## St. John's University Undergraduate Student Managed Investment Fund Presents:

Apple Inc.: AAPL



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## **Share Data:**

Price: 12/9/07 \$194.30

Shares Outstanding: 875.54M

Market Cap: \$170.12B

Beta: 1.442

52 Week High: \$194.99 52 Week Low: \$76.77

## **Fundamentals:**

P/E<sub>12/9/07</sub>: 49.44 Forward P/E: 41 EPS<sub>2007</sub>: \$3.93 EPS(1)<sub>2008</sub>: \$3.56 EPS(2)<sub>2008</sub>: \$4.98



#### I. EXECUTIVE SUMMARY

After analyzing Apple Inc.'s computer and consumer electronics industry, we are recommending the acquisition of 100 shares of stock at market price. Apple is well diversified within its industry and highly competitive. Our decision is based on the following criteria:

- 1.) Apple believes continual investment in research and development is critical to the development and enhancement of innovative products and technologies. Apple is continuously creating and refining innovations, such as the iPod, iPhone, iTunes Store, and Apple TV.
- 2.) Apple is the only company in the personal computer industry that controls the design and development of the entire personal computer-from the hardware and operating system to sophisticated applications which gives the advantage to adhere to many industry standards in order to provide an optimized user experience
- 3.) Apple recently debuted the iPhone in June 2007, and already has a 1% of the world market share for cellular phones.
- 4.) Our Absolute valuation suggests Apple is undervalued.
- 5.) Since 2002, around the launch of the iPod, Apple has largely outperformed the industry and its competitors. In areas were Apple had lagged relative to its competitors, Apple is now gaining ground. In 2002 Apple had the second lowest ROA relative to the industry and its competitors. Since then Apple's ROA has grown faster than any of its competitors, and as of 2007 Apple has the second highest ROA. Apple's strong performance in the ratio's we analyzed, as well as its ability to grow rapidly in less successful areas, is just one of the reasons we recommend it as a buy.

#### II. COMPANY OVERVIEW

#### Company Overview

Apple Inc, formerly Apple Computer, Inc. was established April 1, 1976 in Cupertino California. Apple is an American multinational corporation that specializes in designing and manufacturing consumer electronics. The company also custom designs all platform software that is related or included in its personal computers, portable media players, and mobile phones. As of September 2007, the company operates 197 retail stores in five countries, and its online store where its hardware and software products are sold exclusively. Apple Inc. also operates worldwide by selling its different products through, third party wholesalers, resellers, and value-added resellers. The iTunes Store, an online store run by Apple, provides music, audio books, iPod games, music videos, episodes of television programs, and movies which can be downloaded using iTunes, Mac, or a PC. Recently Apple has made the iTunes store available to mobile users

of the iPod touch and the iPhone. The company's most popular hardware products include their personal computers, the iPod line of portable media players, and the iPhone. Apple's most popular software products include the Mac OS X operating system, the iLife suite, and Final Cut Studio (Professional video editing software)

Apple employs over 20,000 permanent and temporary workers worldwide and had worldwide annual sales in its fiscal year 2007 (ending September 29, 2007) of \$24.01 billion dollars.

Apple has built a favorable reputation surrounding its company. The Company's products are generally believed to be more user-friendly than its Windows based competitors and featuring a more modern design.

"The company introduced the Apple II microcomputer in 1977. A few years later, in 1983, it introduced the Lisa, the first commercial personal computer to employ a graphical user interface (GUI), which was influenced in part by the Xerox Alto. Lisa was also the first personal computer to have a mouse. In 1984, the Macintosh was introduced, which arguably advanced the concept of a new user-friendly graphical user interface. Apple's success with the Macintosh became a major influence in the development of graphical interfaces elsewhere, with major computer operating systems, such as the Commodore Amiga and Atari ST, appearing on the market within two years of the introduction of the Macintosh."

In 1991, Apple introduced the PowerBook line of portable computers. In the 1990s Apple's market share fell as competition from Microsoft Windows and the comparatively inexpensive IBM PC computers began to dominate the market. In effort to compete in the ever changing technology industry Apple shifted its focus to software. Apple's main software includes its MAC OSX operating system as well as professional and pro consumer video software, and both music and photo production Software. In 2001, Apple entered the consumer electronic market with the introduction of the iPod.

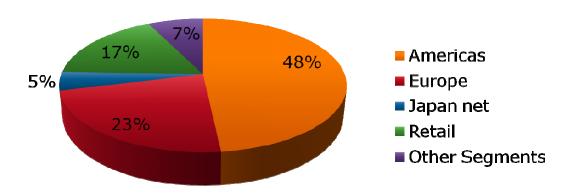
## **Business Segments**

Apple's operations are managed on a geographical basis, which includes the Americas, Europe, Japan, Retail (Apple's operates retail stores in the U.S., Canada, Japan, the U.K., and Italy.). Americas, Europe, and Japan do not include activities related to retail in their sales percentages. The Americas include both North and South America. In 2007, Apple's net sales in the Americas segment increased by \$2.2 billion, or 23% from 2006, which was mainly due to their popular products such as Mac portable products and the iPod. The Americas represented 48% of the Company's total net sales as compared to 49% in 2006. The European segment includes European countries and also the Middle East and Africa. Net sales for the European segment increased \$1.4 billion or 33% compared to 2006. The primary drivers of growth were the Mac portable product, iMacs, iPods, and iTunes Store. Japan's net sales declined by \$129 million or 11%, compared to 2006. Total Mac sales for Japan declined by 1% during 2007 which is partially attributable to Japan's declining consumer PC market. However, the decrease was slightly offset by revenue from Mac Books and third-party content from the iTunes.

The retail segments are Apple's operated retail stores in the U.S., Canada, Japan, the U.K., and Italy. As of September 2007, Apple has a total of 197 retail stores. Apple has opened 32 new retail stores during 2007, including a total of 4 international stores in the U.K. and Italy. The net sales increased by 27% or \$4.1 billion compared to 2006.

Apple's other segments consist of Asia Pacific region and FileMaker Inc. operations. FileMaker, Inc. is a wholly owned subsidiary of Apple Inc. that specializes in easy-to-use database software. Other Segment net sales increased \$406 million, or 30%, during 2007 and are primarily related to increased sales of Mac portables and robust iPod sales.



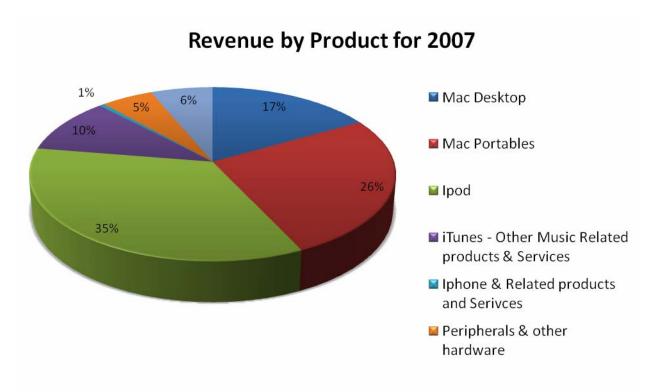


#### **Products**

The company offers a range of hardware products: Mac desktop, notebook, server and storage products, related devices and peripherals, and third party hardware, MacBook Pro, MacBook, Mac Pro, iMac, Mac mini, Xserver, Xserver RAID, Storage System, Music Products and Services, iPod shuffle, iPod nano, iPod classic, iPod touch, iTunes 7, iPhone, Peripheral Products, Displays, Apple TV, Software Products and Computer Technologies, Application Software, Internet and Software Services, and AppleCare; different Care Services to support customers.

iPods sales account for the majority of Apple's revenue, currently at 34.6%. Sales are down from last year which was 39.74%. This decrease in iPod revenue may not be due to decreasing sales of iPods, but rather price decreases in the iPods. Portable computers represent the second largest source of revenue. In 2007 portable computer sales made up 26.22% of Apple's revenue, up from 21% in 2006. Desktop sales were down from 17.18% in 2006 to 16.75% in 2007. The decrease proportional decrease in desktop computer sales can be attributed to the considerable rise in portable computer sales. Other music related sales made up 3.36% of Apple's revenue in 2004, when the iTunes store debuted. Those sales have grown to 10.4% in 2007. Peripherals & other hardware sales were 5.25% in 2007, down slightly from 2006 in which peripherals & other

hardware made up 5.7% of revenue. Software made up 6.28% of Apple's revenue in 2007, also down slightly from its 2006 revenue percentage of 6.62%. Apple's iPhone, which was released mid-2007, made up .51% of revenue; this number is expected to grow as Apple develops the iPhone into a staple of their product line. The following chart represents Apple's Revenue based on products for 2007.



