# Google Company Analysis

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**Executive Summary**

Google's mission is to organize the world's information and make it universally accessible and useful. From the beginning, Google had a lofty goal, but as time has passed, Google has without a doubt shown its potential. Leading the search engine industry in market share, Google is one of the largest and fastest growing technology companies in the world. Driven by advertising revenues, Google has gained success by providing relevant search results while also offering advertisements which are related to the content of each specific web page. Additionally, Google offers a variety of free services and products, ranging from a myriad of free search services, to Google Maps, to services available for mobile phones. Because these services draw millions of users to Google's websites every day, advertising revenues provide a steady stream of income.

Google has posted significant growth rates over the past five years, resulting in a stock price of more than $500. While the market values Google's stock at $504.77 as of June 12th, predicted valuation based on free cash flows shows that it is slightly overvalued by less than 0.3%. Despite lofty predictions and great potential for the future, Google's stock price should only be valued at $503.32, which is based on free cash flow estimates. This report may represent a conservative estimate, as Crystal Ball analysis shows that given specific assumptions, Google's stock price could range from under $100, to more than $30,000 per share. Overall, Google has tremendous potential as a company, while constant innovation may prove to be the cornerstone of Google's continued success in the future.

**Company Overview**

In the beginning, Google was nothing more than a research project developed by two Stanford graduate students. In 1996, Sergey Brin and Larry Page had developed a search engine with a unique method of ranking search results. As the need for a relevant search engine on the internet became clearer and clearer, Brin and Page registered the Google.com domain in 1997 and officially formed Google, Inc. on September 7, 1998. Google had an advantage over other search engines at the time because their search results were ranked in a relevant manner; based on the number of sites linking to each specific page. Because of the high quality search results and their simple approach to searching, Google's popularity has grown substantially over time. Along with their growth in popularity, Google has grown to employ more than 10,000 people worldwide, while also being ranked as the best company to work for by Fortune Magazine. The term 'google' was derived from a misspelling of the word 'googol,' which refers to $10^{100}$, and the name stuck. Also, due to the popularity of the world 'google,' Merriam-Webster added the term to their dictionary defining google as "to use the Google search engine to obtain information on the Internet." As 'googling' things became more commonplace, Google's revenues grew tremendously through the use of advertisements. Although Google's advertising revenues have risen every year in the past five years, Google went public on August 19, 2004, offering 19,605,052 shares at $85 per share. Since then, Google's stock price has ascended to more than $500 in early 2007. While Google's initial market capitalization was roughly $1.7 billion, that figure has ballooned to more than $157 billion in subsequent years. In addition, Google has made many acquisitions to allow for continued innovation.

While Google has acquired more than 30 companies since its inception, a few important ones stick out. In 2003, the acquisition of Applied Semantics, Inc further developed their advertising campaign, allowing for advertisements relevant to the context of each page. In early 2006, Writely, a web-based word processing firm, was acquired, which laid the ground work for Google Docs to be released. In late 2006, Google outbid other competitors to acquire Youtube for $1.65 billion. The Youtube acquisition is interesting because since then, both the website and the company of the popular video site have remained unchanged, almost remaining a completely separate entity. In early

2007, Google acquired DoubleClick, a large advertising competitor for $3.1 billion. Since then, anti-trust issues have arisen and there has not been much development as a result. Around the same time, Google acquired Tonic Systems, which is used for adapting Microsoft PowerPoint files into html and PDF documents. This is significant because, when paired with web-based document and spreadsheet software, Google will be actively competing with Microsoft Office. Since then, a few other acquisitions have been made, but they mostly have been for internal company use, including video conferencing, graphics optimization, and security software.

**Products and Services**

The majority of Google's products are in the form of free software, although there are a few exceptions. These software products are the basis for Google's end-user services. These services earn Google a huge daily audience, attracting advertisers.

Google's revenues come mainly from their advertising services, AdWords and AdSense, representing 99% of revenues. Google AdWords are designed to display advertisements relevant to the context of each specific web page. Companies pay Google to place AdWords on the sites of Google and its affiliates. On the other hand, Google pays publishers to embed AdSense into their sites. AdSense and AdWords both contain the same advertisements, but publishers who use AdSense get paid when users click on advertisements, while AdWords users pay Google to include their ads on its pages. Google also offers two pieces of hardware; the Google mini and the Google Search Appliance. The Google mini is designed for small companies, while the Google Search Appliance is tailored to medium and large businesses. Both are rented to companies to facilitate searches within the company intranet, or for commercial use on their websites.

Google offers a variety of free products and services. The free products Google offers include Gmail, Google Docs & Spreadsheets, Google Desktop, Google Toolbar, Picasa, Google Analytics, Google Maps, Google Earth, Google Finance, Google Checkout, Google for mobile phones, Youtube, and a variety of search related services. Gmail is a free web-based e-mail client, Google Docs & Spreadsheets include free word processing and spreadsheet software for online and offline use, and Google Desktop is used for local searches on users' home computers. Google Maps now have the capacity to show actual satellite images via Google Earth, while it also shows current traffic conditions. In addition, Google has recently added a service called Google Street View, which allows for virtual tours of entire cities. Google SMS allows for users to send text messages to 466453 (GOOGLE) with queries from their phones searching for topics ranging from weather, sports, or local listings, to driving directions and even flight status updates. Google facilitates most of these free services with advertisements, while many products are still in beta versions. In addition, Google is always developing new and innovative programs through Google Labs. One of the most interesting projects from Google Labs is Google Gears, which essentially allows for offline access to a variety of online files and pages. This project is very important because it may one day rival Microsoft's Windows operating system.

**Competition**

While Google accounts for nearly 50% of the market share of all searches on the internet, it has a few main competitors. Yahoo is the biggest competitor by far, at around 28.5% but Microsoft isn't too far behind with 10%, while other competitors include Ask.com and AOL, which both hold around 5% market share. Because of the variety of Google's products and services offered, it is hard to target one main competitor. Yahoo is the most comparable firm because they provide a variety of similar services, such as search, advertising, e-mail, maps, and the Yahoo toolbar, but they do not compete in many of Google's other respects. Microsoft on the other hand offers search, a few online services, but their focus has mainly been on software and operating systems. Google has recently grown into competition with Microsoft through Google Docs & Spreadsheets, along with development of presentation software and a product which may eventually compete with Microsoft Windows, Google Gears. Furthermore, through internal development and acquisitions, Google will most likely expand the products and services it offers to compete in completely different markets, not just software, and web-based services.

