

Corporate Finance Project

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**EXECUTIVE SUMMARY**

**INTRODUCTION**

The purpose of this report is to recommend whether this committee should invest in Microsoft. The report includes number of interesting information on the corporation, its current operations, number of people it employees, its current business model, the range of products and services the company offers, presence of markets domestically and internationally, product and research, customers and main competitors and its competitive advantage. The report includes an in-depth ratio analysis of the company’s financials over the last five years. The report also includes information about the company’s worth today computed with different valuation model to help determine if investing into Microsoft will be profitable. Also the report takes into account the current industry trends as well as the change in business models in technology as well as different assumptions on future financial expectations to make a final recommendation.

Find below the digest of the overall report as well as the final recommendation.

**OVERVIEW**

Microsoft is an American software and hardware company with operations in all continents. Its products have established themselves as standard in many branches of technology making it the number one software company. Its stocks are sold at NASDAQ and the company is listed in S&P 500 index with the symbol MSFT.

The company has a very broad and diversified products range organized by divisions: the windows division, the online and services division, the server and tools division, the entertainment division and the business division. A sophisticated distribution network rooted in the Microsoft Partners network as well as OEMs (Original Equipment Manufacturers) support the sales of Microsoft products worldwide.

**Financial analysis**

The financial analysis is made of a five years study of most important financial ratios and an in-depth stock valuation.

The financial ratios studied are solvency ratio, financial leverage ratios, Asset management and turnover ratios, profitability ratios, market value ratios. Three stock valuation models were used in this study, the dividend discount model, the free cash flow model and the residual income.

**SUMMARY FINDINGS**

The analysis of financial ratios provided about established that Microsoft is in a very healthy state with a very strong financial base and nearly non-existent debts. This is very important for an industry highly where innovation through acquisition is almost a norm. Microsoft has for the recent years experienced a growth despite the shift from a dying PC market where the company is the current leader. Microsoft has managed to record one of the highest growths in the cloud segment, reaching a three digit growth for some products.

Comparing the ratio with Apple a closest competitor with found that Apple is able to generate greater sales and greater Earning per share, thus Apple’s stock price is also very high.

Based on our estimates, Microsoft stock price is 35.49 which is lower than 36.02 the stock price today and gives a little bit room for profits. Our decision will be to hold the decision for few months to confirm our trend towards the future growth expected after the company completes the shift in its business model.

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1. **Company presentation**
   1. **Company Background**

Microsoft was founded in 1975 by Bill Gates and Paul Allen. They envisioned a world where there is one computer on every desk, in every home. In 1981, IBM introduces its personal computer with Microsoft’s 16-bit operating system MS-DOS 1.0. After receiving mixed reviews, due to the complexity of MS-DOS, Microsoft reinvented their operating system and released Windows 1.0 in 1985. Since then, Microsoft has continued to update and reintroduce its operating system, which has led to Windows series becoming the most popular operating system throughout the world. In 1989 Microsoft release its earliest version of Office suite of productivity applications. Since creating two of the most commonly used software products in the world, Microsoft has continued to develop new industry leading products and providing customers and business with superior services.

Microsoft’s mission is “to enable people and businesses throughout the world to realize their full potential by creating technology that transforms the way people work, play, and communicate”. Microsoft develops and markets software, services, and hardware devices that deliver new opportunities, greater convenience, and enhanced value to people’s lives. We do business worldwide and have offices in more than 100 countries.

Microsoft generates revenue by developing, licensing and supporting a wide range of products and services; Also, Microsoft designs and sells hardware devices, and delivers relevant online advertisement to a global customer audience. In addition to individual products and services sales, Microsoft offer suites of products and services.

Microsoft products include Windows operating system for computing devices, servers, phones, and other intelligent devices; server applications for distributed computing environments; productivity applications; business solution applications; desktop and server management tools; software development tools; video games; and online advertising. Microsoft also designs and sells hardware devices including Surface RT and Surface Pro, the Xbox 360 gaming and entertainment console, Kinect for Xbox 360, Xbox 360 accessories, and Microsoft PC accessories.

Microsoft is also present in the cloud market and provides cloud-based solutions to customers. Some of their most successful Software as a Service includes Microsoft Office 365, Microsoft Dynamics CRM online, Windows Azure, Skype, Xbox Live, and Yammer. The business model around the cloud market is based on usage fee, advertisement and subscriptions. Microsoft also provides consulting and production and product and solution support services, as well as trains and certify system integrators and software developers.

Research and development is a very important topic at Microsoft through it research centers, the company develops advanced technologies for future software, hardware, and services. The company is committed to deliver a family of devices and services for individuals and businesses that empower people around the globe at home, at work, and on the go, for the activities they value most.

* 1. **Microsoft business**

Microsoft is one of the pioneers in the software industry and most importantly is the number one software company in the world. The company has grown and expanded to meet new customer need. Today operates business in five divisions to offer great potential to serve customers. They are:

Windows Division

This division has been the heart of Microsoft for very long. The division develops and markets operation systems for computing devices, related software and online services, Surface RT and PRO devices, and PC accessories. Windows 8.1 is probably the current king maker in this Division it focuses on touch and supports both x86 and ARM ships. The division has been very focused on providing innovations to the market place, as a matter of fact, windows 8 is the first version of the windows operating system that supports both x86 and ARM chip architectures and that focuses on touch.

Server and Tools

Server and tools division is in charge of developing and marketing solutions that enable IT professionals and developers more productive and efficient, few areas of operations include server software such as Widows server OS and database server. The division is also focused on creating a coherent environment for professionals by integrating the on premise software and cloud-based offerings.

Online Services Division

The online Services Division manages the MSN portal, it builds and markets information and content designed to help people simply tasks and make more informed decisions on line, and help advertisers connect with audiences. There is a wide range of products developed by this division including Bing, Bing Ads, and MSN. Also, the division supports Yahoo! Websites worldwide by offering the algorithmic and search platform to the web giant. Bing is integrated in all the Microsoft ecosystem generates the majority of the revenues of the online division through display advertising.