#### Recent News

Apple reported their highest ever quarter revenue and earnings for the 4<sup>th</sup> quarter of 2007 with revenue increase over 6.22 billion or 29% of prior year quarter. This revenue was driven largely by the record Mac Sales and strong demand for iPod. In the 4<sup>th</sup> quarter 2007, Apple sold over 2.16 million Macs, an increase of 34% from same period last year and over 10.2 million iPods an increase of 17%. For the fiscal year Apple sold an estimated 52 million iPod and over 7 million Macs. Since inception the iPod has sold over 120 million units. Net Income for the 4<sup>th</sup> quarter was up 67% or 905 million from last year's quarter, which translates to an EPS of \$1.01. Revenue from iTunes has also experienced robust growth with other music revenue growing 33% from last year and accounts for over 85% of music purchased and downloaded in the US. For the entire fiscal year, Apple reported \$3.93 earnings per share, up 73% from last year.

The introduction of the iPhone has been met with high anticipation. Apple has sold over 1.1 million iPhones over the last quarter. They have also begun selling the iPhone in Europe in November 2007. They have forecast that sales of iPhone will reach 10 million units by 2008 and are expected to introduce a second-generation iPhone by mid 2008.

<sup>&</sup>lt;sup>1</sup> FactSet: Call Street – Apple 3<sup>rd</sup> Quarter Earnings

Apple has announced that they will unveil a new sub-portable MacBook at MacWorld in January. The ultra-portable laptop is expected to be 50% thinner than the existing MacBook, and will contain flash-based memory instead of a disc drive.

## Competitive Strategy

Apple is committed to bringing the best personal computing, portable digital music and cellular phones to students, educators, consumer, creative professionals (one of the most important markets for Apple), business, and government sectors through its innovative hardware, software, peripherals, services, and Internet offerings.

Apple's Business strategy leverages its unique ability to design and develop its own operating system, hardware, application software, and services to provide its customers new products and solutions with superior ease-of-use seamless integration, and innovative industrial design. They also believe continual investment in research and development is critical to the development and enhancement of innovative products and technologies. Apple is continuously creating and refining innovations, such as the iPod, iPhone, iTunes Store, and Apple TV.

Finally, Apple believes a high quality buying experience with a knowledgeable salesperson who can convey the value of the Company's products and services greatly increase its ability for customer attraction and retention. Apple Inc. sells many of its products and resells certain third-party products in most of its major markets directly to consumers. The Apple has also engaged in programs to increase resellers' sales, including Apple Sales Consultant Program, which places Apple employees and contractors at selected resellers' locations.

At the end of fiscal year 2007 the company has opened a total of 197 retail stores of its own, 174 in the U.S. and 23 in Canada, Japan, U.K. and Italy. These stores are typically placed at strategic locations, such as; upscale shopping malls and urban shopping districts. By operating in chosen locations the company is able to control the buying experience and attract new customers. These stores are intended to simplify and enhance the presentation and marketing of the products and retail solutions. Apple stores have developed into various sizes to meet market-specific demands. One of the retail goals is to expand out through sales to individuals who currently do not own the company's products. <sup>2</sup>

# **Key Executives and Members of the Board**

Senior Vice President and Chief Financial Officer
Peter Oppenheimer
Chief Executive Officer and Director
Steven P. Jobs
Senior Managing Directors

<sup>&</sup>lt;sup>2</sup> (www.apple.com 10K release)

William V. Campbell Millard S. Drexler Albert Gore JR. Arthur D. Levinson Eric E Shmidt Jerome B. York

#### III. INDUSTRY ANALYSIS

#### Overview

Apple is the only company in the personal computer industry that controls the design and development of the entire personal computer -- from the hardware and operating system to sophisticated applications which gives the advantage to adhere to many industry standards in order to provide an optimized user experience. Apple Inc. operates worldwide by selling its different products through its online stores, retail stores, its direct sales force, and third party wholesalers, resellers and value-added resellers.

#### Analysis of Competitive Forces - Michael Porters 5 Forces

#### Rivalry

The Company is confronted by aggressive competition in all areas of its business. These markets are highly competitive and characterized by rapid technological advances in both hardware and software with competitive price, features and performance characteristics.

Over the past several years, price competition in these markets has been intense, the company's competitors who sell personal computers have cut prices and lowered their margins to gain or maintain market share based on other operating systems. The Company financial and operating results can be affected these downward pressures on gross margins. The main competitive factors include price, product features, relative price/performance, product quality and reliability, design innovation, availability of software and peripherals, marketing and distribution capability, service and support, and corporation reputation; further, As the personal computer industry and its customers place more reliance on the internet, an increasing number of internet devices that are smaller, simpler and less expensive than traditional personal computers may compete for market share with Apple's products. Competition among the firms is becoming more aggressive, they are each targeting different and new markets and also customers. Below these facts are further explained.

#### Threat of New Entrants

The technology sector is constantly developing and changing. Apple must constantly revise their products in order to stay current. The company will always be subject to new patted technology, but by being innovators themselves, the risk is greatly reduced. Apple's has engendered products that are preferred by consumers because they are "Apple" products. Other companies may be able to enter and compete with similar quality products, but because Apple has such a preferred

customer following, Apple is at less risk than its competitors. In order for Apple to stay above new companies entering the technology market, Apple must continue to deliver the same quality product that it did originally to develop its consumer following and established brand name.

#### Threat of Substitute Products

Apple has a dominating market share on its iPod, with a current 76% market share. Several competitors have entered the market, most notably Microsoft, with its mp3 player, the "Zune". Despite the variety of the choices, the consumer has picked the Apple's iPod 76% of the time. This is due to Apple's patent design, and the continuous software updates and year –to-year improvements. Apple also hosts the iTunes store, hosting media that is most compatible with the iPod mp3 player. The success of the iPod has opened an over 1 billion dollar third party accessories market exclusively for the iPod. With all the advantages to being an iPod owner it will be hard for any company, including Microsoft, to pose a serious threat to Apple's iPod sales.

The other Main part of Apple's revenue is generated from computer software and hardware. The threat of new entrants does not affect apple as much as it would its competitors; mainly, Microsoft, Dell, Hewlett Packard, and IBM. This is due to Apple's unique aesthetics an operating system. While many competitors have tried to capitalize on the cosmetic appeal of Apple's computers, their success has been limited. This is because they missed the key component, the MAC OSX Operating System. Apple's operating system is unique, and available only on Apple manufactured computers. Since Apple's Competitors cannot physically or legally run MAC OSX on their computers, Apple faces very minimal risk from new or existing competitors. Further decreasing the threat of new entrance, Apple computers are now capable of running the Windows operating system. This removes the need for an Apple user to switch to a PC.