**Financial Analysis**

Google is growing at an alarming rate. As shown in **Exhibit 1**, Google's net income has grown from $100 million in 2002, to $3.077 billion in 2006. Google's common size analysis, **Exhibit 2**, shows that their net income has fluctuated slightly, but increased overall from 22.67% of sales in 2002 to 29.02% of sales in 2006. Also, cost of goods sold has maintained a level of around 40% of sales, while selling, general, and administrative costs have fluctuated around a level of 26% of sales. Earnings before interest and taxes have maintained levels of roughly 33-35% of sales, with the exception of 2003, which was due to increased SG&A costs. The common size chart shows that cost of goods sold and selling, general, and administrative costs fluctuated slightly in 2003 and 2004, but have started to level off in recent years. Google's common base analysis, **Exhibit 3**, shows that their sales have grown by 2,412% from 2002 to 2006, while net income has increased by more than that, at a rate of 3,088% over the five year period. Breaking growth down by year, **Exhibit 4** shows that Google's sales grew by 233% in 2003, 117% in 2004, 92% in 2005, and 72% in 2006. This downward trend in growth is not perfectly correlated with net income growth because of the increases in economies of scale as Google matures as a company. Google's historical balance sheet, as shown in **Exhibit 5**, shows that Google has a tremendous amount of excess cash, represented by significant balances in short term investments. Furthermore, Google does not have any short term or long term debt, but their IPO is reflected by the increase in capital surplus in 2004. Furthermore, Google's capital surplus continued to increase as the share price increased along with the number of shares outstanding. Also, because Google is a service-oriented company, there is no inventory on hand. Google's ratio analysis, **Exhibit 6**, shows that their sales per day have increased from 1.20 in 2002 to 29.05 in 2006. Google has had over 100 days of cash on hand in three of the past five years, which does not include short-term investments. This means that Google has more money than they know what to do with, which accounts for many of the significant acquisitions recently made. **Exhibit 7** shows that Google's gross profit margin has fluctuated in the past five years, but it has increased in each of the past three years, to 60.2% in 2006. In addition, Google's return on equity shows a similar trend, increasing in the past three years after a steep decline in the first two. Overall, Google has posted outstanding growth figures in the past five years.

**Projections**

Google has substantial growth remaining for future years. The projected income statement, **Exhibit 8**, shows that in the next three years, Google's sales will increase to $16.532 billion in 2007, $25.726 billion in 2008, and $39.791 billion in 2009. Beyond that, in 2016, their sales are projected to be at $155.388 billion, reaching $253.398 billion in 2026. These sales figures use growth rates determined by a logistic growth function, shown in **Exhibit 9**. Furthermore, using a trend function for cost of goods sold and selling, general, and administrative costs yielded accurate projections because, it takes fixed and variable costs into account. No information is known about non-operating income and interest expense in the future, so the projections show no change. Also, a 35% tax rate is assumed, based on previous income tax figures. The logistic growth function in **Exhibit 9** assumes that 20% of Google's supernormal growth remains, as well as an initial growth rate of 56%, a perpetual growth rate of 5% and 7 years until supernormal growth dissipates. The resulting graph shows the gradual decrease in sales growth, leveling off at 5%, roughly 12 years into the future. The projected common size analysis, **Exhibit 10**, shows that over the next 20 years, cost of goods sold maintains a level of roughly 40% of sales, while SG&A expenses equate to roughly 26% of sales, and net income maintains a level of slightly more than 22% of sales. **Exhibit 11** shows the projected balance sheet, which includes a number of assumptions. A 70 day cash and equivalent balance is assumed, while 45.5 days of receivables, 61 days of other current assets, and a 4.43 turnover rate of net property and equipment per year are assumed as well. Furthermore, 18.24 days of accounts payable, 127.42 days of accrued expenses and 13.56 days of other current liabilities are assumed on the liability side of the balance sheet. These assumptions continue trends in the activity ratios based on historic balance sheet data. The balance sheet shows that Google is expected to have excess cash, which is shown as short term investments, amounting to $9.516 billion in 2007, $9.174 billion in 2008, and $8.494 billion in 2009. Also, retained earnings continue to grow as net income maintains a positive value, while all other items on the balance sheet remain unchanged. **Exhibit 12** shows that the activity ratios assumed in the balance sheet are maintained over a 20 year span. Also, Google's gross profit margin is expected to stay at a level of roughly 60% over the next 20 years. Furthermore, the profit ratios show that in

2026, Google is expected to have a return on assets of only 8.6%, and a return on equity of 9.0%, significant decreases from current figures.

**Company Valuation**

Google's market value is very close to the predicted valuation determined in this report. Google's valuation is determined by their projected free cash flows, which are expected to be positive for the next 20 years. These free cash flows are displayed in **Exhibit 13**, starting at $2.373 billion in 2007, and ending at $50.264 billion in 20 years. The projected free cash flows for 2026 are used for the continuing free cash flows value in the calculation Google's valuation. **Exhibit 14** shows that Google's stock should be valued at $502.32, according to the present value of free cash flows. As of June 12th, 2007, Google's stock closed at $504.77, which shows that the market has overvalued their stock by $1.45, which is less than 0.3% of its current price. This shows that although Google has potential growth for the future, its market price of slightly over $500 accurately reflects the value of the company. This exhibit also shows the assumptions used to value Google's shares. Google's beta was calculated using weekly returns, starting the week of their IPO on August 19th, 2004, and ending on June 8, 2007. These returns were compared to the S&P 500's returns, resulting in an unadjusted beta of 1.293, with a standard error of 0.290. Although the standard error of Google's beta is slightly high because it only went public three years ago, the industry beta, which is the average of Microsoft and Yahoo's adjusted betas, is only slightly higher than Google's adjusted beta of 1.20. Because the two beta values are so close, and despite the high standard error, this report assumes a beta value of 1.20 for Google. This beta, paired with a risk free rate of 5.24%, the current t-bill rate, and a market risk premium of 7%, results in a CAPM required rate of return of 13.61%. The CAPM rate is input into the weighted average cost of capital equation, and because Google has no debt, the weighted average cost of capital is equivalent to the CAPM value of 13.61%. As a result, the present value of free cash flows discounted at the weighted average cost of capital is $109.075 billion for the next 20 years, while the present value of continuing free cash flows amounts to $47.734 billion. These present values result in a common equity value of $156.809 billion, which, when divided by the 311.55 million shares outstanding results in a value per share of $503.32. Crystal Ball analysis of Google's stock price, **Exhibit 15**, shows that their share price may vary greatly. The minimum value of the share price was $89.35, while the maximum was $33,495.01 per share. Also, the mean price in 5000 trials was $719.65, while the median share price was $476.85. **Exhibit 16** shows the assumptions and the associated standard deviation used for this Crystal Ball analysis. Due to the high uncertainty of Google's future, a significant standard deviation of two was used for lambda, the number of years until supernatural growth ceases. Overall, Google's share price is currently appropriately valued, only $1.45 overvalued as compared to the valuation from this analysis.

