Rethinking Apple

An analysis of Apple (AAPL)

Finance 685 - Corporate Financial Strategy

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Executive Summary

This report provides an analysis and evaluation of the current and prospective positioning of Apple in the market, with regards to product market share, profitability, risk, capital structure, and stock price.

Methods of analysis include examining trends in sales figures and margins to detect the strongest core products and geographical markets for Apple. Outside research was also considered when making determinations of risk/reward aspects. When analyzing the reason for Apple's recent share repurchase and dividend announcements, research from Vermaelen et al was used. Research from Modigliani and Miller was considered when evaluating Apple's capital structure and subsequent quantitative analysis was performed to calculate a cost of equity, cost of debt, and WACC. Qualitative factors from recent news outlets regarding Apple's issues within China were explored, and each factor contributed to a final two-year stock price prediction.

Results of the data analyzed showed that despite recent difficulties for Apple and its stock, better days are ahead. The company management has finally made a conscious effort to improve stock performance by declaring a massive share buyback, increasing dividends, and issuing debt. Apple is also poised to continue its rapid growth, particularly in emerging markets throughout the Asia-pacific region (mainly China and India). As technology continues to advance, Apple will remain at the top of the industry as a major product innovation leader. The company also has upcoming products and services such as Apple TV and the iWatch which could prove to be big hits with consumers and existing Apple customers.

As a final conclusion to the report, a two-year price target is given, after considering all of the preceding analysis. This price is $600, or about a 33% price appreciation over the current price of AAPL. This is an obvious bullish prediction, but also considers Apple specific risks, market risks, and various county risks, and thus the target price is projected to be below the $700 high of the stock price from mid-2012.

Several recommendations were also made in the report, although for the most part Apple has gotten most things right. These recommendations include:

- Possibly decreasing PC and large-model iPod products, and focusing R&D on mobile devices like iPhone and iPad.
- Issuing debt earlier on (to decrease WACC), and potentially using funds for a large value-adding merger.
- Issuing convertible bonds/hybrid securities rather than conventional coupon and principal bonds.
- Announcing share repurchases and increasing dividends sooner once stock price fell and pressure from investors increased.
- Maintain positive standing with Chinese government and its citizens, as China is a crucial market for Apple going forward.

Finally, in "rethinking" Apple, I would recommend the company's stock as a buy; but as a "value" play instead of a "growth" play. Detailed valuation analysis in included in the report to explain this conclusion.

Boston Consulting Group analysis of Apple's core products

Apple's core products are its phones (iPhone family), tablets (iPad family), portable music devices (iPod family), desktop and portable computers (Mac family), and also its software products like iTunes and the newer and lesser known Apple TV service. Below is an analysis of how each of these core products classify within the Boston Consulting Group matrix, Exhibit 1 shows each product line and its respective sales from 2010-2012:

iPod: This was Apples first homerun. Although the company had been around for some time and been successful in the computer and laptop markets, when it introduced the first iPods the company's growth really took off. The simplistic easy to use design and connectivity to its iTunes platform made it a huge hit, and it crushed its competition (i.e. Microsoft's "Zune"). The iPod quickly became a "Star" for Apple in terms of the BCG matrix. Today, however, growth in the MP3 device demand has slowed (due in large part by Apple's own saturation of the market). Growth for Apple's iPod business (and all MP3 devices) is slow, yet Apple still holds a large market share (73% in January 2007!). Therefore, this product line is now a "Cash Cow" for the company; but with an overall shrinking market for music-only devices, the iPod may be slowly becoming a "Dog".

iPhone: When Apple introduced the iPhone it essentially created a demand for a product that people had not seen before. It sparked the touch-screen smart phone revolution. Being the very first to enter this market, Apple was able to achieve a sustainable competitive advantage in its smart-phone products. This core product was an immediate Star. The iPhone is still a star, with high growth and high market share, but recently Apple has seen this growth slowdown and market share decrease as a result of new competition.

iPad: Like the iPhone, when Apple released the iPad a whole new market was created. Although tablets had already existed, Apple perfected the design with its trademark user friendly interface and the integration of thousands of apps. This product line would also be considered a "Star" for Apple, despite the similar drop-off in margins and market share as seen with the iPhone.

