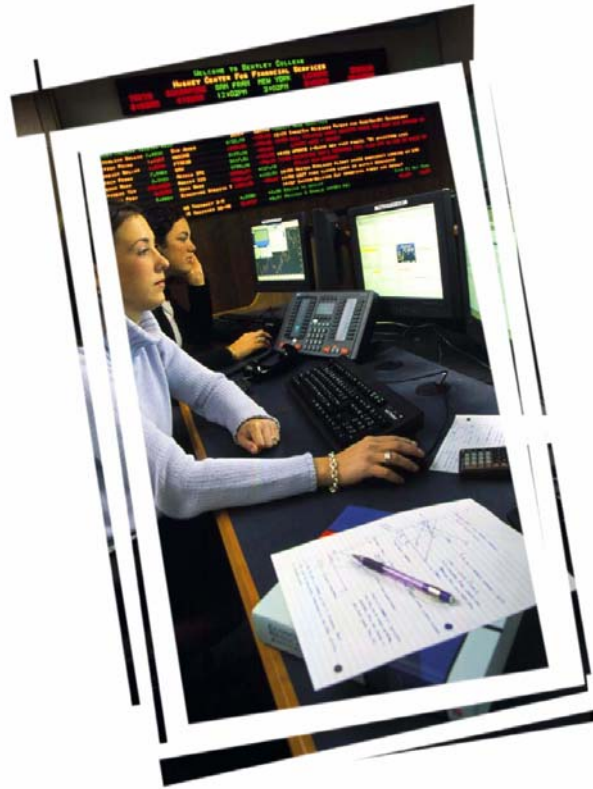


Ratio Analysis



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INTRODUCTION

In valuing and assessing the financial health of any company, various types of analyses are necessary to develop a competent report and conclusion, whether it is digging into the qualitative aspects of a company, or the quantitative. With the quantitative, it considers examining the measurable dynamics of a company. How we pull out the quantitative aspect will come largely from calculations using the items on a company's financial statements (i.e. income statement, balance sheet, statement of cash flows). As you probably know, the majority of the ratios calculated in this tutorial will be looking at items from a financial statement and understanding the relationship between them. Like any research, quantitative analysis will produce excellent results when combined with other methods and techniques in studying a company.

How-to's and Goals of this tutorial:

The objective of this tutorial is for you to not just be able to find, calculate, and/or report a ratio, but to interpret and understand the ratio to be able to value the health and potential growth of a given company. Thus, each ratio will have sub-sections explaining to you different perspectives of said ratio.

What about the ratios??

While ratios can tell us much about a company, it is important to note that ratios are *most effective* when analyzing a ratio's trend or when comparing a ratio against its competitors. Understanding the company's history and environment is key in determining its health, value, and future potential. It is also important to note *how* the ratio is changing. For example, take the P/E ratio, which is the stock price divided by earnings of the company. Essentially, this tells us how much investors are willing to pay for \$1 of earnings the company generates. If the P/E ratio falls, it may be due to two possible factors: 1) The stock price falls, which generally is probably not a good thing, or 2) earnings are up, and the stock price simply hasn't compensated for this change yet, which is a good thing.

There are many sources that will give you a comprehensive listing of financial statements and historical pricing to calculate these ratios. For example, the Trading Room employs the use of MultexNET that will give you up to 20 years worth of financial statements, along with Reuters that can give you up to 10 years worth of historical prices for a company.

VALUATION RATIOS

Earnings per Share (EPS)

$$= \frac{\text{Net Income}}{\text{Shares Outstanding}}$$

Mathematical Definition: Net Income divided by shares outstanding.

Conceptual Definition: This number represents the profit of the company equally split among each share of the stock. In essence, if you own one share of the company, how much of that profit is designated to your share.

