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CLIENT LETTER **January 1, 2000**

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- Microsoft is Too Big to be a Repeat Performer
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Clients and Friends:

Happy New Millennium. To kick off the next 1,000 years, we thought we would dust off the crystal ball and issue a set of predictions for the next fifteen years or so. Oddly enough, using history and logic as our guide, we think it is probably easier to predict what might happen over the next fifteen years as opposed to this year, or even next week. Keep in mind that our core competence at Semper Augustus relates to company and industry analysis. Macroeconomic and societal predictions are fun, but our focus is to invest in excellent businesses at reasonable prices.

With the NASDAQ closing out 1999 north of 4,000, our first prediction is geared toward the enormous overvaluation in technology land. Ignoring the internet.com mania (ignited by Al Gore's prescient invention), we chose Microsoft as representative of the many overvalued legitimate tech stocks. Fifteen legal pad papers of diatribe on Gates and Company later, we realized that to write as much on all 12 predictions would be on the scale of *War and Peace*. To save trees and time (ours and yours), we decided to include our list of predictions, with no elaboration, followed by an analysis of Microsoft.

Semper Augustus Predictions for the Next Fifteen Years

Here is our list. We plan to expand on the specifics in follow-up letters and during meetings with each of you this year.

1 Microsoft shareholders won't be very happy in fifteen years. [An analysis of future economics of Microsoft can be found following this list.]

2 Many of today's pure internet *stocks* will crumble as the *companies* run out of the cash raised in recent IPO's. *The real internet winners are consumers.* The cost-effective distribution channel provided by the internet truly is revolutionizing commerce. Every company will have an internet presence. Retail and fund buyers of internet stocks will prove to be the losers. As is often the case, Wall Street can easily sell revenue-generating power to the public regardless of realistic financial profitability.

3 Today's beneficiaries of the cash raised in internet IPO's will be tomorrow's failures. Hardware companies selling to the dot.coms, advertisers of all stripes, new employees of the internet companies, and insiders plowing their winnings back into the pure-play internet stocks will suffer badly as companies run out of cash and fail. *p.s. Wall Street will keep their underwriting fees.*

4 Aggregate U.S. profit margins will remain bound by historic standards. The average company will earn somewhere between 4%-6%, after tax, over the next fifteen years. This statement has profound implications for the stock market. The U.S. economy is currently earning on the high side of the historic profit margin range. Internet companies, until required by the investment community to generate profits, will exert downward pressure on aggregate margins in the short term.

5 U.S. Gross Domestic Product, basically the total output of final goods and services in America plus net exports, unadjusted for inflation, will grow somewhat slower than historical precedent. At 5% annual growth our $8.9 trillion economy doubles over the next fifteen years. The historic growth rate of nominal GDP has been roughly 6.5% per year. We think the capital stock in this country is greatly overbuilt due to capital expenditure growth, well in excess of output, for too many years.

6 The valuation of the U.S. stock market will equal between 30% and 60% of GDP at some point in the next fifteen years. Today's valuation is currently twice that of GDP.

7 Interest rates, as measured by the 30-year U.S. Treasury Bond, may fall as low as 3% over the next fifteen years. Long-term U.S. government bond yields have averaged 4.3% over the past two centuries. The high yields of the late 1970's and early 1980's, while consistent with tight labor markets and rising commodity prices, were aberrantly high. Rates are ultimately driven by demand for capital. If the capital stock is indeed overbuilt today, the time required to fully utilize current levels of fixed assets will keep a secular lid on interest rates.

8 Despite current government projections from both political parties, the U.S. government will not eliminate the federal debt. Currently at $5.74 trillion, the debt figure does not include the present value of future Social Security, Medicare and federal employee retirement liabilities. Government will invariably tax and spend as much as it can.

9 Unbelievably, the tax code will become more complex. Special interests and favoritism will not recede in Washington. The size and scope of government will continue to slowly suffocate the true potential of this country. Despite this trend, the United States will continue to be, by far, the greatest nation in the world and the land of opportunity.

10 Defense spending will increase as a percentage of GDP, having fallen to 3.9% in 1999 from 7.5% in 1987, 12% in 1960, and 25% during WWII. The ability of the U.S. to defend itself and its interests will clearly be a priority over the next 15 years.

11 Education will continue to privatize, particularly at post-secondary levels. Ivory towers of isolation will crack from irrelevance, and the education of America will join the real economy.

12 The commercial nature of sport will decline. In penning these predictions on New Year's Day, it is not hard to find college football bowl games boring. Utilizing a playoff system would help. Changing sport enough that "student-athlete" is not an oxymoron would be even better.