## **Bargaining Power of Suppliers**

The main factors that threaten Apple's market share are Intel chips and NAND drives. The most palpable risk is the Intel chips that are used in Apple's computers. Apple must be able to purchase and maintain Intel chips at stable and standard prices. Apples second concern would be NAND flash drives used in its iPod nano. There is currently no substitute that apple could use, if it wanted to maintain the same dimensions of this iPod. Apple is subject to supplier risk should it not find a suitable alternative in the near future.

#### Bargaining Power of Buyer Forces

Apple is a company that always strives to be ahead of the Buyer. Apple strives to know consumers wants needs, even before the consumer does. The company is continuously refining innovations, such as the iPod, iPhone, iTunes Store, and Apple TV. Apple listens to its customers needs and adjusts its product lines accordingly.

Apple has been caught in situations where the buyer felt their products were not priced aggressively enough. Apple quickly adjusts itself to handle these situations. When consumers spoke out about the iPhone being too expensive, Apple lowered the price buy \$200 dollars, and offered current owners a \$100 dollar rebate.

## **Relative Industry Valuation**



The Chart above compares the S&P500 Computers Hardware Industry (blue line), the S&P (brown line) and Apple Inc (green line) for a 1 year period on a daily basis. The chart indicates that the Computers Hardware industry is currently outperforming the market and Apple is outperforming both the industry and the market by a considerable margin.

## St. John's University Student Managed Investment Fund



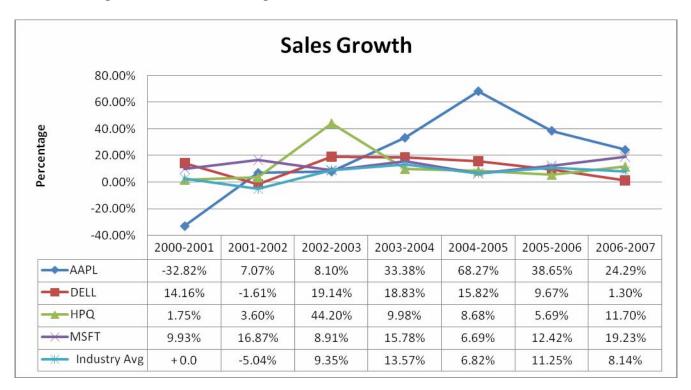
The chart above compares Apple to its main competitors: HPQ, Microsoft, Dell as well as the S&P 500 over the trailing one year period. As the chart reflects Apple has been trending above the industry and its main competitors since the end of April.

#### IV. FUNDAMENTAL ANALYSIS

#### 1. Growth Rate Comparisons (Year over Year)

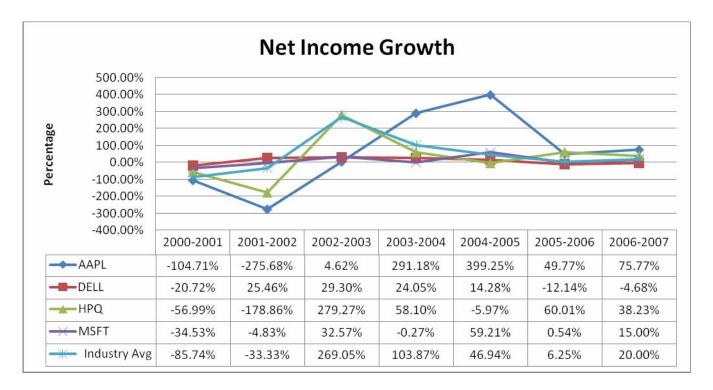
#### Sales Growth

Apple's sales started to pick up around the middle of 2002, growing 70% from 2003 to 2004. In 2004 growth began to decline, but has remained above the industry, therefore Apple's sales are favorable compared to those of its competitors.



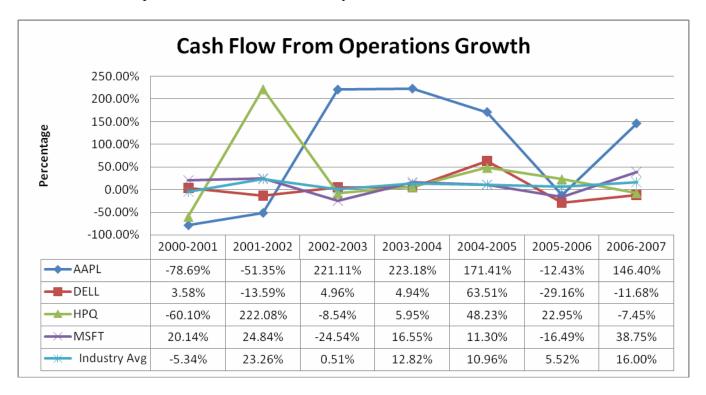
#### Net Income

Apple's Net income started to increase since 2002 and its annual growth rates have above that of its competitors since around 2003. Apple growth rate slowed in 2004, ultimately falling on par with HPQ in 2005. It has begun a small stable rally since the 2005 mark.



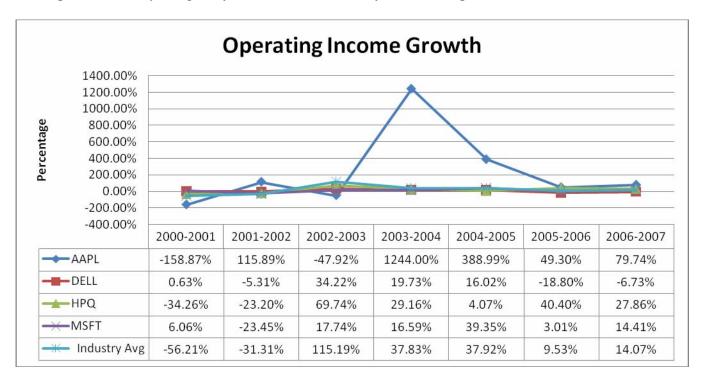
#### Cash Flow from Operations

Apple's cash flow from operations increased from 2000 to 2002, experiencing a heavy decline from 2003-2005 where it reached its lowest level before entering a sharp incline eventually reaching back to its 2004 high. Apple's cash flow from operations has been generally better than those of its competitors and the relative industry.



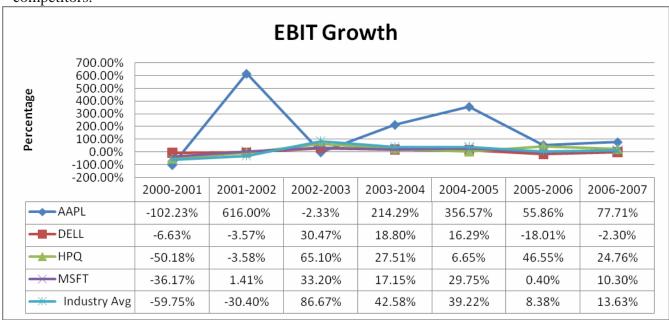
## Operating income growth

Apple's operating income has been better relative to the industry and its competitors since 2002. 2000 Apple demonstrated major growth from its 2002 low to its 2003 high. Since 2005, Apple has performed only marginally better than the industry and its competitors.



#### EBIT Growth

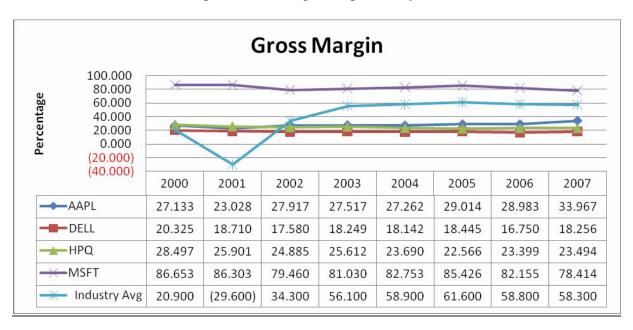
Earnings before interest and taxes reflect that Apple's performance has been predominantly better than its competitors since 2000. Apple demonstrated major growth from its 2002 low to its 2004 high. Since 2005 Apple has performed only marginally better than the industry and its competitors.