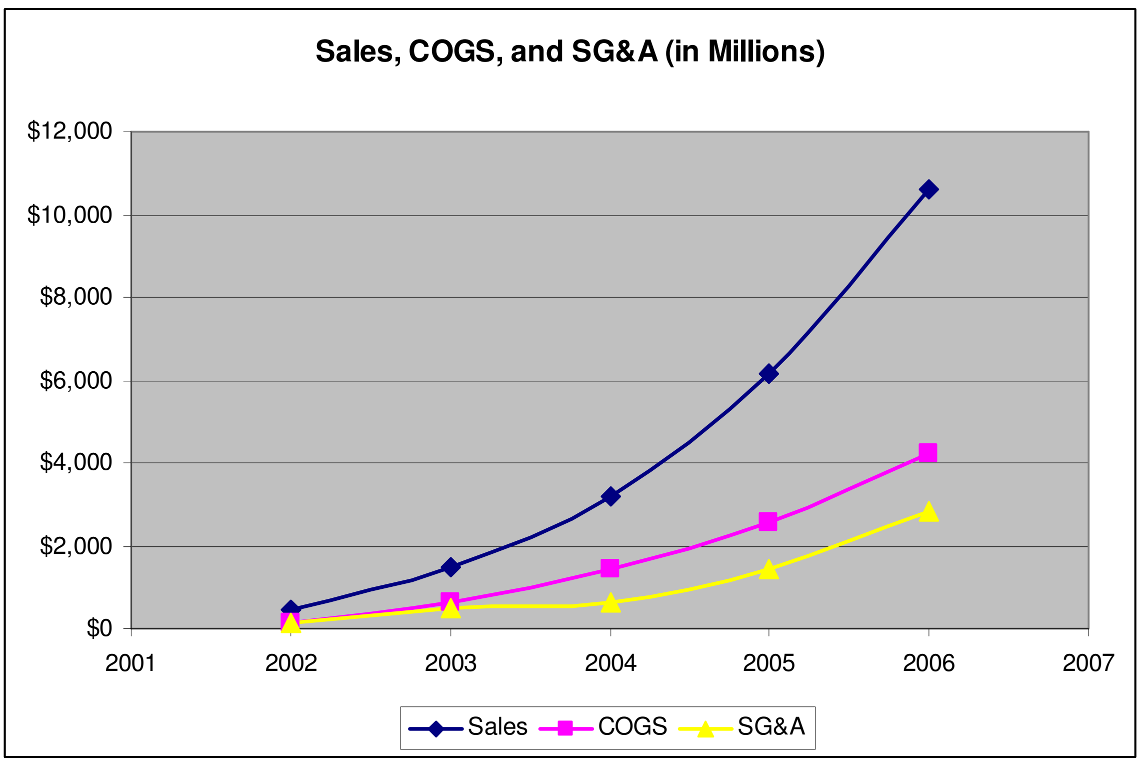
**Summary**

Google is an innovative internet firm which started as a simple research project. Through years of growth and innovation, Google has evolved into an internet-based powerhouse, rivaling that of Microsoft and Yahoo. Partly because of their relevant search results, and also partly because of their simple and user-friendly approach to searching, Google has grown to be the most frequently used search engine in the world. Google maintains its competitive market position by continually developing new services and technologies, while also acquiring other small firms with great potential. Google earns 99% of its revenues through advertising, which are unique because the ads displayed on a page are relevant to the content of that specific page. Additionally, funded by advertisements, Google is able to offer a number of free services, which range from free web-based e-mail to maps to mobile services for cell phones. These services attract end-user attention, which is the basis for advertising revenue.

As Google has continued to grow, their stock price has continually risen, eclipsing the $500 mark in early 2007. More recently however, despite reaching an all time high, Google's stock has dropped slightly to a market price of $504.77. This market price is overvalued by only $1.45, based on forecasts of free cash flows, which resulted in a predicted share price of $503.32. The future for Google holds great uncertainty, as growth is still high, but slowly decreasing, while at the same time, new products continue to be brought to market. The future may hold unmatched success as Google provides free web-based services to billions of users around the world, while also branching slowly into new and unexpected markets.  Alternatively, Google could also fail like so many technology firms which came before it.  However, only time will tell.

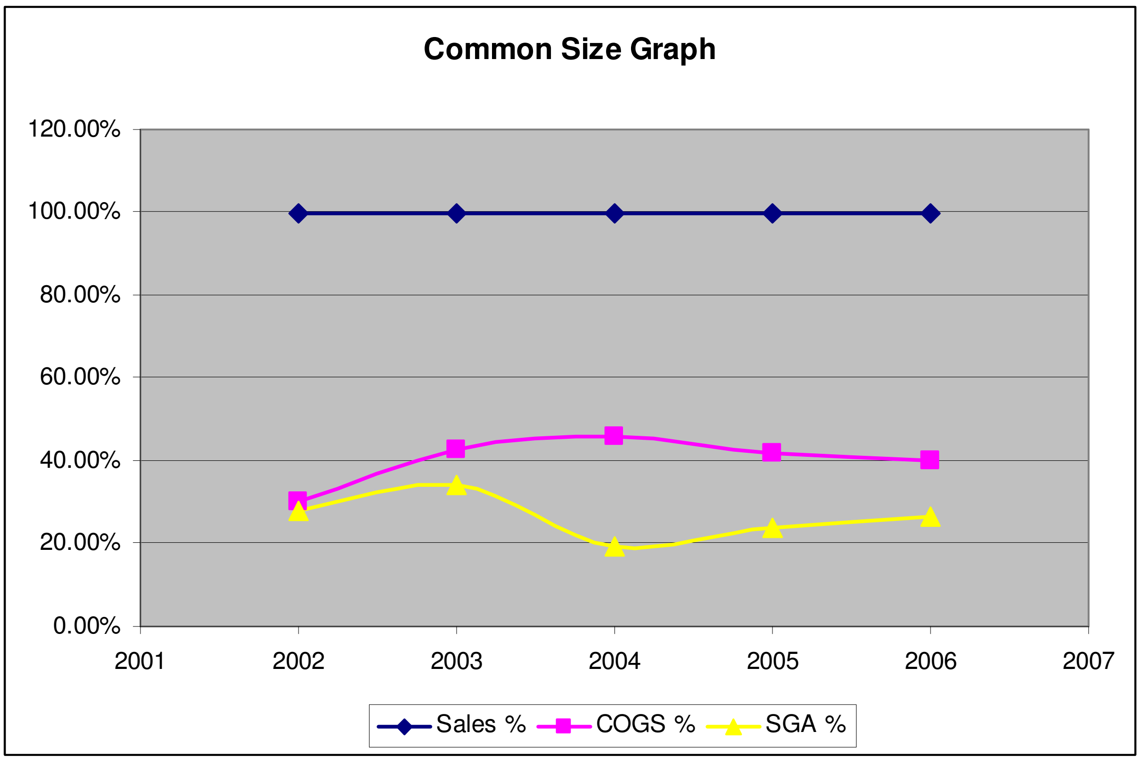
## Exhibit 1 – Historical Income Statement

| Annual Income Statement ($ in Millions) | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| Sales | $440 | $1,466 | $3,189 | $6,139 | $10,605 |
| Cost Of Goods | 132 | 626 | 1,458 | 2,572 | 4,225 |
| Gross Profit | $308 | $840 | $1,732 | $3,567 | $6,380 |
| Selling & Adminstrative & Depr. & Amort Expenses | 122 | 498 | 612 | 1,460 | 2,830 |
| Income After Depreciation & Amortization (EBIT) | $186 | $342 | $1,120 | $2,107 | $3,550 |
| Non-Operating Income | 0 | 4 | -470 | 34 | 461 |
| Interest Expense | 2 | 0 | 0 | 0 | 0 |
| Pretax Income (EBT) | $185 | $347 | $650 | $2,142 | $4,011 |
| Income Taxes | 85 | 241 | 251 | 676 | 934 |
| Net Income | $100 | $106 | $399 | $1,465 | $3,077 |
| | | | | | |
| **Depreciation Footnote** | | | | | |
| Income Before Depreciation & Amortization | 215 | 398 | 2,401 | 2,401 | 4,122 |
| Depreciation & Amortization (Cash Flow) | 29 | 55 | 148 | 294 | 572 |
| Income After Depreciation & Amortization | $186 | $342 | $1,120 | $2,107 | $3,550 |
| | | | | | |
| **Earnings Per Share Data (EPS not in millions)** | | | | | |
| Average Shares | 0.00 | 0.00 | 272.78 | 291.87 | 309.55 |
| Diluted EPS Before Non-Recurring Items | 0.00 | 0.00 | 2.75 | 5.21 | 9.78 |
| Diluted Net EPS | 0.00 | 0.00 | 1.46 | 5.02 | 9.94 |



