

VALUING HEALTHCARE COMPANIES: AN EMPIRICAL STUDY

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By

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## VALUING HEALTHCARE COMPANIES: AN EMPIRICAL STUDY

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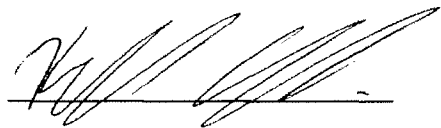
Economics

### **Abstract**

This study analyzes the market, cost, and income valuation methods used in the healthcare industry. There are problems with the current valuation methods, especially the valuation of healthcare assets used in the cost approach, the exclusion of demographics, which would aid in the market valuation approach, and the difficulty of projecting revenues when smaller companies merge with larger public healthcare organizations in the income approach. Two hundred and thirty-five individual hospitals in the states of Florida and Colorado along with 14 public hospital corporations spanning the country were examined to produce the results of the study. The results of the regression analysis show that demographics play a large role in a hospital's potential earnings base. This study provides information that will help analysts develop a more complete and accurate valuation of healthcare companies.

KEYWORDS: (Healthcare companies, Valuation techniques, Demographics, Efficiency)

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CHAPTER I  
INTRODUCTION AND THEORY  
INTRODUCTION

The healthcare field has become a booming industry due to an increased demand for for-profit hospitals. Some factors fueling the increased demand include an aging population and a decrease in substitutes (non-profit hospitals). The percentage of people fifty-five and older has risen nearly five percent in the past ten years and is expected to rise another five percent in the next ten years. Even more importantly for the healthcare field, the percentage of the population age 65 and up has seen a steady increase in the past hundred years, and that trend is projected to continue for years to come. This trend can be seen in Figure 1.1.

The increase in demand for for-profit hospitals can also be attributed to a decrease in competition. The main source of competition for a for-profit hospital is a non-profit community hospital. The number and size of these non-profit institutions have significantly decreased in the past few years due to an increase in regulations and a decrease in revenue related to problems with Medicare, Medicaid, and other insurance companies.<sup>1</sup> Measures of this decrease in competition include the average number of beds in a hospital and the number of hospital beds per one thousand people in each state.

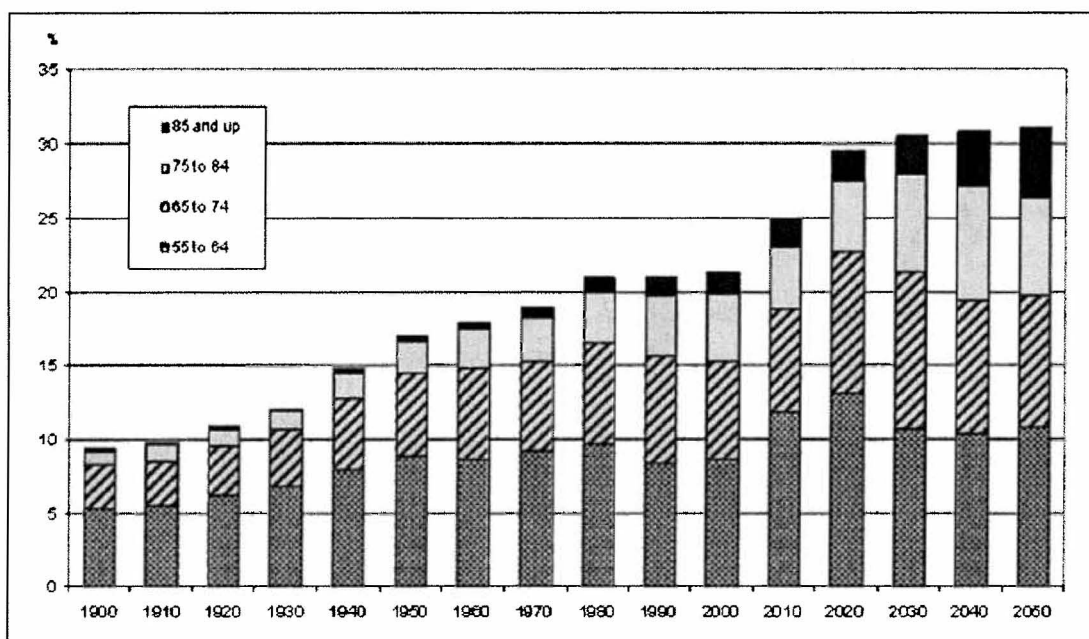
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<sup>1</sup> David Dranove, Mark D. White, and William D. White, "Price and Concentration in Hospital Markets: the Switch from Patient-Driven to Payer-Driven Competition," Journal of Law and Economics (1993): 179.



Figure 1.1

Aging population – U.S. Population by Age Group 1900-2060 (2010-2060 are estimated)



SOURCE: Shawn Lawton Henry, "Understanding Web Accessibility." Available on <http://www.uiaccess.com/understanding.html>; Internet; accessed on Sept.22, 2008.

Both the number of beds in hospitals and the number of beds per one thousand people, on average, per state, have decreased since 1981, despite the increase in demand.<sup>2</sup>

Higher profitability of post-merger healthcare companies in comparison to other service companies and industries has caused an increased interest in the healthcare field, particularly focusing on the need for further study in healthcare valuation and company efficiency.<sup>3</sup> All of the aforementioned factors have spurred a sharp increase in the dollar amount and number of mergers and acquisitions in the for-profit hospital market.<sup>4</sup> This current situation lends itself to further examination of the factors that add value and efficiency to a healthcare company. In addition, a search for the most appropriate way to find the true value of a healthcare firm, while identifying the inaccuracies in each approach, is also important.

This paper discusses three primary approaches to valuation used in the healthcare field--the market, cost, and income approaches--while also searching for the most efficient market and characteristics of a healthcare company.<sup>5</sup> The theory section of this chapter analyzes these three valuation methods in addition to the models necessary to complete the valuation and the models used to calculate and examine corporate efficiency. The market valuation approach utilizes the price-earnings ratio. This ratio provides clarity on how a firm is performing in comparison to other firms in the same

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<sup>2</sup> "TrendWatch ChartBook 2008" American Hospital Association, available on <http://www.aha.org>. Internet; accessed on Sept. 22, 2008.

<sup>3</sup> Hema Krishnan and Ranjani A. Krishnan, "Effects of Hospital Mergers and Acquisitions on Prices," Journal of Business Research (2003): 651.

<sup>4</sup> Tony Chen, "Private Equity and M&A Booming in Healthcare," available on [http://www.hospitalimpact.org/index.php/scoop/2007/04/13/private\\_equity\\_and\\_maamp\\_a\\_booming\\_in\\_h](http://www.hospitalimpact.org/index.php/scoop/2007/04/13/private_equity_and_maamp_a_booming_in_h)e. Internet; accessed on Sept. 15, 2008.

<sup>5</sup> Christopher J. Evans, "Measuring the Value of Healthcare Business Assets," Journal of Healthcare Financial Management (2000): 59.

industry. The cost approach frequently requires contingent valuation to put a price on intangible assets, utilizing data from willingness-to-pay surveys. The income approach often includes the discounted cash flow model and the Monte Carlo simulation model. The discounted cash flow model rests on the principle that money today has greater worth than money in the future. The model takes a probable revenue stream for a certain time period and discounts it to present value. Analysts use the Monte Carlo simulation model in conjunction with the discounted cash flow model to predict the most likely future revenue stream. The methods of evaluating corporate efficiency examined in this paper include return on investment and the profit margin percentage.

All of the techniques listed above have been studied at length in the healthcare field. Chapter II discusses the results of these studies and other studies based on company efficiency and the impact of demographics in the healthcare field. Many of these studies examine a portion of the valuation methods, while others discuss the strengths and weaknesses of the entire model within the industry. For the healthcare industry, challenges arise when trying to value both tangible and intangible assets. This problem occurs due to the nature of the healthcare industry. Healthcare companies must create revenue while focusing on saving lives. These two goals can come into conflict when utilizing and purchasing assets.

Many researchers have investigated the ways a company can be valued, the accuracy of each valuation approach, corporate efficiency, and the impact of city/county demographics. However, they have not analyzed the factors that cause each technique to fumble in the healthcare field. Chapter III compares public healthcare companies to private healthcare companies, as well as the healthcare industry to other industries, with

the primary intention of analyzing the weaknesses of the market, cost, and income approaches. The chapter also includes an examination of the efficiency of the healthcare industry. Accomplishing this goal calls for an exploration of the important aspects of the healthcare field that add value to a company, aspects that differ from those of other industries. Finally, Chapter III investigates two factors in a regression model in order to analyze the amount of revenue generated from city size and average household income.

The results of the quantitative data, discussed in Chapters IV and V, show which factors add value to for-profit hospitals. Chapter IV also includes the results of the regression analysis. Chapter V discusses the best way to value a healthcare company, identifying important industry-specific characteristics crucial to appropriate valuation and the key efficiency characteristics critical in healthcare valuation. The remainder of the current chapter presents the theoretical basis for investigating the hypotheses that healthcare companies have a higher return on investment and a higher profit margin percentage than other industries and that county demographics play a large role in the income of hospitals. These hypotheses will have a large enough impact to require the attention of analysts looking to estimate the true value of a hospital.

## THEORY

Analysts typically use one of three approaches to value companies in the healthcare field: market, cost/asset, or income approach.<sup>6</sup> Each approach uses different models that look at all or a portion of the company. The models discussed in this chapter include the price-earnings ratio valuation for the market approach, contingent valuation with the cost/asset approach, and the discounted cash flow and Monte Carlo valuation models for the income approach. Two efficiency models, the return on

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<sup>6</sup> Evans 2000, 59.

investment and profit margin percentage, are examined to aid in the cost/asset approach and income approach.

The market technique looks at previous sales of similarly sized companies to aid in the valuation. Cost/asset tries to put a cost on the company's assets in determining a fair market value. Finally, the income approach values the projected future earnings at a discounted rate to find the company's worth. All of these methods offer unique perspectives and all three used together give the most accurate prediction of a company's true value.

### Market Approach

The simplistic nature of the market approach makes it difficult to use as the primary method of valuation. This approach looks back at past transactions to get an idea of value and stems from the idea that value can be determined based on other sales of similar size in the same industry. The real estate industry utilizes this method most frequently. Most houses are appraised based on other homes of similar size in the same general neighborhood. For healthcare companies, this approach looks at how past mergers and acquisitions have performed post-merger. However, it leaves out many principles important in valuing a company, such as potential for growth and value of assets, along with many other factors that make a company unique.

The market approach utilizes ratios to judge the health of the company at the time of sale, helping in the comparison to past sales. Analysts use the price-earnings ratio as a comparison tool, examining the price per share of stock divided by the net earnings per share. A high ratio means that the investors are willing to pay a higher percentage of earnings per share for that company due to a higher potential for growth or

other factors that may lead to a higher value. For example, if the price-earnings ratio were fifteen, that would mean that an investor would be willing to pay fifteen times the earnings per share for that stock. As usual, the opposite is also true; a low price-earnings ratio shows that the company may be headed for hard times and it has a smaller chance for growth due to factors visible to investors.<sup>7</sup> When the price of the stock is in question, one must check the accuracy based on a number of factors discussed in the following paragraph.

The price-earnings ratio, as mentioned above, is used to estimate how optimistic the investors are about a firm's prospects. Some factors that are taken into account when determining the true price, when the price is in question, are risk (volatility in performance), the debt-equity structure, dividend policy, quality of management, and numerous other factors that influence the multiplier number.<sup>8</sup> The multiplier number determines the price per share of stock because this number divided by the earnings per share produces the price-earnings ratio. The earnings per-share can also be modified by utilizing any form of income, such as net income, operating income, or earnings before interest and taxes. Analysts make these changes to the formula to reflect any outside influences in the market that should not be accounted for when valuing the company. This ratio helps the analyst compare growth and company structure to other companies, allowing for a better valuation when using the market approach. It is also important to

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<sup>7</sup> James R. Hitchner, Financial Valuation: Applications and Models (Hoboken, New Jersey: John Wiley and Sons Inc, 2003): 192.

<sup>8</sup> Stanley B. Block and Geoffrey A. Hirt, Foundations of Financial Management (New York, New York: McGraw-Hill Irwin, 2005): 285.

compare companies within industries as certain industries, such as healthcare, have a higher price-earnings ratio than other industries.<sup>9</sup>

To value a company using the market approach, one would start by determining the value based on previous sales of similar firms in the same industry. If that result was unsatisfactory, or the information was unavailable, the second step would be to calculate the price-earnings ratio. For example, an imaginary healthcare corporation has a stock price of eighteen dollars per share and 20,000,000 outstanding shares. This corporation also has \$20,000,000 in earnings. To calculate the earnings per share one would take the \$20,000,000 of earnings and divide it by the 20,000,000 outstanding shares to get the earnings per share, which in this case is one dollar. The price per share of eighteen dollars would then be divided by the earnings per share of one dollar to get the price-earnings ratio of 18. Finally, to get the value of the company one could compare the price-earnings ratio to other companies that have been sold or they could take the price-earnings ratio and multiply it by the earnings. For the example above, the price earnings ratio, eighteen, would be multiplied by the earnings of \$20,000,000 to get a company value of \$360,000,000. The next section presents the cost/asset approach to valuation.

#### Cost/Asset Approach

The cost/asset approach determines the current cost of all the company assets, including intangible assets, to determine the value.<sup>10</sup> In an industry such as healthcare, many assets are intangible assets. Contingent valuation allows analysts to put a price on

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<sup>9</sup> Tom Taulli, The Edgar Online Guide to Decoding Financial Statements (Fort Lauderdale, FL: J. Ross Publishing, 2004): 210.

<sup>10</sup> Darren Osborne, "How Much is Your Practice Worth? CVMA Practice Value Estimate," Journal of Veterinary Practice Management (2007): 1182.

these intangible assets.<sup>11</sup> This method uses a survey to gain perspective on what outside factors add value to the collection of assets. Also, it measures the amount of value a doctor's knowledge and patient relationships add to the hospital. Moreover, it allows one to measure the satisfaction (utility) gained by the patient from the extra benefits offered by tangible assets, such as machine comfort and accuracy, and intangible assets, such as doctor's knowledge, making it possible to put a dollar amount on company recognition or any other intangible asset. These intangible features can then be added to the more easily measured tangible assets to give the market value of the company. The contingent valuation model appears frequently in numerous studies discussed in Chapter II.

To value a company using the cost/asset valuation approach one would first look at the market value of tangible assets. Continuing the example discussed above, the imaginary healthcare corporation has a market value of \$200,000,000 in tangible assets. The next step would be to value all of the intangible assets that do not show up on the balance sheet by utilizing the contingent valuation model. This company shows an extra \$150,000,000 in intangible assets making the total assets \$350,000,000. A final step that some analysts take when using this technique is to compare this price to the other methods, such as the market approach above. Since these prices are very similar one could conclude that the price is a fair estimate of the value of the company.

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<sup>11</sup> Werner Brouwer, Marc Hanemann, Bernard van den Berg, and Job van Excel, "Economic Valuation of Informal Care: the Contingent Valuation Method Applied to Informal Caregiving," Journal of Health Economics (2005): 169-183.



## Income Approach

The income approach looks at the expected future revenues for a specific number of years in order to determine value. This approach often utilizes the discounted cash flow valuation model. The time value of money drives this model, stating that money now is worth more than money in the future due to interest that can be earned (opportunity to invest).<sup>12</sup> Analysts also consider the terminal value, which is when growth is considered constant and a present value is put on the expected earnings for the rest of the company's years.