Macs: Apple's desktop computers were the company's first product, and earned Apple the title of being innovative. The iMac computers, and later on the Mac Book laptops, completely designed existing hardware at the time. This allowed Apple to differentiate these products and further drive sales. Today, these product lines would be classified as question marks and dogs. The portable MacBook sales are higher than iMac desktop sales, and are increasing at a higher rate. Mac portables should be classified as question marks (reasonably high growth, but only about 8.5% market share-5th place), and Mac desktops as dogs (with negative YOY growth and market share less than 10%-3rd place). See Exhibit 2 below for PC market share graph.

*iTunes and Apple TV sales figures are not shown separately.

	2012	2011	2010
Mac desktops (a)(i)	$ 6,040	$ 6,439	$ 6,201
Mac portables (b)(i)	17,181	15,344	11,278
Total Mac net sales	23,221	21,783	17,479
iPod(c)(i)	5,615	7,453	8,274
Other music related products and services (d)	8,534	6,314	4,948
iPhone and related products and services (e)(i)	80,477	47,057	25,179
iPad and related products and services (f)(i)	32,424	20,358	4,958
Peripherals and other hardware (g)	2,778	2,330	1,814
Software, service and other net sales (h)	3,459	2,954	2,573
Total net sales	$156,508	$108,249	$ 65,225

Top 5 Vendors, United States PC Shipments, First Quarter 2013 (Preliminary) (Units Shipments are in thousands)

Vendor	1Q13 Shipments	1Q13 Market Share	1Q12 Shipments	1Q12 Market Share	1Q13/1Q12 Growth
1. HP	3,570	25.1%	4,632	28.5%	-22.9%
2. Dell	3,074	21.7%	3,590	22.1%	-14.4%
3. Apple	1,418	10.0%	1,533	9.4%	-7.5%
4. Toshiba	1,279	9.0%	1,349	8.3%	-5.2%
5. Lenovo	1,274	9.0%	1,127	6.9%	13.0%
Others	3,581	25.2%	4,022	24.7%	-11.0%
Total	**14,197**	100.0%	16,255	100.0%	**-12.7%**

Share Repurchases and Dividend Increases: Apple Management Finally "Gets it"

When Apple released in Q2 earnings on 4/23/13, it also revealed new details to its highly anticipated share repurchase plan. The company announced the largest stock buy back in history: about $60 billion worth (an increase from earlier plans of only $10 billion worth). With this buyback, in addition to a 15% increase in the quarterly dividend, Apple expects to return a total of $100 billion of cash to investors by the end of 2015. With the company sitting on $145 billion in cash, one would expect that this program will be financed with that cash. However, Apple has also announced that it will issue debt in the form of bonds. The $17 billion bond offering is the largest corporate bond issue in history.

If it does not seem logical for Apple to issue debt when it has so much cash, the company's reasons are quite simple: about $100 billion of its cash is sitting outside of the US, and to bring that money back within the country would cost Apple about $9 billion in taxes. These taxes will be avoided by Apple's debt issuance, and on top of that, the company will save about $100 million a year in tax deductions for the interest it pays on the bonds. Smart move after-all.

Vermaelen et al investigated share repurchase and its effect on stock prices in the long term. He found that "firms which repurchase their own shares experience a permanent increase in stock price, on the average". This finding highlights Apple's very intentions. The company is desperate to turn around its recent free-fall in stock price. The research also found that firms typically offer to repurchase shares at a premium when they have positive information about future earnings. It is not entirely clear if Apple's management has solid information about the future and are confident in increased earnings, or if management is simply succumbing to pressure from investors to make use of its excess funds- or both.

Apple management has long been accused by some of not caring about stock price. Steve Jobs once spoke to a crowd in 1997 and said that stock price was something that would take care of itself. Even in 2008 he told a CNBC correspondent that he had never been able to figure out Wall Street and his strategy was to manage the "top line" and let the bottom line take care of itself. Unfortunately things are not always that simple. It is in Apple's best interest to keep the stock price at least at a stable growth rate. A declining stock price and negligent management gives a negative connotation to Apple's products and ultimately impacts the most basic consumers. To maintain its reputation as a growing product innovator, Apple was in need of some effective use of cash. While many analysts speculated that Apple might consider an enormous acquisition to "right the ship", it appears that share repurchase and dividend increases were the best option.

From Apples 2012 10-K: announcement of $10 billion share repurchase.