Notes:

- EPS is closely watched due to the fact that we notice a strong correlation between EPS and the stock price, i.e., when EPS climbs, the stock price will appreciate. This is *aside* from the fact that the market is in a recession or learning that the company is forging its accounting books.
- EPS is one of the most popular variables when valuing a company. So important, in fact, that analysts are constantly issuing estimates on what future EPS may be.
- One way to analyze a trend is on a basic trend basis: quarter after quarter after quarter, etc. The other way is to compare each quarter to the same quarter of last year. The rationale is this: some companies experience seasonality, seasonality being during certain times of the year a company will see a predicable increase/decrease in sales and profit (i.e. retail stores during the Christmas season). If this is the case, it is difficult in just one year's period

Book Value Per Share (BV)

$$= \frac{\text{Stockholder's Equity} - \text{Preferred Stock}}{\text{Average Outstanding Shares}}$$

Mathematical Definition: Stockholder's Equity subtracting out Preferred Stock, all divided by the average outstanding shares over given period.

Conceptual Definition: This shows us the accounting value of a company versus the market value. While market value incorporates investors' expectations and potential growth, the accounting value shows us the bare numbers of costs and earnings.

Benchmark: The industry average is generally used to gauge whether the company's profit margin is adequate or not.

Notes:

- Generally, the market value (stock price) of the company is probably going to be significantly higher than the book value, particularly in a bull (strong) market. In a bear (weak) market, the market and book value will probably be close to equal. If the market value is below the book value, this may be a potential sign of undervaluation.

Price-to-Earnings Ratio (P/E)

$$= \frac{\text{Stock Price}}{\text{Earnings per Share}}$$

Mathematical Definition: P/E compares the current price of one share of stock divided by the company's earnings of one share of stock.

Conceptual Definition: Essentially, this ratio tells us how much investors are willing to pay for every one dollar of earnings the company pulls in. Investors are willing to pay more than simply matching dollar for dollar because they expect the company to appreciate in value, i.e., the stock price to go up.

Benchmark: Many investors agree that a comfortable (or reasonable if you will) general P/E ratio is 20. More conservative investors may still feel that this number is too high, and will use 15 instead.

Notes:

- Also known as the "multiple".
- Just because a company's P/E ratio may decrease over time does not mean that the company's value or outlook is decreasing as well. It may simply mean that earnings are growing faster comparative to the stock price.
- Most P/E ratios calculated will use historical EPS. Use earnings estimates issued by analysts (First Call) to get a P/E looking into the future.
- Companies with negative earnings (losing money) do not have a P/E.
- Another ratio which may soon be considered the replacement to the P/E is the PEG, or the Price/Earnings to Growth ratio, which is next:

Price/Earnings to Growth Ratio (PEG)

$$= \frac{\text{Price - to - Earnings Ratio}}{\text{Annual Earnings per Share Growth}}$$

Mathematical Definition: The price of the stock divided by the earnings per share divided by the annual earnings per share growth.

Conceptual Definition: Simply a variation on the P/E ratio, The PEG ratio compares a company's P/E to their earnings growth. If the PEG ratio is 1, the indicator tells us that the market prices the stock perfectly to the earnings growth. If the PEG is above 1, it may be an indication that the stock is overvalued. Vice versa, the stock may be undervalued if the PEG ratio is below 1.

Benchmark: "1"

Notes:

- The PEG ratio is becoming increasingly popular over the P/E ratio *because* it factors in growth, whereas P/E does not.

Beta (β)

$$= \frac{\sigma (x, \text{market})}{\sigma^2 (\text{market})}$$

Mathematical Definition: Calculated through regression analysis, the covariance returns of stock x and the market divided by the variance of the market.

Variance – Statistically, measure of association. Financially, measure of risk and uncertainty on the returns of an asset.

Covariance – Measure of co-movement. It relates how two sets of variables behave in relation to one another.

Conceptual Definition: A way to assess the risk, or more accurately volatility, of an asset or stock compared to the market (in many cases, the S&P500 index is used to represent the US market).

Benchmark: “1”; How we do this is start by assigning a benchmark of “1” to the market. If we find that our Beta for our asset is higher than one, we consider the asset more volatile than the market. Conversely, if our asset is ranked below “1”, we consider the asset less volatile than the market.

Notes:

- There are times in which an asset is given a negative beta. This would indicate a negative correlation, i.e., if the market were to increase, the asset would decrease.
- In calculating regression analysis, the resulting output is a simple linear equation: $y = mx + b$, where the beta variable is represented by the slope, m .
- There are other variables of importance related to Beta, such as alpha and r-squared:
 - *Alpha* – the y-intercept. It states the return of the asset if the market brought back no return.
 - *R-squared* – A coefficient between “0” and “1”. It describes the correlation between the asset and the market. R-squared is very useful to help explain the significance of beta. The higher r-squared is (ex. .93 or 93%), the more useful beta becomes. However, if your r-squared is extremely low (ex. .05 or 5%), you should probably ignore the beta.
 - This additional information is easily accessible by utilizing Bloomberg.