A different variation of the discounted cash flow model is the adjusted present value approach. This variation includes additions to the present value formula, such as a tax shield caused by cash flow differences induced by debt. The money borrowed to purchase the company provides a tax shield because the company uses it for financing. The additional monetary benefit of the tax shield gives the company more of a benefit than if the company purchased the firm with cash. This technique only applies when the purchase of the company is leveraged (purchased using debt).<sup>13</sup>

The income approach poses difficulty in the healthcare industry because the future need for healthcare, especially at a practice with a specific focus, is never certain. The Monte Carlo simulation model addresses this uncertainty.<sup>14</sup> This model is very similar to the discounted cash flow model due to its use of the time value of money principle. The difference between the models is that the Monte Carlo valuation model

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<sup>12</sup> Edgar A. Norton and Frank K. Reilly, *Investments* (Mason, Ohio: South-Western, 2003): 272.

<sup>13</sup> "The Adjusted Present Value Approach," NYU available on [http://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/valquestions/apv.htm](http://pages.stern.nyu.edu/~adamodar/New_Home_Page/valquestions/apv.htm). Internet; accessed on Oct. 8, 2008.

<sup>14</sup> Phelim P. Boyle, "Options: A Monte Carlo Approach," *Journal of Financial Economics* (1977): 324-325.

includes a variable for uncertainty by looking at the probability of thousands of different revenue streams and weighing the likelihood of their occurrence. The Monte Carlo valuation model works better in the healthcare industry because of the volatility of earnings.<sup>15</sup>

The influential factors in determining future revenues differ among industries. Consider two healthcare fields, technology development and hospitals. The factors that drive future revenues in technology (research and design through development of new products) include, but are not limited to, how well the current products are doing, how long the success is expected to last, what stages the new products are in, how many patents the company owns, and how long until the next product will be launched. The factors that influence the revenues of a hospital are very different and will focus more on the current business situation and how well the hospital has been run in the past. Factors that commonly aid in the prediction of future revenues for hospitals are profit margins,<sup>16</sup> current size and predicted growth, and the structure and experience of a solid management team.<sup>17</sup> These special factors add to the uniqueness of each company and need to be considered in the valuation process.

To value a company using the income approach, one would first determine the growth rate of a revenue stream for a certain period of time. Continuing the examples from above, the healthcare corporation has revenues of \$100,000,000 and earnings of \$20,000,000. Using the income approach it is possible to use any income stream, but for

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<sup>15</sup> J.M. Grayson, P.Z. Jackson, and P. Rutsohn, "The Monte Carlo Method Improves Physician Practice Valuation," *Journal of Health Care Management* (2006): 284.

<sup>16</sup> Janet Phillips, "The Dilemma of Valuing Not-For-Profit Hospitals: Is Free Cash Flow the Answer?" *Journal of Accounting and Public Policy* (2003): 352.

<sup>17</sup> Fred Dotzler, "What Percent of a Medical Company Should Founders Sell for Seed/Start-up Venture Capital," *De Novo Ventures* (2001): 1-2.

this example the net income will be used. The projected growth rate is twenty percent the first year, thirteen percent the second year, ten percent the third year, seven percent the fourth year, followed by a perpetual growth of five percent. To calculate the discounted revenues one would start by taking the \$20,000,000 of earnings and multiplying it by the growth rate for the next year equaling \$24,000,000. One would then divide the net income by one plus the discount rate (the rate one would receive if using the money to invest in something different). In this example, the discount rate is ten percent. Thus, the first year is \$24,000,000 divided by 1.1, which equals \$21,818,180. The second year, one would use the last year's net income of 24,000,000 and increase it by the designated amount of thirteen percent equaling \$27,120,000. That number is then divided by the discount rate of 1.1 squared, which equals 1.21. So the second year's net income discounted is \$22,413,220. The third year's discount rate is cubed and the fourth year's rate is taken to the fourth power. Using the respective growth rates and discount rates, the third and fourth year's discounted net incomes are \$22,413,220 and \$21,394,440, respectively. There are many different ways to calculate the terminal value, however, this example will use the Gordon Growth model. The terminal value starts off by calculating the fifth year's net income using the perpetual growth rate making the net income \$33,516,000. Instead of dividing that number by one plus the discount rate to the fifth power, one would first divide it by the discount rate minus the growth rate. So in this example, the number would be 0.1 minus 0.05, which equals .05. The net income of \$33,516,000 divided by 0.05 would equal \$670,320,000. That number would then be divided by one plus the discount rate to the fifth power making the terminal value \$416,215,980. All of the years' discounted net incomes

added to the terminal value equals \$504,245,040, which is the corporation's value using the income approach.

### Efficiency

Two very important efficiency measures are discussed in this paper, return on investment and the profit margin percentage. Return on investment has become a very interesting topic in the healthcare field due to the trouble in valuing assets. It is also an important factor when valuing a company using the cost/asset approach. To calculate the return on investment, one would take the income and divide it by the investment. This is a good measure of efficiency because it blends the revenues, expenses, and investment into one simple ratio. It is possible to use a number of different income measures such as operating income, net income, or after tax income for the numerator. There are a number of possibilities for the denominator (investment) as well, such as total assets, assets minus liabilities, or assets financed by debt.<sup>18</sup> For the example of the healthcare company above, it has revenues of \$100,000,000 and \$80,000,000 in expenses, creating a net income of \$20,000,000. Dividing the net income by the amount of assets, which is \$350,000,000, gives the company a return on investment of 5.7%.

The income margin percentage is also a very important efficiency measure because it looks at the amount of revenues that are retained as income after expenses. This is an important measure when looking at the income approach, because it enables the purchasing company to estimate how much more income would be gained by increasing the revenues. One would calculate the income margin percentage by taking the income and dividing it by the revenues. Like return on investment, companies are

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<sup>18</sup> Srikant M. Datar, Charles T. Horngren, George Foster, and Madhav Rajan, Christopher Ittner, Cost Accounting: A Managerial Emphasis (Saddle River, NJ: Pearson Education, Inc. 2009.): 801.

able to use a number of income measures when calculating the income margin percentage.<sup>19</sup> For the example company, revenues are \$100,000,000 and expenses are \$80,000,000, giving them a net income of \$20,000,000. Dividing \$20,000,000 by the \$100,000,000 in revenues gives the company an income margin percentage of 20 percent.

### Conclusion

Valuation of healthcare companies is becoming more important due to the increase in regulations, the growth in the dollar amount and the number of transactions. The rise in interest has sparked many new conversations about how the companies should be valued. A mixture of the three basic approaches (market, cost/asset, and income) seems to be the best and most popular way of estimating a fair value. Each of the above valuations results in a different final price. All three would be considered when estimating the final value of the company and a value would be given between \$350,000,000 and \$504,000,000. However, in the healthcare industry, analysts face an increased difficulty in finding the value of the companies because the nature of business goes beyond profit maximization. Thus, it is important to look at factors of company efficiency.

The return on investment and income margin percentage are both very interesting factors in the healthcare field. First, the return on investment shows how effectively assets are used and priced, which influences the cost/asset valuation approach. As mentioned previously, valuing healthcare assets is very difficult due to the importance and high number of intangible assets and high technological obsolescence. The profit margin shows how effectively healthcare services are priced and how efficient the

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<sup>19</sup> Datar et al, 2009: 79.

managers are with expenses, which influences the profit valuation approach. Both of these efficiency measures have been studied in the healthcare field along with all three valuation techniques. Chapter II examines these studies to highlight the problems each approach encounters and includes a more in-depth analysis of what factors have been studied in the past.

## CHAPTER II

### LITERATURE REVIEW

Many studies have looked at the effectiveness of the principal valuation approaches and the ways they have faltered in the past. These studies have increased recently in the healthcare industry because of an increase in the number of mergers and acquisitions and changes in regulations. Many factors can lead to a hospital's desire to merge or acquire other hospitals. As Harrison and McDowell<sup>1</sup> explain, these factors include, but are not limited to, stability of the environment, need for cash, and scarcity of resources. Most companies, including healthcare companies, desire autonomy and a merger takes that away. Therefore, only a highly unstable environment or an extreme lack of resources would lead a company to seek a merger.<sup>2</sup> This chapter examines many studies, focusing on the problems each valuation approach has created for different companies and industries, some key efficiency measures and city/county demographical information that affect these approaches. These studies also reveal the factors that are considered in the study in Chapter III.

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<sup>1</sup> Jeffrey P. Harrison and Geoffrey M. McDowell, "A Profile of US Hospital Mergers," Journal of Healthcare Finance (2005): 16.

<sup>2</sup> Harrison and McDowell 2005, 16.

## Valuation

The valuation industry has become a key field of study since the years 1998 through 2000, when the value of the mergers and acquisitions in the United States was over 1.5 trillion dollars each year.<sup>3</sup> This increase in the dollar amount of mergers and acquisitions did not continue after 2000, but it did raise interest in the field. This time period made the valuation field an important industry for further research and has since led to changes in regulations in many industries.

Many factors can influence the way in which a company is valued, including accounting regulations. A recent change in accounting regulations, King<sup>4</sup> explains, has had a significant effect on the fair market value of firms when using cost/asset- and income-based valuation approaches. This new regulation has changed the way a company reports assets on the balance sheet and determines when profits and losses have to be recognized. Previously, gains and temporary losses were not recognized on the balance sheet or the profit-loss statement until the asset was sold. However, problems arose as to what temporary losses meant, and many companies retained the original costs of the asset until the gains or losses were recognized in a sale. Many investors were upset with this accounting practice and called for change. They believed that without the current asset values, the reported balance sheet and profit-loss statement were inaccurate. The changed method became the new accounting practice, called Mark-to-Market<sup>5</sup>

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<sup>3</sup> Chris Isidore, "Urge to Merge, 2005: Year Off to White-Hot Start in M&A Activity; Total Value Could Top \$1 Trillion," available from [http://money.cnn.com/2005/01/31/news/economy/merger\\_mania/index.htm](http://money.cnn.com/2005/01/31/news/economy/merger_mania/index.htm) internet; accessed on March 4, 2009.

<sup>4</sup> Alfred M. King, "Determining Fair Value: The Very Essence of Valuation is the Professional Judgment of the Appraiser, Not Just a Set of Rules," *Strategic Finance* (2009): 28-30.

<sup>5</sup> King 2009, 28-30.



accounting, and made it necessary for companies to report any gain or loss immediately. This has had a significant impact on the current economy and the cost/asset valuation approach, as a company's assets are now examined at a current fair market value rather than at the original cost.

### Market Approach

The market approach has failed in the past due to the simplicity of the model. Leone et al<sup>6</sup> discuss the example of the undervaluation of non-profit healthcare companies during the 1990s. Recently, the number of mergers and acquisitions of non-profit hospitals by for-profit entities has been under scrutiny. Many problems have arisen from the sale of, and transition between, these two dramatically different types of organizations because of the glaring difference in the way each is managed. For-profit companies' main focus is net income, and they structure their companies accordingly. Non-profit organizations, such as non-profit hospitals, have a much different focus and net-income is not as high of a priority.

The problem of undervaluation that Leone et al. discuss became a problem because the number of transactions increased, causing a market standard to be set. Previous sales that were undervalued caused the purchasers of non-profit hospitals to see larger than expected earnings in comparison to the for-profit hospitals' earnings. The study by Leone et al. looks at all of the mergers and acquisitions made by publicly traded hospital companies after the new regulation in 1994, when many state regulations were put in place. The study of thirteen mergers and acquisitions shows that there have been negative returns and a smaller number of transactions after the tighter regulations were

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<sup>6</sup> Andrew J. Leone, R. Lawrence Van Horn, and Gerard J. Wedig, "Abnormal Returns and the Regulation of Nonprofit Hospital Sales and Conversions," *Journal of Health Economics* (2005): 114.

put into place. The trend in undervaluation before the regulations and overvaluation afterwards exploits the weakness of the market valuation approach because external factors are difficult to account for when valuing such firms.

Hitchner brings to light the problem of availability of data in employing the market approach.<sup>7</sup> The financial data for a publicly traded company is much more accessible in comparison to data for private companies, due to disclosure laws. Public companies also have more consistently and accurately reported information due to the generally accepted accounting principles that all publicly traded companies must follow. However, the valuation of a company, as discussed in Chapter I, goes beyond using just financial data. Financial data aids in the valuation; however, it is necessary to get the value of a comparable company that has been sold. The problem with availability of data arises because there are very few company transactions, and for many of the transactions that do occur, the selling price is not released. Thus, the typical number of firms for comparison, in most industries, is between three and six companies. In real estate, where the market approach is much more successful, the number of available comparables is much higher even though this industry uses about the same number of comparables in the appraisals. The problem of availability of data is magnified in small, privately held companies. The market approach requires comparable companies to complete the valuation. The lack of public and consistently reported information on small private firms makes it nearly impossible to value these companies using this approach.

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<sup>7</sup> James R. Hitchner, Financial Valuation: Applications and Models (Hoboken, New Jersey: John Wiley and Sons Inc, 2003): 187.

### Cost/Asset Approach

The cost/asset approach also proves very difficult, especially in the healthcare industry, because of the challenges faced in valuing the assets. Adams et al.<sup>8</sup> discuss many of these challenges, including, but not limited to, determining a price for the important intangible assets prevalent in a healthcare practice, such as intellectual property, customer relationships, service marks, brand names, patents, and trademarks. Shapiro adds that the difficulty in measuring the value of these intangible assets results from the ambiguity involved in determining the economic returns these intangibles have brought and will bring in the future.<sup>9</sup> For example, a majority of the value in the healthcare field, beyond sheer size, revolves around the knowledge and experience of the doctors, as well as the relationships built with patients. This illustrates the difficulty of valuation.

Arana et al.<sup>10</sup> argue that almost all healthcare company assets, even tangible assets, are hard to price because their value goes beyond the normal economic returns. Even assets such as machines, which are normally easily valued in other industries, are much more difficult to value in the healthcare field. The valuation process for medical machines must include factors such as the number of lives that have been and will be saved, patient comfort, ease of use, and accuracy. This challenges the analyst to account for these extra factors in the monetary value.

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<sup>8</sup> Michael Adams, Terry Mullins, and Barry Thornton, "The Role of Due Diligence in the Business Valuation Process," Journal of Business & Economic Research (2007): 65-66.

<sup>6</sup> Michael D. Shapiro, "Economic Value Added - Can it Apply to an S Corporation Medical Practice," Journal of Healthcare Financial Management (2007): 78-79.

<sup>10</sup> Jorge E. Arana, Michael W. Hanemann, and Carmelo J. Leon, "Emotions and Decision Rules in Discrete Choice Experiments for Valuing Health Care Programmes for the Elderly," Journal of Health Economics (2008): 755.

The problem of valuing off-balance sheet assets is discussed by Fahey et al.<sup>11</sup> Most off-balance sheet assets are intangible in nature and can be valued using the contingent valuation approach discussed in Chapter I. However, some off-balance sheet items are tangible, for example, assets that have been written off but are still in use. It is in a company's best interest to record as many expenses as possible in profitable years, because the higher the net income reported, the more taxes that must be paid. A way to lower net income on the income statement, without losing money, is to depreciate items more quickly than they truly do depreciate. Thus, a company can have more tangible assets than are reported on the balance sheet, causing valuation problems.

Contingent valuation aims to put a value on intangible assets based on what a person is willing to pay. Diamond and Hausman discuss the problems faced with this valuation technique.<sup>12</sup> Mainly, problems arise in putting a value on a person's feelings. Emotions are never stable and vary from person to person. Thus, even with a large sample size, the variations in a person's emotions are sometimes too large to accurately value certain intangible assets. The effects of this problem compound in the healthcare field due to the emotional nature of the industry. The value of assets, such as patient to doctor relationships or human capital (the doctor's knowledge), normally spans a very large range of values. Due to this large range of values, the price given by the outcome of this model may not be the most accurate.