## Exhibit 2 – Common Size Analysis

| Common Size Income Statement | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| Sales | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Cost Of Goods Sold | 29.92% | 42.69% | 45.71% | 41.89% | 39.84% |
| Gross Profit | 70.08% | 57.31% | 54.29% | 58.11% | 60.16% |
| Selling & Adminstrative & Depr. & Amort Expenses | 27.65% | 33.94% | 19.18% | 23.78% | 26.68% |
| Income After Depreciation & Amortization | 42.43% | 23.36% | 35.12% | 34.33% | 33.48% |
| Non-Operating Income | 0.00% | 0.29% | -14.73% | 0.56% | 4.35% |
| Interest Expense | 0.35% | 0.00% | 0.00% | 0.00% | 0.00% |
| Pretax Income | 42.07% | 23.65% | 20.39% | 34.89% | 37.82% |
| Income Taxes | 19.40% | 16.44% | 7.87% | 11.02% | 8.80% |
| Net Income | 22.67% | 7.21% | 12.51% | 23.87% | 29.02% |
| **Depreciation Footnote** | | | | | |
| Income Before Depreciation & Amortization | 49.02% | 27.12% | 75.29% | 39.12% | 38.87% |
| Depreciation & Amortization (Cash Flow) | 6.59% | 3.75% | 4.66% | 4.79% | 5.39% |
| Income After Depreciation & Amortization | 42.43% | 23.36% | 35.12% | 34.33% | 33.48% |



## Exhibit 3 – Common Base Analysis

| Common Base Income Statement | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| Sales | 100.00% | 333.54% | 725.65% | 1396.71% | 2412.95% |
| Cost Of Goods | 100.00% | 475.90% | 1108.39% | 1955.36% | 3212.70% |
| Gross Profit | 100.00% | 272.76% | 562.22% | 1158.17% | 2071.46% |
| Selling & Adminstrative & Depr. & Amort Expenses | 100.00% | 409.48% | 503.32% | 1201.25% | 2328.74% |
| Income After Depreciation & Amortization | 100.00% | 183.66% | 600.60% | 1130.10% | 1903.80% |
| Non-Operating Income | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Interest Expense | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Pretax Income | 100.00% | 187.47% | 351.65% | 1158.22% | 2169.19% |
| Income Taxes | 100.00% | 282.70% | 294.56% | 793.29% | 1095.12% |
| Net Income | 100.00% | 106.01% | 400.51% | 1470.54% | 3088.25% |
| | | | | | |
| **Depreciation Footnote** | | | | | |
| Income Before Depreciation & Amortization | 100.00% | 184.51% | 1114.46% | 1114.46% | 1913.18% |
| Depreciation & Amortization (Cash Flow) | 100.00% | 189.92% | 512.32% | 1013.84% | 1973.53% |
| Income After Depreciation & Amortization | 100.00% | 183.66% | 600.60% | 1130.10% | 1903.80% |

| Common Base and Size Income Statement | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| Sales | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Cost Of Goods | 100.00% | 142.68% | 152.75% | 140.00% | 133.14% |
| Gross Profit | 100.00% | 81.78% | 77.48% | 82.92% | 85.85% |
| Selling & Adminstrative & Depr. & Amort Expenses | 100.00% | 122.77% | 69.36% | 86.01% | 96.51% |
| Income After Depreciation & Amortization | 100.00% | 55.06% | 82.77% | 80.91% | 78.90% |
| Non-Operating Income | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Interest Expense | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Pretax Income | 100.00% | 56.21% | 48.46% | 82.92% | 89.90% |
| Income Taxes | 100.00% | 84.76% | 40.59% | 56.80% | 45.39% |
| Net Income | 100.00% | 31.78% | 55.19% | 105.29% | 127.99% |
| | | | | | |
| **Depreciation Footnote** | | | | | |
| Income Before Depreciation & Amortization | 100.00% | 55.32% | 153.58% | 79.79% | 79.29% |
| Depreciation & Amortization (Cash Flow) | 100.00% | 56.94% | 70.60% | 72.59% | 81.79% |
| Income After Depreciation & Amortization | 100.00% | 55.06% | 82.77% | 80.91% | 78.90% |

## Exhibit 4 – Historical Growth Rates

| Yearly Growth Rates | year ending 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|
| Sales | 233.54% | 117.56% | 92.48% | 72.76% |
| Cost Of Goods | 375.90% | 132.91% | 76.41% | 64.30% |
| Gross Profit | 172.76% | 106.12% | 106.00% | 78.86% |
| Selling & Adminstrative & Depr. & Amort Expenses | 309.48% | 22.92% | 138.67% | 93.86% |
| Income After Depreciation & Amortization (EBIT) | 83.66% | 227.01% | 88.16% | 68.46% |
| Non-Operating Income | 0.00% | -11310.02% | -107.32% | 1240.62% |
| Interest Expense | -100.00% | 0.00% | 0.00% | 0.00% |
| Pretax Income (EBT) | 87.47% | 87.58% | 229.37% | 87.29% |
| Income Taxes | 182.70% | 4.20% | 169.32% | 38.05% |
| Net Income | 6.01% | 277.80% | 267.16% | 110.01% |

| Average Growth Rates | 2002-2006 |
|---|---|
| Sales | 121.63% |
| Cost Of Goods | 138.08% |
| Gross Profit | 113.34% |
| Selling & Adminstrative & Depr. & Amort Expenses | 119.67% |
| Income After Depreciation & Amortization (EBIT) | 108.88% |
| Non-Operating Income | 0.00% |
| Interest Expense | -100.00% |
| Pretax Income (EBT) | 115.81% |
| Income Taxes | 81.91% |
| Net Income | 135.74% |