PROFITABILITY RATIOS

Net Profit Margin

$$= \frac{\text{Net Income}}{\text{Revenue}}$$

Mathematical Definition: Net Income divided by Revenue, expressed as a percentage.

Conceptual Definition: We remember the basic Income equation: Revenue – Expenses = Net Income. This tells us how much of the revenue, or sales, that is generated can be kept as profit for the company, and that their expenses are kept in check.

Benchmark: The industry average is generally used to gauge whether the company's profit margin is adequate or not.

Notes:

- A low profit margin may not necessarily reflect that the company itself is doing poorly in either business or too many expenses, but rather a possible pricing strategy with their product/service or the impact competition is having on them.

Gross Profit Margin

$$= \frac{\text{Revenue} - \text{Cost of Goods Sold}}{\text{Revenue}}$$

Mathematical Definition: Revenue without Cost of Goods Sold, all divided by Revenue.

Conceptual Definition: This allows us to see the profit after operating expenses only have been taken into account. This assists in helping us understand the financial health of the company in terms of knowing whether or not the company's profit is enough to pay off its other expenses.

Benchmark: The industry average is generally used to gauge whether the company's profit margin is adequate or not.

Notes:

- The use of having both a Net Profit Margin and a Gross Profit Margin may seem redundant, but can be very helpful when analyzed together. In doing so, one can see which part of a company's expenses are weak in terms of minimizing the cost.

MANAGEMENT EFFECTIVENESS

Return on Assets (ROA)

$$= \frac{\text{Net Income}}{\text{Total Assets}}$$

Mathematical Definition: Calculated by dividing a company's annual earnings by its total assets, expressed as a percentage.

Conceptual Definition: Shows the profitability of a company relative to the total assets.

Benchmark: Industry average.

Return on Equity (ROE)

$$= \frac{\text{Net Income}}{\text{Total Equity}}$$

Mathematical Definition: Calculated as Net Income divided by the Total Equity of the company.

Conceptual Definition: This shows us the profit per dollar from the investors. Since pleasing the investors is key with publicly traded companies, this is a very important ratio.

Benchmark: Industry average.

Notes:

- Investors can tweak this ratio to see more accurately what was the return on *their* investment. For example, if you are a common shareholder, you may want to replace "Net Income" with "Net Income – Preferred Dividends".
- If new shares were issued throughout the year this ratio is calculated for, then use the weighted average of the number of shares.
- As an investor, you should expect a higher ROE for growth companies.
- Companies that bring in high profits per dollar will tend to pay off shareholders in the form of higher dividends.

FINANCIAL STRENGTH/SOLVENCY RATIOS

Current Ratio

$$= \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Mathematical Definition: Defined as Current Assets divided by Current Liabilities, this ratio is a measure of short-term solvency.

Conceptual Definition: The current ratio shows us how well a company is able to pay off its short-term debt using its most liquid assets.

Benchmark: “1”; A ratio of “1” would indicate that the company has exactly enough cash (or assets that is relatively easy to turn into cash) to pay off its debt. If the ratio is higher than “1”, the company can successfully pay off its debt while at the same time still have cash left over to continue operating. Naturally, if the ratio is under “1”, then investors should be weary of the fact that the company cannot pay off its short-term debt if necessary. If a company has a ratio of “2.5”, one can say the company can pay off its liabilities more than two times over.

Notes:

- There is such thing as “too high” a current ratio. For example, if a company has a ratio of “7”, it may mean that the company is not effectively using their money; there is too much cash sitting around doing nothing. Perhaps the company should be using their money to invest in other projects? On the other hand, the company may be stockpiling their money to buy out another company.
- More conservative investors may consider a benchmark of “1.5” and a benchmark of “1” for the Quick Ratio (which is next).
- While the Current Ratio has its own benchmark, there may be times in which one might wish to forego this number. For example, the industry average in which a company you are looking at may be a Current Ratio of 0.75. In this case, it may be important to consider why the industry average is so low, and whether or not you should be comparing the company against its own benchmark, or the industry’s benchmark.