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<sup>11</sup> Liam Fahey, Tasadduq A. Shervani, and Rajendra K. Srivastava, "Market-Based Assets and Shareholder Value: A Framework for Analysis," *Journal of Marketing* (1998): 5.

<sup>12</sup> Peter A. Diamond and Jerry A. Hausman, "Contingent Valuation: Is Some Number Better than No Number," *Journal of Economic Perspectives* (1994): 45-46.

## Income Approach

The income approach bases its valuation on future returns, unlike the two other approaches, which use current or past conditions. This introduces a certain level of risk because the future, in any industry, is never certain. As Tham and Velez-Pareja<sup>13</sup> discuss, any factors that are taken into account, such as future programs, technological development or business practice changes, may not materialize or may be ineffective and thus will have a negative impact on the income streams that are being projected. The opposite also proves true; some unexpected revenues may be generated due to changes in preferences, changes in supply or demand, or changes in the economy etc., and these unexpected positive variances are hard to estimate at the time of the valuation estimate. Other issues with this model include finding an appropriate risk-adjusted discount rate to use in the discounted cash flow model. Similar to the prediction of future income, the discount rate projections prove difficult, as many factors influence an accurate discount rate projection and these factors, like the economy, are extremely variable and can change very rapidly.<sup>14</sup> The limitations with the discounted cash flow valuation technique present themselves in every industry. However, some industries, including healthcare, are more variable than others.

Grayson et al. say that the healthcare field faces an even higher risk due to the high volatility within the industry.<sup>15</sup> Discovery of new health problems and rapid development of new technology are the two leading causes of this increased

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<sup>13</sup> Joseph Tham and Ignacio Velez-Pareja, Principles of Cash Flow Valuation: An Integrated Market-Based Approach (St. Louis, MO: Elsevier Academic Press 2004.): 4-6.

<sup>14</sup> Tham and Velez-Pareja 2004, 4-6.

<sup>15</sup>J.M. Grayson, P.Z. Jackson, and P. Rutsohn, "The Monte Carlo Method Improves Physician Practice Valuation," Journal of Health Care Management (2006): 282.

unpredictability. These two factors, coupled with the unpredictability of health epidemics, such as severe flu strains and food borne illnesses (e.g., mad cow disease) make the healthcare industry much more difficult to value using future revenue stream valuation techniques.

Dechow et al. bring to light the valuation issues associated with the discounted cash flow model.<sup>16</sup> A large chunk of the discounted cash flow valuation model comes from the terminal value. As discussed in the previous chapter, terminal value is a culminating value of all years after growth stabilizes. However, problems and successes magnify over time, and the further into the future one looks, the more uncertain the outcome becomes. Thus, the majority of the weight of this valuation model focuses on highly uncertain times.

#### Efficiency

Many studies use the financial measurements of return on assets and profit margin to help predict future performance. Dechow et al. examine over 9,000 companies to see how well return on assets and profit margin predict the companies' revenues one year in advance. The results of their study show that these measures act as very good predictors of future revenue. These future performance measures are incorporated in all three of the valuation techniques above. Return on assets is commonly used with the cost/asset valuation technique, while the profit margin is often used with the income approach. These measures offer a unique look at how effectively a company utilizes its assets and controls its expenses. When comparing these statistics to the industry averages, the quality of the company, as well as opportunities for improvement, are revealed. A study

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<sup>16</sup> Patricia M. Dechow, Amy P. Hutton, and Richard G. Sloan, "An Empirical Assessment of the Residual Income Valuation Model," Journal of Accounting and Economics (1999): 1-2.

by Black, Love, and Revere<sup>17</sup> provides information on healthcare decision makers, proving that these individuals have a dual responsibility to not only maximize these productivity and efficiency measures, but also to minimize other measures, such as hospital-acquired infection rates, inpatient mortality, and medication error rates. These additional responsibilities can make it tougher for these companies, and their leaders, to effectively manage performance measures. These responsibilities, as Nelson, Weeks, and Campfield<sup>18</sup> examined, can also have financial impacts. When these measures are not carefully monitored and minimized, profit margins are affected through decreases in company morale. Studies have shown that poor corporate culture leads to decreases in profits. Thus, minimizing these “ethical conflicts” is very important for healthcare companies, even when it can have negative effects on income and performance measures.<sup>19</sup>

Due to a sharp increase in healthcare costs, some hospitals actually try to decrease margins and efficiency measures, as that shows they are keeping their service costs down. Figure 2.1 on the following page shows the trend of increased healthcare costs with respect to the consumer price index through 2003, and these costs are still rising today.<sup>20</sup> Needless to say, this policy can have terrible effects when these companies are valued for merger and acquisition purposes.

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<sup>17</sup> Ken Black, Dianne Love, and Lee Revere, “A Current Look at the Key Performance Measures Considered Critical by Healthcare Leaders,” Journal of Health Care Finance (2008): 19.

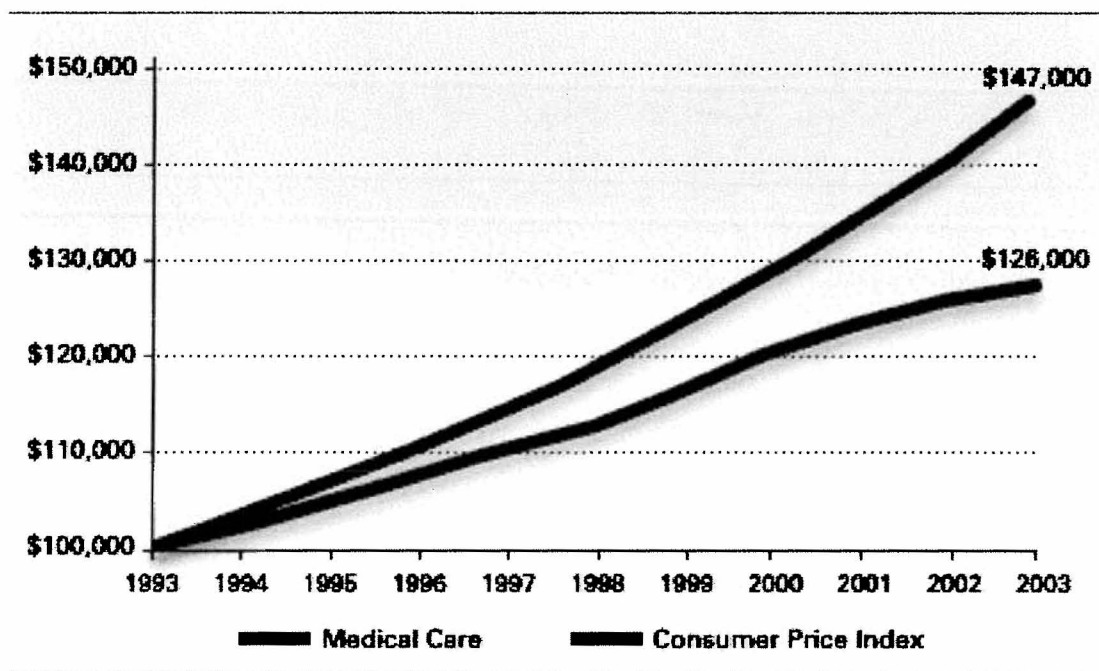
<sup>18</sup> Justin M. Campfield, William A. Nelson, and William B. Weeks, “The Organizational Costs of Ethical Conflicts,” Journal of Healthcare Management (2008): 41.

<sup>19</sup> Campfield, Nelson, and Weeks, 2008, 41.

<sup>20</sup> “U.S. Healthcare Costs,” KaiserEDU available on [http://www.kaiseredu.org/topics\\_im.asp?imID=18&parentID=61&id=358](http://www.kaiseredu.org/topics_im.asp?imID=18&parentID=61&id=358) internet; accessed on March 4, 2009.

FIGURE 2.1

Increased cost of healthcare – Cost of healthcare for a retired person between the years 1993-2003 compared to the consumer price index during same time period



SOURCE: "Retirement Income Challenges," MainStay Investments available on [http://www.nylim.com/mainstayfunds/0,2058,20\\_12007218,00.html](http://www.nylim.com/mainstayfunds/0,2058,20_12007218,00.html); internet; accessed on March 4, 2009.



Muse et al. look at the difference the size of the company has on productivity measurements, such as return on assets and profit margin. Arguments can be made for both sizes having better productivity measurements. Larger companies should be able to take advantage of economies of scale, and smaller companies should be able to look closer at the companies' financials and performance measurements and adapt much more quickly to incorporate these findings. Muse et al.<sup>21</sup> confirm this logic, finding no correlation between having a small company and increased productivity measures. Thus, without a specific industry focus, there is no difference between small and large companies' productivity ratios.

The prevalent uncertainty in the healthcare field tends to have a negative impact on profit margin. As Farley discusses, the uncertainty of the need for healthcare services, caused by the randomness of illnesses and inadequate information, requires hospitals to have an excess amount of capacity. This excess capacity increases expenses and thus has a negative impact on most efficiency measures.<sup>22</sup> As discussed above, problems have arisen when valuing assets in the healthcare industry, due to the high number of intangible assets, among other reasons. This valuation difficulty has led to a lower price because of the volatility of returns. The cost of assets, the denominator, decreases, causing the return on assets to increase, resulting in a larger ratio. However, this study suggests that the income portion, the numerator, decreases due to the increase in expenses associated with the problem of excess capacity.

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<sup>21</sup> Lori A. Muse, Matthew W. Rutherford, Sharon L. Oswald, and Jennie E. Raymond, "Commitment to Employees: Does It Help or Hinder Small Business Performance," Small Business Economics (2005): 107.

<sup>22</sup> Dean Farley, "Achieving a Balance Between Risk and Return," Healthcare Financial Management (2000): 54.

## Demographics

A recent movement arose during the 1990s, focusing on the importance and evidence of market segmentation based on population demographics.<sup>23</sup> In order to reach as many potential customers as possible analysts in nearly every industry examine different geographical areas with the intention of finding locations that best fit the companies' segment of the market. Some industries use segmentation more than others, such as the clothing, luxury good, and restaurant industries. However, some industries, such as the healthcare industry, still do not use demographics as a means of maximizing potential customers or as a predictive means of future revenues.

Davies et al.<sup>24</sup> demonstrate in their study of 32 different industries that understanding the customer will increase revenue. Two factors led to this conclusion; first, a better understanding of the customer allows a company to focus advertising on the best demographic. Secondly, it becomes easier to expand in areas that will maximize the potential customer base. They also found that certain demographics, such as age and average income, tend to lead to similar spending patterns. With this information it is possible for companies to try to increase their income, and these companies also can use this information to forecast future revenues using predicted demographical changes. Demographic changes, such as age and income levels in a city or county, are easy to predict because the changes happen fairly slowly and in an easily understandable manner.

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<sup>23</sup> Larry D. Gamm, Bitu A. Kash, and Robert L. Ohsfeldt, "An Attempt to Forecast Hospital Market Share Using Admission Data," Journal of Healthcare Management (2009): 46.

<sup>24</sup> Greg B. Davies, Nick Chater, Philipp E. Otto, and Henry Scott, "From Spending to Understanding: Analyzing Customers by Their Spending Behavior," Journal of Retailing and Customer Services (2009): 15.

The healthcare industry has put a large emphasis on understanding age demographics since the average age of population in the United States of America is getting higher and this aging demographic is believed to create an increased need for healthcare services. Devine, Ealey, and O'Clock<sup>25</sup> discuss in their study what effect the predicted change in demographics will have on the future revenues for hospitals. They find that external factors, independent from demographics, are putting pressure on the income of healthcare providers. However, these demographic changes are adding to the number of patients and revenues. This indicates that, although little research has been devoted to using these demographic changes to aid in the prediction of future revenues in the healthcare industry, utilizing demographic information in this way is possible and perhaps advisable.

### Conclusion

All of the studies in this chapter discuss the complications that can arise when valuing companies. Many of these problems are magnified in the healthcare industry because this field breaks the basic business principle of profit maximization. The cost/asset approach incurs the majority of the valuation issues due to the intangible nature of the healthcare field. Also, as discussed in this chapter, problems with tangible assets have arisen because of the extra factors that warrant assigning an economic value. The study in Chapter III tests the extent to which the differences need to be considered in asset valuation for the healthcare field, compared to other service companies and industries. The study in the following chapter also attempts to give a formula that will

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<sup>25</sup> Kevin Devine, Thomas Ealey, and Priscilla O'Clock, "A Framework for Cost Management and Decision Support Across Health Care Organizations of Varying Size and Scope" Journal of Health Care Finance (2008): 63.

generate more accurate predictions of future revenue streams, based on something more predictable than revenue itself, changes in city demographics.

## CHAPTER III

### DATA, METHODOLOGY, RESULTS, AND ANALYSIS

Several studies have focused on the valuation techniques frequently used in many different industries. However, only a select few have focused on healthcare companies. These studies have revealed problems in the way assets have been valued in the past. The problems stem from a combination of the industry's high number of intangible assets and the tangible assets' high level of technological obsolescence. Some studies have also suggested that smaller community hospitals have been undervalued due to a lack of business focus and control. With new regulations in the acquisition process of non-profit hospitals, correct valuation becomes increasingly imperative. This study attempts to test two expectations related to past problems in a more current environment: healthcare companies will have a higher return on investment in comparison to non-healthcare companies, and public healthcare companies will have a higher profit margin than private healthcare companies. The study also looks at the impact of city demographics on revenues. These expectations are examined within the framework of the valuation techniques most commonly utilized in the healthcare field (the market-, cost/asset-, and income-based approaches).

#### Data and Methodology

The measures and regressions examined in this study include return on investment, the profit margin percentage, and the impact on revenues generated by differences in city

demographics and hospital size. The return on investment analysis requires a comparison of this measure among public healthcare companies, public service companies, and public non-service companies. The information for this study comes from Mergentonline, using company data for the most recent year available. The healthcare companies examined are, for the most part, hospital companies but also include a select few insurance providers and medical device producers. The service companies examined include restaurants, entertainment companies, retailers, phone companies, internet auction companies, search engines and transportation companies, while the non-service companies are comprised of financial, technology producer, energy, consumer product producer and basic materials companies.

The analysis of the profit margin percentage compares this measure for public healthcare companies and private healthcare companies. The public healthcare company information again comes from Mergentonline, using the years 2001 and 2002; the private healthcare company information is gathered from reports provided by the Colorado and Florida Hospital Associations, also for the years 2001 and 2002. All of the companies in this analysis are hospitals.

Finally, the regression analysis investigates the impact of the independent variables--county size, median household income, age of the population, education level, ratio of per capita retail purchases to per capita income, and average number of people per household--on the dependent variable, operating income. The information on hospital operating income and size is obtained from the Colorado and Florida Hospital Associations, for the years 2001 and 2002, and the county demographic information comes from Census Online. The regression equation is shown below.

$$\text{Operating Income} = \beta_0 + \beta_1 \times P + \beta_2 \times \text{MI} + \beta_3 \times \text{Poverty} + \beta_4 \times \text{Young} + \beta_5 \times \text{MA} + \beta_6 \\ \times \text{Old} + \beta_7 \times \text{Education} + \beta_8 \times \text{PTC} + \beta_9 \times \text{House} + \beta_{10} \times \text{Size} + E$$

where the variable P represents population, MI is the median income, Poverty signifies the percentage of the population below the poverty line, Young represents the percentage of the population younger than 5 years old, MA is the percentage of the population between the ages of 5 and 65, Old denotes the percentage of the population over 65 years old<sup>1</sup>, Education signifies the percentage of the population that has a high school diploma, PTC (propensity to consume retail items) is a ratio of the retail sales per capita divided by the income per capita, House denotes the average number of people living in the same house, and Size represents the number of beds in the hospital.