Dividend and Stock Repurchase Program

In 2012, the Board of Directors of the Company approved a dividend policy pursuant to which it plans to make, subject to subsequent declaration, quarterly dividends of $2.65 per share. On July 24, 2012, the Board of Directors declared a dividend of $2.65 per share to shareholders of record as of the close of business on August 13, 2012. The Company paid $2.5 billion in conjunction with this dividend on August 16, 2012. No dividends were declared in the first three quarters of 2012 or in 2011 and 2010.

In 2012, the Company's Board of Directors authorized a program to repurchase up to $10 billion of the Company's common stock beginning in 2013. The repurchase program is expected to be executed over a three-year period with the primary objective of neutralizing the impact of dilution from future employee equity grants and employee stock purchase programs. The repurchase program does not obligate the Company to acquire any specific number of shares. In August 2012, the Company entered into a Rule 10b5-1 compliant accelerated share repurchase ("ASR") program with a financial institution to purchase up to $2 billion of the Company's common stock during 2013. The total number of shares to be purchased under the ASR program will be based on the volume-weighted average price of the Company's common stock during the purchase period and will be reflected as a reduction of shares outstanding on the date of purchase. The Company may also purchase its common stock in open market transactions, in compliance with all applicable securities laws.

From Apple's 10-Q (April 23, 2013): revised announcement of dividend increase and share repurchase increase.

Dividend and Share Repurchase Program

During the six months ended March 30, 2013, the Company paid cash dividends per common share of $5.30 for a total of $5.0 billion. No dividends were paid during the six months ended March 31, 2012. On April 23, 2013, the Company announced it was raising its third quarter 2013 cash dividend by 15% to $3.05 per common share. Future dividends are subject to declaration by the Board of Directors.

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Funding Recommendations: The right decisions, but several months too late.

Although it is hard criticize any decisions that Apple has made because of its enormous financial success, there are some recommendations that could be made in terms of the company's funding management. Apple has historically funded its growth with its shareholders' equity: common stock and retained earnings. Apple has also historically had no debt (see above for information about the new debt issuance). The company has never needed to borrow money since it has almost always been flush with enough cash to sustain its growth. The recommendation I would make for Apple in terms of funding would be for it do what it has already announced: issuance of debt. I think that Apple should have done this (in conjunction with repurchases) months ago- as soon as its stock price began to fall. The stock has been slowly declining since its high of $700 in late 2012. Only weeks ago it hit $390, a low not seen since 2011. Clearly Apple has always aimed to be a debt-free company. While debt is usually a cheaper funding source than equity, Modigliani and Miller found that the value of a firm (under various special assumptions) is not impacted by the firm's capital structure. These findings support Apple's decision to fund itself entirely with equity. However, when the strict assumptions are not in place, capital structure may in fact affect firm value more than Modigliani and Miller theorized. We know that leveraged firms pay less tax then all-equity firms, but it can be difficult to account for all equity firms who hold/hide cash outside of the US (like Apple)

Bondholders of Apple's newly issued debt might prefer an additional aspect of return for their investment. Bondholders of simple interest coupon bonds achieve their return from coupon payments and the principal repayment. There is no way for these debtholders to share the upside in the company and its stock price. Especially in a situation with Apple, where its stock has fallen dramatically, investors may want to be able to be compensated for potential growth and stock price appreciation. This could be achieved through convertible bonds. These hybrid securities are designed to give investors a choice between cash principal repayment, or a conversion to a specified amount of shares. These types of bonds are commonly issued by high-growth companies to allow investors to share in the upside. This type of structure would also allow Apple to pay a lower coupon rate, and might also be a sign of Apple's confidence in growth and stock appreciation.

Apple's WACC: Before and after debt issuance.

WACC: Because Apple historically has had no debt, its WACC was only comprised only of its cost of equity. Below, Apple's cost of equity is computed using the CAPM model. A beta of 1.05 is used, which is slightly above the range of Google, Reuters, and MSN to account for a recent spike in volatility. A 2.5% risk-free rate is used, with current 10-year treasury yields at 1.87% and 30-year rates at 3.08%. A market risk premium of 6% is also assumed, which is based on historical ERP's while accounting the high performance of the markets YTD in 2013 and low risk-free rates.