Quick Ratio (Acid Test)

$$= \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

Mathematical Definition: Current Assets subtracting out Inventory, all divided by Current Liabilities.

Conceptual Definition: Much like the Current Ratio, the Quick Ratio is a measure of how well the company can pay off its liabilities. However, because we subtract out inventory, this ratio becomes a much more rigorous test of liquidity. The reason being inventory is considered the *least liquid* of the current assets.

Benchmark: “1”; *See Current Ratio > Benchmark explanation earlier in this tutorial.*

Notes:

- If the Quick Ratio is significantly lower than the Current Ratio, then it indicates the company is heavily dependent upon inventory.

Total Debt to Equity

$$= \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

Mathematical Definition: Total Liabilities divided by Total Equity.

Conceptual Definition: The Total Debt to Equity ratio helps us measure a company's financial leverage. It shows us how much of a company's financing of assets is due to investors putting in money into the company, or perhaps loans taken out by banks.

Benchmark: "1"; A ratio greater than "1" indicates the company's assets are mainly financed with debt, while a ratio less than "1" indicates the company's assets are primarily supplied with equity. The higher the ratio, the more leverage a company has, also indicating that it is aggressively financing its assets with debt. The benefits are two-fold: This may mean that their earnings are/will be more volatile and at a higher risk of defaulting (going bankrupt), but also means a higher potential payout to the company's investors and shareholders.

Total Debt to Total Asset Ratio

$$= \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Mathematical Definition: Total Liabilities divided by Total Assets.

Conceptual Definition: This ratio is not much different from the Total Debt to Equity ratio. Essentially, it tells us what portion of the company's assets is financed through debt.

Benchmark: Industry average or "1". If the ratio is above "1", that would indicate that the majority of the company's assets are financed through debt, while if the ratio is under "1", then the company is primarily financed through equity.

Notes:

- It is rare that a company has a ratio higher than "1". Remember the basic accounting equation: Assets = Liabilities + Owner's Equity. If the ratio is above "1", this would mean the company has negative Owner's Equity. If a company has negative Owner's Equity, this probably means that their Retained Earnings account (which is part of Owner's Equity) is negative; essentially, they're losing money, so the company needs to compensate to keep itself afloat by using debt to finance its assets.
- Because most companies will not have a ratio higher than "1", it makes sense to compare this ratio against the industry average.

Interest Coverage

$$= \frac{\text{EBITDA}}{\text{Interest Expense}}$$

Mathematical Definition: Earnings before Interest, Tax, Depreciation, and Accumulation (EBITDA) divided by the Interest Expenses of the company.

Conceptual Definition: The Interest Coverage ratio helps us gauge how well a company can cover its interest payments.

Benchmark: “1”. The lower the ratio, the more of a burden the company’s interest debt is on the company.

Notes:

- If a company does not have any long-term debt, this ratio does not apply, because there is no item that will incur interest.

EFFICIENCY RATIOS

Inventory Turnover

$$= \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Mathematical Definition: Cost of Goods Sold divided by Average Inventory.

Conceptual Definition: The Inventory Turnover tells us how many times a company has gone through, or “turned over”, its inventory during a specified time period, usually a year. It gives us an indication of how fast a company can sell its products.

Benchmark: Industry average; Because this is more of a “performance” ratio, if you will, it is important to see how well the company is able to sell its inventory compared to its competitors, so using the industry average makes a nice benchmark. Naturally, the higher the ratio, the stronger the sales. A low ratio would possibly indicate poor sales.

Notes:

- There is such a thing as too high of an Inventory Turnover. While a high ratio may mean strong sales, it may also mean our pricing strategy may give us little or no return.

Asset Turnover

$$= \frac{\text{Revenue}}{\text{Total Assets}}$$

Mathematical Definition: Revenue divided by Total Assets.

Conceptual Definition: This tells us how much revenue is generated for every \$1 of assets. The higher the ratio, the more efficient the company is with its assets.

Benchmark: Industry average; as said above, because this is a “performance” ratio, it is important to see how the competitors, or the rest of the industry, is doing compared to yours.