#### Hypotheses and Expectations

The expectation for the comparison of the return on investment among healthcare companies, service companies, and non-service companies is that the healthcare companies will have a higher return on investment. This is due to the challenges faced when valuing assets in the healthcare field. As mentioned in previous chapters, problems arise when valuing intangible assets, which are abundant in the healthcare field. Analysts also face problems with valuing tangible assets in the healthcare industry because these assets have high technological obsolescence. The risk factor in each of these valuation challenges causes the price estimates for these assets to decrease. With a decrease in the value of assets the return on investment measure would increase. One factor that may

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<sup>1</sup> These age classifications result from the census-data collection format.

cause a slight decrease in this ratio is that managers hold a priority to save lives over profit maximization.<sup>2 and 3</sup>

The profit margin percentage constitutes a good way to look at efficiency, as it looks at how well the company manages its expenses with respect to revenue. Thus, comparing public healthcare companies to private healthcare companies using this measure allows a unique insight into what type of company is more efficient in the healthcare field. The expectation is that the public healthcare companies will have a higher profit margin, as they are run with a greater business emphasis. Also, combining more hospitals under an umbrella organization creates more opportunities to learn and to utilize the improved business tactics allowing these margins to increase.<sup>4</sup>

Looking at factors that add value to a healthcare company can help with valuation when using the market approach. This study looks at extra factors that have not been incorporated in the past, such as the ones listed above in the regression equation. It is expected that the city population variable will be negatively correlated to operating income, because the greater a city's population, the higher the chance of having a larger number of competitors. A setting with a high level of competition calls for companies to differentiate themselves using one of two methods, branding or becoming a cost leader.

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<sup>2</sup> The contrary argument, the efficient market hypothesis, suggests that these problems should correct themselves over time. This hypothesis states that the equilibrium price will be reached if there is sufficient information. If this is true, then a fair price would be set for these hard-to-value assets, as there is plenty of information and past transactions to analyze. However, it is possible for this information to have varying results, as the returns on these assets vary. In an environment with increased risk and varying returns, it is not uncommon for the assets to be undervalued.

<sup>3</sup> Jean-Jacques Laffont and Eric S. Maskin, "The Efficient Market Hypothesis and Insider Trading on the Stock Market," *The Journal of Political Economy* (1990): 70.

<sup>4</sup> The contrary argument contends that the smaller a company is, the more closely managers are able to monitor their financials. They would have more control of their expenses than larger public companies, be able to adapt to changes more quickly, and thus, would have a higher profit margin percentage. The current study believes the former arguments will hold in this and the following scenarios.



Healthcare companies utilize both of these strategies, but cutting costs is of particular importance. Since insurance companies supply most of healthcare companies' income and will not allow their clients to use healthcare services that are too costly, healthcare companies must keep costs down. Thus, with a cap on the maximum price, there is no way to increase margins significantly for the company.<sup>5</sup>

A higher median income for the county will lead to a higher operating income for the hospital. This belief depends on the assumption that people with higher incomes are more likely to opt for voluntary procedures and more regular checkups. This population would also be able to pay for all of their care and thus, defaults on payments would be much lower, leading to lower expenses and a higher operating income.<sup>6</sup> In contrast, the variable for percentage of the population below the poverty line will have a negative correlation to operating income. This population does not have money for voluntary healthcare services and also has an increased risk for payment default, leading to a lower operating income.<sup>7</sup> This scenario is a direct result of saving lives, limiting hospital-acquired infections, and limiting medical errors (e.g., prescription mistakes) as a priority over profit maximization. Hospitals and their managers must meet their obligations, often forfeiting income in order to treat the population below poverty line, as these individuals have difficulty paying the cost of their treatment.

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<sup>5</sup> A contrary argument suggests that the population variable would be positively correlated to operating income because bigger cities have more people, and thus, the potential for more customers, despite the increase in competition.

<sup>6</sup> Contrary arguments suggest that a population with a higher income will not need as many healthcare services because of their healthier diet and lifestyle. Also, people in low-income areas are more likely to have poor diets and higher stress, creating demand for healthcare service.

<sup>7</sup> The contrary belief is that people in these impoverished areas are likely to have poor diets and unhealthy lifestyles, creating a greater demand for healthcare services. These areas are also more prone to violence, leading to an increased need for healthcare.

Expectations for the age variables include a positive correlation to operating income for the percentage of the population under the age of 5 and over the age of 65, and a negative correlation to operating income for the percentage of the population between the ages of 5 and 65. Infants and the elderly require more healthcare, as most serious health concerns arise during these periods of life, and thus, these age groups are more likely to receive regular check-ups and spend time in the hospital due to illnesses. Individuals between the ages of 5 and 65 are less likely to get sick and are also less likely to go to the doctor when they are sick because of the reduced chance that the illness is serious. Also, a greater percentage of the population is in this age bracket, leaving fewer in the other brackets, which are expected to have a greater impact.<sup>8</sup>

A greater percentage of high school graduates in the county will correspond to a decreased operating income for hospitals. This belief rests on the idea that an individual with more education is more likely to know how to live a healthier lifestyle. Also, an educated person is better prepared to take care of minor illnesses and injuries and thus would be able to avoid frequent trips to the doctor.<sup>9</sup>

The ratio of retail sales per capita to the income per capita provides a look into a population's propensity to consume. One would expect this variable to be positively correlated to operating income because when a population has a higher propensity to consume, people are more likely to spend an extra dollar of income. One can assume that

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<sup>8</sup> Some would argue that age has no impact on the amount of healthcare services demanded, as serious illnesses and injuries can happen at any stage of life.

<sup>9</sup> The contrary argument says that more educated people are more careful as they know the potential danger in avoiding hospital care and, because of this, use hospital services more frequently.

an increased likelihood to spend money on retail goods would correspond to an increased willingness to spend more money on healthcare services.<sup>10</sup>

A greater number of people in the same house would increase the risk for illnesses to be passed from one person in the house to another. Thus, it is expected that the number of people in a household will be positively correlated to operating income for hospitals. Also, a higher number of people in the same house can easily lead to a higher stress environment, causing more stress related illnesses and thus more demand for healthcare services.<sup>11</sup>

Lastly, the expectation for size of an individual hospital, measured by the number of beds, includes a negative correlation to hospital operating income. As mentioned in the previous chapter, larger hospitals tend to have a greater excess of assets and staff due to the unpredictable nature of the healthcare field. Thus, these hospitals have an increase in expenses, leading to a smaller operating income. Also, smaller hospitals are able to monitor their financials more effectively and adapt more quickly to any necessary changes.<sup>12</sup>

## Results

The descriptive statistics on the companies involved in the return on investment study can be found in Appendix A. The results show that healthcare companies have the

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<sup>10</sup> Contrary logic suggests that if people spend a higher percentage of money on retail items, they place a higher value on these products over extra healthcare expenditures and would thus have less money to spend on healthcare services, causing a negative correlation to hospital operating income.

<sup>11</sup> A contrary argument contends that there are more people in the house to take care of an injured or sick individual. Also, most illnesses passed in the house are not serious enough to require hospitalizations or doctor visits, and thus, there will be a negative or no correlation to operating income.

<sup>12</sup> The other side of this argument suggests that the larger a hospital is, the more capacity it has, and thus, it should be able to take advantage of economies of scale and have a positive correlation to operating income.

highest return on investment with service companies having the second highest and non-service companies having the lowest return on assets. Healthcare companies have a return on investment statistic of 11.6 percent, which shows that 11.6 percent of income is generated from every dollar of assets a company holds. Healthcare companies are also, on average, smaller than those in the other industries. The average return on investment for service companies in this study is slightly lower than healthcare companies at 10.27 percent, and the average return on investment for non-service companies is 8.04 percent. Service companies are, in this study, the largest in terms of both assets and income.

The range of variance in this study has a significant impact on the outcome. Healthcare companies have the largest variance, with returns on investment ranging from 66.32 percent down to 0.9 percent. Service companies have a variance between 20.88 and 0.09 percent, and non-service companies have the smallest variance, ranging from 15.86 to 0.2 percent. However, these variances are all extremely high and show that even within the same industry, the way a company is structured and run has a significant impact on efficiency measures.

Profit margin descriptive statistics on the companies involved can be found in Appendix B. The results of this study show that public healthcare companies have a much higher profit margin than private healthcare companies. The average profit margin for the public healthcare companies in 2001 was 14.79 percent and in 2002 was 15.44 percent. However, the average profit margin for a private healthcare company was 3.43 percent in 2001 and 3.07 percent in 2002. The variance in profit margin also has a large range in this study, although not as great as the variance in return on investment. The variance for the public healthcare companies was 50.5 percent as a high down to .93

percent as a low. Private healthcare companies only had a variance between 10.01 and 0.89 percent, with a majority of the data falling in the range of 1 to 4 percent.

All of the Florida and Colorado hospital information, along with the county demographic information that is used in the regression analysis, can be found in Appendix C. The regression statistics are listed in Appendix D in the order they were run. The corrected regression is last in the appendix. The final regression equation, including the outliers (three hospitals that have abnormally high revenue in comparison to the rest), is shown below.

$$\text{Revenue} = -9,450,000 + 90.8 \times P + 54,200,000 \times \text{Young} + 10,300,000 \times \text{Education} + E$$

The P statistics are 0.005 for the population variable, 0.033 for the Young variable, and 0.002 for the Education variable. These P statistics indicate that all of these variables are significant at the 0.05 level. The adjusted R squared is 7.7 percent, signifying that the variables in this model explain 7.7 percent of the variance in revenue.

The coefficients in this model show the impact of independent variables, population (P), the percentage of the population under the age of 5 (Young), and the percentage of the population over the age of 25 that have graduated from high school (Education), on the dependent variable, revenue. It follows that with an increase in population of one person, it is expected that revenues for a given hospital in the county will receive 90.8 more dollars of revenue. For an increase of 1 percent in the number of people under the age of 5, a hospital in a county with the average population in this study can estimate an increase in revenue of 54,200,000 dollars.

The coefficients of the variables and the intercept of the regression equation above are extremely high due to the influence of the three outliers that generate much greater revenues. Thus, another look at the impact these variables have on hospital revenues can be seen by removing the outliers. The results of the regression are included in Appendix D, and the regression equation is illustrated below.

$$\text{Revenues} = - 6,630,000 + 84.2 \times P + 20,000,000 \times \text{Young} + 9,080,000 \times \text{Education} + E$$

Eliminating the three outliers from the equation reduces the size of the coefficients. Also, with the exclusion of the outliers, the adjusted R squared gets bumped up to 8.9 percent, and two out of the four variables see a decrease in their P values. These two variables are the P (county population, lowered from a P value of 0.005 to 0.000) and Education (Percentage of the population younger than age 5, lowered from a P value 0.002 to 0.000). The intercept sees a rise in its P value from 0.005 to 0.008 and is still statistically significant. However, the variable Young (Percentage of the population younger than age 5, increased from a P value of 0.033 to 0.29) becomes insignificant at the 0.05 alpha level.

#### Analysis

The study on return on investments shows healthcare companies have a higher return on investment in comparison to other service companies and industries. This result was predicted because healthcare companies have a high number of intangible assets that produce varying returns and thus are normally undervalued as the risks are higher. The varying nature of returns that are produced by assets in the healthcare field is clearly

demonstrated as the return on investment ranges from 66.32 to 0.9 percent. It was unexpected, however, that the variance would be so large.

Another reason for undervaluation of assets in the healthcare industry is the high technological obsolescence. There is an increased risk that these assets will be ineffective in a shorter amount of time than assets in other industries. Thus, with a high risk, just as it is the case with a high number of intangible assets, the value put on these assets decreases. The theory chapter discusses the equation for return on investment as income (in this example operating income) over investments (assets). Thus, with a decrease in the valuation of assets, the denominator becomes smaller, causing an overall increase in the measure.

The variance in the results also shows the risk that is assumed with healthcare assets. Even with a small number of companies in the sample, it is clear that some companies come out winners and some come out losers. The companies that saw a high return on investment were Dal International (66.32 percent) and Amsurg Corp (23.23 percent), and companies that saw a low return on investment were Integrated Healthcare Holdings (0.9 percent) and Meriter Hospitals (1.57 percent). It is also clear that the service industry incurs more risks and rewards than other industries, as the variance and average return on investment is much higher for this kind of company. Although the non-service companies see a fairly sizeable gap between highest and lowest return on investment, the industry relationships are much closer. For example, the financial industry variance is only between 1.04 (Capital One Financial) and 0.2 percent (Wells Fargo), and the technology industry has a difference between the high and low of 15.86 percent (Apple) and 9.24 percent (Hewlett-Packard Co).

The profit margin study clearly shows that public healthcare companies consisting of multiple hospitals have a much higher profit margin in comparison to the private individual hospitals. This result was expected even though the large discrepancy between the average profit margins was not. The probable reasons why the variance was so large include economies of scale, learning and using knowledge from different hospitals within the organization, developing a brand name more easily and cutting costs by bundling expenses. Larger companies are able to take advantage of their size by buying in bulk as well as making contractual agreements with companies (e.g., communication providers) to further cut costs. These public healthcare companies, which serve as an umbrella organization for many individual hospitals, are also able to take the business strategies from each new hospital that they acquire and implement any cost cutting or revenue generating techniques. With a greater amount of capital available, it is also possible for these companies to advertise and establish a brand name, which leads to an increase in revenue. Increases in profits do not always lead to an increase in profit margin, since profit margin is the calculation of income divided by revenues. It is likely that the costs will not increase at a greater pace than revenues. This will produce a higher ratio of revenues with respect to costs, increasing the profit margin. All of these combine to make the average profit margin for public healthcare companies approximately 12 percent higher.

The regression analysis went through many different transformations due to problems with the model. The original regression equation expressed no significant variables. In an attempt to fix this problem, the dependent variable was changed from operating income to revenues. A possible cause of the lack of correlation is that



operating income is not only affected by the number of people that use the company's services, but also by the company's policies and strategies. The change from operating income to revenues takes away the company's policy and strategy impact. With this change, it became necessary to drop the beds variable as there was a clear and strong relationship--bigger hospitals with more beds generally have more revenue.

The change from operating income to revenue produced only two significant variables, the percentage of the population under age 5 and the percentage of the population over the age of 25. However, when testing for potential issues in the model, multicollinearity surfaced as problem. Many of the independent variables in the regression model were correlated with each other. The logic is very clear on most of the correlated variables, such as the correlation between percentage of high school graduates over the age of 25 and the median income for a county. A person with a high school degree is more likely to earn a greater amount than a person without one. Therefore, with a higher percentage of high school graduates, the county will likely have a higher median income. Many other relationships existed in the original model, as many county demographics are related to one another.

When variables are related to one another the regression model does not work. To fix this problem, related variables need to be omitted from the equation. In this model, related variables ended up in one of three categories. Variables related to city size (county population), age demographics (percentage of the population younger than 5, between 5 and 65, and older than age 65), and income demographics (median income, percent of the population below the poverty line, percentage of the population over the age of 25 that has graduated from high school, number of people living in the same

household, and propensity to consume on retail items). After breaking up the data into these categories, the regression model was run with many of the possible combinations of the three data groups.