2. Operating Ratios: Operating ratios show the efficiency witch income dollars are generated from revenue.

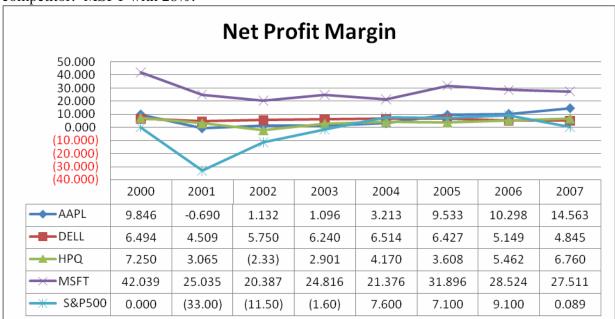
## Gross Margin

Gross Margin represents the amount of money the company generated over the cost of producing its goods or services. Apple's Gross margin has been out performed by the industry and by Microsoft, one of its main competitors for the greater part of 5 years.



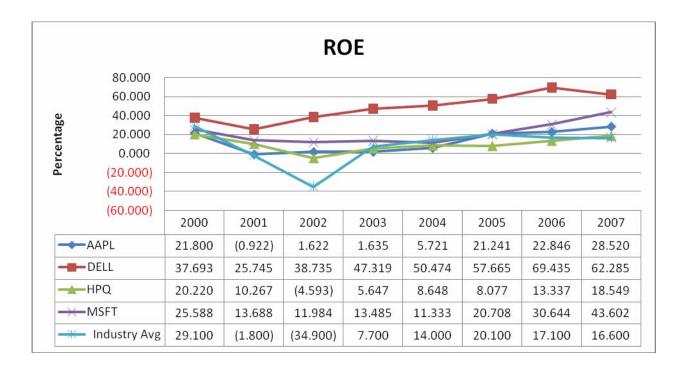
## Net Profit Margin

A higher profit margin indicates a more profitable company that has better control over its costs compared to its competitors. Apple has shown a modest increase in profit margin since 2002, this is well in line with the industry and its competitors. Apple currently has a 15% profit margin, which means the company has a net income of \$0.15 for each dollar of sales whit only one main competitor: MSFT with 28%.

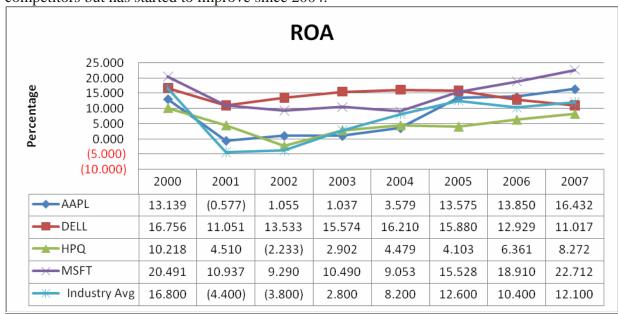


## ROE

Return on equity measures how much profit a company generates with the money shareholders invested. Apple's Return on Equity is behind that of MSFT and DELL; however, Apple's ROE is above the industry and therefore Apple's profitability is above average.

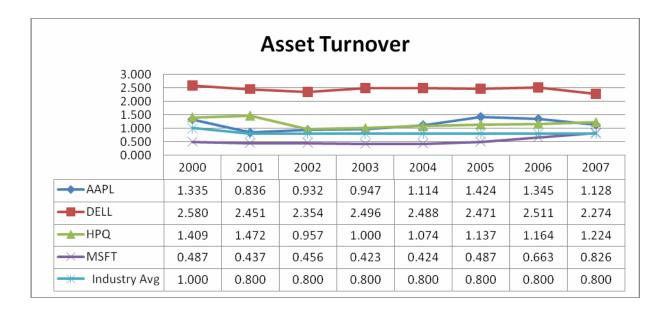


# <u>ROA</u> ROA gives an idea as to how efficient management is using its assets to generate earnings. Apple's ability to generate profit from its assets has not been very favorable compared to its competitors but has started to improve since 2004.



#### Asset Turnover

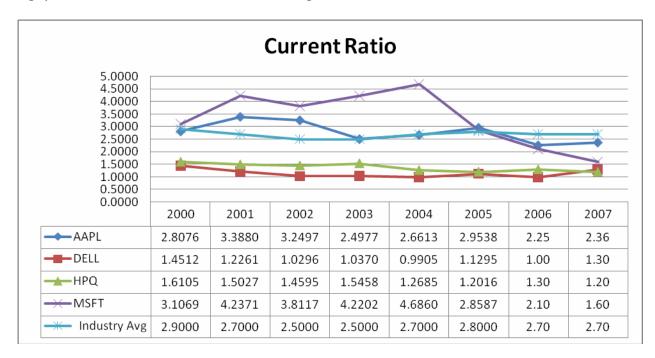
Asset turnover measures a firm's efficiency at using its assets in generating sales or revenue. It also indicates pricing strategy; since Apple has a relatively high profit margin its asset turnover is relatively low. Apple has maintained itself above industry since around 2004.



## 3. Short Term Solvency

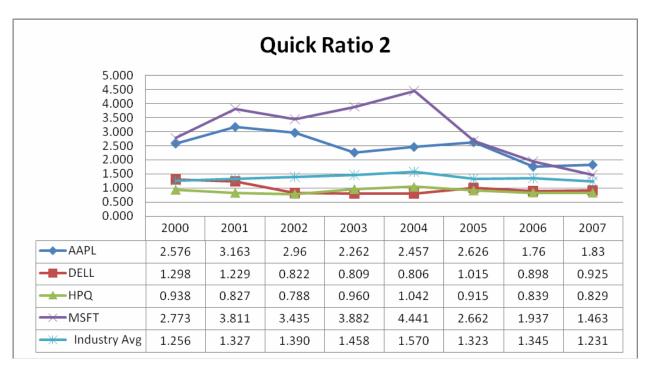
#### Current Ratio

Current ratio measures the company's ability to pay back its short-term liabilities with its short-term assets. The higher the current ratio, the more capable the company is at paying its obligations. Apple currently ranks higher than all of its competitors and has a better ability to repay its short term debt than most of its competitors.



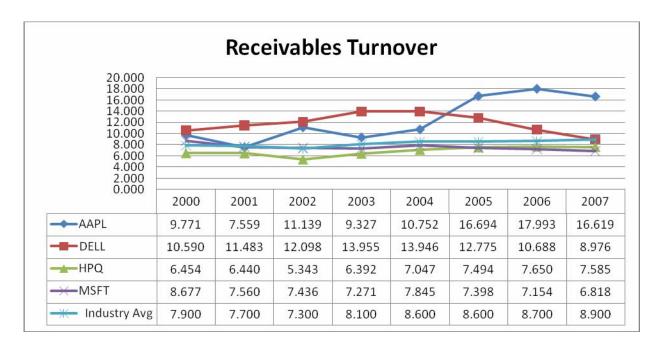
## Quick ratio 2

Quick ratio 2 measures a company's ability to meet its short-term obligations with its most liquid assets and is calculated by dividing the sum of cash, accounts receivable, and short-term marketable security by current liability. Apple had the second highest quick ratio from 200-2006. From 2006 Apple has maintained a quick ratio substantially higher than its competitors.