Microsoft Business Division

Microsoft Business Division (“MBD”) offerings consist of the Microsoft Office system (“Office,” comprising mainly the core Office product set, Office 365, SharePoint, Exchange, and Lync) and Microsoft Dynamics business solutions, which may be delivered either on premise or as a cloud-based service. Office is designed to increase personal, team, and organization productivity through a range of programs, services, and software solutions and generates over 90% of MBD revenue.

Entertainment and Devices Division

Entertainment and Devices Division (“EDD”) develops and markets products and services designed to entertain and connect people. The Xbox entertainment platform, including Kinect, is designed to provide a unique variety of entertainment choices through the use of devices, peripherals, content, and online services.

* 1. **Products and Brands**

Entertainment Division

***Principal Products and Services:*** Xbox 360 gaming and entertainment console, Kinect for Xbox 360, Xbox 360 video games, Xbox 360 accessories; Xbox LIVE; Skype; and Windows Phone.

Windows Division

***Principal Products and Services*:** Windows operating system; Windows Services suite of applications and web services, including Outlook.com and SkyDrive; Surface RT and Pro devices; and PC accessories

Server and Tools Division

***Principal Products and Services*:** Windows Server operating systems; Windows Azure; Microsoft SQL Server; Windows Intune; Windows Embedded; Visual Studio; System Center products; Microsoft Consulting Services; and Premier product support services.

Online Division

***Principal Products and Services*:** Bing; Bing Ads; and MSN

Business Division

***Principal Products and Services*:** Microsoft Office; Microsoft Exchange; Microsoft SharePoint; Microsoft Lync; Yammer; Microsoft Office Project and Office Visio; Microsoft Dynamics ERP and Dynamics CRM; Microsoft Office 365, which is an online services offering of Microsoft Office, Exchange, SharePoint, Lync, and Microsoft Office Web Apps, which are the online companions to Microsoft Word, Excel, PowerPoint, and OneNote.

* 1. **Market and Customers**

Consumers

To remain successful Microsoft must be able to attract young adults (ages 18-34) to its products and services. Young Adults are technical savvy and have grown up multi-tasking. As many Young Adults go through changes in life such as, going to college, preparing for marriage, or buying a home for the first time they are constantly connected to media and technology. It is important that we engage Young Adults across devices and effectively get the message across most efficiently where and when the audience is online.

* Xbox and Xbox Live – gaming and entertainment are indispensable components of Young Adults’ lives.
* Skype – Over 54% of Skype’s 40M users are younger than 35, making Skype an incredibly useful way to connect with Young Adults on a large scale.
* Bing – Bing helps audiences spend lee time searching and more time doing. Bing reaches over 30% of Young Adults searching online in the U.S.

Customers

Microsoft customers include individual consumers, small- and medium-sized organizations, enterprises, governmental institutions, educational institutions, Internet service providers, application developers, and OEMs (Original Equipment Manufacturers). There are three primary ways for consumers and small and medium-sized organizations use to obtain Microsoft products: distributors, resellers, and OEMs. No sales to an individual customer accounted for more than 10% of fiscal year 2013, 2012, or 2011 revenue. Microsoft ships their products promptly upon receipt of purchase orders from customers; consequently, backlog is not significant.

* 1. **Distribution**

Original Equipment Manufacturer (OEM)

Microsoft distributes software through OEM that actually pre-install the software in new Personal computers. OEM has really worked for products such as Windows Operating systems and products such as Office at a lower scale. Also products such as OneDrive service are also marketed through OEMs

There are two broad categories of OEMs. The largest OEMs, many of which operate globally, are referred to as “Direct OEMs,”. Microsoft has distribution agreements covering one or more products with virtually all of the multinational OEMs, including Acer, ASUS, Dell, Fujitsu, HTC, Hewlett-Packard, LG, Lenovo, Nokia, Samsung, Sony, Toshiba, and with many regional and local OEMs. The second broad category of OEMs consists of lower-volume PC manufacturers (also called “system builders”), which source their Microsoft software for pre-installation and local redistribution primarily through the Microsoft distributor channel rather than through a direct agreement or relationship with Microsoft.

Distributors and Resellers

The other element in Microsoft’s distribution strategy is distributors and resellers they generally directly interact with the company with sales support from solutions integrators, independent software vendors, web agencies, and developers that advise organizations on licensing Microsoft products and services. They are called Enterprise Software Advisors. Organizations also license Microsoft products and services indirectly primarily through Large Account Resellers (LARs) and value added resellers (VAR)

Online

In their nature, some products such as Bing and more generally all the products of the online division uses the internet as the main distribution channel. Online content is provided at Microsoft through MSN portal and Bing for search. The internet is becoming more in more important in Microsoft distribution system because of the shift to the cloud industry. Today bunch of Microsoft product are accessible through internet. Microsoft Office Web Apps, Office 365, Windows Phone Marketplace, Xbox LIVE, Outlook.com, Skype, and Windows Store. We also provide to business users commercial cloud-based services such as Exchange Online, Microsoft Dynamics CRM Online, Windows Azure, Windows Intune, and Office 365 consisting of online versions of Office, Exchange, SharePoint, Lync, and Yammer.

The online channel also includes the Online Advetising platform with offerings for advertisers and publishers as wel as Microsoft Developer Networks subscription. Microsoftstore.com is also used to sell products.

* 1. **Employees**

Microsoft employs 100,932 people worldwide. To help foster diversity and inclusion, Microsoft has a rich community of Employee Resource Groups (ERG) and Employee Networks (EN). These organizations provide career development, support, networking opportunities, mentoring, community participation, product input, and assistance in activities that promote cultural awareness. Their programs include speaker series, scholarship programs, community service, development conferences, and heritage celebrations.

* 1. **Competition**

As any other technology company, Microsoft is competing with a broad range of companies with its products and services. In the segment of computer operating software, Microsoft and his windows System today faces a strong competition from both Apple and the IOS and google and its android system. On the server operating system products competition from wide variety of server operating system and applications is offered by companies with a range of markets approaches. Vertically integrated computer manufacturers such as Hewlett-Packard, IBM, and Oracle offer their own versions of the Unix operating system preinstalled on server hardware. May companies also offer version of Linux which has the advantage to be free.