The regression equation that yielded the best results included the variables county population, percentage of the population younger than the age of 5, and percentage of high school graduates over the age of 25. A possible reason why the variable for the percentage of the population over the age of 65 was insignificant is that a majority of the sample hospitals came from the state of Florida, which has a significantly higher percentage of elderly in some counties. The large variance between counties with respect to the elderly variable led to that variable's insignificance in the regression equation. The variable for the age demographic between 5 and 65 was also insignificant. There was limited expectation for this variable to have an impact on operating income or revenues, because this demographic takes away from the other two age groups that were expected to have a greater importance to the model. However, since the variable for the percentage of the population over the age of 65 was not significant, changes in the middle age group did not have an impact on the model.

The variables for income were mostly all insignificant to the model. The one exception that was correlated was the percentage of the population over the age of 25 that graduated from high school. This variable combined two factors, wealth and education. These two statistics were important factors in the model, and since the correlation had a positive coefficient, this signified that a person with a high education and income is more likely to consume hospital services.

After the significant variables were found and the regression equation was set, the next step was to analyze the results. This step revealed three hospitals that have revenues over four times the average for the sample population. Thus, these outliers were removed to get a better data set. After these data were removed, the regression was run once again revealing stronger results. The adjusted R squared, which is the indicator of how much of the data explains the variance in the dependent variable (revenues), increased along with the P values for two of the three tested variables. The one variable in which the P value increased was the percentage of the population under the age of 5. This illustrated that these larger hospitals were able to skew the data with a population of 230 hospitals.

Once the outliers were removed and the regression became stronger, the next step was to test for heteroskedasticity with the Breusch-Pagan test. The results revealed that one could not reject the null hypothesis that the data was not heteroskedastic, or that the data did have a problem with heteroskedasticity. After correcting for this problem, the P values decreased, but the two variables that were significant at the .05 level before the test remained significant.

The coefficient of 84.2 on the county population indicates that for an increase in the population of one new person any given hospital can expect to gain an extra 84.2 dollars, and thus county population is positively correlated to revenues. This is a fairly high coefficient for a variable such as population, because there is a large variance in the population from county to county. The positive correlation reveals that the impact of increasing the customer base outweighs the negative impact of an increase in competition. The coefficient of 9,080,000 on the Education variable shows that for an increase of one percent in the population over the age of 25 that graduated from high

school in a county with the mean population, a given hospital should see an increase of 9,080,000 dollars in revenue. These coefficients are dependent on the size of the county's population. With a greater county population a one percent increase is a greater number of people than a one percent increase in a smaller county. Thus, hospitals in a bigger county that see a one percent increase in these demographics can expect more revenue than a hospital in a smaller county that experiences the same one percent increase. The Education coefficient is also very large even though the variance from county to county on the Education variable is small. The positive correlation reveals that an increase in income and knowledge increases a person's chance of consuming hospital services. The reasons for this include that a person who is wealthier and more educated has both a greater amount of disposable income to use on hospital services and the knowledge that some injuries and illness should be looked at by a doctor. These reasons for a positive correlation outweigh the potential negative correlation caused by living a healthier lifestyle.

### Conclusion

These studies have revealed both expected and unexpected results. The return on investment study provided clarity as to why assets in the healthcare industry are typically undervalued. The variance in results displays the risk that is assumed by the companies in this industry. Thus, with the increased risk, prices are likely to be undervalued. The difference in profit margins between the public and private hospital companies is staggering and shows the dramatic impact economies of scale can have in the healthcare industry.

The regression equation produced only two significant variables. However, the variables that are significant tell us a lot about the impact city/county demographics can have on the potential earning power of hospitals. Mainly, the size, income, and education demographics have a significant impact on hospital revenues. Some demographics that were expected to produce significant results (e.g., the age variables) did not. However, these results may stem from the fact that the state of Florida, which is where the majority of the data came from, has significant variance between counties with respect to age in comparison to the rest of the United States. The data still tell us what variables should be considered in the market approach. This topic, along with a discussion of the impact this study has on valuation techniques, is discussed in Chapter IV. Also discussed in the following chapter are the limitations of this study.

## CHAPTER IV

### CONCLUSION AND LIMITATIONS

The results of the previous chapter's study have many implications for all three valuation techniques. First, the market approach should take into consideration city demographics, more specifically, the county/city size, income, and education demographics. The regression analysis shows that these demographics can have a significant influence on the potential earning power of a hospital. Thus, when looking at past transactions and trying to come up with comparables, one must look beyond just the size and current income of the hospital. It is also important to include information on demographics to better estimate price, as this influences the potential customer market.

As the review of literature revealed, issues have existed in the past with the undervaluation of assets in the healthcare industry. The study on return on investment revealed that this still holds true today. The data also illustrate a very high variance in this ratio most likely caused by the high number of intangible assets and high technological obsolescence. This high variance reveals the risk associated with these healthcare assets. As with any investment, a high assumption of risk yields a higher rate of return, on average, because of the greater degree of variance. As a result, although these assets seem to be undervalued, it is correct to keep them at that value due to the increased risk, which normally leads to higher returns. The cost/asset approach in the healthcare field seems to be a strong model for price estimation.

The profit margins for larger public healthcare companies are significantly higher than smaller private healthcare companies suggesting the larger companies are more efficient. The vast difference in the profit margins between these two types of companies causes valuation complications. Analysts fail to fully incorporate the extent of the benefits that a small private healthcare company will have when merging with a large public company, resulting in undervaluation. This result has a direct effect on the income valuation model. As discussed in the theory chapter, this model predicts future incomes to estimate the true value of a firm. With the information found in this study, it is very important for the analyst to forecast greater returns when a hospital is being valued for a merger or acquisition with a large public healthcare organization.

Chapter I set out to give an outline of the study and provide clarity to the models used and discussed throughout this paper. Valuation techniques, such as the market-, cost/asset-, and income approaches, are all important to consider when estimating a firm's true value. Also, efficiency measures, such as profit margin and return on investment, are key statistics to consider when looking at a healthcare company and its potential for growth.

The literature review in Chapter II examined the studies that have been conducted in the healthcare field, service industries, and other industries that provide clarity to the topics discussed in this study's models. These studies revealed a problem with the valuation of assets in the healthcare industry due to the high number of intangible assets and technological obsolescence. There were also numerous studies on the efficiency of the healthcare industry, as managers have a dual responsibility to create revenue, but only as a secondary priority to saving lives and minimizing hospital-acquired infection rates,

in-patient mortality, and medication error rates. Also found in the literature were problems with income due to the volatility in the healthcare industry. Hospitals usually have a large amount of excess capacity as health epidemics can come and go very rapidly. The impact of the excess space causes problems with income and efficiency measures due to its increased cost. Lastly, the studies revealed a problem with finding comparable firms to aid in the market valuation technique due to the lack of available information on past healthcare company transactions.

The study in Chapter III revealed that healthcare companies have a higher return on investment with a higher variance than any of the other service companies and industries. This study brings to light the reasons for the problem of undervaluation of assets in the healthcare industry. Profit margins are significantly higher for large healthcare corporations in comparison to private individual hospitals due to the benefits of economies of scale.

The regression equation went through many different stages to reveal the impact that county size, income, and education demographics have on the earning potential of hospitals. High coefficients for these variables show that a small change in these demographics can have a huge impact on the amount of revenue generated. Taking information from all of these studies shows that, for a hospital to be accurately valued, it is important that all three valuation techniques are considered. The studies in Chapter III also help in making the necessary adjustments to all three approaches. The market approach would benefit from taking into account county demographics, the asset/cost approach should continue to value healthcare assets lower due to the increased risk, and the income approach needs to take into account the profit margin when valuing a private



hospital for a merger with a large healthcare corporation. However, many limitations existed in the regression analysis and efficiency studies. These limitations are discussed below.

### Limitations

Many limitations arose in finding data for this study. These challenges in data collection included: obtaining data for specific, individual hospitals from public hospital corporations, finding data for individual locations from public, non-healthcare sources, securing data on the amount of assets from individual private hospitals, and acquiring data on private hospitals from multiple states, as well as from the limited number of public hospitals. The inclusion of this information could have given strength to the regression model and allowed for better comparisons between industries.

With information on specific, individual public hospitals, the study would have been able to compare, in a regression, the differences between private and public companies. Also, with information on individual public non-healthcare companies, the regression results could have included other service companies and other industries to aid in the discovery of the differences that exist between industries. Addition of these differentiating factors might have resulted in a better understanding of the best valuation techniques.

Having information on the number of assets for the private healthcare companies would allow an analyst to look at the return on investment ratio for all healthcare companies, public and private. Also, many of the acquisitions in the healthcare industry involve merging private companies with large healthcare corporations. Thus, insight into

how companies change after a merger would allow for more accurate estimations of the company's true value.

More correlations could potentially exist between hospitals and county demographics, however, without information on multiple states this comparison is limited. With a higher number of observations, it would also be possible to make a stronger argument for correlation between the independent and dependent variables. Regional differences could also be examined with information from a majority of states. The limited number of public hospital companies caused the studies on efficiency to be extremely limited with such a small number of observations. An increase in the number of observable companies can make these efficiency studies stronger. Removing these limitations would have made for a more in-depth analysis. However, the information available still allowed for a solid comparison and the ability to make suggestions on valuation techniques. Avenues for future studies might include repeating this study with information on hospitals from all states, taking a deeper look into the impact assets have on revenues in the healthcare industry, comparing efficiency ratios between hospitals in America and hospitals in other countries that have different healthcare systems, and looking into other measures and factors that may aid in a more accurate prediction of future revenues.

Notwithstanding the limitations of the study, many differences between the healthcare industry and other industries, with respect to valuation, were discovered. This study discovered some aspects that vary between industries and analyzed the impact these differences can have on valuation. The differences found include a higher return on investment and profit margin and a very large discrepancy between counties with

different demographics. Looking to the future, healthcare companies should try to account for these aspects to enhance the accuracy of valuation.

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Appendix A: Return on Investment Results

<b>Company</b>	<b>Operating Income</b>	<b>Assets</b>	<b>Return on Investment</b>
<b>Healthcare</b>			
Community Health Systems, Inc.	\$983,574,000	\$13,818,254,000	7.12%
Tenet Healthcare Corp.	300,000,000	8,174,000,000	3.67%
Universal Health Services	410,219,000	3,742,462,000	10.96%
Health Management Associates	396,200,000	4,555,529,000	8.70%
Life Point Hospitals	228,500,000	3,680,300,000	6.21%
Magellan Health Services	140,243,000	1,417,564,000	9.89%
MedCath Corp.	44,749,000	653,456,000	6.85%
Amsurg Corp.	210,463,000	905,879,000	23.23%
Integrated Healthcare Holdings	1,225,000	136,089,000	0.90%
Meriter Hospitals	3,334,367	213,040,265	1.57%
SunLink Healthcare	5,405,000	111,624,000	4.84%
Dynacq Healthcare	8,425,950	82,248,562	10.24%
MHM Services	184,000	6,666,000	2.76%
Dal International	2,425,379	3,657,214	66.32%
<b>Average Healthcare Company</b>	<b>\$195,353,407</b>	<b>\$2,678,626,360</b>	<b>11.66%</b>
<b>Service</b>			
Darden Restaurants	\$600,400,000	\$4,730,600,000	12.69%
Cheesecake Factory	87,171,000	1,142,630,000	7.63%
Buffalo Wild Wings	35,394,000	243,818,000	14.52%
J. Alexander's Corp	6,826,000	104,579,000	6.53%
eBay	2,075,682,000	15,592,439,000	13.31%
Verizon Florida	343,600,000	4,021,400,000	8.54%
MGM Mirage	2,863,930,000	22,727,686,000	12.60%
Levi Strauss & CO	525,072,000	3,125,800,000	16.80%
TJX Companies	1,242,689,000	6,599,934,000	18.83%
Southwest Airlines	449,000,000	14,308,000,000	3.14%
JetBlue	109,000,000	6,023,000,000	1.81%
SkyWest	255,231,000	4,014,291,000	6.36%
Yahoo!	12,963,000	13,689,848,000	0.09%
Google	6,631,969,000	31,767,575,000	20.88%
<b>Average Service Company</b>	<b>\$1,088,494,786</b>	<b>\$9,149,400,000</b>	<b>10.27%</b>



Non-Service			
Wells Fargo	\$2,655,000,000	\$1,309,639,000,000	0.20%
Bank of America	4,008,000,000	1,817,943,000,000	0.22%
Sunoco	1,245,000,000	11,150,000,000	11.17%
Gulfport Energy Corp.	40,464,000	419,137,000	9.65%
Apple	6,275,000,000	39,572,000,000	15.86%
Hewlett-Packard Co	10,473,000,000	113,331,000,000	9.24%
Shell Oil	2,278,000,000	26,111,000,000	8.72%
Dow Chemical	1,007,000,000	45,474,000,000	2.21%
Rohm & Haas Co.	683,000,000	9,909,000,000	6.89%
Du Pont de Nemours & Co	2,767,000,000	36,209,000,000	7.64%
Capital One Financial	1,570,332,000	150,590,369,000	1.04%
Duke Energy Corp	2,511,000,000	53,077,000,000	4.73%
Super Micro Computer Inc	40,271,000	264,385,000	15.23%
Procter & Gamble	17,083,000,000	143,992,000,000	11.86%
<b>Average Non-Service Company</b>	<b>\$3,844,697,462</b>	<b>\$188,310,914,692</b>	<b>8.04%</b>

Appendix B: Profit Margin Results

<b>Company/hospital</b>	<b>Operating Income '01</b>	<b>Revenues '01</b>	<b>Profit Margin '01</b>
Public			
Community Health Systems, Inc.	\$189,043,000	\$1,693,625,000	11.16%
Tenet Healthcare Corp.	1,547,000,000	12,053,000,000	12.83%
Universal Health Services	516,019,000	3,258,898,000	15.83%
Health Management Associates	320,951,000	1,879,801,000	17.07%
Life Point Hospitals	68,700,000	619,400,000	11.09%
Magellan Health Services	14,842,000	444,842,000	3.34%
MedCath Corp.	40,848,000	377,007,000	10.83%
Amsurg Corp.	24,846,000	202,312,000	12.28%
Meriter Hospitals*	3,334,367	184,673,592	1.81%
SunLink Healthcare	478,000	13,639,000	3.50%
Dynacq Healthcare	17,985,672	43,803,619	41.06%
MHM Services*	184,000	19,858,000	0.93%
Dal International**	2,425,379	4,802,631	50.50%
<b>Average Public</b>	<b>\$211,281,263</b>	<b>\$1,599,666,26</b>	<b>14.79%</b>
Private			
Memorial Hospital	\$11,040,146	\$304,674,795	3.62%
St. Mary's Hospital and Medical Center	18,862,078	188,506,892	10.01%
Baptist Hospital of Miami, Inc.	79,171,357	930,681,457	8.51%
Doctor Memorial Hospital	410,204	35,490,522	1.16%
Hialeah Hospital	4,309,051	366,093,150	1.18%
Lakeland Regional Medical Center	13,673,224	643,771,948	2.12%
Morton Plant Hospital	27,864,191	655,237,258	4.25%
Pinecrest Rehab. Hospital at Delray	2,526,745	94,634,158	2.67%
St. Petersburg General Hospital	2,981,872	257,052,695	1.16%
University Hospital & Medical Center	12,935,864	233,789,970	5.53%
Westchester General Hospital	1,604,212	101,515,152	1.58%
Wuesthoff Health Systems, Inc.	5,692,323	299,199,177	1.90%
Tampa General Hospital	10,777,470	1,212,690,097	0.89%
<b>Average Private</b>	<b>\$14,757,595</b>	<b>\$409,487,482</b>	<b>3.43%</b>
* Information only available for the year 2000			
** Information only available for the year 2003			