Accounts Receivable Turnover

$$= \frac{\text{Revenue}}{\text{Average Accounts Receivables}}$$

Mathematical Definition: Revenue divided by the Average Accounts Receivables.

Conceptual Definition: Measures the firm’s ability to collect payment from its customers, ex. its ability to collect the cash from someone who paid by credit. A higher ratio indicates the firm’s efficiency in its ability to collect those payments, and/or the company operates more on a cash basis. A low ratio may mean that the company should possibly re-think its credit policies and find out why the firm cannot collect its customer’s payments on a timely fashion.

Benchmark: Industry average.

Case Study: Microsoft Corporation (Selected Ratios)

To help you start to see the analysis come into play, some ratios have been calculated for you using the financial statements for Microsoft Corporation for the past 5 years. These were pulled off of MultexNET. You will find copies of these in the appendix.

Earnings per Share: This ratio in particular is more useful if analyzed over time. Since this ratio is very popular on a quarterly basis, we take Net Income and Shares Outstanding for the 4 quarters of 2003. We see:

	1999	2000	2001	2002	2003
<i>Net Income</i>	7,785.00	9,421.00	7,346.00	7,829.00	9,993.00
<i>Total Common Shares Outstanding</i>	10,218.00	10,566.00	10,766.00	10,718.00	10,771.00

With these numbers, we can now calculate on an annual basis the EPS for the company. By dividing N.I. over S.O., we get:

	1999	2000	2001	2002	2003
<i>EPS</i>	0.76	0.89	0.68	0.73	0.93

It should be noted that EPS is often shown on a quarterly basis, but for this tutorial, annual will do just fine. EPS dropped during 2001 with the recession, and now with the possibility that our economy is recovering, we see EPS increasing as well. Because the overall economy has had such an impact on many stocks' performance, a comparison of MSFT's stock performance with EPS might not be as clear. Note, however, that our EPS numbers are the same ones reported on the income statement under the title "Basic EPS Including Extraordinary Items".

P/E Ratio: The P/E is another that should be analyzed through trend as well, but rarely is. We've now calculated our EPS which will be used for our ratio. After downloading historical prices from Reuters or Bloomberg, we have the following data:

	1999	2000	2001	2002	2003
<i>Stock Price</i>	45.0938	40	36.5	27.35	25.64
<i>Basic EPS Including Extraordinary Items</i>	0.77	0.91	0.68	0.72	0.93

Now dividing one into the other:

	1999	2000	2001	2002	2003
<i>P/E Ratio</i>	58.56	43.96	53.68	37.99	27.57

In calculating 5 years worth of P/E Ratios, we see that Microsoft stock was quite expensive in 1999, as one would expect, but over time, decreased, indicating that the stock became less expensive. At the same time, annual EPS is climbing. While contradictory to established base knowledge in finance, this makes sense. Even though the company may have been doing well, because of the US economy, the stock dropped a bit. However, this may be good news for us as investors; as the economy seems to be coming out of the recession, we can feel more comfortable with Microsoft's stock now being cheaper than it used to be.

Net Profit Margin: We use Net Income and Revenue to calculate this ratio:

	1999	2000	2001	2002	2003
Net Income	7,785.00	9,421.00	7,346.00	7,829.00	9,993.00
Total Revenue	19,747.00	22,956.00	25,296.00	28,365.00	32,187.00

Again, using trend analysis, we would like to see if Microsoft has been able to keep more and more of their sales as profit. Hence, our trend is:

	1999	2000	2001	2002	2003
Net Profit Margin	39.42%	41.04%	29.04%	27.60%	31.05%

Microsoft, for their last year, is able to keep 31% of their sales as profit. In addition, it's nice to see that number up from last year. What is not nice to see (although it may not matter at this point) is that revenues were up in 2001, but ability to retain profit decreased. Compared to the industry average of a Net Profit Margin of 19.44%, we can conclude Microsoft being very efficient with keeping its expenses at a minimum and its ability to retain much of its sales as profit.