CAPM: 2.5% + 1.05 * (6%) = **8.8%** cost of equity/capital

Now, with Apple's recent debt issuance, we can find Apple's new/future WACC.
A cost of debt for Apple is 1.85% is assumed, and taken from multiple sources that have derived this rate. A D/E ratio of .125 is used by dividing Apple's $17 billion debt issuance divided by shareholder equity from the 10-Q of $135.5 billion. A tax-rate of 34% is also assumed. See calculations below:

WACC= (1.85%) * (.125) *(.66) + (8.8%) * (.875) = **7.853%**
Despite a very small D/E ratio, Apple is still able to reduce its cost of capital by about 100 basis points by borrowing.

Risk and Reward Strategy: Mobile is the future.

The iPhone and iPad as well as the small-sized iPods look to be the most attractive core products going forward. With both the iPhone and iPad being capable of music storage and playback, the larger model iPods (particularly the iPod touch) seem as though they are becoming obsolete. However, I do believe that demand for smaller model iPods (the Shuffle and Nano) will remain for the more active consumers who don't want a bulky device. There also seems to be a continuing shift away from desktop and even laptop computers. As tablet technology advances and consumers continue to demand portability from their computing devices, the future of the desktop/laptop market is unclear. In 2009, global mobile traffic represented only about 1% of total internet traffic. As of November 2012, that number was 13%. This is proof that consumers in developed and emerging markets alike are shifting towards mobile. With that being said, these high growth potential products are also the more risky ones. There is more risk of a researching and developing new model iPhone (or iWatch) vs. a new model laptop. There is high risk and high reward with the Apple products that depend more on consistent technological upgrades to be success. Despite these higher-risks, I still believe Apple can overcome the risks and continue to improve its iPhone and iPad devices if it focuses more time and energy in these products.

Apple in China: Serious problems in a vital market

I think that Apples problems in China are very serious, and may be just beginning. The Chinese government is the last entity that Apple (or any growing company) wants to be scuffling with. The government has made several attempts to bash Apple and portray the company as arrogant, greedy, and taking advantage of the Chinese people with its iPhone policies. Whether or not these allegations are accurate (it turns out iPhone policies in China are the same as in the US), it is causing unwanted negative publicity for Apple in a country that represents one of the largest opportunities for growth. It would be difficult to quantify these issues in China accurately because it has yet to be seen how Apple intends to respond (aside from Tim Cook's recent apology to Chinese customers). It is important to note, however, how vital a market China is for Apple; China was the only country besides the US that accounted for more than 10% of Apple's net sales in 2012 and 2011. The sales *growth* in China for these same years was also much higher than in the US or all "other countries" (over 300% from 2010-2011 and 83% from 2011-2012).

Apple should continue to focus its efforts in the Asia-pacific region which has seen the fastest growth in recent years. These are enormous emerging markets with obvious high demand for Apple's products, particularly in China. Product wise, Apple should make its iPhones the core products for these markets: current models and/or new cheaper models. Looking at the next five years, China is likely Apple's best opportunity to continue its sales growth if its relations with the country can remain smooth. Within the Asia-pacific markets, Apple should also make India a priority. India is seen by many investors and economists as the "next China" (or an even *better* China). With the massive Indian population slowly becoming more and more industrialized and technologically advanced, companies like Apple are sure to see a surge in growth in the future.

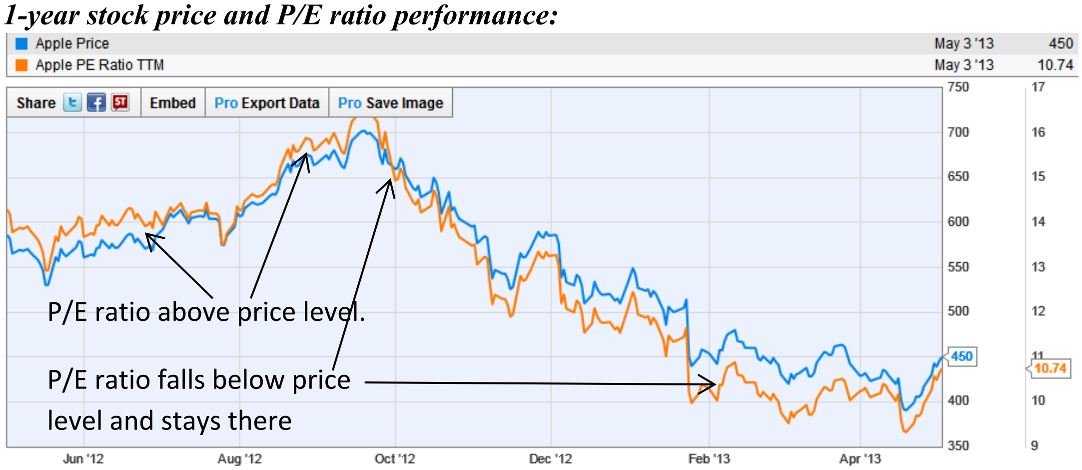
Two-year price prediction: Substantial upside for Apple stock.