In application development Microsoft DOTNET framework faces a fierce competition with Oracle java which is probably the number one language used in software development today. Also, Java is free and supported by the availability of wide open source frameworks and tools making it one of the preferred platforms for developers.VMWare, Oracle Virtual Box are two examples of alternative to Microsoft virtualization servers.

Microsoft cloud faces diverse competition from companies such as Amazon, Google, IBM, Oracle and Salesforce.com for customer relations management. At a wider range completion is spread across many companies from multinational consulting firms to small businesses focused on specific technologies.

The Microsoft’s main competitor in online services is Google who offers what can be qualified as the most accomplish search engine as well as broad range of innovative products and services. YouTube for instance has grown to be the number one visited website in the world.

Office the productivity suite of Microsoft is getting into war with companies such as Cisco, Apple, Adobe, and numerous web-based competitors as well as local application developers in Asia and Europe.

In the entertainment industry, the main competitors of Microsoft are Nintendo and Sony, both of which have a large, established customer base. Today, while PS3 and Xbox from Microsoft have focused their business model to an intermediary business connecting game producers and players, Nintendo persisted in a direct sales model. Both Xbox and PS3 are losing money at the sales point which makes competition very difficult among them. In addition to console games, Microsoft faces competition from Google and Apple in online games and more generally smartphone games. Both the Apple Store and Google Play host more than 80% of the world’s total mobile apps. Today, Microsoft is fighting to regain momentum by pushing efforts to gain some market shares for Windows phone.

The competitive arena is very wide in technology today. At a certain point of time each company competes with the other, therefore it is important for every company to make sure it excels in product quality.

* 1. **Competitive Advantage**

Despite a fierce competition in an arena where innovation is a must for every company willing to survive, Microsoft had to possess some clear competitive edge on different areas and here are few of them: a wide patent portfolio, market leadership (and dependence) and Distribution networks.

Microsoft holds a great amount of patents which helps the company to get additional benefits from competitor’s products. One of the notable examples is the royalties the company gets from competitors such as Google on android smart phone producers.

Market leadership Microsoft is able to sell more of its product because the company has established its product, specially its operating system and productivity suites as standard. This means today, a lot of clients will continue purchasing Microsoft products because they fully integrate with their old infrastructure. It is the reason why products based on the cloud such as Office 365 are reporting a 3 digit growth since its introduction to the market years after companies such as Google.

Another competitive pillar at Microsoft is probably his unbeatable distribution strategy. All around the world, Microsoft is established through its Microsoft partners network a vast number of partners who act as first customer and sell Microsoft products.

* 1. **Sales**

For the fiscal year ending June 30th 2013 and 2012, Microsoft recognized the following revenues by product segment:

|  |  |  |
| --- | --- | --- |
|  | **Revenue** (stated in 000’s) | |
| **Consumer** | **2013** | **2012** |
| Hardware | 6,461 | 6,740 |
| Licensing | 19,021 | 19,495 |
| Other | 6,618 | 6,203 |
| **Total** | **32,100** | **32,438** |
| **Commercial** |  |  |
| Licensing | 39,686 | 37,126 |
| Other | 5,660 | 4,644 |
| **Total** | **45,346** | **41,770** |

* 1. **Operations**

Microsoft is a big company that supports operations globally through its operations centers. Each center supports operations in their regions; this includes customer contract and order processing, credit and collections, information processing and vendor management and logistics. The regional center in Ireland supports the European, Middle Eastern, and African region; the center in Singapore supports the Japan, India, Greater China, and Asia-Pacific region; and the centers in Fargo, North Dakota, Fort Lauderdale, Florida, Puerto Rico, Redmond, Washington, and Reno, Nevada support Latin America and North America. In addition to the operations centers, we also operate data centers throughout the Americas, Europe, and Asia regions. Internationalization and localization is highly present in Microsoft product to match the product with the current need of every target markets. For instance in Italy, Microsoft office will be available in Italian. As far as supply chain management is concerned, Microsoft has multiple sources for raw materials, supplies, and components, and is often able to acquire component parts and materials on a volume discount basis.

* 1. **SWOT analysis**

Strengths

Brand loyalty

This is the recognition from the customers that Microsoft does good products and they will be likely to remain customer even in the company's hard times. Many products from Microsoft such as the Office suite are still considered a de facto industry standard.

Brand reputation

Microsoft has established itself as the best software development company in the world, delivering and licensing software in all continents and serving a wide areas of organizational functions (marketing, organization, asset management,…).

Easy to use software

Microsoft’s software have a tremendous focus on usability, making it software easier to use of individual who basically feel products are intuitive and they don't have to learn it for long before they can get the best out of it.

Strong distribution channels

To serve a global market, As you know, Microsoft has a worldwide presence with not less than 22 offices in Africa(one of the biggest PC market in the coming years) has developed Strong distribution channels through partnerships with industry leaders in term of computers manufacturing.

Smart acquisitions

Microsoft has been investing in other companies. Some of the smartest investment decision is: the acquisition of Skype pioneer communication software based on a “Freemuim” business Model, Skype has grown to reach 300 Million Users in 2013 and is still growing. Facebook is the other business where Microsoft invested 240 Million dollar in fall 2007. The acquisition of the Device and phone division of Nokia is also a strength given that Microsoft is change his business model to become a device and service company.

Strong Engineering teams

To quote their newly appointed CEO, Satya Nadella, Microsoft is "In the business of Innovation" and engineers are the main drive of innovations, throughout the last decade Microsoft has be attracting and retaining a lot of technical professionals as well as enhance the software development industry.

Weaknesses

Mature PC markets

The computer industry is at a turning point of its history since the introduction of the Iphone and IPad by Apple, the industry is experiencing is complete shift. The demand in computers is desperately decreasing and that trend is likely to continue. Microsoft is losing the lucrative business of his windows Division.