<b>Company/hospital</b>	<b>Operating Income '02</b>	<b>Revenues '02</b>	<b>Profit Margin '02</b>
Public			
Community Health Systems, Inc.	\$241,510,000	\$2,200,417,000	10.98%
Tenet Healthcare Corp.	2,094,000,000	13,913,000,000	15.05%
Universal Health Services	441,921,000	2,840,491,000	15.56%
Health Management Associates	406,671,000	2,262,601,000	17.97%
Life Point Hospitals	106,800,000	743,600,000	14.36%
Magellan Health Services	13,985,000	445,890,000	3.14%
MedCath Corp.	55,784,000	477,637,000	11.68%
Amsurg Corp.	40,037,000	251,525,000	15.92%
Meriter Hospitals*	3,334,367	184,673,592	1.81%
SunLink Healthcare	833,000	87,165,000	0.96%
Dynacq Healthcare	27,149,226	64,883,235	41.84%
MHM Services*	184,000	19,858,000	0.93%
Dal International**	2,425,379	4,802,631	50.50%
<b>Average Public</b>	<b>\$264,202,613</b>	<b>\$1,807,426,40</b>	<b>15.44%</b>
Private			
Memorial Hospital	\$3,877,753	\$333,377,465	1.16%
St. Mary's Hospital and Medical Center	17,614,821	209,918,488	8.39%
Baptist Hospital of Miami, Inc.	62,754,505	1,148,945,809	5.46%
Doctor Memorial Hospital	1,036,729	46,966,340	2.21%
Hialeah Hospital	7,844,117	468,408,165	1.67%
Lakeland Regional Medical Center	7,275,448	759,906,956	0.96%
Morton Plant Hospital	29,400,649	758,463,486	3.88%
Pinecrest Rehab. Hospital at Delray	3,951,125	108,093,570	3.66%
St. Petersburg General Hospital	3,830,135	298,498,144	1.28%
University Hospital & Medical Center	10,469,282	288,540,014	3.63%
Westchester General Hospital	2,481,307	108,553,587	2.29%
Wuesthoff Health Systems, Inc.	5,847,523	330,331,409	1.77%
Tampa General Hospital	56,202,423	1,560,647,927	3.60%
<b>Average Private</b>	<b>\$16,352,755</b>	<b>\$493,896,258</b>	<b>3.07%</b>
* Information only available for the year 2000			
** Information only available for the year 2003			

Appendix C: Hospital and County Information  
Colorado Hospitals

Hospital	County name	County Pop 2000	Persons under 5 years old (Percent) 2006	Persons 65 and Older (Percent) 2006	Person below Poverty (Percent) 2004	Median Household Income 2004	Percent of High School Graduates	Ratio of retail sales over income	Number of Persons per household	Beds	Operating Income 2001	Operating Income 2002
Arkansas Valley Regional Medical Center	Otero	20,311	7.80%	17.20%	17.80%	\$30,298	75.7%	56.97%	2.49	56	\$239,105	\$756,359
Aspen Valley Hospital	Pitkin	14,872	5.10%	9.00%	4.60%	\$60,662	96.3%	51.02%	2.31	49	-\$198,418	-\$1,429,158
Boulder Community Hospital	Boulder	291,288	6.20%	8.50%	9.80%	\$57,908	92.8%	42.96%	2.47	193	\$6,104,000	\$15,199,000
The Children's Hospital	Denver	554,636	9.00%	10.80%	15.20%	\$41,767	78.9%	47.65%	2.27	235	\$22,026,932	\$19,615,829
Colorado Plains Medical Center	Morgan	27,171	8.10%	13.50%	12.60%	\$36,507	71.4%	47.63%	2.80	50	\$9,042,807	\$8,848,000
Community Hospital	Mesa	116,255	6.30%	15.20%	10.80%	\$40,045	85.0%	72.69%	2.47	72	\$957,812	\$198,511
Craig Hospital	Arapahoe	487,967	7.40%	9.80%	8.20%	\$55,615	90.7%	64.51%	2.53	89	-\$649,447	-\$1,095,534
Delta County Memorial Hospital	Delta	27,834	5.50%	19.40%	12.50%	\$35,280	80.1%	40.93%	2.43	38	\$887,272	\$1,300,292
Denver Health Medical Center	Denver	554,636	9.00%	10.80%	15.20%	\$41,767	78.9%	47.65%	2.27	331	\$609,292	-\$1,763,808
East Morgan County Hospital	Morgan	27,171	8.10%	13.50%	12.60%	\$36,507	71.4%	47.63%	2.80	15	-\$506,523	-\$388,108
Estes Park Medical Center	Larimer	251,494	6.00%	10.50%	9.80%	\$50,911	92.3%	50.64%	2.52	15	-\$697,388	-\$1,243,070
Exempla Lutheran Medical Center	Jefferson	527,056	6.00%	11.10%	7.10%	\$59,060	91.8%	38.97%	2.52	376	\$32,504,048	\$38,465,137
Exempla Saint Joesph Hospital	Denver	554,636	9.00%	10.80%	15.20%	\$41,767	78.9%	47.65%	2.27	438	\$1,791,931	\$11,944,242
Grand River Hospital District	Garfield	43,791	8.20%	8.70%	8.20%	\$50,119	85.4%	69.73%	2.65	16	-\$226,324	-\$1,757,518
Gunnison Valley Hospital	Gunnison	13,956	5.70%	7.40%	11.40%	\$38,979	94.1%	51.92%	2.30	24	\$731,686	\$568,606
Haxton Hospital LLC	Phillips	4,480	7.00%	19.10%	10.50%	\$34,316	81.6%	37.91%	2.47	16	-\$216,549	-\$232,799
Heart of the Rockies Regional Medical Center	Chaffee	16,242	4.30%	18.00%	11.60%	\$37,226	88.5%	59.02%	2.26	38	-\$775,216	\$566,227
Keefe Memorial Hospital	Cheyenne	2,231	6.00%	16.10%	11.60%	\$36,563	84.1%	24.40%	2.50	14	-\$192,654	\$97,147
Kit Carson County Memorial Hospital	Kit Carson	8,011	5.90%	15.90%	12.70%	\$33,610	77.0%	59.15%	2.50	15	-\$352,543	\$116,867
Kremmling Memorial Hospital District	Grand	12,442	5.30%	8.60%	7.20%	\$49,907	92.3%	40.33%	2.37	11	-\$4,363,049	-\$1,053,097
Lincoln Community Hospital	Lincoln	6,087	4.80%	16.30%	15.70%	\$31,574	81.8%	81.04%	2.44	17	-\$404,238	-\$415,552
Longmont United Hospital	Boulder	291,288	6.20%	8.50%	9.80%	\$57,908	92.8%	42.96%	2.47	183	\$5,632,395	\$3,473,036

McKee Medical Hospital	Larimer	251,494	6.00%	10.50%	9.80%	\$50,911	92.3%	50.64%	2.52	95	\$3,941,282	\$3,535,250
Melissa Memorial Hospital	Phillips	4,480	7.00%	19.10%	10.50%	\$34,316	81.6%	37.91%	2.47	15	-\$202,045	\$26,829
Memorial Hospital	El Paso	516,929	7.20%	9.20%	10.30%	\$50,312	91.3%	50.99%	2.61	467	\$11,040,146	\$3,877,753
The Memorial Hospital	Moffat	13,184	7.00%	9.10%	9.50%	\$46,102	79.6%	49.64%	2.58	23	\$215,347	\$416,938
Mercy Medical Center	La Plata	43,941	5.10%	10.40%	10.30%	\$44,078	91.4%	58.71%	2.43	75	\$2,833,790	\$2,409,631
Montrose Memorial Hospital	Montrose	33,432	6.40%	16.10%	11.80%	\$40,234	80.7%	67.56%	2.52	55	\$1,217,105	\$1,141,690
National Jewish Medical and Research Center	Denver	554,636	9.00%	10.80%	15.20%	\$41,767	78.9%	47.65%	2.27	24	-\$14,761,424	-\$12,103,868
North Colorado Medical Center	Weld	180,936	8.10%	7.90%	9.90%	\$46,241	79.6%	43.19%	2.78	277	\$3,285,047	\$8,592,937
Parkview Medical Center	Pueblo	141,472	6.50%	6.50%	16.30%	\$35,693	81.3%	56.56%	2.52	289	\$6,858,702	\$12,114,490
Penrose-St. Francis Health Services	El Paso	516,929	7.20%	9.20%	10.30%	\$50,312	91.3%	50.99%	2.61	522	\$36,065,688	\$45,103,795
Pioneers Hospital of the Rio Blanco	Rio Blanco	5,986	6.30%	11.90%	9.10%	\$43,501	88.4%	26.80%	2.50	15	-\$634,024	-\$543,493
Platte Valley Medical Center	Adams	363,857	8.80%	7.80%	10.80%	\$50,229	78.8%	50.19%	2.81	58	\$6,179,812	\$6,674,479
Poudre Valley Hospital	Larimer	251,494	6.00%	10.50%	9.80%	\$50,911	92.3%	50.64%	2.52	260	\$6,936,804	\$12,890,583
Prowers Medical Center	Prowers	14,483	7.90%	13.50%	17.40%	\$29,647	72.0%	59.78%	2.67	40	\$968,086	\$182,074
Rangely District Hospital	Rio Blanco	5,986	6.30%	11.90%	9.10%	\$43,501	88.4%	26.80%	2.50	9	-\$1,661,153	-\$1,719,941
Saint Mary-Corwin Medical Center	Pueblo	141,472	6.50%	14.80%	16.30%	\$35,693	81.3%	56.56%	2.52	186	\$11,647,782	\$10,259,517
St. Mary's Hospital and Medical Center	Mesa	116,255	6.30%	15.20%	10.80%	\$40,045	85.0%	72.69%	2.47	255	\$18,862,078	\$17,614,821
St. Thomas More Hospital	Fremont	46,145	4.20%	15.50%	14.20%	\$35,129	80.5%	32.80%	2.43	34	\$3,498,637	\$3,747,365
San Luis Valley Regional Medical Center	Alamosa	14,966	7.90%	10.50%	19.20%	\$31,587	82.6%	102.63%	2.56	79	\$174,575	\$35,533
Sedgwick County Health Center	Sedwick	2,747	5.90%	22.40%	11.30%	\$27,824	79.3%	60.67%	2.31	20	-\$358,271	-\$522,995
Southeast Colorado Hospital	Baca	4,517	4.50%	24.30%	15.60%	\$26,580	78.5%	30.32%	2.33	25	\$249,565	\$91,066
Southwest Health Systems Inc.	Montezuma	23,830	6.20%	15.20%	14.50%	\$34,416	81.1%	64.32%	2.54	61	\$1,066,681	\$701,285
Spanish Peaks Regional Health Center	Huerfano	7,862	4.50%	19.60%	19.70%	\$26,649	77.8%	32.96%	2.25	24	-\$1,643,640	-\$679,510
Sterling Regional MedCenter	Logan	20,504	6.00%	14.20%	13.00%	\$34,691	82.3%	63.17%	2.45	36	\$1,645,244	\$1,853,130
University of Colorado Hospital	Denver	554,636	9.00%	10.80%	15.20%	\$41,767	78.9%	47.65%	2.27	397	\$2,012,563	\$4,419,536
Vail Valley Medical Center	Eagle	41,659	8.10%	4.00%	6.00%	\$59,037	86.6%	40.47%	2.73	45	\$2,325,479	\$979,655
Valley View Hospital	Garfield	43,791	8.20%	8.70%	8.20%	\$50,119	85.4%	69.73%	2.65	52	\$3,573,341	\$4,956,137
Weisbrod Memorial County Hospital	Kiowa	1,622	5.90%	21.70%	11.10%	\$28,851	86.3%	26.38%	2.40	8	-\$147,896	-\$358,066
Wray Community District Hospital	Yuma	9,841	7.40%	15.80%	12.00%	\$35,687	79.5%	68.32%	2.55	16	-\$319,946	-\$395,806

Yampa Valley Medical Center	Routt	19,690	5.40%	6.20%	6.00%	\$54,539	95.3%	46.78%	2.44	29	-\$1,296,976	\$723,953
Yuma District Hospital	Yuma	9,841	7.40%	15.80%	12.00%	\$35,687	79.5%	68.32%	2.55	11	-\$621,710	-\$1,006,799

### Florida Hospitals

Hospital	County name	County Pop 2000	Persons under 5 years old (Percent) 2006	Persons 65 and Older (Percent) 2006	Person below Poverty (Percent) 2004	Median Household Income 2004	Percent of High School Graduates	Ratio of retail sales over income	Number of Persons per household	Beds	Operating Income 2001	Operating Income 2002
A.G. Holley State Hospital	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	100	\$0	-\$7,948,985
All Children's Hospital	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	216	\$17,020,956	\$11,065,469
Atlantic Shores Hospital	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	72	-\$2,217,865	-\$292,597
Aventura Hospital & Medical Center	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	407	\$22,742,617	\$23,063,887
Baker Community Hospital and Health Center	Baker	22,259	7.50%	10.00%	12.70%	\$41,589	71.9%	36.82%	2.86	25	-\$575,893	\$486,289
Baptist Hospital - Pensacola	Escambia	294,410	6.80%	14.80%	14.20%	\$36,743	82.1%	60.38%	2.45	552	\$8,543,883	\$7,237,186
Baptist Hospital of Miami, Inc.	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	551	\$79,171,357	\$62,754,505
Baptist Medical Center	Duval	778,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	583	\$15,327,893	\$18,480,784
Baptist Medical Center Beaches	Duval	778,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	90	\$6,832,542	\$5,576,547
Baptist Medical Center Nassau	Nassau	57,663	5.50%	14.60%	8.30%	\$50,301	81.0%	30.58%	2.59	54	\$4,934,151	\$3,701,275
Bartow Memorial Hospital	Polk	483,924	6.80%	17.20%	13.20%	\$36,339	74.8%	49.40%	2.52	56	-\$6,076,458	-\$10,283,870
Bascom Palmer Eye Institute	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	100	-\$5,108,618	-\$1,880,295
Bay Medical Center	Bay	148,217	6.70%	14.00%	11.90%	\$38,972	81.0%	65.50%	2.43	411	\$652,083	\$3,951,557
Bayfront Medical Center	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	502	\$7,781,147	-\$6,889,791
Bert Fish Medical Center	Volusia	443,343	5.10%	20.40%	11.20%	\$37,247	82.0%	52.18%	2.32	116	-\$3,344,998	\$4,082,596
Bethesda Memorial Hospital	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	362	\$6,033,982	\$6,421,824
Blake Medical Center	Manatee	264,002	5.90%	22.10%	9.70%	\$41,419	81.4%	43.10%	2.29	383	\$5,481,166	\$14,032,924
Boca Raton Community Hospital	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	394	-\$615,326	-\$31,617,467
Bon Secours-St. Joseph Hospital	Charlotte	141,627	3.70%	31.20%	8.10%	\$37,820	82.1%	43.89%	2.18	212	\$2,666,856	\$472,743
Bon Secours-Venice Healthcare	Sarasota	325,957	4.30%	29.40%	7.60%	\$44,023	87.1%	46.03%	2.13	342	\$4,351,639	-\$1,893,669
Brandon Regional Medical Center	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	277	\$12,353,852	\$16,231,358