Return on Equity: We already know that ROE is calculated as Net Income divided by Total Equity. However, as a common shareholder, I want to take a look at this ratio from that specific point of view. Hence, we will be using the calculation (Net Income – Preferred Dividends)/Total Equity.

$$\text{ROE} = \frac{(9,993 - 0)}{61,020} = 16.38\%$$

Since Microsoft isn't paying out any preferred dividends, this is not a factor. Compared to the industry average of 14.32%, Microsoft gives a higher return from my investments than it does to the industry overall.

Quick Ratio: Let's start to take a look at the company's solvency and how well they can pay off their debt. We'll be using the more stringent test out of the two ratios (quick versus current) in this case.

$$\text{Quick Ratio} = \frac{58,973 - 640}{13,974} = 4.13$$

With Microsoft's quick ratio, the corporation can pay off their liabilities 4 times over, if necessary. With such a high ratio, perhaps Microsoft should try investing its money in more project to gain a bigger return?

In addition, when comparing the quick ratio to the current ratio (simply adding back in the inventory into the numerator), we see that there isn't really a heavy change in the ratio. This tells us the company is not really dependent on inventory.

Asset Turnover: How well has Microsoft been able to make its sales based upon the assets that the company has? By dividing Assets into Revenue, we get:

$$\text{Asset Turnover} = \frac{32,187}{79,571} = .405$$

With the industry at an average of 0.58, Microsoft does not perform as well as its competitors as a whole.

Now that we've gone over a few ratios from each of the sections, let's put them next to each other and get a feel of Microsoft's financial health as a whole.

	EPS	P/E Ratio	NPM	ROE	Quick Ratio	Asset Turnover
2003	0.93	27.57	31.05%	16.38%	4.13	.405

Conclusions

While also remembering some of the trend analysis we performed, Microsoft is, financially, in a very good position. Then again, does this come as a surprise? Its Earnings per Share has been consistently increasing while at the same time, the stock is not as expensive as it once was, as indicated by the P/E ratio. Microsoft's ability to retain its sales is much better than the competitor average, and obviously has enough cash to pay off its debt. We also know that as investors, Microsoft gives an adequate return for the money we've put in, and from the money saved from prior years. Concerns regarding their financial health include a lower-than-industry-average ability to bring in sales with its assets, and possibly a too-high quick ratio, showing inefficiency with re-investing that money to bring back more profit. However, considering Microsoft's reputation and knowing the fact that it is one of the largest tech companies out there, coupled with the fact that it is often considered a proxy for its industry, these are probably minor concerns regarding the corporation's financial health.

APPENDIX A: INCOME STATEMENT (MICROSOFT CORPORATION)