Slow to Innovate

Microsoft has been very slow to catch up with recent innovations. The company as been surprised by Google and the rise of Android system which rapidly became the industry standard.Though a lot of effort are being put into pushing windows phone forward, it is believed Android and IOs as already won the battle. In the area of cloud computing the company has been slow to provide windows Azure which is the respond to Amazon's cloud technology.

Dependence on hardware manufacturers

Microsoft is a giant software corporation but it does not produce its own hardware and depends on computer hardware manufacturers to develop products that run Windows OS. If cheap and popular alternative OS would appear, hardware manufacturers may simple choose the alternative and Microsoft could do little to change the situation

Poor acquisitions and investments

Few of Microsoft’s acquisitions were successful and brought not just revenues and products but new skills and competencies to the company. Massive, LinkExchange, WebTV, Danger are just few examples of multimillion acquisitions made by Microsoft but soon shut down or divested.

Opportunities

Cloud based services

Microsoft could expand its range of cloud services and software as the demand for cloud-based services is expanding. Coupled to their position into the business segment and the willingness of businesses to reduce cost, the cloud is probably going to be one of the biggest businesses in the future.

Mobile advertising

Mobile advertising markets are expected to grow in double digits over the next few years and Microsoft has a great opportunity to tap into these markets with its mobile OS, his search and engine and can even leverage the potential of divisions such as Skype which account nearly 500 million users.

Mobile device industry

Smartphones and tablets markets will grow steadily over the next few years and Microsoft could exploit this opportunity by introducing more of its own tablets and a new company phone. Also, Thanks to the cloud and BYOD (Bring Your Own Device, product could scale rapidly across devices making it easy for great product to be available in various markets.

Growth through acquisitions

With a huge reserve of cash Microsoft could start acquiring new startups that would bring new technology, skills and competences to the business. It is one of the way Microsoft can catch up with highly innovative companies such as Google, Amazon or Apple.

Threats

Intense competition in software products

Microsoft is more than ever on the pressure to introduce successful OS both in PC and mobile markets as such competitors like Google and Apple have already established positions. Especially, in the mobile word, Microsoft is still having modest market shares with their Windows Phone making it difficult for them to leverage such a important business. Without that channel, it is difficult to sale Ads or even make some revenues through online market place.

Changing consumer needs and habits

Customers shift from buying laptops and standalone PCs to buying smartphones and tablets, the markets, where Microsoft has only a modest market share and may never establish itself. Plus with the shift to the cloud, developers are shifting to a pay as you go model for hosting and the companies are reducing cost by being less tied to on premises infrastructure; everything is moving to IaaS (Infrastruction as a service).

Open source projects

Many new open source projects are coming to the market and some of them became quite successful, such as new Linux OS and Open Source productivity packages. Open source projects are free and so they can become an alternative to expensive Microsoft’s products.

Potential lawsuits

Microsoft has been sued for many times and lost quite a few large scale lawsuits. Lawsuits are expensive as they require time and money. And as Microsoft continues to operate more or less the same way, there is high probability for more expensive lawsuits to come.

1. **Financial ratio analysis**
   1. **Liquidity Ratios**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2009** | **2010** | **2011** | **2012** | **2013** |
| Current Ratio [A/B] | 1.82 | 2.13 | 2.6 | 2.6 | 2.71 |
| **Apple Inc.** |  |  |  |  | **1.68** |
| Quick Ratio [(A-C)/B] | 1.8 | 2.1 | 2.56 | 2.55 | 2.68 |
| **Apple Inc.** |  |  |  |  | **1.4** |
| Cash Ratio {D/B] | 0.22 | 0.21 | 0.33 | 0.21 | 0.1 |
| **Apple Inc.** |  |  |  |  | **0.93** |

Current Ratio:

Over the past five years Microsoft’s current ratio is moving on an upward trend starting at 1.82 in 2009 to 2.71 in 2013. This means that in 2013, Microsoft‘s total assets would pay off its liabilities 2.87 times. If we compare these numbers to one of their main competitors, Apple Inc., we see that Microsoft’s current ratio is much more **favorable** than.

Quick Ratio

Inventories are typically the least liquid of a firm’s current assets; hence they are the current assets on which losses are most likely to occur in a bankruptcy **(Book Citation).**The quick ratio measures if a company can meet they’re short-term liabilities with their most liquid assets. Microsoft’s quick ratio has moved from 1.8 in 2009, to 2.68 in 2013. That means that in 2013, for every $1 of current obligations, Microsoft has $2.68 dollars’ worth of assets (excluding inventory) to cover that liability. This is favorable for both Microsoft and its creditors. We see here that Microsoft has assets, other that inventories, to cover their current liabilities. If Microsoft were to go bankrupt, their creditors would not have to wait until inventories are sold before they can collect the money that is owed to them. We see that Microsoft quick ratio is **favorable** compared to Apple Inc., which is 1.40.

Cash Ratio

The Cash Ratio tells analyst how much cash there is on hand to cover current liabilities. Creditors want to know that companies can cover their liabilities should they go bankrupt, but having too much cash on hand may be looked upon negatively by investors. Large amounts of cash on hand may imply that companies aren’t investing their cash properly.

Over the past five years Microsoft’s cash ratio has had its ups and downs. Starting in 2009, Microsoft had a cash ratio off 22%, then it dropped to 21%, it increased to 33%, then back down to 21%, and then to 10% for 2013. Apple had a cash ratio of .93 for 2013. This indicates that Microsoft’s cash ratio is **unfavorable** compared to Apple.