Microsoft shareholders' annual percentage returns will be lower for the next fifteen years than they have been for the past fifteen (we use fifteen because Microsoft has only fifteen years of stock data, having gone public in early 1986). So as not to be accused of throwing ourselves fat pitches, we will take the prediction one step further (after all, the stock has compounded at an unbelievable 62% per year for the past fifteen years).

Revised one step further prediction: Microsoft shareholders will see their returns compound at no better than a zero percent return for the next fifteen years. In other words, the stock is at least fifteen years ahead of the company.

The logic behind this prediction is in no way indicative of the merit of Microsoft as a company. Investors have been rewarded for the remarkable success of the firm. At twenty billion dollars in annual sales, and an unheard of 38.6% net profit margin, Bill Gates and Company enjoy unrivaled success.

We are assessing the current valuation of Microsoft, and many other highly regarded technology stocks, as far too expensive. If the intrinsic value of a company measures:

a the discounted stream of future earnings available to the shareholder through dividends, reinvested earnings and subsequent capital appreciation, and

b the value a RATIONAL investor would pay for the entire firm in a private transaction;

then in no way is Microsoft worth $619 billion (5.16 billion shares multiplied by 1999's high price of $119.93 per share). Even subtracting $19 billion in cash from the business valuation—the company is debt free—places an implicit valuation on the business of $600 billion? No way!

Microsoft is Too Big to be a Repeat Performer

The current market valuation defies logic and the principles of basic algebra. The business world is not infinite. High growth rates are unsustainable and must ultimately self-destruct. Compounding from a small base, the law of self-destructing growth may not be evident for a long while. At its current level of sales, profitability and market cap Microsoft is now anchored by too large a base.

Microsoft was a much smaller company at the time of its initial public offering during fiscal year 1985. The company earned $24 million on $140 million in sales. In the past fourteen years, sales growth has compounded at an impressive 42.5% per year to $19.8 billion in 1999. Profits have compounded at a more impressive 51.2%, while the market value of the company has compounded at a staggering 68% from its average value in 1985. Anyone could have bought the stock during the first year after the IPO at a split adjusted $0.37 per share, or an equivalent market cap of $425 million.

The law of self-destructing growth rates is already exacting its toll on growth in the company's sales, cash flow, profits and return on capital. In short, all financial measures, except the company's stock price, are slowing. In time, the stock will reflect these fundamentals. The following two tables illustrate historic growth in sales, profits, stock price and market cap over various periods:

Annual Rates of Change in Dollars:

	Past 14 years	Past 10 years	Past 5 years
SALES	42.5%	37.8%	33.5%
EARNINGS	51.2%	46.2%	44.5%
MARKET CAP *	68.0%	67.6%	83.0%

**from yearly average to 1999 high*

Annual Rates of Change per Share:

	Past 14 years	Past 10 years	Past 5 years
SALES	37.4%	35.0%	30.0%
EARNINGS *	46.1%	41.5%	37.5%
STOCK PRICE	62.2% **	59.5%	70.5%

**basic EPS*
***from average in 1985*

Options Exact a Cost on Owners

The differences between the annual rates of change in the tables are attributed to growth in dollars and growth in per share value. Dollar growth has been higher than per share growth because the company has ***increased*** its outstanding shares in ***every*** year as a public company. Adjusted for stock splits, the company has increased its outstanding share count from 3.1 billion in 1985 to 5.1 billion at the close of 1999. Shareholders have been diluted at the rate of nearly 4% per year since 1985.

Dilution is akin to evaporation of water. Pretend you have invested in a bucket of water. While you don't see your water evaporate immediately, the atmosphere ultimately winds up with your asset and you are left holding the bucket. As a simple corporate example, assume you own ten percent of a company. If management authorizes doubling its outstanding shares and you are not issued new shares, your ownership declines to 5%. Your ownership is

The cost to Microsoft to repurchase every share currently outstanding under the option program would consume every dollar generated in sales over the public history of the company!

being evaporated. If the rate of dilution exceeds the rate of profit growth, then the value of your share of earnings will decline. Think about this statement. If a company grows earnings at 6% per year but dilutes shareholders at 7%, then earnings available to the shareholder will shrink, despite the growth in profits at the firm. For doubters, we would be happy to show you examples of companies where this has been the case.

Why has Microsoft, a company generating enormous amounts of cash, been required to be a net issuer of stock in every year of its public existence? In a word: options. Employees of Microsoft have grown extraordinarily wealthy at the expense of common shareholders, being granted the right to buy option shares at when-issued levels, regardless of either the intrinsic value of the firm or the current (or future) market price relative to intrinsic value. While the company *has* issued shares to acquire various firms, the majority of new shares created have been the result of the option program.