My prediction for Apple's stock price two years from now is $600. This is about a 33% appreciation from today's stock price. I base this prediction on a variety of factors. I believe that Apple is currently undervalued relative to its past P/E ratio valuations. In the chart below we can see the P/E ratio line trending above the price itself until around October 2012 when this trend reversed, and the stock price fell. Since that time the P/E ratio has trended significantly below the price (and of course much lower than 13x-15x range it had been in). The second chart also shows Apple's stock price from the past five years. From 2009 until the start of this year, the price has climbed almost exactly $100 each year (even with the spike and drop during 2012). While I do not expect this $100 per year increase to necessarily continue, it still gives reason to be bullish about Apple's stock. Most analysts also agree that Apple stock is a buy at its current levels.

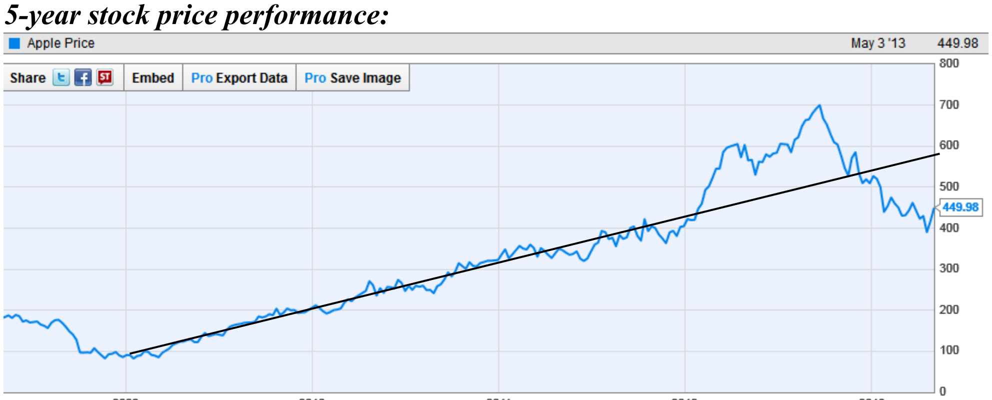
The recent attempts by Apple to influence its stock price via repurchases and dividends are an indication that the company is committing itself to ensure the quality of the stock. As investors start to "warm-up" towards Apple again, confidence in the company will be restored and a further price fall will become unlikely. Despite this undervaluation however, I do not think that Apple will reach $700 or beyond again within the next two years. Declining margins and growing turmoil abroad had created a problem for the stock, and a bullish climb to record levels is unlikely to be seen as a result.

Two years is a very long time in the capital markets, and even more so in the technology sector. I believe that Apple stock's worst days are behind it. Even taking into account the recent issues with China, Apple has a capability (and capital) to overcome these obstacles and get back on track. There are more reasons to be optimistic than pessimistic about Apple stock over the next two years. With technology evolving every day, and emerging markets gradually developing a need for this technology, Apple stands poised to continue its success as an innovation leader. With new iPhone models selling at lower-price points, and Apple TV and the iWatch so highly anticipated, Apple's stock has numerous reasons to go higher as investors realize that Apple products will continue to revolutionize the tech industry.

1-year stock price and P/E ratio performance:



5-year stock price performance:



This black trend line shows that AAPL maybe be undervalued, due to a skyrocket spike in 2012 and subsequent over-selling of the stock.

Recovery might be slow, but the stock should return to its gradual growth rate after Apple reassures investors

*graphs constructed using YCharts.

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*class PowerPoint slides and documents (Vermaelen) also used as reference material