4
Total Assets	21,060.9

Capital Structure	
Debt	51%
Equity	49%
Total Value	100%

Scaling Factor : 1000000 USD

Notes

Risk free rate, 10-year constant maturity US treasury security return from the Wall Street Journal
Assets taken from year 2014, Pro Forma Balance Sheet (Exhibit 31)
Debt taken from year 2014, Pro Forma Balance Sheet (Exhibit 31)

Exhibit 33 **Post-Merger Discounted Cash Flow Valuation**

ELI Lilly & Company **Symbol: (C000002765)**

http://www.lilly.com		CUSIP:	532457108
Exchange:	NYSE	DCN:	E560000000
Country:	USA	ISIN:	US53245710 83
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Scaling Factor : 1000000 USD

Source: ThomsonFinancial
Currency: USD

POST-MERGER DISCOUNTED CASH FLOW VALUATION

12/31/2014 Forecasted Free Cash Flow to the Firm	7163.54
Weighted-Average Cost of Capital (WACC)	7.12%
20-Year Average of Annual Real US GDP Growth	2.56%
20-Year Geometric Average Annaul Down Jones Index Growth	6.51%
Perpetual Growth Rate	3.35%
Terminal Value	190,014.27
Total Present Value FCF Year 2010 through 2014	22,423.10
Total Firm Value	212,437.37
Less: Total Liabilities	10,720.22
Plus: Cash	7,243.43
Equity Value	208,960.58
Share outstanding	11,531.14
Per Share	18.12

Exhibit 34 **Adjusted Present Value Valuation**

ELI Lilly & Company **Symbol: (C000002765)**

http://www.lilly.com		CUSIP:	532457108
Exchange:	NYSE	DCN:	E560000000
Country:	USA	ISIN:	US53245710 83
DJ Sector:	Healthcare		
DJ Industry:	Pharmaceutical Companies		
Company Status:	Active		

Scaling Factor : 1000000 USD

Currency: USD

ADJUSTED PRESENT VALUE VALUATION	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14
Free Cash Flows		4,671.05	4,710.37	5,369.87	5,938.06	7,163.54
Terminal Value						414,077.34
Discount Factor (5.08%)		0.952	0.906	0.862	0.820	0.781
Present Value		4,445.24	4,265.94	4,628.11	4,870.40	328,798.77
Total Present Value	347,008.46					
Interest Tax Shield		413.99	509.42	563.77	632.56	719.41
Terminal Value						190,014.27
Discount Factor (7.12%)		0.934	0.871	0.814	0.759	0.709
Present Value		386.48	443.95	458.66	480.41	135,230.47
Total Present Value	136,999.98					

PV of Free Cash Flow	347,008.46
PV of Interest Tax Shield	136,999.98
PV of Expected Bankruptcy Cost of Debt	179,182.71
Entity Value	304,825.73
Less: Debt Value	10,685.25
Plus: Cash	7,243.43
APV Equity Value	301,383.91

DCF Equity Value	415,174.16

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