#### Receivables Turnover

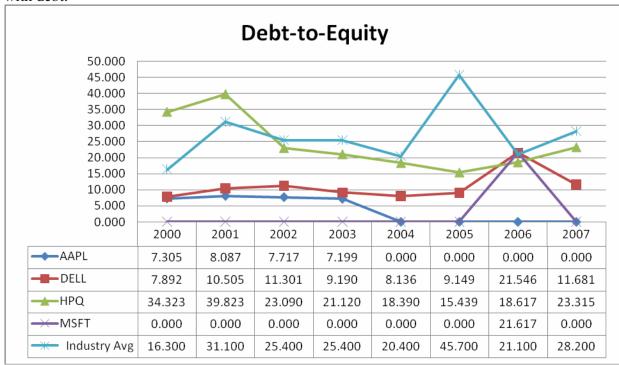
An accounting measure used to quantify a firm's effectiveness in extending credit as well as collecting debts. Apple has been above the industry average and most of the competitors since 2000 despite a decline in 2001. From 2001, Apple increased and currently remains well ahead of both its competitors and the industry.



## 4. Long Term Solvency

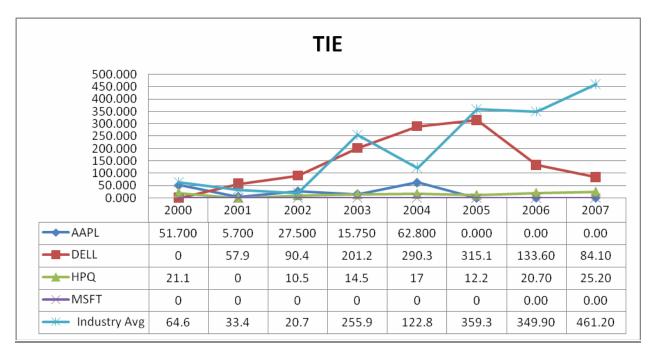
#### **Debt-to-Equity**

Debt-to-Equity indicates what proportion of equity and debt the company is using to finance its assets. Apple D/E ratio shows that the company is not very aggressive in financing its growth with debt.



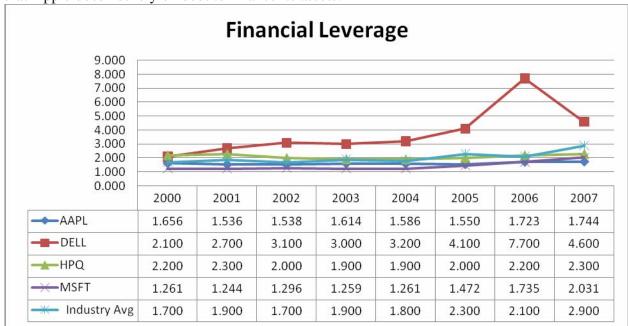
TIE

A metric used to measure a company's ability to meet its debt obligations. TIE is calculated by taking a company's earnings before interest and taxes, and dividing it by the total interest payable on bonds and other contractual debt. . Since Apple has no bonds this ratio are currently zero, and a non applicable measurement.



#### Financial Leverage

Identifies the degree to which a company is utilizing borrowed money. This ratio again confirms that Apple does not rely on debt to finance its assets.



#### **DUPONT ANALYSIS**

The DuPont Analysis model decomposes Return on Equity into three main components: Asset Turnover, Net Profit Margin, and Financial Leverage. The purpose of DuPont analysis is to analyze the driving factors behind ROE. Asset turnover is calculating by dividing Sales (or Total Revenue) by Average Asset and measures the company's asset management by showing how much revenue is produced per \$1 of assets. The Net Profit Margin is calculated by dividing Net Income by Sales or (Total Revenue) and measures the company's efficiency at operating management by showing how much Apple is retaining per \$1 of sales. Financial Leverage is calculated by dividing Total Assets by Total Shareholder's Equity and measures how well the company is utilizing its borrowed money. It is important to note that Apple's main source of financial capital is derived from Common Shareholder's Equity since they do not issue any debt. Based on the DuPont Analysis, Apple's main driving factor has been its asset management. Asset Turnover has steadily increased from 2003 thus causing their Return on Equity to increase.

| DuPont                         |          |           |          |          |         |          |          |          |
|--------------------------------|----------|-----------|----------|----------|---------|----------|----------|----------|
| Analysis                       | 2000     | 2001      | 2002     | 2003     | 2004    | 2005     | 2006     | 2007     |
| Asset Turnover                 | 9.846    | -0.690    | 1.132    | 1.096    | 3.213   | 9.533    | 10.298   | 14.563   |
| Net Profit Margin<br>Financial | 1.335    | 0.836     | 0.932    | 0.947    | 1.114   | 1.424    | 1.345    | 1.128    |
| Leverage                       | 1.656    | 1.598     | 1.537    | 1.576    | 1.599   | 1.565    | 1.649    | 1.736    |
| ROE %                          | 21.76466 | (0.88632) | 1.622993 | 1.673715 | 5.67572 | 21.04533 | 23.86796 | 28.66042 |

## **RELATIVE VALUATION**

Using relative valuation allows us to show Apple's position relative to that of its competitors Dell, Hewlett Packard, Microsoft, the industry, and the consumer discretionary/ technology sectors of the S&P. The charts presented shows Apple's P/E position relative to its comparables, five price estimates that are derived from using the P/E ratios from 2000-2007, along with expected price multiples for 2008. These price estimates are based on the estimated earnings per share (EPS) for Apple for 2008 multiplied by the historical relative proportion between the firm and benchmark P/E multiplied by the benchmark P/E for 2008.

|               |       |        |       |      |       |       |       |       | P/E  |
|---------------|-------|--------|-------|------|-------|-------|-------|-------|------|
| P/E's         | 2000  | 2001   | 2002  | 2003 | 2004  | 2005  | 2006  | 2007  | 2008 |
| AAPL          | 12.80 | 101.00 | 28.00 | N/A  | 69.30 | 45.50 | 35.90 | 43.40 | 41   |
| DELL          | 47.8  | 23.5   | 51    | 38.8 | 33.5  | 25.5  | 15.8  | 24.3  | 19.8 |
| HPQ           | 32.9  | 13.8   | 22.8  | N/A  | 19.5  | 28    | 29.3  | 21.7  | 17.3 |
| MSFT          | 35.5  | 36.9   | 45.4  | 40.2 | 36.9  | 22.9  | 22.9  | 20.7  | 17   |
| Industry Avg. | 132.8 | 178.3  | 131.7 | 74.3 | 81.1  | 45.7  | 36.7  | 65.1  | 29.4 |
| S&P 500.      | 106.9 | 86     | 56.4  | 44.5 | 39.1  | 38.1  | 26.7  | 34.4  | 22.7 |

Price to earnings is measured by dividing the price paid for a share by the earnings per share and shows the amount people are willing to pay for \$1 of the firm's earnings. This can be an indicator of the company's implied expected growth. Apple's P/E is currently higher than most of their comparables. Comparing Apple's P/Es to its comparables and the industry average

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shows that the technology sector is a high growth field where investors generally expect more growth from in the company's earnings.