Brooks Rehabilitation Hospital and Centers	Duval	778,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	127	\$2,854,444	\$6,498,552
Brooksville Regional Hospital	Hernando	130,802	4.70%	25.80%	10.60%	\$35,577	78.5%	42.08%	2.32	166	\$2,380,244	\$2,898,878
Broward General Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	744	\$10,916,642	\$37,042,239
Calhoun-Liberty Hospital, Inc.	Calhoun	13,017	5.70%	15.20%	17.20%	\$27,521	69.1%	51.76%	2.53	25	-\$215,936	\$128,392
Campbellton-Graceville Hospital	Jackson	46,755	5.70%	15.10%	15.70%	\$31,022	69.1%	61.50%	2.44	25	-\$30,779	\$23,635
Cape Canaveral Hospital	Brevard	476,230	5.10%	19.90%	9.20%	\$44,248	86.3%	49.13%	2.35	150	\$6,555,208	\$10,512,896
Cape Coral Hospital	Lee	440,888	5.70%	22.20%	8.90%	\$43,476	82.3%	54.54%	2.31	281	\$1,528,837	-\$804,316
Capital Regional Medical Center	Leon	239,452	6.30%	9.00%	12.70%	\$39,562	89.1%	53.26%	2.34	180	\$2,962,977	\$9,138,532
Cedars Medical Center	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	560	\$33,936,688	\$41,045,699
Central Florida Regional Hospital	Seminole	365,196	6.00%	11.00%	8.50%	\$50,842	88.7%	54.24%	2.59	226	-\$1,359,208	\$2,250,843
Charlotte Regional Medical Center	Charlotte	141,627	3.70%	31.20%	8.10%	\$37,820	82.1%	43.89%	2.18	208	\$6,285,233	\$4,492,441
Circles of Care, Inc.	Brevard	476,230	5.10%	19.90%	9.20%	\$44,248	86.3%	49.13%	2.35	52	-\$235,762	-\$376,289
Citrus Memorial Hospital	Citrus	118,085	3.70%	30.10%	11.20%	\$33,576	78.3%	51.14%	2.20	171	\$3,443,352	-\$36,053
Cleveland Clinic	Collier	251,377	6.40%	24.20%	8.80%	\$48,812	81.8%	48.80%	2.39	70	-\$5,952,664	\$3,414,719
Cleveland Clinic Hospital	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	150	-\$5,434,853	\$8,347,080
Columbia Hospital	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	250	-\$1,495,119	-\$555,141
Community Hospital of New Port Richey	Pasco	344,765	5.40%	21.10%	10.80%	\$38,065	77.6%	44.70%	2.30	401	-\$7,989,931	-\$262,500
Coral Gables Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	273	\$11,772,717	\$8,557,868
Coral Springs Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	200	\$464,879	\$1,484,102
Delray Medical Center	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	343	\$24,452,568	\$32,898,536
Desoto Memorial Hospital, Inc	DeSoto	32,209	6.50%	16.10%	16.70%	\$28,638	63.5%	52.77%	2.70	82	\$1,502,196	\$2,771,085
Devereux Florida Treatment Network	Brevard	476,230	5.10%	19.90%	9.20%	\$44,248	86.3%	49.13%	2.35	100	\$349,011	\$155,972
Doctors Hospital of Sarasota	Sarasota	325,957	4.30%	29.40%	7.60%	\$44,023	87.1%	46.03%	2.13	168	\$2,957,781	\$3,511,054
Doctors Memorial Hospital	Taylor	19,256	5.90%	14.80%	15.90%	\$31,784	70.0%	57.73%	2.51	48	\$410,204	\$1,036,729
Doctors' Memorial Hospital	Holmes	18,564	5.90%	15.90%	17.60%	\$28,694	65.2%	19.12%	2.43	25	-\$239,573	\$126,152
East Pasco Medical Center	Pasco	344,765	5.40%	21.10%	10.80%	\$38,065	77.6%	44.70%	2.30	154	\$1,205,663	\$3,644,965
Eastside Psychiatric Hospital	Franklin	239,452	6.30%	9.00%	12.70%	\$39,562	89.1%	53.26%	2.34	24	-\$145,267	-\$850,471
Edward White Hospital	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	167	-\$1,700,937	-\$158,314
Englewood Community Hospital	Sarasota	325,957	4.30%	29.40%	7.60%	\$44,023	87.1%	46.03%	2.13	100	\$3,399,275	\$163,337
Fawcett Memorial Hospital	Charlotte	141,627	3.70%	31.20%	8.10%	\$37,820	82.1%	43.89%	2.18	238	\$6,272,002	\$5,269,723
Fishermen's Hospital	Monroe	79,589	4.70%	15.30%	9.20%	\$42,195	84.9%	57.38%	2.23	58	\$2,876,092	\$3,000,701
Flagler Hospital	St. Johns	123,135	5.00%	14.50%	7.50%	\$55,712	87.2%	34.30%	2.44	274	\$3,991,147	-\$1,033,683
Florida Hospital - Oceanside	Volusia	443,343	5.10%	20.40%	11.20%	\$37,247	82.0%	52.18%	2.32	324	\$8,775,652	\$7,733,421
Florida Hospital Deland	Volusia	443,343	5.10%	20.40%	11.20%	\$37,247	82.0%	52.18%	2.32	156	\$2,235,856	\$4,499,729

Florida Hospital Fish Memorial	Volusia	443,343	5.10%	20.40%	11.20%	\$37,247	82.0%	52.18%	2.32	97	\$4,421,814	\$4,912,513
Florida Hospital Heartland Medical Center	Highlands	87,366	5.00%	31.10%	13.10%	\$30,343	74.5%	475.26%	2.30	161	\$6,219,913	\$3,027,765
Florida Hospital Orlando	Orange	896,344	7.50%	9.60%	12.60%	\$41,725	81.8%	62.77%	2.61	1,787	\$70,008,240	\$78,614,036
Florida Hospital Waterman	Lake	210,528	5.40%	27.00%	9.50%	\$40,745	79.8%	42.73%	2.34	182	\$8,521,017	\$9,554,788
Florida Hospital Wauchula	Hardee	26,938	8.60%	13.10%	19.50%	\$28,699	58.0%	43.99%	3.06	25	\$927,478	\$275,183
Florida Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	459	\$13,546,149	\$16,142,142
Florida State Hospital	Gadsden	45,087	7.40%	12.70%	15.80%	\$31,070	70.7%	38.55%	2.69	2,007	-\$3,480,349	-\$18,965,946
Ft. Lauderdale Hospital	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	100	N/A	-\$146,915
Ft. Walton Beach Medical Center	Okaloosa	170,498	7.40%	13.10%	9.00%	\$45,424	88.0%	67.55%	2.49	247	\$29,637,114	\$27,944,303
G. Pierce Wood Memorial Hospital	DeSoto	32,209	6.50%	16.10%	16.70%	\$28,638	63.5%	52.77%	2.70	944	-\$28,767,975	-\$18,348,931
Gadsden Community Hospital	Gadsden	45,087	7.40%	12.70%	15.80%	\$31,070	70.7%	38.55%	2.69	37	N/A	\$116,212
George E. Weems Hospital	Franklin	11,057	5.90%	16.70%	13.50%	\$30,678	68.3%	50.00%	2.28	25	-\$421,866	\$413,517
Glades General Hospital	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	73	-\$41,000	\$536,000
Good Samaritan Medical Center	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	341	-\$15,437,870	\$6,530,053
Gulf Coast Hospital	Lee	440,888	5.70%	22.20%	8.90%	\$43,476	82.3%	54.54%	2.31	120	-\$186,616	-\$3,491,400
Gulf Coast Medical Center	Bay	148,217	6.70%	14.00%	11.90%	\$38,972	81.0%	65.50%	2.43	176	\$14,832,911	\$15,996,248
Gulf Coast Treatment Center	Okaloosa	170,498	7.40%	13.10%	9.00%	\$45,424	88.0%	67.55%	2.49	24	\$1,226,943	\$1,466,158
Gulf Pines Hospital	Gulf	13,332	4.60%	16.50%	14.50%	\$32,893	72.6%	30.52%	2.42	45	-\$722,354	N/A
H. Lee Moffitt Cancer Ctr/Rsrch Inst	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	162	\$13,674,303	\$11,081,811
Halifax Community Health System	Volusia	443,343	5.10%	20.40%	11.20%	\$37,247	82.0%	52.18%	2.32	764	\$8,932,695	\$8,228,518
Health Central	Orange	896,344	7.50%	9.60%	12.60%	\$41,725	81.8%	62.77%	2.61	141	\$5,468,980	\$1,850,782
Healthmark Regional Medical Center	Walton	40,601	5.60%	14.70%	11.50%	\$37,350	76.0%	37.71%	2.35	50	\$346,479	\$1,392,780
Healthsouth Doctors' Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	285	-\$6,033,203	N/A
Healthsouth Emerald Coast Rehabilitation Hospital	Bay	148,217	6.70%	14.00%	11.90%	\$38,972	81.0%	65.50%	2.43	40	\$5,871	N/A
Healthsouth Rehabilitation Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	45	\$51,946	N/A
Healthsouth Rehabilitation Hospital	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	70	\$722,713	N/A
Healthsouth Rehabilitation Hospital of Sarasota	Sarasota	325,957	4.30%	29.40%	7.60%	\$44,023	87.1%	46.03%	2.13	70	-\$1,795,880	N/A
Healthsouth Rehabilitation Hospital of Tallahassee	Leon	239,452	6.30%	9.00%	12.70%	\$39,562	89.1%	53.26%	2.34	70	-\$814,790	N/A
Healthsouth Sea Pines Rehab Hospital	Brevard	476,230	5.10%	19.90%	9.20%	\$44,248	86.3%	49.13%	2.35	80	\$3,084,118	N/A
Healthsouth Sunrise Rehabilitation Hospital	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	116	-\$2,275,022	N/A
Healthsouth Treasure Coast Rehabilitation Hospital	Indian River	112,947	5.00%	25.70%	9.20%	\$41,522	81.6%	47.46%	2.25	90	\$675,289	N/A
Heart of Florida Regional Medical Center	Polk	483,924	6.80%	17.20%	13.20%	\$36,339	74.8%	49.40%	2.52	75	\$3,310,931	\$3,508,136



Helen Ellis Memorial Hospital	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	168	-\$3,055,019	-\$9,283,638
Hendry Regional Medical Center	Hendry	36,210	8.50%	10.50%	16.70%	\$32,197	54.2%	59.13%	3.09	66	\$113,766	\$551,600
Hiialeah Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	378	\$4,309,051	\$7,844,117
Highlands Regional Medical Center	Highlands	87,366	5.00%	31.10%	13.10%	\$30,343	74.5%	475.26%	2.30	126	\$734,705	-\$295,477
Hollywood Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	324	\$507,857	\$3,742,083
Hollywood Pavilion	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	46	-\$1,455,242	-\$991,141
Holmes Regional Medical Center	Brevard	476,230	5.10%	19.90%	9.20%	\$44,248	86.3%	49.13%	2.35	528	\$21,178,944	\$26,946,040
Holy Cross Hospital	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	577	\$417,573	-\$4,755,936
Homestead Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	120	-\$3,157,221	-\$799,279
Imperial Point Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	204	-\$3,584,761	\$5,972,920
Indian River Memorial Hospital	Indian River	112,947	5.00%	25.70%	9.20%	\$41,522	81.6%	47.46%	2.25	335	\$1,883,644	-\$7,990,384
Jackson Hospital	Jackson	46,755	5.70%	15.10%	15.70%	\$31,022	69.1%	61.50%	2.44	100	-\$207,388	\$2,676,439
Jackson Memorial Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	1,757	\$176,469	\$4,407,640
Jackson South Community Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	199	-\$3,019,935	N/A
Jay Hospital	Santa Rosa	117,743	6.00%	11.80%	9.60%	\$46,298	85.4%	31.49%	2.63	55	\$1,579	\$881,036
JFK Medical Center	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	387	\$13,887,629	\$17,562,878
Jupiter Medical Center	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	156	\$6,335,228	\$2,241,647
Kendall Medical Center	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	412	\$35,826,598	\$39,943,066
Kindred Hospital Bay Area/St. Petersburg	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	60	\$2,642,108	\$2,267,290
Kindred Hospital Central Tampa	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	102	\$8,351,203	\$2,059,961
Kindred Hospital Ft. Lauderdale	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	64	\$16,774,168	\$1,849,676
Kindred Hospital Hollywood	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	124	\$773,990	\$1,993,079
Kindred Hospital North Florida	Clay	140,814	6.30%	10.00%	7.10%	\$53,201	86.4%	48.51%	2.77	60	\$7,109,635	\$1,997,088
Kindred Hospital South Florida/Coral Gables	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	53	\$96,116	\$441,277
Kindred Hospital Tampa	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	73	\$13,136,656	\$3,257,387
La Amistad Residential Treatment Center	Orange	896,344	7.50%	9.60%	12.60%	\$41,725	81.8%	62.77%	2.61	40	\$187,481	\$535,120
Lake Butler Hospital/Hand Surgery Center	Union	13,442	5.00%	8.00%	18.20%	\$33,821	72.5%	16.86%	2.76	25	-\$121,660	\$345,573
Lake City Medical Center	Columbia	56,513	6.40%	14.20%	14.10%	\$32,455	74.7%	67.79%	2.56	87	-\$5,225,489	-\$4,714,430
Lakeland Regional Medical Center	Polk	483,924	6.80%	17.20%	13.20%	\$36,339	74.8%	49.40%	2.52	851	\$13,673,224	\$7,275,448
Lakeside Alternatives	Orange	896,344	7.50%	9.60%	12.60%	\$41,725	81.8%	62.77%	2.61	24	N/A	-\$1,476,682
Largo Medical Center	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	256	\$7,170,375	\$13,078,666
Larkin Community Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	122	-\$2,729,297	\$1,987,216
Lawnwood Regional Medical Center	St. Lucie	192,695	5.90%	19.90%	11.30%	\$39,377	77.7%	48.89%	2.47	345	\$2,410,414	\$2,250,995
Lee Memorial Health System	Lee	440,888	5.70%	22.20%	8.90%	\$43,476	82.3%	54.54%	2.31	665	\$15,725,877	\$17,754,275