* 1. **Long-term Solvency and Financial Leverage Ratios**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2009** | **2010** | **2011** | **2012** | **2013** |
| Cash Coverage Ratio |  |  |  |  |  |
| **Apple Inc.** |  |  |  |  | **35.14** |
| Equity Multiplier | 1.97 | 1.86 | 1.9 | 1.83 | 1.8 |
| **Apple Inc.** |  |  |  |  | **1.68** |
| Total Debt Ratio | 0.07 | 0.07 | 0.11 | 0.1 | 0.11 |
| **Apple Inc.** |  |  |  |  | **0.41** |

Cash Coverage

The cash coverage ratio tells us the amount of cash that is available to pay for interest. Microsoft’s Cash Coverage ratio is 0, because they do not pay any interest expenses. Apple Inc. has a cash coverage ratio of 35.14. This indicates that Apple has more interest expense than Microsoft. Microsoft’s cash coverage ratio is **favorable** compare to Apple Inc.

Equity Multiplier

The equity multiplier is calculated by taking the total assets divided by the total stockholder equity. A higher equity multiplier means that the company relies more on debt to finance its assets. We’ve seen the following Equity Multipliers from Microsoft over the past five years. From 2009 to 2013 to Equity Multiplier has been: 1.97, 1.86, 1.9, 1.83, 1.8. This tells us that in each year since 2009 Microsoft’s assets are worth 1.97 to 1.8 times its shareholder’s equity. Compared to Apple’s equity multiplier of 1.68, Microsoft’s is more **favorable**.

Total Debt Ratio

The total debt ratio tells us the percentage of company assets that are financed by its debt. The higher the ratio, the greater the financial risk. A company with a debt ratio of 1 tells us that the company has more debt than assets.

The range of Microsoft’s total debt ratio, over a five year period (2009-2013), starts at 7% and stops at 11%. This is compared to Apple Inc. at 44%. This shows that Microsoft has a very low debt ratio, and that they have a more **favorable** total debt ratio than Apple.

* 1. **Asset Management and Turnover Ratios**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2009** | **2010** | **2011** | **2012** | **2013** |
| Inventory Turnover | 40.17 | 64.84 | 50.98 | 64.84 | 81.5 |
| **Apple Inc.** |  |  |  |  | **83.45** |
| Receivable Turnover | 5.22 | 4.8 | 4.67 | 4.93 | 4.45 |
| **Apple Inc.** |  |  |  |  | **14.22** |
| Total Asset Turnover | 1.19 | 1.12 | 0.93 | 0.91 | 0.77 |
| **Apple Inc.** |  |  |  |  | **0.83** |
| Capital Intensity | 0.84 | 0.89 | 1.07 | 1.09 | 1.3 |
| Apple Inc. |  |  |  |  | **1.22** |

Inventory Turnover

Inventory turnover reveals how many times a company sells inventory and replaces it over a specific period of time. A high inventory ratio tells us that a company has a lot of sales and replaces inventory often. A low inventory ratio tells us that inventory is spending too much time in a warehouse or store shelf. This can be dangerous because the longer the inventory remains static, the more cost it will incur (storage and handling cost) and is susceptible to damages or becoming out dated.

Microsoft’s inventory turnover has increase over the past five years from 40.17 to 81.50, but is still more **favorable** than Apple Inc., which is 83.45.

Total Asset Turnover

The total asset turnover ratio tells us the amount of revenues that are being generated per dollar of asset. The higher the ratio means the higher the return is per asset.. In 2009, Microsoft had a total asset turnover ratio of 1.19 and has continued to decrease each of the following five years. 2013’s total asset ratio was .77, if we compare this number to Apple Inc, which is .83 we see that Apple is doing a better job maximizing their return on assets. Microsoft’s total asset turnover in **unfavorable** compared to Apple.

Receivable Turnover

The receivables turnover ratio focuses on how efficient a company is collecting funds that are owed. Since most companies have credit terms for their customer, monitoring this ratio closely can give us insight to how well companies are monitoring they’re credit terms. Microsoft has done a good job over the past five years of staying very close to the industry average of 5.5. Microsoft had a receivable turnover ratio of 5.22 in 2009, and it continued to decrease to 4.45 in 2013. Compared to Apple who has a receivable turnover of 14.22, Microsoft is more **favorable**.

Capital Intensity

The capital intensity ratio measures the amount of capital that is needed per dollar of revenue. The capital intensity ratio has increased each year since 2009, beginning with .84 in 2009, then .89 in 2010, then 1.07 in 2011, then 1.09 in 2012, and finally 1.3 in 2013. If we compare this to Apple Inc., we see that Microsoft’s capital intensity ratio is more **favorable** than Apple.

* 1. **Profitability Ratios**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2009** | **2010** | **2011** | **2012** | **2013** |
| Profit Margin | 0.25 | 0.3 | 0.33 | 0.22 | 0.28 |
| **Apple Inc.** |  |  |  |  | **0.1958** |
| Return on Equity | 0.37 | 0.33 | 0.41 | 0.26 | 0.28 |
| **Apple Inc.** |  |  |  |  | **0.2998** |
| Return on Asset | 0.19 | 0.22 | 0.21 | 0.14 | 0.15 |
| **Apple Inc.** |  |  |  |  | **0.1789** |

Profit Margin

The profit margin ratio is calculated by dividing net income by net sales. The profit margin tells us what percentage of revenues a company actually keeps. A high profit margin tells us that a company has control over its costs and is operating efficiently.

Microsoft’s profit margins since 2009 are as follows:

|  |  |  |
| --- | --- | --- |
| **Year** | **Microsoft** | **Apple** |
| **2009** | 25% | 18.78% |
| **2010** | 30% | 20.72% |
| **2011** | 33% | 25.58% |
| **2012** | 22% | 25.19% |
| **2013** | 28% | 19.53% |

Compared to one of its competitors (Apple Inc.), Microsoft’s profit margins are more **favorable** over the same period of time.

Return On Equity

Return on equity measures a company’s profitability by telling us how much profit a company generates from the money that shareholders have invested. Over a five year period, beginning in2009, Microsoft’s ROE began at 37% and moved to 33%, 41%, 36%, and then 28%. If we compare these numbers to the industry average of 28.95%, we see that Microsoft had its highest ROE in 2011. Over the past few years it has declined, and as of 2013 their ROE is below Apple’s which is .28. Microsoft’s ROE is **unfavorable** compared to Apple’s.