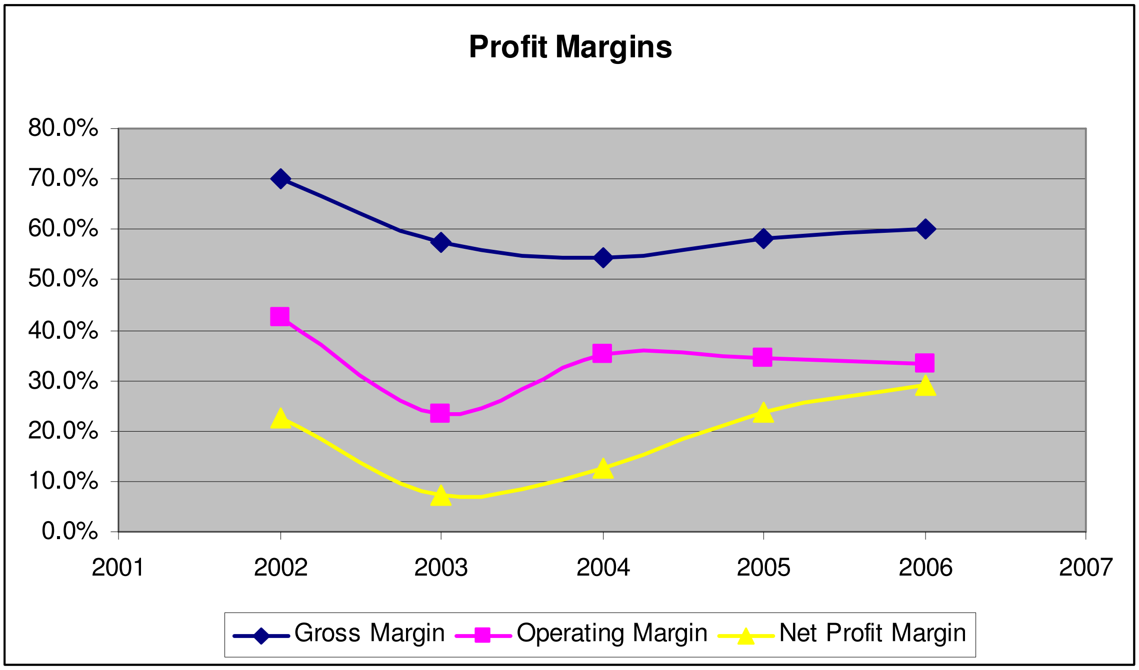
## Exhibit 5 – Historical Balance Sheet

| Annual Balance Sheet ($ in millions) | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| Cash & Equivelants | $146 | $149 | $427 | $3,877 | $3,545 |
| Short Term Investments | $0 | $186 | $1,705 | $4,157 | $7,699 |
| Receivables | 62 | 155 | 312 | 688 | 1,322 |
| Inventories | 0 | 0 | 0 | 0 | 0 |
| Other Current Assets | 23 | 71 | 249 | 279 | 474 |
| Total Current Assets | $232 | $560 | $2,693 | $9,001 | $13,040 |
| Net Property & Equipment | 54 | 188 | 379 | 962 | 2,395 |
| Investments & Advances | 0 | 0 | 0 | 0 | 1,032 |
| Deferred Charges | 0 | 0 | 12 | 0 | 0 |
| Intangibles | 0 | 106 | 194 | 278 | 1,892 |
| Deposits & Other Assets | 1 | 17 | 35 | 31 | 114 |
| Total Assets | $287 | $871 | $3,313 | $10,272 | $18,473 |
| | | | | | |
| **Liabilities & Shareholder's Equity** | | | | | |
| Notes Payable | $0 | $0 | $0 | $0 | $0 |
| Accounts Payable | 9 | 46 | 33 | 116 | 211 |
| Current Portion Long-Term Debt | 0 | 0 | 0 | 0 | 0 |
| Current Portion Capital Leases | 4 | 5 | 0 | 0 | 0 |
| Accrued Expenses | 38 | 149 | 269 | 529 | 988 |
| Income Taxes Payable | 26 | 21 | 0 | 28 | 0 |
| Other Current Liabilities | 11 | 15 | 38 | 73 | 105 |
| Total Current Liabilities | $90 | $235 | $340 | $745 | $1,305 |
| Deferred Taxes/Income | 2 | 24 | 7 | 46 | 60 |
| Long-Term Debt | 0 | 0 | 0 | 0 | 0 |
| Non-Current Capital Leases | 7 | 2 | 0 | 0 | 0 |
| Other Non-Current Liabilities | 1 | 8 | 36 | 62 | 68 |
| Total Liabilities | $99 | $269 | $384 | $853 | $1,434 |
| | | | | | |
| **Shareholder's Equity** | | | | | |
| Preferred Stock | 58 | 58 | 0 | 0 | 0 |
| Common Stock (Par) | 0.14 | 0.16 | 0.26 | 0.29 | 0.30 |
| Capital Surplus | 83 | 725 | 2,582 | 7,478 | 11,883 |
| Retained Earnings | 86 | 191 | 590 | 2,056 | 5,133 |
| Other Equity | -40 | -372 | -244 | -115 | 23 |
| Total Shareholder's Equity | $188 | $603 | $2,929 | $9,419 | $17,040 |
| Total Liabilities & Shareholder's Equity | $287 | $871 | $3,313 | $10,272 | $18,473 |
| Total Common Equity | 130 | 544 | 2,929 | 9,419 | 17,040 |
| | | | | | |
| Shares Outstanding (in millions) | 0 | 0 | 277.35 | 295.55 | 309.00 |
| Book Value Per Share (not in millions) | 0 | 0 | 10.56 | 31.87 | 55.15 |

## Exhibit 6 – Historical Ratio Analysis

| **Daily Activity Ratios** | **2002** | **2003** | **2004** | **2005** | **2006** |
|---|---|---|---|---|---|
| Sales Per Day (SPD) | 1.20 | 4.02 | 8.74 | 16.82 | 29.05 |
| Cost of Sales Per Day (COSPD) | 0.36 | 1.71 | 3.99 | 7.05 | 11.58 |
| Cash Expense Per Day (CEPD) | 0.34 | 1.36 | 1.68 | 4.00 | 7.75 |
| Income Tax per day (ITPD) | 0.23 | 0.66 | 0.69 | 1.85 | 2.56 |
| | | | | | |
| **Activity Ratios** | | | | | |
| Days of cash on hand | 121.52 | 37.10 | 48.85 | 230.54 | 122.00 |
| Days of accounts recievable | 51.48 | 38.52 | 35.69 | 40.91 | 45.51 |
| Days of inventory on hand | - | - | - | - | - |
| Days of prepaid expenses | 69.61 | 51.95 | 148.79 | 69.72 | 61.08 |
| Days of accounts payable | 26.06 | 26.93 | 8.18 | 16.40 | 18.24 |
| Days of accrued expenses | 113.98 | 109.00 | 160.70 | 132.25 | 127.42 |
| Days of accrued taxes | 111.23 | 31.35 | 0.00 | 14.99 | 0.14 |
| Days of other CA expenses | 33.63 | 11.25 | 22.92 | 18.28 | 13.56 |
| Fixed asset turnover ratio | 8.16 | 7.79 | 8.42 | 6.38 | 4.43 |
| Total Asset turnover ratio | 1.53 | 1.68 | 0.96 | 0.60 | 0.57 |
| Equity turnover ratio | 2.34 | 2.43 | 1.09 | 0.65 | 0.62 |
| | | | | | |
| **Liquidity Ratios** | | | | | |
| Current Ratio | 2.59 | 2.38 | 7.91 | 12.08 | 10.00 |
| Quick Ratio | 2.59 | 2.38 | 7.91 | 12.08 | 10.00 |
| Cash Ratio | 1.63 | 0.63 | 1.25 | 5.20 | 2.72 |
| | | | | | |
| **Leverage Ratios** | | | | | |
| Funded Debt Ratio | - | - | - | - | - |
| Total Debt Ratio | 0.35 | 0.31 | 0.12 | 0.08 | 0.08 |
| Equity Multiplier | 1.53 | 1.45 | 1.13 | 1.09 | 1.08 |
| Times Interest Earned (TIE) | 119.30 | - | - | - | - |
| | | | | | |
| **Profit Ratios** | | | | | |
| Gross profit margin | 70.1% | 57.3% | 54.3% | 58.1% | 60.2% |
| Operating profit margin | 42.4% | 23.4% | 35.1% | 34.3% | 33.5% |
| Net profit margin | 22.7% | 7.2% | 12.5% | 23.9% | 29.0% |
| Earnings Power of Assets | 65.0% | 39.3% | 33.8% | 20.5% | 19.2% |
| Return on assets | 34.7% | 12.1% | 12.0% | 14.3% | 16.7% |
| Return on equity | 53.1% | 17.5% | 13.6% | 15.6% | 18.1% |