Income Statement - Annual - Standardized in Millions of U.S. Dollars					
	1999	2000	2001	2002	2003
Fiscal Period	Jun-30-1999	Jun-30-2000	Jun-30-2001	Jun-30-2002	Jun-30-2003
Period End Date	1999	2000	2001	2002	2003
Period Length	12 Months	12 Months	12 Months	12 Months	12 Months
Update Type	Reclassified	Reclassified	Update	Update	Update
Update Date	Jun-30-2001	Jun-30-2001	Jun-30-2001	Jun-30-2002	Jun-30-2003
Source	10-K	10-K	10-K	10-K	10-K
Source Date	Sep-18-2001	Sep-18-2001	Sep-18-2001	Sep-06-2002	Sep-05-2003
Revenue	19,747.00	22,956.00	25,296.00	28,365.00	32,187.00
Other Revenue, Total					
Total Revenue	19,747.00	22,956.00	25,296.00	28,365.00	32,187.00
Cost of Revenue, Total	2,814.00	3,002.00	3,455.00	5,191.00	5,686.00
Gross Profit	16,933.00	19,954.00	21,841.00	23,174.00	26,501.00
Selling/General/Admin. Expenses, Total	3,953.00	5,006.00	5,742.00	6,297.00	7,619.00
Research & Development	2,970.00	3,772.00	4,379.00	4,307.00	4,659.00
Depreciation/Amortization					
Interest Expense, Net - Operating					
Interest/Investment Income - Operating					
Interest Expense(Income) - Net Operating					
Unusual Expense (Income)		199	4,804.00	4,983.00	2,154.00
Other Operating Expenses, Total					
Total Operating Expense	9,737.00	11,979.00	18,380.00	20,778.00	20,118.00
Operating Income	10,010.00	10,977.00	6,916.00	7,587.00	12,069.00
Interest Expense, Net Non-Operating					
Interest/Invest Income - Non-Operating	1,881.00	3,317.00	5,201.00	4,406.00	2,798.00
Interest Income(Exp), Net Non-Operating	1,881.00	3,317.00	5,201.00	4,406.00	2,798.00
Gain (Loss) on Sale of Assets					
Other, Net		-19	-592	-480	-141
Net Income Before Taxes	11,891.00	14,275.00	11,525.00	11,513.00	14,726.00
Provision for Income Taxes	4,106.00	4,854.00	3,804.00	3,684.00	4,733.00
Net Income After Taxes	7,785.00	9,421.00	7,721.00	7,829.00	9,993.00
Minority Interest					
Equity In Affiliates					
U.S. GAAP Adjustment					
Net Income Before Extra. Items	7,785.00	9,421.00	7,721.00	7,829.00	9,993.00
Accounting Change	0	0	-375	0	0
Discontinued Operations					
Extraordinary Item					
Tax on Extraordinary Items					
Net Income	7,785.00	9,421.00	7,346.00	7,829.00	9,993.00
Preferred Dividends	-28	-13	0		
General Partners' Distributions					
Miscellaneous Earnings Adjustment					
Pro Forma Adjustment					
Interest Adjustment - Primary EPS					
Income Available to Com Excl ExtraOrd	7,757.00	9,408.00	7,721.00	7,829.00	9,993.00
Income Available to Com Incl ExtraOrd	7,757.00	9,408.00	7,346.00	7,829.00	9,993.00
Basic Weighted Average Shares	10,056.00	10,378.00	10,682.00	10,811.00	10,723.00
Basic EPS Excluding Extraordinary Items	0.77	0.91	0.72	0.72	0.93
Basic EPS Including Extraordinary Items	0.77	0.91	0.69	0.72	0.93
Dilution Adjustment	0	0	0	0	0
Diluted Weighted Average Shares	10,964.00	11,072.00	11,148.00	11,106.00	10,882.00
Diluted EPS Excluding ExtraOrd Items	0.71	0.85	0.69	0.7	0.92
Diluted EPS Including ExtraOrd Items	0.71	0.85	0.66	0.7	0.92
DPS - Common Stock Primary Issue	0	0	0	0	0.08
Gross Dividends - Common Stock	0	0	0	0	857
Total Special Items		199	4,804.00	4,983.00	2,154.00
Normalized Income Before Taxes	11,891.00	14,474.00	16,329.00	16,496.00	16,880.00
Effect of Special Items on Income Taxes		67.67	1,585.63	1,594.49	692.3
Inc Tax Ex Impact of Sp Items	4,106.00	4,921.67	5,389.63	5,278.49	5,425.30
Normalized Income After Taxes	7,785.00	9,552.33	10,939.37	11,217.51	11,454.70
Normalized Inc. Avail to Com.	7,757.00	9,539.33	10,939.37	11,217.51	11,454.70
Basic Normalized EPS	0.77	0.92	1.02	1.04	1.07
Diluted Normalized EPS	0.71	0.86	0.98	1.01	1.05
Stock Based Compensation Expense	676	1,249.00	2,262.00	2,474.00	2,462.00
Net Income after Stock Based Comp. Exp.	7,109.00	8,172.00	5,084.00	5,355.00	7,531.00
Basic EPS after Stock Based Comp. Exp.	0.71	0.79	0.48	0.5	0.7
Diluted EPS after Stock Based Comp. Exp.	0.65	0.74	0.46	0.48	0.69
Interest Expense, Supplemental					
Interest Capitalized, Supplemental					
Depreciation, Supplemental	483	668	764	820	929
Funds From Operations - REIT					
Amort of Acquisition Costs, Supplemental				194	161
Amort of Intangibles, Supplemental					
Rental Expense, Supplemental		201	281	318	290
EPS, Supplemental					

APPENDIX B: BALANCE SHEET (MICROSOFT CORPORATION)