Leesburg Regional Medical Center	Lake	210,528	5.40%	27.00%	9.50%	\$40,745	79.8%	42.73%	2.34	294	\$15,846,011	\$7,802,663
Lehigh Regional Medical Center	Lee	440,888	5.70%	22.20%	8.90%	\$43,476	82.3%	54.54%	2.31	88	-\$5,363,747	-\$1,207,614
Lifestream Behavioral Center	Lake	210,528	5.40%	27.00%	9.50%	\$40,745	79.8%	42.73%	2.34	40	\$106,467	\$392,526
Lower Keys Medical Center - DePoo	Monroe	79,589	4.70%	15.30%	9.20%	\$42,195	84.9%	57.38%	2.23	167	\$6,330,092	\$7,659,716
Madison County Memorial Hospital	Madison	18,733	5.90%	15.00%	17.70%	\$28,230	67.5%	32.74%	2.57	42	\$309,977	\$479,370
Manatee Glens Hospital	Manatee	264,002	5.90%	22.10%	9.70%	\$41,419	81.4%	43.10%	2.29	27	-\$117,624	-\$18,936
Manatee Memorial Hospital	Manatee	264,002	5.90%	22.10%	9.70%	\$41,419	81.4%	43.10%	2.29	491	\$9,111,706	\$13,003,441
Manatee Palms Youth Services	Manatee	264,002	5.90%	22.10%	9.70%	\$41,419	81.4%	43.10%	2.29	60	\$488,941	\$1,289,507
Mariners Hospital	Monroe	79,589	4.70%	15.30%	9.20%	\$42,195	84.9%	57.38%	2.23	42	\$5,517,452	\$4,811,830
Martin Memorial Medical Center	Martin	126,731	4.70%	26.10%	8.10%	\$45,341	85.3%	49.27%	2.23	336	\$6,422,623	\$4,739,401
Mease Hospitals	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	378	\$17,399,961	\$12,106,516
Memorial Hospital - Flagler	Flagler	49,832	4.30%	24.10%	7.80%	\$45,374	85.9%	27.11%	2.32	81	\$3,315,758	\$5,169,816
Memorial Hospital Jacksonville	Duval	788,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	353	\$30,969,478	\$31,855,513
Memorial Hospital of Tampa	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	174	-\$1,944,898	-\$19,585,074
Memorial Hospital Pembroke	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	301	\$4,053,422	\$4,292,618
Memorial Hospital West	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	220	\$18,857,514	\$22,262,035
Memorial Regional Hospital	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	684	\$14,322,330	\$20,567,991
Mercy Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	512	-\$11,353,334	\$9,130,287
Miami Children's Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	268	\$1,746,368	-\$3,740,287
Miami Jewish Home and Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	32	-\$900,545	-\$1,023,461
Morton Plant Hospital	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	687	\$27,864,191	\$29,400,649
Morton Plant North Bay Medical Center	Pasco	344,765	5.40%	21.10%	10.80%	\$38,065	77.6%	44.70%	2.30	122	-\$395,691	-\$840,220
Mount Sinai Medical Center	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	959	-\$36,908,275	-\$23,882,755
Munroe Regional Medical Center	Marion	258,916	5.30%	23.70%	12.20%	\$34,948	78.2%	58.81%	2.36	323	\$15,052,132	\$9,736,899
Naples Community Hospital, Inc.	Collier	251,377	6.40%	24.20%	8.80%	\$48,812	81.8%	48.80%	2.39	506	\$15,597,431	\$6,065,919
Nature Coast Regional Health Network	Levy	34,450	5.60%	17.80%	15.00%	\$29,314	73.9%	50.98%	2.44	40	\$449,651	\$509,258
North Broward Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	409	\$597,247	-\$4,850,181
North Florida Reception Ctr Hospital	Union	13,442	5.00%	8.00%	18.20%	\$33,821	72.5%	16.86%	2.76	153	\$5	\$0
North Florida Regional Medical Center	Alachua	217,955	5.70%	10.40%	14.50%	\$34,696	88.1%	58.06%	2.34	278	\$25,665,198	\$31,283,352
North Okaloosa Medical Center	Okaloosa	170,498	7.40%	13.10%	9.00%	\$45,424	88.0%	67.55%	2.49	110	\$5,724,259	\$5,464,417
North Ridge Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	332	\$13,036,487	\$19,025,062
North Shore Medical Center	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	357	\$2,570,865	\$3,692,327
Northeast Florida State Hospital	Baker	22,259	7.50%	10.00%	12.70%	\$41,589	71.9%	36.82%	2.86	1,138	\$3,127,024	\$5,429,544
Northside Hospital & Heart Institute	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	288	\$1,554,781	\$4,731,493

Northwest Florida Community Hospital	Washington	20,973	5.40%	14.40%	15.50%	\$30,138	71.2%	37.66%	2.46	81	-\$640,623	-\$1,359,343
Northwest Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	175	-\$5,600,842	-\$2,498,306
Oak Hill Hospital	Hernando	130,802	4.70%	25.80%	10.60%	\$35,577	78.5%	42.08%	2.32	204	\$8,251,783	\$9,746,320
Oakwood Center of the Palm Beaches	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	44	\$175,314	-\$389,680
Ocala Regional Medical Center	Marion	258,916	5.30%	23.70%	12.20%	\$34,948	78.2%	58.81%	2.36	270	\$5,631,360	\$9,037,561
Orange Park Medical Center	Clay	140,814	6.30%	10.00%	7.10%	\$53,201	86.4%	48.51%	2.77	219	\$14,659,616	\$22,643,278
Orlando Regional Healthcare System	Orange	896,344	7.50%	9.60%	12.60%	\$41,725	81.8%	62.77%	2.61	1,508	\$37,074,311	\$20,375,212
Osceola Regional Medical Center	Osceola	172,493	7.20%	11.30%	12.20%	\$39,770	81.8%	62.77%	2.61	171	\$373,423	\$3,300,380
Palm Beach Gardens Medical Ctr.	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	204	\$18,481,891	\$16,935,682
Palm Springs General Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	247	\$7,063,182	\$8,745,466
Palmetto General Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	360	\$27,043,123	\$28,193,531
Palms of Pasadena Hospital	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	307	\$2,114,514	\$6,733,793
Palms West Hospital	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	140	\$13,953,811	\$14,174,053
Pan American Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	146	-\$42,511,046	-\$33,859,133
Parkway Regional Medical Center	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	382	\$6,091,778	\$9,780,370
Parrish Medical Center	Brevard	476,230	5.10%	19.90%	9.20%	\$44,248	86.3%	49.13%	2.35	210	\$15,740,913	\$12,498,623
Pasco Regional Medical Center	Pasco	344,765	5.40%	21.10%	10.80%	\$38,065	77.6%	44.70%	2.30	120	-\$1,024,414	-\$565,285
Pinecrest Rehab. Hospital at Delray	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	90	\$2,526,745	\$3,951,125
Plantation General Hospital	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	264	-\$5,609,949	-\$7,648,828
Putnam Medical Center	Putnam	70,423	6.50%	18.40%	17.30%	\$30,098	70.4%	44.86%	2.48	141	-\$3,931,940	-\$1,928,813
Raulerson Hospital	Okeechobee	35,910	7.40%	16.00%	13.70%	\$31,332	65.1%	62.40%	2.69	101	\$3,397,606	\$5,178,233
Regional Medical Center Bayonet Point	Pasco	344,765	5.40%	21.10%	10.80%	\$38,065	77.6%	44.70%	2.30	290	\$15,765,868	\$20,680,677
Sandypines Hospital	Martin	126,731	4.70%	26.10%	8.10%	\$45,341	85.3%	49.27%	2.23	64	\$237,102	\$362,188
Santa Rosa Medical Center	Santa Rosa	117,743	6.00%	11.80%	9.60%	\$46,298	85.4%	31.49%	2.63	129	\$1,229,374	\$360,539
Sarasota Memorial Hospital	Sarasota	325,957	4.30%	29.40%	7.60%	\$44,023	87.1%	46.03%	2.13	828	\$32,292,522	\$43,100,446
Savannas Hospital	St. Lucie	192,695	5.90%	19.90%	11.30%	\$39,377	77.7%	48.89%	2.47	75	-\$1,131,488	-\$1,745,135
Sebastian River Medical Center	Indian River	112,947	5.00%	25.70%	9.20%	\$41,522	81.6%	47.46%	2.25	117	\$1,874,776	\$1,722,626
Seven Rivers Community Hospital	Citrus	118,085	3.70%	30.10%	11.20%	\$33,576	78.3%	51.14%	2.20	128	\$4,696,057	\$6,657,739
Shands at Lake Shore	Columbia	56,513	6.40%	14.20%	14.10%	\$32,455	74.7%	67.79%	2.56	99	-\$1,275,795	-\$787,126
Shands at Live Oak	Suwannee	34,844	6.50%	17.70%	15.30%	\$31,744	73.2%	50.91%	2.54	15	-\$1,254,960	\$1,136,061
Shands at Starke	Bradford	26,088	5.60%	12.90%	14.80%	\$34,104	74.2%	38.84%	2.58	49	-\$134,840	-\$341,841
Shands at The University of Florida	Alachua	217,955	5.70%	10.40%	14.50%	\$34,696	88.1%	58.06%	2.34	1,058	\$30,129,281	\$28,462,582
Shands Jacksonville Medical Center	Duval	778,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	760	-\$12,062,214	\$1,950,518
South Bay Hospital	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	112	-\$2,353,299	\$648,260

South Florida Baptist Hospital	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	147	\$246,449	-\$109,535
South Florida State Hospital	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	350	-\$21,038,040	-\$25,617,632
South Lake Hospital	Lake	210,528	5.40%	27.00%	9.50%	\$40,745	79.8%	42.73%	2.34	68	\$501,853	\$1,273,103
South Miami Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	445	\$29,071,244	\$33,335,378
South Shore Hospital/Medical Ctr.	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	196	-\$9,976,970	\$89,592
Southwest Florida Regional Medical Center	Lee	440,888	5.70%	22.20%	8.90%	\$43,476	82.3%	54.54%	2.31	400	\$13,838,136	\$15,667,062
Specialty Hospital of Jacksonville	Duval	778,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	107	\$1,557,389	-\$402,086
Springbrook Hospital	Hernando	130,802	4.70%	25.80%	10.60%	\$35,577	78.5%	42.08%	2.32	50	\$18,600	-\$836,335
St. Anthony's Hospital, Inc.	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	405	-\$3,164,875	-\$1,674,688
St. Catherine's Rehabilitation Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	60	\$622,838	-\$209,360
St. John's Rehabilitation & Hlthcare Cen	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	20	\$194,962	\$961,412
St. Joseph's Hospital, Inc.	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	883	\$29,289,603	\$36,131,863
St. Lucie Medical Center	St. Lucie	192,695	5.90%	19.90%	11.30%	\$39,377	77.7%	48.89%	2.47	194	\$8,671,724	\$12,776,551
St. Luke's Hospital	Duval	778,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	289	\$10,802,627	-\$4,094,339
St. Mary's Medical Center	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	460	-\$17,445,978	\$8,039,451
St. Petersburg General Hospital	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	219	\$2,981,872	\$3,830,135
St. Vincent's Medical Center	Duval	778,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	528	\$20,565,025	\$15,838,579
Sun Coast Healthcare	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	300	-\$1,579,089	-\$2,465,304
Sunland Marianna Cox Medical Svc. Ctr.	Jackson	46,755	5.70%	15.10%	15.70%	\$31,022	69.1%	61.50%	2.44	15	-\$1,377,319	-\$1,595,499
Tacachale Hospital/Retarded Ctr.	Alachua	217,955	5.70%	10.40%	14.50%	\$34,696	88.1%	58.06%	2.34	17	\$0	\$733,185
Tallahassee Memorial Hospital	Leon	239,452	6.30%	9.00%	12.70%	\$39,562	89.1%	53.26%	2.34	770	-\$16,245,794	-\$1,853,198
Tampa General Hospital	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	877	\$10,777,470	\$56,202,423
Ten Broeck Hospital Jacksonville	Duval	778,879	7.60%	10.40%	11.70%	\$41,736	82.7%	61.19%	2.51	99	N/A	\$725,531
The Willough Healthcare System	Collier	251,377	6.40%	24.20%	8.80%	\$48,812	81.8%	48.80%	2.39	42	\$100,786	-\$1,914,488
Town & Country Hospital	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	201	-\$2,955,520	\$653,159
Trinity Community Hospital	Hamilton	13,327	6.30%	11.30%	20.90%	\$26,411	62.9%	36.67%	2.60	42	\$141,616	-\$195,140
Twin Cities Hospital	Okaloosa	170,498	7.40%	13.10%	9.00%	\$45,424	88.0%	67.55%	2.49	65	\$2,101,749	\$4,598,087
University Behavioral Center	Orange	896,344	7.50%	9.60%	12.60%	\$41,725	81.8%	62.77%	2.61	70	\$214,605	\$528,418
University Community Hospital	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	431	\$10,183,773	-\$10,688,000
University Community Hospital at Carrollwood	Hillsborough	998,948	7.10%	11.50%	11.80%	\$44,850	80.8%	60.66%	2.51	120	-\$74,183	-\$1,003,504
University Hospital & Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	317	\$12,935,864	\$10,469,282
University of Miami Hospital/Clinics	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	40	\$14,146,307	\$16,867,964
Wellington Regional Medical Center	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	120	\$2,013,063	\$2,056,661
West Boca Medical Center	Palm Beach	1,131,184	6.00%	21.30%	10.10%	\$44,186	83.6%	48.19%	2.34	185	\$8,031,933	\$9,773,631

West Florida Community Care Ctr.	Santa Rosa	117,743	6.00%	11.80%	9.60%	\$46,298	85.4%	31.49%	2.63	100	\$162,448	-\$172,706
West Gables Rehabilitation Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	60	-\$610,459	\$3,606,408
Westchester General Hospital	Miami-Dade	2,253,362	6.80%	14.20%	17.10%	\$34,682	67.9%	57.39%	2.84	172	\$1,604,212	\$2,481,307
Westside Regional Medical Center	Broward	1,623,018	6.60%	14.00%	11.60%	\$43,136	82.0%	55.75%	2.45	204	\$15,535,570	\$16,383,413
Windmoor Healthcare	Pinellas	921,482	5.10%	20.80%	11.10%	\$38,547	84.0%	55.40%	2.17	163	-\$637,194	-\$990,438
Winter Haven Hospital	Polk	483,924	6.80%	17.20%	13.20%	\$36,339	74.8%	49.40%	2.52	681	-\$2,144,228	-\$1,021,975
Wuesthoff Health Systems, Inc.	Brevard	476,230	5.10%	19.90%	9.20%	\$44,248	86.3%	49.13%	2.35	295	\$5,692,323	\$5,847,523

## Appendix D: Regression Analysis

### First Regression

Predictor	Coef	SE Coef	T	P
Constant	-2773029823	1617765168	-1.71	0.088
2000 County Pop	81.72	44.46	1.84	0.067
Persons under 5 years old (Perc	8984833925	4215686354	2.13	0.034
Persons 65 and Older (Percent)	1088090306	956421691	1.14	0.257
Person below Poverty (Percent)	1462758945	3460221295	0.42	0.673
Median Household Income2004	-8630	14382	-0.60	0.549
Percent of High School Graduate	2437198740	996764825	2.45	0.015
Ratio of retail sales over inco	3349426	56522012	0.06	0.953
Number of Persons per household	194015864	283822530	0.68	0.495

S = 320510447    R-Sq = 10.3%    R-Sq(adj) = 7.0%

#### Analysis of Variance

Source	DF	SS	MS	F	P
Regression	8	2.56462E+18	3.20577E+17	3.12	0.002
Residual Error	217	2.22917E+19	1.02727E+17		
Total	225	2.48564E+19			

### Regression Without Outliers

Predictor	Coef	SE Coef	T	P
Constant	-663284473	249231383	-2.66	0.008
2000 County Pop	84.16	23.71	3.55	0.000
Persons under 5 years old (Perc	1996377384	1883115626	1.06	0.290
Percent of High School Graduate	908047796	245083384	3.71	0.000

S = 234971499    R-Sq = 10.2%    R-Sq(adj) = 8.9%

#### Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	1.36644E+18	4.55480E+17	8.25	0.000
Residual Error	219	1.20913E+19	5.52116E+16		
Total	222	1.34578E+19			

### Final Regression

## Final Regression

Predictor	Coef	SE Coef	T	P
Constant	-945036064	335019803	-2.82	0.005
2000 County Pop	90.82	32.01	2.84	0.005
Persons under 5 years old (Perc	5420523822	2523586428	2.15	0.033
Percent of High School Graduate	1025515003	330913550	3.10	0.002

S = 319257580    R-Sq = 9.0%    R-Sq(adj) = 7.7%

## Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	2.22893E+18	7.42975E+17	7.29	0.000
Residual Error	222	2.26274E+19	1.01925E+17		
Total	225	2.48564E+19			