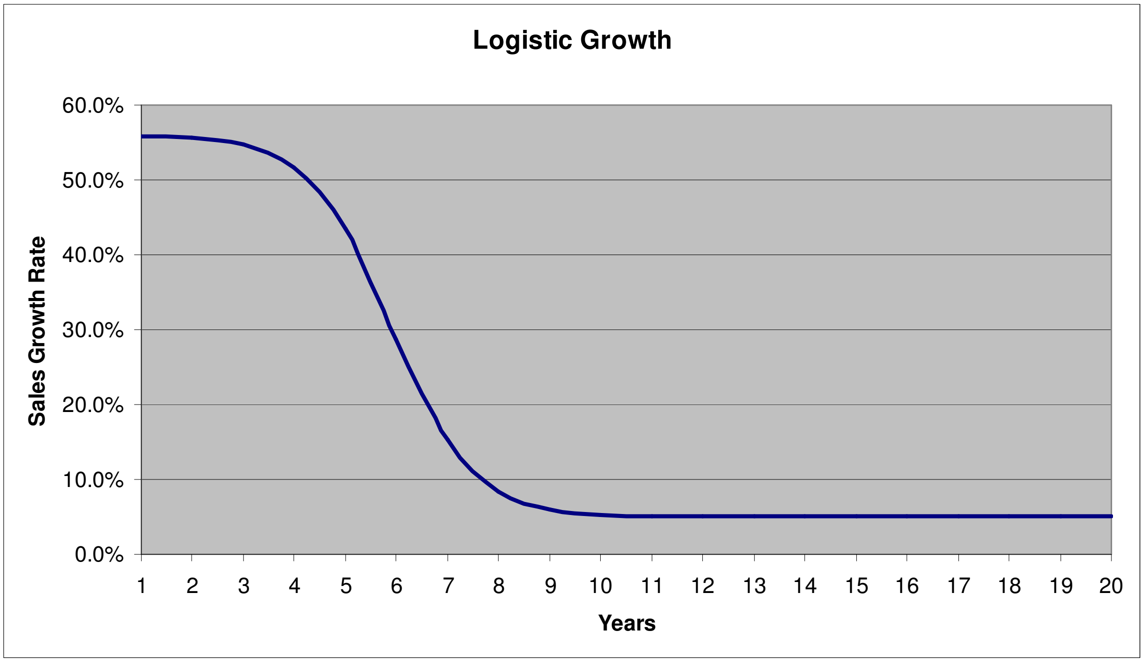
**Exhibit 7 – Profit Margin Chart**



## Exhibit 8 – Projected Income Statement (note hidden years)

| Annual Income Statement ($ in Millions) | Projections 2007 | 2008 | 2009 | 2016 | 2026 | Assumptions |
|---|---|---|---|---|---|---|
| Sales | $16,532 | $25,726 | $39,791 | $155,388 | $253,398 | Logistic Growth |
| Cost Of Goods | 6,658 | 10,328 | 15,942 | 62,087 | 101,211 | Trend |
| Gross Profit | $9,874 | $15,398 | $23,848 | $93,301 | $152,188 | |
| Selling & Adminstrative & Depr. & Amort Expenses | 4,285 | 6,689 | 10,367 | 40,597 | 66,228 | Trend |
| Income After Depreciation & Amortization | $5,589 | $8,708 | $13,481 | $52,704 | $85,960 | |
| Non-Operating Income | 461 | 461 | 461 | 461 | 461 | nc |
| Interest Expense | 0 | 0 | 0 | 0 | 0 | nc |
| Pretax Income | $6,050 | $9,169 | $13,942 | $53,165 | $86,421 | |
| Income Taxes | 2,117 | 3,209 | 4,880 | 18,608 | 30,247 | 35% Tax Rate |
| Net Income | $3,932 | $5,960 | $9,062 | $34,557 | $56,174 | |

**Exhibit 9 – 20 Year Logistic Growth Function**




| Assumptions | | |
|---|---|---|
| Lam | 20 | % of Supernormal Growth Remaining |
| gs | 56.00% | Initial Growth Rate |
| gp | 5% | Perpetual Growth Rate |
| mu | 7 | Years until lamda |

$$y_t = \frac{\lambda(100-\lambda)^{(1-2t/m)}}{1+\lambda(100-\lambda)^{(1-2t/m)}}$$

and $g_t = (g_S - g_p)y_t + g_p$

$g_t$ is the sales growth rate.

## Exhibit 10 – Projected Common Size Analysis (note hidden years)

| | Projections | | | | |
|---|---|---|---|---|---|
| **Common Size Income Statement** | **2007** | **2008** | **2009** | **2016** | **2026** |
| Sales | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Cost Of Goods Sold | 40.27% | 40.15% | 40.07% | 39.96% | 39.94% |
| Gross Profit | 59.73% | 59.85% | 59.93% | 60.04% | 60.06% |
| Selling & Adminstrative & Depr. & Amort Expenses | 25.92% | 26.00% | 26.06% | 26.13% | 26.14% |
| Income After Depreciation & Amortization | 33.81% | 33.85% | 33.88% | 33.92% | 33.92% |
| Non-Operating Income | 2.79% | 1.79% | 1.16% | 0.30% | 0.18% |
| Interest Expense | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Pretax Income | 36.59% | 35.64% | 35.04% | 34.21% | 34.10% |
| Income Taxes | 12.81% | 12.47% | 12.26% | 11.98% | 11.94% |
| Net Income | 23.79% | 23.17% | 22.77% | 22.24% | 22.17% |
| | | | | | |
| **Depreciation Footnote** | | | | | |
| Income Before Depreciation & Amortization | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Depreciation & Amortization (Cash Flow) | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Income After Depreciation & Amortization | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |

## Exhibit 11 – Projected Balance Sheet (note hidden years)

| | Projections | | | | | |
|---|---|---|---|---|---|---|
| **Annual Balance Sheet ($ in millions)** | **2007** | **2008** | **2009** | **2016** | **2026** | **Assumptions** |
| **Assets** | | | | | | |
| Cash & Equivelants | $3,170 | $4,934 | $7,631 | $29,800 | $48,597 | 70 Days |
| Short Term Investments | $9,516 | $9,174 | $8,595 | $114,174 | $502,961 | Asset Plug |
| Receivables | 2,061 | 3,207 | 4,960 | 19,370 | 31,588 | 45.5 Days |
| Inventories | 0 | 0 | 0 | 0 | 0 | |
| Other Current Assets | 716 | 1,118 | 1,733 | 6,785 | 11,068 | 61 Days |
| Total Current Assets | $15,464 | $18,433 | $22,919 | $170,129 | $594,215 | |
| Net Property & Equipment | 3,732 | 5,807 | 8,982 | 35,076 | 57,201 | 4.43 Turns |
| Investments & Advances | 1,032 | 1,032 | 1,032 | 1,032 | 1,032 | nc |
| Deferred Charges | 0 | 0 | 0 | 0 | 0 | nc |
| Intangibles | 1,892 | 1,892 | 1,892 | 1,892 | 1,892 | nc |
| Deposits & Other Assets | 114 | 114 | 114 | 114 | 114 | nc |
| Total Assets | $22,234 | $27,278 | $34,939 | $208,244 | $654,453 | |
| | | | | | | |
| **Liabilities & Shareholder's Equity** | | | | | | |
| Notes Payable | $0 | $0 | $0 | $0 | $0 | Liability Plug |
| Accounts Payable | 333 | 516 | 797 | 3,103 | 5,058 | 18.24 Days |
| Current Portion Long-Term Debt | 0 | 0 | 0 | 0 | 0 | nc |
| Current Portion Capital Leases | 0 | 0 | 0 | 0 | 0 | nc |
| Accrued Expenses | 1,496 | 2,335 | 3,619 | 14,172 | 23,120 | 127.42 Days |
| Income Taxes Payable | 0 | 0 | 0 | 0 | 0 | nc |
| Other Current Liabilities | 159 | 249 | 385 | 1,508 | 2,460 | 13.56 Days |
| Total Current Liabilities | $1,988 | $3,100 | $4,801 | $18,783 | $30,638 | |
| Deferred Taxes/Income | 60 | 60 | 60 | 60 | 60 | nc |
| Long-Term Debt | 0 | 0 | 0 | 0 | 0 | nc |
| Non-Current Capital Leases | 0 | 0 | 0 | 0 | 0 | nc |
| Other Non-Current Liabilities | 68 | 68 | 68 | 68 | 68 | nc |
| Total Liabilities | $2,117 | $3,229 | $4,930 | $18,912 | $30,767 | |
| | | | | | | |
| **Shareholder's Equity** | | | | | | |
| Preferred Stock | 0 | 0 | 0 | 0 | 0 | nc |
| Common Stock (Par) | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | nc |
| Capital Surplus | 11,883 | 11,883 | 11,883 | 11,883 | 11,883 | nc |
| Retained Earnings | 8,211 | 12,143 | 18,103 | 177,426 | 611,780 | |
| Other Equity | 23 | 23 | 23 | 23 | 23 | nc |
| Total Shareholder's Equity | $20,117 | $24,049 | $30,009 | $189,332 | $623,686 | |
| Total Liabilities & Shareholder's Equity | $22,234 | $27,278 | $34,939 | $208,244 | $654,453 | |
| Total Common Equity | 20,117 | 24,049 | 30,009 | 189,332 | 623,686 | |
| | | | | | | |
| Shares Outstanding (in millions) | 311.55 | 311.55 | 311.55 | 311.55 | 311.55 | |
| Book Value Per Share (not in millions) | 64.57 | 77.19 | 96.32 | 607.71 | 2,001.88 | |

**Exhibit 12 – Projected Ratio Analysis (note hidden years)**

| | Projections | | | | |
|---|---|---|---|---|---|
| **Daily Activity Ratios** | **2007** | **2008** | **2009** | **2016** | **2026** |
| Sales Per Day (SPD) | 45.29 | 70.48 | 109.02 | 425.72 | 694.24 |
| Cost of Sales Per Day (COSPD) | 18.24 | 28.30 | 43.68 | 170.10 | 277.29 |
| Cash Expense Per Day (CEPD) | 11.74 | 18.33 | 28.40 | 111.23 | 181.45 |
| Income Tax per day (ITPD) | 5.80 | 8.79 | 13.37 | 50.98 | 82.87 |
| | | | | | |
| **Activity Ratios** | | | | | |
| Days of cash on hand | 70.00 | 70.00 | 70.00 | 70.00 | 70.00 |
| Days of accounts recievable | 45.50 | 45.50 | 45.50 | 45.50 | 45.50 |
| Days of inventory on hand | - | - | - | - | - |
| Days of prepaid expenses | 61.00 | 61.00 | 61.00 | 61.00 | 61.00 |
| Days of accounts payable | 18.24 | 18.24 | 18.24 | 18.24 | 18.24 |
| Days of accrued expenses | 127.42 | 127.42 | 127.42 | 127.42 | 127.42 |
| Days of accrued taxes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Days of other CA expenses | 13.56 | 13.56 | 13.56 | 13.56 | 13.56 |
| Fixed asset turnover ratio | 4.43 | 4.43 | 4.43 | 4.43 | 4.43 |
| Total Asset turnover ratio | 0.74 | 0.94 | 1.14 | 0.75 | 0.39 |
| Equity turnover ratio | 0.82 | 1.07 | 1.33 | 0.82 | 0.41 |
| | | | | | |
| **Liquidity Ratios** | | | | | |
| Current Ratio | 7.78 | 5.95 | 4.77 | 9.06 | 19.39 |
| Quick Ratio | 7.78 | 5.95 | 4.77 | 9.06 | 19.39 |
| Cash Ratio | 1.59 | 1.59 | 1.59 | 1.59 | 1.59 |
| | | | | | |
| **Leverage Ratios** | | | | | |
| Funded Debt Ratio | - | - | - | - | - |
| Total Debt Ratio | 0.10 | 0.12 | 0.14 | 0.09 | 0.05 |
| Equity Multiplier | 1.11 | 1.13 | 1.16 | 1.10 | 1.05 |
| Times Interest Earned (TIE) | - | - | - | - | - |
| | | | | | |
| **Profit Ratios** | | | | | |
| Gross profit margin | 59.7% | 59.9% | 59.9% | 60.0% | 60.1% |
| Operating profit margin | 33.8% | 33.9% | 33.9% | 33.9% | 33.9% |
| Net profit margin | 23.8% | 23.2% | 22.8% | 22.2% | 22.2% |
| Earnings Power of Assets | 25.1% | 31.9% | 38.6% | 25.3% | 13.1% |
| Return on assets | 17.7% | 21.8% | 25.9% | 16.6% | 8.6% |
| Return on equity | 19.5% | 24.8% | 30.2% | 18.3% | 9.0% |

## Exhibit 13 – Free Cash Flows

| **Free Cash Flows (in millions)** | | | **Projections** | | |
|---|---|---|---|---|---|
| **Particulars/Forecast Years** | **2007** | **2008** | **2009** | **2016** | **2026** |
| NOPAT = EBIT(1-Tc) | 3,633 | 5,660 | 8,762 | 34,258 | 55,874 |
| Less Increases in: | | | | | |
| Minimum cash | 374 | (1,763) | (2,697) | (1,499) | (2,314) |
| Accounts recievable | (738) | (1,146) | (1,753) | (974) | (1,504) |
| Inventory | - | - | - | - | - |
| Other current assets | (243) | (402) | (615) | (342) | (527) |
| Plus increases in: | | | | | |
| Accounts payable | 122 | 183 | 281 | 156 | 241 |
| Accrued expenses | 508 | 839 | 1,284 | 714 | 1,102 |
| Income taxes payable | (0) | - | - | - | - |
| Other current liabilities | 54 | 89 | 137 | 76 | 117 |
| Less increases in: | | | | | |
| Net fixed assets | (1,337) | (2,075) | (3,175) | (1,764) | (2,724) |
| Investment & Advances | 0 | 0 | 0 | 0 | 0 |
| Deferred charges | 0 | 0 | 0 | 0 | 0 |
| Intangibles | 0 | 0 | 0 | 0 | 0 |
| Deposits & other assets | 0 | 0 | 0 | 0 | 0 |
| Plus increases in: | | | | | |
| Deferred taxes | 0 | 0 | 0 | 0 | 0 |
| Other non-current liabilities | 0 | 0 | 0 | 0 | 0 |
| Free Cash Flows | 2,373 | 1,386 | 2,223 | 30,624 | 50,264 |
| Years to FCF | 1 | 2 | 3 | 10 | 20 |
| Present Values | 2,088 | 1,074 | 1,516 | 8,547 | 3,915 |