Return on Assets

Return on assets tells us how efficient management is at using its assets to create earnings. The higher the ratio, the more return a company is earning on its assets. Over the past five years, beginning in 2009, Microsoft has reported the following ROA’s; 19%, 22%, 21%, 14%, and 15%. If we compare this to the industry average of 12.4%, we see that Microsoft’s ROA deteriorated from 2011 to 2012, but improved in 2013. Compare to Apple’s ROA of 17.9%, Microsoft’s is **unfavorable**.

* 1. **Market Value Ratios**

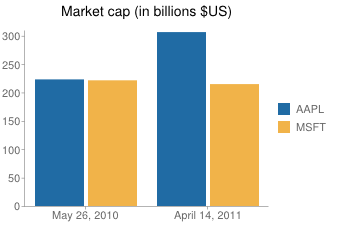
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2009** | **2010** | **2011** | **2012** | **2013** |
| Earning Per Share | 1.62 | 2.1 | 2.69 | 2 | 2.58 |
| **Apple Inc.** |  |  |  |  | **39.75** |
| P/E Ratio | 18.81 | 13.29 | 9.65 | 13.37 | 14.31 |
| **Apple Inc.** |  |  |  |  | **12.75** |
| Market to Book Ratio | 0.37 | 0.33 | 0.41 | 0.26 | 0.28 |
| **Apple Inc.** |  |  |  |  | **3.82** |

Earnings Per Share

We can learn about a company’s profitability through their earnings per share. It represents a portion of a company’s earnings (less taxes and preferred stock dividends) that are allocated to individual shares of common stock. Over the past five years Microsoft’s earning per share has increased. Beginning at 1.62 in 2009 and climbing all the way to 2.58 in 2013. Microsoft’s earnings per share are **unfavorable** for 2013 compared to Apple’s at 39.75.

P/E Ratio

The price-earnings ratio compares a company’s current share price to its earnings per share. The P/E ratio tells us how much an investor in common stock pays per dollar of current earnings. A problem that arises when calculating the price-earnings ratio is that the denominator of the ratio is based on an accounting figure and is susceptible to manipulation. Microsoft reported a P/E ratio of 18.81 in 2009, 13.29 in 2010, and 9.65 in 2011. The decrease reflects a decreasing confidence of growth potential. This decrease was partly due to the lack of innovation and failure to keep up with Apple Inc. With the release of the iPhone and iPad, Apple’s market capitalization rose from $223 billion to $306 billion while Microsoft’s market cap decreased to $219 billion to $212 billion. Over the past few years Microsoft has reclaimed its market cap due to the success of Windows 8, the Windows phone, and other new products and services. Compared to Apple, Microsoft’s P/E ratio is **unfavorable** for 2013.



Market to Book Ratio

Market to book ratio is used to compare a company’s market value to its book value. The market value is based off of the market capitalization, while the book value is an accounting value. By using this calculation we can tell if the company is being overvalued or undervalued. Microsoft’s Market to Book Ratio has moved from .37 in 2009 to .33 in 2010 then to .41 in 2011 and .26 in 2012 and then .28 in 2013. We see that the ratio is less than 1 each year, that tell us Microsoft’s stock is overvalued each year. Apple’s market to book ratio is 3.82, this tells us that Apple is much more overvalued than Microsoft. Microsoft’s Market to book ratio is **unfavorable** compared to Apple’s.

Summary and comparison

|  |  |  |
| --- | --- | --- |
| **Ratio Label** | **Microsoft** | **Apple** |
| **Profitability ratios** | | |
| Earnings Per Share | **2.58** | **39.75** |
| P/E Ratio | **14.31** | **12.75** |
| Market to Book Ratio | **0.28** | **3.82** |
| **Asset Management ratios** | | |
| Inventory Turnover | **81.5** | **83.45** |
| Receivable Turnover | **4.45** | **14.22** |
| Total Asset Turnover | **0.77** | **0.83** |
| Capital Intensity | **1.3** | **1.22** |
| **Long-term Solvency and financial leverage ratio** | | |
| Cash Coverage Ratio | **-** | **35.14** |
| Equity Multiplier | **1.8** | **1.68** |
| Total Debt Ratio | **0.11** | **0.41** |
| **Liquidity ratio** | | |
| Current Ratio | **2.71** | **1.68** |
| Quick Ratio | **2.68** | **1.4** |
| Cash Ratio | **0.1** | **0.93** |

* *Each row in green represents a ratio favorable to Microsoft.*

The current summary result display really interesting result on management efficiency of Apple and Microsoft, for now, we can clearly see that Apple outperforms Microsoft when it comes to profitability ratios. Apple is therefore more able to produce results in the short run as far as returns are concerned. On all the other ratios Microsoft is clearly superior making it stronger company (specifically on the long-term solvency and financial leverage ratios) and viable option in the long run.

1. **Stock valuation analysis**

Here, we will perform a valuation analysis of Microsoft’s stock. We will use a few different models to determine whether investing in Microsoft’s stock would be a smart decision.

* 1. **Dividend Discount Model**

The Dividend discount model is one of the methods available to value stocks for a given firm. The main idea behind the dividend discounted model is to discount the expected future dividend at their present value.

* + - 1. **Estimating the Dividend Growth Rate**

Note: Microsoft 2013 Annual report mentioned: "This past year we took the first big, bold steps forward in our transformation and we did it while growing revenue to $77.8 billion (up 6 percent). In addition, we returned $12.3 billion (up 15 percent) to shareholders through dividends and stock repurchases." This means that the company is willing to use 15% of the annual earnings to compensate stockholders. We will assume that this compensation is mainly through dividend.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **2013** | **2012** | **2011** | **2010** | **2009** |
| Common dividend per share | 0.92 | 0.8 | 0.64 | 0.52 | 0.52 |
| Relative Change In Dividend | - | 0.15 | 0.25 | 0.23 | 0 |
| Average Change | 0.15 | | | | |

There is another way to compute the growth rate using the retention ratio and return on equity historical data. This method is recommended for firms which at a certain point in time stopped paying dividends due to specific policies or some conditions in the market, such as recession. Despite the recent downfall in the economy, Microsoft has continued paying dividends; therefore we are therefore going to use the average change in dividend as our estimate of dividend growth rate.