Balance Sheet (Differentiates) - Annual - Standardized in Millions of U.S. Dollars						
	Fiscal Period	1999	2000	2001	2002	2003
	Period End Date	Jun-30-1999	Jun-30-2000	Jun-30-2001	Jun-30-2002	Jun-30-2003
	Update Type	Restated	Update	Restated	Update	Update
	Update Date	Jun-30-2000	Jun-30-2000	Jun-30-2002	Jun-30-2002	Jun-30-2003
	Source	10-K	10-K	10-K	10-K	10-K
	Source Date	Sep-28-2000	Sep-28-2000	Sep-06-2002	Sep-06-2002	Sep-05-2003
Cash						
Cash & Equivalents		4,975.00	4,846.00	3,922.00	3,016.00	6,438.00
Short Term Investments		12,261.00	18,952.00	27,678.00	35,636.00	42,610.00
Cash and Short Term Investments		17,236.00	23,798.00	31,600.00	38,652.00	49,048.00
Accounts Receivable - Trade, Net		2,245.00	3,250.00	3,671.00	5,129.00	5,196.00
Notes Receivable - Short Term						
Receivables - Other						
Total Receivables, Net		2,245.00	3,250.00	3,671.00	5,129.00	5,196.00
Total Inventory				83	673	640
Prepaid Expenses						
Other Current Assets, Total		2,221.00	3,260.00	3,856.00	4,122.00	4,089.00
Total Current Assets		21,702.00	30,308.00	39,210.00	48,576.00	58,973.00
Property/Plant/Equipment, Total - Gross		3,516.00	4,314.00	5,275.00	5,891.00	6,078.00
Accumulated Depreciation, Total		-1,905.00	-2,411.00	-2,966.00	-3,623.00	-3,855.00
Property/Plant/Equipment, Total - Net		1,611.00	1,903.00	2,309.00	2,268.00	2,223.00
Goodwill, Net				1,511.00	1,426.00	3,128.00
Intangibles, Net				401	243	384
Long Term Investments		14,372.00	17,726.00	14,361.00	14,191.00	13,692.00
Note Receivable - Long Term						
Other Long Term Assets, Total		940	2,213.00	1,038.00	942	1,171.00
Total Assets		38,625.00	52,150.00	58,830.00	67,646.00	79,571.00
Accounts Payable		874	1,083.00	1,188.00	1,208.00	1,573.00
Payable/Accrued						
Accrued Expenses		396	557	742	1,145.00	1,416.00
Notes Payable/Short Term Debt						
Current Port. of LT Debt/Capital Leases						
Other Current liabilities, Total		7,532.00	8,115.00	7,324.00	10,391.00	10,985.00
Total Current Liabilities		8,802.00	9,755.00	9,254.00	12,744.00	13,974.00
Long Term Debt						
Capital Lease Obligations						
Total Long Term Debt						
Total Debt						
Deferred Income Tax		1,385.00	1,027.00	409	398	1,731.00
Minority Interest						
Other Liabilities, Total				1,878.00	2,324.00	2,846.00
Total Liabilities		10,187.00	10,782.00	11,541.00	15,466.00	18,551.00
Redeemable Preferred Stock, Total						
Preferred Stock - Non Redeemable, Net		980				
Common Stock, Total		13,844.00	23,195.00	28,390.00	31,647.00	35,344.00
Additional Paid-In Capital						
Retained Earnings (Accumulated Defecit)		13,614.00	18,173.00	18,899.00	20,533.00	25,676.00
Treasury Stock - Common						
ESOP Debt Guarantee						
Unrealized Gain (Loss)						
Other Equity, Total						
Total Equity		28,438.00	41,368.00	47,289.00	52,180.00	61,020.00
Total Liabilities & Shareholders' Equity		38,625.00	52,150.00	58,830.00	67,646.00	79,571.00
Shares Outs - Common Stock Primary Issue		10,218.00	10,566.00	10,766.00	10,718.00	10,771.00
Shares Outstanding - Common Issue 2						
Shares Outstanding - Common Issue 3						
Shares Outstanding - Common Issue 4						
Total Common Shares Outstanding		10,218.00	10,566.00	10,766.00	10,718.00	10,771.00
Total Preferred Shares Outstanding		13				
Employees		31,396.00	39,100.00	47,600.00	50,500.00	55,000.00
Number of Common Shareholders		92,169.00	107,824.00	112,001.00	117,730.00	131,800.00