## Exhibit 14 – Company Valuation and Assumptions

| Valuation (in millions) | |
|---|---|
| PV(Free Cash Flows) | 109,075 |
| PV(Continuing Free Cash Flows) | 47,734 |
| Less Debt Liabilities | 0 |
| Less Preferred Equity | 0 |
| Common Equity value | 156,809 |
| Shares Outstanding | 311.55 |
| Value per share (not in millions) | **$503.32** |
| Last Market price (not in millions) | $504.77 |
| Difference | **($1.45)** |

## Assumptions:

**Capital Asset Pricing Model**

| | |
|---|---|
| Risk Free Rate | 5.24% |
| Market Risk Premium | 7.00% |
| Beta | 1.20 |

**CAPM =** 13.61%

**Weighted Average Cost of Capital**

| | |
|---|---|
| Ke | 13.61% |
| We | 100.00% |
| Ks | 13.61% |
| Ws | 0.00% |
| Rd | 10.00% |
| Wd | 0.00% |
| Tc | 35.00% |

**WACC =** 13.61%

**Beta Calculations:**

| | Yahoo | Microsoft | Google |
|---|---|---|---|
| **Beta** (a) | 1.620 | 1.109 | 1.293 |
| **Standard Error** | 0.170 | 0.082 | 0.290 |
| **Adjusted Beta** | 1.415 | 1.073 | 1.196 |

| | |
|---|---|
| Industry Average Beta (b) | 1.24 |
| Google's Adjusted Beta | 1.20 |

(a) Beta calculated using weekly returns starting January 1, 2002, and ending June 8, 2007, using the S&P 500 as the market index.

(b) Industry Average beta calculated using equal weighting of Yahoo and Microsoft's adjusted betas.

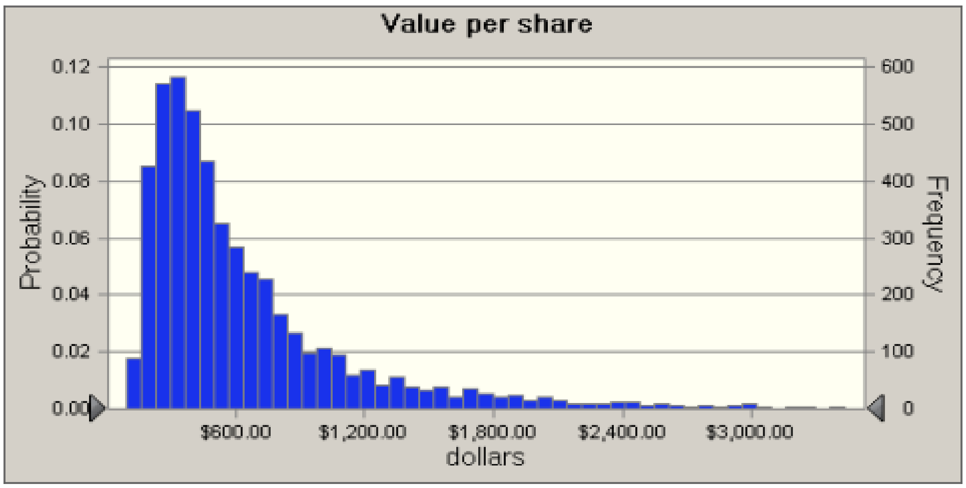
## Exhibit 15 – Crystal Ball Forecasts

**Forecasts**

**Worksheet: [google spreadsheet.xls]Valuation**

**Forecast: Value per share** **Cell: B21**

Summary:
Entire range is from $89.35 to $33,495.01
Base case is $503.32
After 5,000 trials, the std. error of the mean is $13.71




| Statistics: | Forecast values |
|---|---|
| Trials | 5,000 |
| Mean | $719.65 |
| Median | $476.85 |
| Mode | --- |
| Standard Deviation | $969.48 |
| Variance | $939,884.01 |
| Skewness | 12.12 |
| Kurtosis | 305.53 |
| Coeff. of Variability | 1.35 |
| Minimum | $89.35 |
| Maximum | $33,495.01 |
| Range Width | $33,405.66 |
| Mean Std. Error | $13.71 |

## Exhibit 15 (continued)

**Forecast: Value per share (cont'd)** **Cell: B21**

| Percentiles: | Forecast values |
|---|---|
| 0% | $89.35 |
| 10% | $224.28 |
| 20% | $284.89 |
| 30% | $342.21 |
| 40% | $403.02 |
| 50% | $476.85 |
| 60% | $576.67 |
| 70% | $710.45 |
| 80% | $905.94 |
| 90% | $1,351.12 |
| 100% | $33,495.01 |

End of Forecasts

## Exhibit 16 – Crystal Ball Assumptions

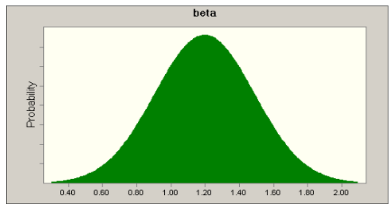
**Assumptions**

**Worksheet: [google spreadsheet.xls]Valuation**

**Assumption: beta** **Cell: H17**

Normal distribution with parameters:

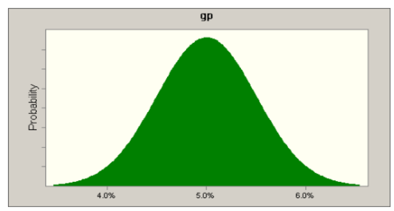
| | | |
|---|---|---|
| Mean | 1.20 | (=Beta!E6) |
| Std. Dev. | 0.29 | (=Beta!E4) |




**Assumption: gp** **Cell: E16**

Normal distribution with parameters:

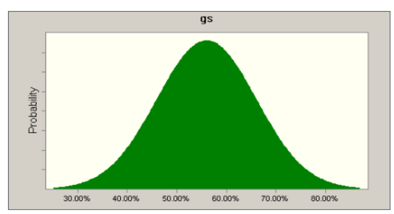
| | |
|---|---|
| Mean | 5.0% |
| Std. Dev. | 0.5% |




**Assumption: gs** **Cell: E15**

Normal distribution with parameters:

| | |
|---|---|
| Mean | 56.00% |
| Std. Dev. | 10.00% |

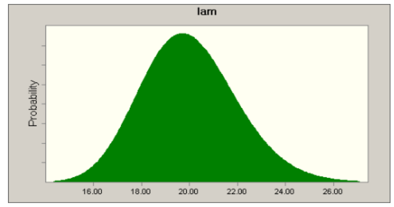


## Exhibit 16 (continued)

**Assumption: lam** **Cell: E18**

Lognormal distribution with parameters:

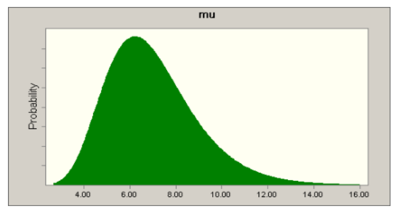
| | |
|---|---|
| Mean | 20.00 |
| Std. Dev. | 2.00 |




**Assumption: mu** **Cell: E17**

Lognormal distribution with parameters:

| | |
|---|---|
| Mean | 7.00 |
| Std. Dev. | 2.00 |




End of Assumptions

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