Estimating the Expected Rate of Return (using the Capital Asset Pricing Model)

The Capital Asset Pricing Model will be used to estimate the expected return, here is the formula:

E(R) = Rf + β [ E(Rm) – Rf ]   
6,5% will be used for risk premium and 4% as risk free. Also, according to Yahoo finance, the beta of the company in 2013 was 0.69.

E(R)=0.04+ 0.065\*0.69

E(R)=8.5%(rounded at 9% as permitted also, doing this will enable us to set the required return high)

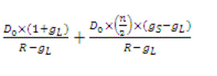
* + - 1. **First Scenario**

The technology sector is currently enjoying fantastic returns. There is also an urge shift happening in the industry. Microsoft has been able to satisfy investors by diversifying business lines. The company has also catch up on the cloud world and is about to offer one of the most complete cloud platform. But at lot of factors are making forecast pessimistic: it is likely that the acquisition of Nokia with its bad results will negatively impact the result of the company in the short run, the Windows profitability is experiencing a tremendous drop due to the collapse of the PC market, the transition of Microsoft to the cloud is not yet complete, Microsoft is not update in some really hot topics and innovations such as the internet of things. Based on this facts we think the company will be able to balance the results of his highly profitable cloud division(103% growth in revenues) with less satisfying results of Nokia division and therefore maintain the 15% growth. Microsoft will probably get Nokia to be profitable again, in fact in the emerging markets the Windows phone are really considered an alternative to android the current market standard. Added to the fact that Nokia is considering to produce android devices which will be rather positive to convince android users to adopt Microsoft cloud, Microsoft can expect to maintain a 15% dividend growth for 4 years and then, a dividend grow to 17% for 10 years and stabilize at a long term dividend of 8%.

The following table summarizes the dividend estimates for the next 4 years at a 15% dividend growth.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Years** | **2014** | **2015** | **2016** | **2017** |
| **Dividend (g=0,15%)** | 1.06 | 1.22 | 1.4 | 1.61 |

Formula for computing the value of future cash flow after 2017

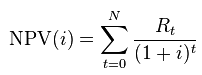


P2017= (1.61\*1.08)/0.01 + (1.61\*5\*0.09)/0.01=173.88+ 72.45=246.33

P2017+=246.33+1.61=247.94

After computing P 2017 with the help of the formula, we have these different cash flows using the financial calculator:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Years** | **2014** | **2015** | **2016** | **2017 +** |
| **Dividend (Ri,g=0,15%)** | 1.06 | 1.22 | 1.4 | 247.94 |

I=R=9% or with this formula 

**P0=NPV=179**

* + - 1. **Second Scenario**

From Yahoo finance the earning per share (EPS) per quarter(because Microsoft release results and earnings every quater) for the year 2014 is 2.7 and 2.9 in year 2015. Assuming that the company will maintain 15% of dividend payout (the payout ratio is 15%) for the next two years and the dividend will grow at an 8% growth rate thereafter. Using the constant growth dividend discount model, the price is given by the following:

**D= EPS\*payout ratio**

For per quarter year 2014: Dq2014=2.7\*0.15=0.4

For per quarter year 2015: Dq2015=2.9\*0.15=0.44

Dq= estimated Dividend per quarter of each year of the years.

We therefore need to multiply by the amount by 4 to get the actual

D2014=0.4\*4=1.6

D2015=1.76

|  |  |  |
| --- | --- | --- |
| **Year** | **2014** | **2015** |
| D | 1.6 | 1.76 |

Now, let's use the dividend discount model with a constant growth of 8% and a required rate of return of 9% to compute the value of the stock after 2015 we know that

**P2016=P2015\*(1+g)/R-g**

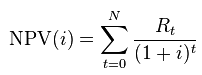
g=0.08 R=0.09 and P2015=1.76

P 2016=1.76(1.09)/0.01=191.84

Here is the schedule of cash flows to compute the price using the financial calculator today:

|  |  |  |  |
| --- | --- | --- | --- |
| **Cash Flow** | **1.6** | **1.76** | **191.84** |

I=9%



**P=NPV=151.1**

Giving the previous calculations in those different scenarios the average price is (151.1+179)/2=165

**P=165**

* 1. **Cash Flow Valuation Model**

The following information can be compiled:

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **2013** | **2012** | **2011** |
| From the balance sheet (From the company website): |  |  |  |
| Accounts receivables (Net) | 17,486 | 15,780 | 14,987 |
| Accounts payables | 4,828 | 4,175 | 4,197 |
| Inventory | 1,938 | 1,137 | 1,372 |
| Property, Plant and Equipment | 9,991 | 8,269 | 8,162 |
| Short-term debt and current liabilities | 37,417 | 32,688 | 28,774 |
| Long-term debt | 12,601 | 10,713 | 11,921 |
| From the Statement of cash flows (annual report 10K): |  |  |  |
| Net income | 21,863 | 16,978 | 23,150 |
| Depreciation | 3,755 | 2,967 | 2,766 |
| Disposals of property, plant and equipment | 0 | 0 | 0 |
| From the Notes to financial statements, Earnings per  share (annual report 10K) | 2.58 | 2.00 | 2.69 |
| Weighted average common shares outstanding (in 000s) | 8,470 | 8,506 | 8,593 |

Fixed Capital Invest. = capital expenditures – proceeds from sales of long-term assets   
2012: (8,162 – 8,269) = 107   
2013: (8,269-9,991) =1722   
W. capital Inv. = (AcctsRec2012 + Inventory2012 – AcctsPay2012) – (AcctsRec2011 + Inventory2011 – AcctsPay2011)   
2012: (15,780+1,137-4,175) – (14,987 + 1,372– 4,197) = 580   
2013: (17486 + 1938 – 4,828) – (15,780+1,137-4,175) = 1,854   
FCFF = Net Income + Depreciation + [Interest (1- Tax rate)] – fixed capital investment – working capital investment (Assume a 35% tax rate for all cases)