The follow charts are Apple's P/E relative to competitors, Industry, and the consumer discretionary/ technology sectors of the S&P 500.

|                  |        |        |        |      |        |        |        |        | P/E         |
|------------------|--------|--------|--------|------|--------|--------|--------|--------|-------------|
| PE Comparable    | 2000   | 2001   | 2002   | 2003 | 2004   | 2005   | 2006   | 2007   | 2008        |
| AAPL             | 12.80  | 101.00 | 28.00  |      | 69.30  | 45.50  | 35.90  | 43.40  | 41          |
| DELL             | 47.8   | 23.5   | 51     | 38.8 | 33.5   | 25.5   | 15.8   | 24.3   | 19.8        |
|                  | 0.2678 | 4.2979 | 0.5490 |      | 2.0687 | 1.7843 | 2.2722 | 1.7860 | 2.0707      |
|                  |        |        |        |      |        |        |        |        |             |
|                  |        |        |        |      |        |        |        |        |             |
|                  |        |        |        |      |        |        |        |        | P/E         |
| PE Comparable    | 2000   | 2001   | 2002   | 2003 | 2004   | 2005   | 2006   | 2007   | 2008        |
| AAPL             | 12.80  | 101.00 | 28.00  |      | 69.30  | 45.50  | 35.90  | 43.40  | 41          |
| HPQ              | 32.9   | 13.8   | 22.8   |      | 19.5   | 28     | 29.3   | 21.7   | 17.3        |
|                  | 0.3891 | 7.3188 | 1.2281 |      | 3.5538 | 1.6250 | 1.2253 | 2.0000 | 2.3699      |
|                  |        |        |        |      |        |        |        |        |             |
|                  |        |        |        |      |        |        |        |        |             |
| 55.0             |        | 0004   |        |      | 2224   | 2225   |        |        | P/E         |
| PE Comparable    | 2000   | 2001   | 2002   | 2003 | 2004   | 2005   | 2006   | 2007   | 2008        |
| AAPL             | 12.80  | 101.00 | 28.00  |      | 69.30  | 45.50  | 35.90  | 43.40  | 41          |
| MSFT             | 35.5   | 36.9   | 45.4   | 40.2 | 36.9   | 22.9   | 22.9   | 20.7   | 17          |
|                  | 0.3606 | 2.7371 | 0.6167 |      | 1.8780 | 1.9869 | 1.5677 | 2.0966 | 2.4118      |
|                  |        |        |        |      |        |        |        |        |             |
|                  |        |        |        |      |        |        |        |        |             |
| DE Commonable    | 0000   | 0004   | 0000   | 2002 | 0004   | 0005   | 0000   | 0007   | P/E         |
| PE Comparable    | 2000   | 2001   | 2002   | 2003 | 2004   | 2005   | 2006   | 2007   | 2008        |
| AAPL             | 12.80  | 101.00 | 28.00  |      | 69.30  | 45.50  | 35.90  | 43.40  | 41          |
| Industry Average | 132.8  | 178.3  | 131.7  | 74.3 | 81.1   | 45.7   | 36.7   | 65.1   | 29.4        |
|                  | 0.0964 | 0.5665 | 0.2126 |      | 0.8545 | 0.9956 | 0.9782 | 0.6667 | 1.3946      |
|                  |        |        |        |      |        |        |        |        | D/F         |
| PE Comparable    | 2000   | 2001   | 2002   | 2003 | 2004   | 2005   | 2006   | 2007   | P/E<br>2008 |
| AAPL             | 12.80  | 101.00 | 28.00  | 2003 | 69.30  | 45.50  | 35.90  | 43.40  | 41          |
| SP500            | 106.9  | 86     | 56.4   | 44.5 | 39.1   | 38.1   | 26.7   | 34.4   | 22.7        |
| OF 000           |        |        |        | 44.5 |        |        | 1.3446 |        |             |
|                  | 0.1197 | 1.1744 | 0.4965 |      | 1.7724 | 1.1942 | 1.3446 | 1.2616 | 1.8062      |

|               | Average  | Median   |
|---------------|----------|----------|
| AAPL/DELL     | 1.860829 | 1.786008 |
| AAPL/HPQ      | 2.477153 | 1.625    |
| AAPL/MSFT     | 1.60624  | 1.878049 |
| AAPL/Ind Avg. | 0.624349 | 0.666667 |
| AAPL/SP500    | 1.051916 | 1.194226 |

The arithmetic averages were attained by taking the relative P/E's in each, then taking that number and dividing it by the number of years. These numbers were used to determine the price

estimates for 2008. We used the median, because the averages showed no visible pattern. In an effort to find a pattern it is more suitable to use the median since it is insensitive to any outliers.

EPS (2008)<sub>1</sub>: \$3.56 EPS (2008)<sub>2</sub>: \$4.98

Based on our Pro-Forma Income Statement we calculated a best case scenario and a worst case scenario. These EPS were affected by our estimated operating expenses for 2008. These EPS are used to calculate the Estimated Price for 2008. For more information on our estimated EPS see Figure 1 in the Appendices.

|                           | E(price <sub>2008</sub> )<br>using EPS <sub>1</sub> | E(price 2008) using EPS <sub>2</sub> |  |
|---------------------------|---|--------------------------------------|--|
| AAPL / Dell Price         | 125.89  | 176.11                               |  |
| AAPL / HPQ Price          | 100.08  | 140.00                               |  |
| AAPL / MSFT Price         | 113.66  | 159.00                               |  |
| AAPL / Industry Price     | 69.78   | 97.61                                |  |
| AAPL / SP500 Price        | 96.51   | 135.00                               |  |
| Industry Avg. / Benchmark | 87.07   | 87.07                                |  |

#### **Average Price Estimate**

**Using EPS₁:** \$ 101.18 **Using EPS₂:** \$ 141.54

**Current Price as of 12/07/2007:** \$194.30

The price estimates were calculated by multiplying the expected 2008 P/E's of each comparable, the  $E(EPS_{2008})$  for both scenarios, and the median of the historical relationship with Apple and each of its comparables. While using relative valuations shows that Apple is overvalued, we believe the company is expected to continue to keep growing. This will be demonstrated in the absolute valuation.

#### **ABSOLUTE VALUATION**

Absolute value is used to determine the intrinsic value of Apple by calculating the present value of future cash flows. Future cash flow can take the form of dividends, capital gains, capital loss, earnings, and cash flows. Since Apple does not issue dividends, we used the Free Cash Flow to the Firm Model (FCFF Model).

In order to begin this valuation, we must establish the cost of capital. In our case we calculated two costs of capitals which are referenced as  $k_1$  and  $k_2$ . The costs of capital are used to calculate the present value of the free cash flow for the firm. The table below shows how our costs of capital were calculated.

| Costs of Capital    |                     |                        |       |
|---------------------|---------------------|------------------------|-------|
| CAPM                |                     | Another K              |       |
| 10 yr T-Strip:      | 4.26%               | HPQ Bond Outstanding:  | 5.16% |
| Beta:               | 1.442               |                        |       |
| <b>Risk Premium</b> | 6.50%               | K₂: Costs of Capital   |       |
| CAPM=               | 4.26% + 1.442(6.5%) | YTM:                   | 5.16% |
|                     |                     | <b>Equity Premium:</b> | 3%    |
| k <sub>1</sub> =    | 13.63%              | $k_2 =$                | 8.16% |

Cost of Capital,  $k_1$ , is calculated by using the Capital Asset Pricing Method (CAPM). Our second costs of capital,  $k_2$ , was calculated by using the Utendahl method in which a 3% equity premium was added to the company's outstanding bond. Since Apple has no outstanding bond we decided to use a competitor's bond. We used Hewlett Packard's 10 year bond with a yield to maturity of 5.16%.

After establishing the costs of capital, we had to calculate the free cash flow for the firm (FCFF) from Cash Flow from Operating Activities for the last five years.

| FCFF Starting from CFO            | 2007      | 2006      | 2005    | 2004    | 2003    |
|-----------------------------------|-----------|-----------|---------|---------|---------|
| Operating Activities              |           |           |         |         |         |
| Net Income                        | 3,496.0   | 1,989.0   | 1,328.0 | 266.0   | 69.0    |
| Depreciation/Depletion            | 317.0     | 225.0     | 179.0   | 150.0   | 113.0   |
| Depreciation                      | 317.0     | 225.0     | 179.0   | 150.0   | 113.0   |
| Depletion                         |           |           |         |         |         |
| Amortization                      |           |           |         |         |         |
| Amortization of Intangibles       |           |           |         |         |         |
| Amortization of Acquisition Costs |           |           |         |         |         |
| Deferred Taxes                    | 78.0      | 53.0      | 50.0    | 19.0    | (11.0)  |
| Non-Cash Items                    | 254.0     | 174.0     | 486.0   | 131.0   | (1.0)   |
| Accounting Change                 |           |           |         |         | (1.0)   |
| Discontinued Operations           |           |           |         |         |         |
| Extraordinary Item                |           |           |         |         |         |
| Unusual Items                     | 12.0      | 11.0      | 437.0   | 85.0    | (16.0)  |
| Purchased R&D                     |           |           |         |         | 0.0     |
| Equity in Net Earnings (Loss)     |           |           |         |         |         |
| Other Non-Cash Items              | 242.0     | 163.0     | 49.0    | 46.0    | 16.0    |
| Changes in Working Capital        | 1,325.0   | (221.0)   | 492.0   | 368.0   | 119.0   |
| Accounts Receivable               | (385.0)   | (357.0)   | (121.0) | (8.0)   | (201.0) |
| Inventories                       | (76.0)    | (105.0)   | (64.0)  | (45.0)  | (11.0)  |
| Prepaid Expenses                  |           |           |         |         | (34.0)  |
| Other Assets                      | (1,459.0) | (2,666.0) | (185.0) | (201.0) | (30.0)  |
| Accounts Payable                  | 1,494.0   | 1,611.0   | 328.0   | 297.0   | 243.0   |
| Accrued Expenses                  |           |           |         |         |         |

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| Payable/Accrued               |                                 |         |         |         |       |       |
|-------------------------------|---------------------------------|---------|---------|---------|-------|-------|
| Taxes Payable                 |                                 |         |         |         |       |       |
| Other Liabilities             |                                 | 1,751.0 | 1,296.0 | 534.0   | 325.0 | 152.0 |
| Other Changes, Net            |                                 |         |         |         |       |       |
|                               | Other Assets & Liabilities, Net |         |         |         |       |       |
|                               | Other Operating, Net            |         |         |         |       |       |
| Net Cash from Operating Activ | vities                          | 5,470.0 | 2,220.0 | 2,535.0 | 934.0 | 289.0 |
| Plus: Interest Expense X      | (1-Tax Rate)                    | 0.0     | 0.0     | 0.0     | 2.2   | 5.9   |
| Less Investment In Fixed C    | apital                          | 986.0   | 657.0   | 260.0   | 176.0 | 174.0 |
| Free Cash Flow to the Fire    | m                               | 4,484.0 | 1,563.0 | 2,275.0 | 760.2 | 120.9 |

Geometric Average 147%

After calculating the free cash flow for the firm we had to estimate a growth rate to help calculate our estimated future free cash flow to the firms. As you can see, Apple's FCFF has been growing at a geometric average of 147% from 2003 to 2007 We believe that a 147% growth rate is excessively bullish since this 147% is mainly driven by 2006 to 2007's growth. Therefore we believe that a 30% growth rate is a more conservative and acceptable rate.

After establishing a growth rate we calculated the estimated cash flow for the next five years.

| E(FCFF) | 2008     | 2009     | 2010     | 2011      | 2012      | 2013      |
|---------|----------|----------|----------|-----------|-----------|-----------|
|         | 5,829.20 | 7,577.96 | 9,851.35 | 12,806.75 | 16,648.78 | 21,643.41 |

Once the estimated FCFF for 2008 to 2013 was established, we calculated the present value. The following figures represent the 2007 present values.

| PV(2007) | 2008     | 2009     | 2010     | 2011     | 2012      | 2013      | Sum       |
|----------|----------|----------|----------|----------|-----------|-----------|-----------|
| K1:      | 5,129.85 | 5,868.72 | 6,714.01 | 7,681.06 | 8,787.39  | 10,053.07 | 44,234.11 |
| K2:      | 5,389.42 | 6,477.67 | 7,785.66 | 9,357.77 | 11,247.32 | 13,518.41 | 53,776.26 |

#### **Calculating the Terminal Value**

Once we figured out the estimated FCFF for 2013 we grew this number by eleven different growth rates to estimate 2014 FCFF. The following figures are the estimated FCFF<sub>2014</sub>.

#### 11 Estimates of 2014 FCFF

|                | FCFF2013  | (1+G) | E(FCFFS2014) |
|----------------|-----------|-------|--------------|
| 0 Growth Rate> | 4,484.00  | 1.00  | 4,484.00     |
|                | 21,643.41 | 1.01  | 21,859.85    |
|                | 21,643.41 | 1.02  | 22,076.28    |
|                | 21,643.41 | 1.03  | 3 22,292.71  |
|                | 21,643.41 | 1.04  | 22,509.15    |
|                | 21,643.41 | 1.05  | 5 22,725.58  |
|                | 21,643.41 | 1.06  | 22,942.02    |

| 21,643.41 | 1.07 | 23,158.45 |
|-----------|------|-----------|
| 21,643.41 | 1.08 | 23,374.88 |
| 21,643.41 | 1.09 | 23,591.32 |
| 21,643.41 | 1.1  | 23,807.75 |

With these figures, we were now able to implement a Free Cash Flow Model to estimate the intrinsic value for all post-2013 FCFF using the formula of  $E(FFCF_1)/(k-g)$ .

| Terminal Values              |                                |                      |                  |                                  |                                   |  |  |
|------------------------------|--------------------------------|----------------------|------------------|----------------------------------|-----------------------------------|--|--|
| FCFF MODEL=E(FCFF1)/k-g      |                                |                      |                  |                                  |                                   |  |  |
| Using k1                     |                                |                      |                  |                                  |                                   |  |  |
|                              | F/F0FF0044                     |                      |                  | a a 4 (1) (a a 4 a )             |                                   |  |  |
| oot/IV/2042\2                | <b>E(FCFF2014)</b><br>4484.000 | <b>k</b> 1<br>0.1363 | <b>g</b><br>0.00 | <b>est(IV2013)</b><br>32,898.019 | <b>est(IV2007)</b><br>15283.10891 |  |  |
| est(IV2013)2<br>est(IV2013)3 | 21859.846                      | 0.1363               | 0.00             | 173,078.746                      | 80405.48963                       |  |  |
| est(IV2013)3                 | 22076.280                      | 0.1363               | 0.01             | 189,821.838                      | 88183.663                         |  |  |
| est(IV2013)4<br>est(IV2013)5 | 22292.714                      | 0.1363               | 0.02             | 209,715.088                      | 97425.27445                       |  |  |
| est(IV2013)6                 | 22509.148                      | 0.1363               | 0.03             | 233,739.855                      | 108586.2237                       |  |  |
| est(IV2013)7                 | 22725.582                      | 0.1363               | 0.05             | 263,332.354                      | 122333.7197                       |  |  |
| est(IV2013)8                 | 22942.016                      | 0.1363               | 0.06             | 300,681.733                      | 139684.7533                       |  |  |
| est(IV2013)9                 | 23158.450                      | 0.1363               | 0.07             | 349,297.894                      | 162269.8845                       |  |  |
| est(IV2013)10                | 23374.884                      | 0.1363               | 0.08             | 415,184.449                      | 192878.1529                       |  |  |
| est(IV2013)11                | 23591.319                      | 0.1363               | 0.09             | 509,531.719                      | 236708.1355                       |  |  |
| est(IV2013)12                | 23807.753                      | 0.1363               | 0.1              | 655,860.956                      | 304686.8689                       |  |  |
| , ,                          |                                |                      |                  | ,                                |                                   |  |  |
|                              |                                |                      |                  |                                  |                                   |  |  |
| Using K2                     |                                |                      |                  |                                  |                                   |  |  |
| <b>3</b>                     |                                |                      |                  |                                  |                                   |  |  |
|                              | E(FCFF2014)                    | k2                   | g                | est(IV2013)                      | est(IV2007)                       |  |  |
| est(IV2013)2                 | 4484.000                       | 0.0816               | 0.00             | 54950.980                        | 34322.22                          |  |  |
| est(IV2013)3                 | 21859.846                      | 0.0816               | 0.01             | 305305.107                       | 190692.7                          |  |  |
| est(IV2013)4                 | 22076.280                      | 0.0816               | 0.02             | 358381.165                       | 223843.8                          |  |  |
| est(IV2013)5                 | 22292.714                      | 0.0816               | 0.03             | 432029.339                       | 269844.3                          |  |  |
| est(IV2013)6                 | 22509.148                      | 0.0816               | 0.04             | 541085.289                       | 337960.3                          |  |  |
| est(IV2013)7                 | 22725.582                      | 0.0816               | 0.05             | 719163.992                       | 449187.7                          |  |  |
| est(IV2013)8                 | 22942.016                      | 0.0816               | 0.06             | 1062130.382                      | 663403.5                          |  |  |
| est(IV2013)9                 | 23158.450                      | 0.0816               | 0.07             | 1996418.135                      | 1246957                           |  |  |
| est(IV2013)10                | 23374.884                      | 0.0816               | 0.08             | 14609302.800                     | 9124927                           |  |  |
| est(IV2013)11                | 23591.319                      | 0.0816               | 0.09             | -2808490.309                     | -1754175                          |  |  |
| est(IV2013)12                | 23807.753                      | 0.0816               | 0.1              | -1293899.604                     | -808166                           |  |  |