FCFF 2012 = 16978+2967-107-580=19258

FCFF 2013 = 21863+3755-1772-1854=16254

|  |  |  |
| --- | --- | --- |
| **Year** | **2013** | **2012** |
| FCFF | 21,992 | 19258 |

Computing Free Cash Flow for Equity

FCFE = FCFF – Interest (1- Tax rate) + Net borrowingThus,

FCFE 2012 = 19,258 + (32,688+10,713) - (28,774+11,921)

FCFE 2012 = 21,964

FCFE 2013 = 21,992 + (37,417+12,601) - (32,688+10,713)

FCFE2013 = 28,609

|  |  |  |
| --- | --- | --- |
| **Year** | **2013** | **2012** |
| FCFE (in 000’s) | 28,609 | 21,964 |
| Outstanding Shares | 8,470 | 8,506 |
| FCFE/Share | 3.37 | 2.58 |

\**to get the free cash flow per share divide the FCFE by the outstanding shares*

We can notice a tremendous growth in free cash flows this is due the increase on income in 2013, the company is not having troubles to generate revenues, but the company is also making a lot of investment to adjust with the current industry standards. We assume that the cash flow is likely to follow the evolution of income for the last 5 years. That is the average change in income will be equal to the average change in cash flow.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **2013** | **2012** | **2011** | **2010** | **2009** |
| Income | 21,863 | 16,978 | 23,150 | 18,760 | 14,569 |
| Relative change |  | 0.29 | -0.26 | 0.23 | 0.28 |
| Average | 0.13 | | | | |

Also, taking into consideration that the cloud shift is going to require a lot of investment, the cash flow progression could not match with the growth of income therefore we will move from our 0.13 projection to 0.1, we will assume cash flows will grow at 0.1 for 2014 and have 6% constant growth afterwards.

FCFE 2014 (per share)=3.37 (1.1)=3.70=FCFE1

 g=0.06; R=0.09

Value of Equity= 3.70/(0.09-0.06)

Value of Equity= $123.6

The FCFE estimate for the value for equity per share is **$123.6**

Assumptions

As per the above calculations, Free cash flow consistently grew in 2013, that this because of a yet profitable but poor performance of 2012 according to the financial ration we previously computed. FCFE projection for 2014 is 10% growth from the previous year (3.70). We also assume a constant 6% growth to compute the value of the equity to be 123.6

* 1. **Residual income**

The first step while using the residual income model is to get the residual income per year we will use



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **2013** | **2012** | **2011** | **2010** | **2009** |
| Earnings | 21,863 | 16,978 | 23,150 | 18,760 | 14,569 |
| ROE | 0.28 | 0.26 | 0.41 | 0.33 | 0.37 |
| Book Value | 78,944 | 66,944 | 57,083 | 46,175 | 39,558 |
| RI | 12,719 | 9,704 | 14,776 | 9,494 |  |
| Change in | 0.31 | -0.34 | 0.55 |  |  |
| Number of Shares | 8,470 | 8,506 |  |  |  |

Let’s compute the average change in RI using the information in the above table. We will just take the mean of the changes in 2013,2012 and 2011 that is

(0.31-0.34+0.55)/3=0.17

The average change in RI is **0.17**

These change in RI is obviously too high to be maintained over the long term. We assume it will decrease by 3% for 5 years and stabilize. In 2013, the RI per share is equal to 12,719/8,470 = **1.5** and the book value in the same year (B0) is 78,944/8,470 = **9.32**.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **2014** | **2015** | **2016** | **2017** | **2018** |
| Computation | 1.5\*1.17 | 1.76\*1.14 | 2\*1.11 | 2.22\*1.08 | 2.40\*1.06 |
| RI Per Share | 1.76 | 2 | 2.22 | 2.40 | 2.54 |

Because the RI is to be stabilized at 2.54 in 5 years from now, it is treated as a perpetuity(That is the formula to be used to compute the price is **D/R** ) and the price at that time is 2.54/0.09 = **28.22**

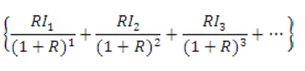
Now we just have to find the net present value and at our initial book value using the financial calculator with the following cash flow.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **2014** | **2015** | **2016** | **2017** | **2018** |
| CF | 1.76 | 2 | 2.22 | 2.40 | 2.54+28.22=30.76 |

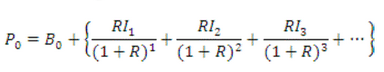
I=9%

NPV=26.7

One can decided to use the following formula



To compute the price of the stock we are going to add the NPV to the book value at year 0



P0= 9.32+26.7=36.02

Based on the residual income valuation the price of the stock is **36.02**

As January 2014, Microsoft price is **35.49** which are still less than **36.02** despite our pessimistic estimations. We will therefore recommend to hold the decision for 2-3 months given that the difference is not that high.

1. **Conclusion**

In order to decide whether to invest in Microsoft stock, we did a broad analysis of the company, competition, and its competitive advantage. We found that Microsoft still has weapons to prevail in the new cloud based world. Financial ratio analysis and comparison with Apple, one of Microsoft main competitor demonstrated some long term key strength in favor of Microsoft. We used various models to determine the Microsoft stock price today. For all the three methods used (Discount Dividend Model, Free Cash flow valuation model, and residual income.) the Microsoft price seems to be undervalued and will experience further growth in the future due to the fact that it will complete the shift of this business model. Therefore, we recommend the committee to **Hold**.

* <http://www.techradar.com/us/news/software/operating-systems/xbox-live-upgrade-includes-300-000-servers-600-times-more-than-its-debut-1161749>
* <http://www.crunchbase.com/company/facebook>
* <http://www.strategicmanagementinsight.com/swot-analyses/microsoft-swot-analysis.html>
* http://finance.yahoo.com/q/hp?s=MSFT+Historical+Prices
* http://www.sec.gov/Archives/edgar/data/789019/000119312513310206/d527745d10k.htm