In this chart, you can see the eleven different present values of 2013, using both costs of capital and how we calculated the present values using the different eleven different growth rates. The final columns represent the present value at 2007 of the terminal values.

The following figures represent the present value at 2007 at all our growth scenarios.

| Scenario One: 0 Growth Rate |
|-----------------------------|
| PV with 0 Growth Rate       |

| PV(2007 | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | Sum         |
|---------|----------|----------|----------|----------|----------|----------|-------------|
| K1:     | 3,946.04 | 3,472.62 | 3,055.99 | 2,689.35 | 2,366.70 | 2,082.76 | \$17,613.45 |
| K2:     | 4,145.71 | 3,832.94 | 3,543.77 | 3,276.41 | 3,029.23 | 2,800.69 | \$20,628.76 |

## Firm Value Using 0 Growth Rate

**K1: E(Price 2007):** \$ 36.99 **K2: E(Price 2007):** \$ 61.79

| Scenario two: 1% Growth Rate | Scenario Seven: 6% Growth Rate |  |  |  |
|------------------------------|--------------------------------|--|--|--|
|                              | =/= :                          |  |  |  |

| K1: | E(Price 2007): | \$ 140.15 | K1: | 2007):<br>E(Price | \$<br>206.81 |
|-----|----------------|-----------|-----|-------------------|--------------|
|     |                |           |     | L(FIICE           |              |

**K2**: **E(Price 2007)**: \$ 274.90 **K2**: **2007)**: \$ 806.45

## Scenario Three: 2% Growth Rate Scenario Eight: 7% Growth Rate

K1: E(Price 2007): \$ 148.90 K1: 2007): \$ 232.21 E(Price

**K2**: **E(Price 2007)**: \$ 312.18 **K2**: **2007)**: \$ 1,462.65

## Scenario Four: 3% Growth Rate Scenario Nine: 8% Growth Rate

E(Price 2007): \$450.00 K4: 2007):

**K1: E(Price 2007):** \$ 159.29 **K1: 2007):** \$ 266.63 **K2: E(Price 2007):** \$ 363.90 **K2:** E(Price 2007): \$ 10,321.27

#### Scenario Five: 4% Growth Rate Scenario Ten: 9% Growth Rate

E(Price

**K2**: **E(Price 2007)**: \$440.50 **K2**: **2007)**: (1,912.06)

## Scenario Six: 5% Growth Rate Scenario Eleven: 10% Growth Rate

E(Price 2007): \$407.20 K4: 2007):

K1: E(Price 2007): \$ 187.30 K1: 2007): \$ 392.35 E(Price \$

**K2**: **E(Price 2007)**: \$ 565.57 **K2**: **2007)**: (848.30)

Based on the valuation model, we believe Apple's growth will not slow down. If Apple grows at a growth rate of 6% then the current price of Apple is undervalued. Anything beyond 6% will only justify our reasoning that Apple is undervalued..

#### **RISK FACTORS**

The following risk factors were obtained from Apple's 2007 10-K report.

#### Apple is subject to litigation risk.

The matters relating to the Company's past stock option practices and the re-statement of the company's consolidated financial statements may result in additional litigation and government enforcement actions.

Apple is subject to risks associated with laws, regulations, and industry-imposed standard related to mobile communication devices and other laws associated with health, safety and environmental protection.

#### Apple faces intense industry competition could negatively affect Apple's sales.

Global markets for personal computers, digital music devices, mobile communication devices and related peripherals and services are highly competitive and subject to rapid technological change. If Apple Inc. is unable to compete effectively in these markets; its financial condition and operating results could be negatively affected.

#### Apple must be able to stay current.

To remain competitive and stimulate customer demand, Apple must successfully manage frequent product introductions and transitions.

#### Apple faces various business and operational risks.

The company faces substantial inventory and other asset risk.

Future operating results depend upon the Company's ability to obtain key components, including microprocessors and NAND flash memory, at favorable prices and in sufficient quantities.

The Company products experience quality problems occasionally and can result in decreased sales and operating margin

Failure if information technology systems and breaches in data security could adversely affect Apple finances and operating results.

The Company's success depends largely to attract and retain key personnel.

The Company's retail initiative, new business strategies, and initiatives have required and will continue to required substantial investment and commitment of resources and is subject to risks and uncertainties and could also disrupt Apple's ongoing business.

#### Apple faces third party risks.

The Company depends on component and product manufacturing and logistics services provided by third parties, many of whom are located outside the U.S.

Apple relies on third-party digital content, which may not be available to the Company on commercially reasonable terms or at all.

The Company relies on access to third-party patents and intellectual property, and the Company's future results could be negatively affected if it is alleged or found to have infringed intellectual property rights.

The Company currently relies on a single cellular network carrier for iPhone in each of the U.S., U.K., Germany and France.

Third party software developers', resellers', distributors', etc, performance and maintenance is an important factor for apple performance.

## **Political Regulatory and Economic**

Stock price may be Volatile and changes in taxes could affect results.

#### RECOMMENDATION

Based on our Absolute Valuation, Apples is currently undervalued. We recommend buying 100 shares of Apple Inc.'s stock. We believe Apple will continue show robust growth and continue to reinvest in their research and development. Apple continues to reinvent itself by consistently coming up with new innovative ideas that keeps them ahead of the competition.

Since 2001 apple has shown a rather high-quality performance relative to its industry and competitors in respect to its financials. The company has been one of the industry leaders in terms of Sales growth, EBIT growth, Net Income growth, Cash Flow from Operations, Operating growth, Gross Margin Percentage, Net Profit Growth, Receivables turnover, return on asset and current ratio. These Ratios evidently show a financially efficient company. These and our absolute valuation lead us to believe that Apple is a good candidate to invest in.

# St. John's University Student Managed Investment Fund

# References

www.apple.com www.finance.google.com www.investopedia.com www.marketwatch.com www.morningstar.com www.wikipedia.com www.zacks.com St. John's University Student Managed Investment Fund