More egregious than the prolific use of options has been the unexpensed cost to the company [read: shareholders] of re-purchasing shares every year in an attempt to prevent massive dilution. Microsoft has, in effect, shifted a large part of compensation costs from the income statement to the balance sheet. Despite all this, shareholders have been diluted by two billion shares, nearly 40%, over the past 14 years. At the same time, by avoiding a material income statement expense item, profits are grossly overstated.

Quantifying the cost of the options program, Microsoft has spent the following sums re-purchasing its shares in recent years:

Microsoft Share Repurchases

Year	Billions of Dollars	Percent of Sales	Percent of Profits
1999	$2.950	14.9%	38.7%
1998	2.468	17.0	51.6
1997	3.101	27.3	89.8
1996	1.261	14.5	58.0
1995	.649	10.9	44.7
1994	.348	7.5	28.8
1993	.250	6.7	26.2
1992	.135	4.9	19.1

Typically we are thrilled when a company re-purchases shares with cash generated internally and increases our ownership in the company and its profits. We are not so thrilled when a company issues more than 1% or so of outstanding shares each year to employees. Microsoft issues 2% to 5% of outstanding shares, each year, to employees via the option program. Given the enormous sums the company has spent retiring shares relative to profits and sales, it is mind boggling that the share count continues to grow.

At the close of the company's fiscal year in June 1999, the company had 766 million option shares outstanding, equal to 15% of total shares outstanding, at a weighted average exercise price of $17.28 per share. Options issued vest as early as 4 ½ years out to 7 ½ years. Not exactly long term. At the recent high price of $119.93 per share, employees have options $102.65 "in the money." In dollar terms the employees have the right to buy shares for $13.2 billion, sell those shares for $91.9 billion, and pocket the $78.6 billion difference. The company is obligated to do the opposite—sell $13.2 billion worth of Microsoft shares to its employees and either buy back $91.9 billion worth of stock, or see the current shareholders further massively diluted.

The irony here is that the company does not carry as a liability on its balance sheet the obligation to buy back the shares (to prevent dilution). They do not have that kind of cash on hand, though they do have $19 billion, an impressive sum in and of itself. Further the $78.6 billion off balance sheet liability represents *four times 1999 sales and over ten times 1999 profits.*

Remarkably, cumulative sales at Microsoft, since the company has been public, are exactly equal to this off balance sheet liability. Stated another way, the cost to Microsoft to repurchase every share currently outstanding under the option program, $78.6 billion, would consume every dollar generated in sales over the public history of the company! The repurchase would consume over three times the total of the $23.3 billion in aggregate profits earned over the same period.

Memo to Alan Greenspan:

As an aside to the Microsoft discussion: Concerning the economic cost and distortive effect of stock options, government bean counters have thoroughly misunderstood, and misstated, both corporate profitability and wage inflation. The cost of issuing stock options is an unexpensed form of compensation. Hence, corporate profits at public corporations are overstated. At the same time, when the government calculates wages, excluded are the gains realized by employees from exercise of their options.

Our best guess is that the aggregate national net income numbers are overstated to the same extent that the national wage numbers are understated. Simply put, we have much more wage inflation and fewer corporate profits than estimated. Regarding profits and labor costs, too much credit is being given to productivity. To what extent have 1) the decline in depreciation as a percentage of the capital stock and 2) the shift in the tax burden from corporate America to the household had in the growth in corporate margins over the last 14 years?

Projections

Returning to Microsoft's self-destructing growth rate and the current base from which Microsoft will grow over the next fifteen years. Let's make some projections.

Fifteen-Year Growth

	1999	6.5%	10%	20%	40%
SALES	19.8 B	**50.8 B**	**82.5 B**	**304.2 B**	**3.1 T**
NET INCOME	7.6 B	**19.6 B**	**31.9 B**	**117.5 B**	**1.2 T**
MARKET CAP	620 B	**1.6 T**	**2.6 T**	**9.6 T**	**96.5 T**
U.S. GDP	8.9 T	**22.9 T**			
AGGREGATE U.S. PROFITS	500 B	**1.3 T**			

B=Billion Dollars *T=Trillion Dollars*

It is absolutely implausible that Microsoft's sales, profits or market capitalization will grow anywhere near their historic growth rates over the next fifteen years.

Assume U.S. Gross Domestic Product compounds at its historic 6.5% growth and that the U.S. economy maintains current levels of profitability [both may be a stretch; see other predictions]. The economy would have an output of nearly $23 trillion in goods and services and generate a 5.7% profit margin of $1.3 trillion in 15 years.

Microsoft's share of aggregate U.S. sales, currently .02% of GDP, if grown at 40% for fifteen years would total $3.1 trillion or 13.4% of GDP. Bear in mind that healthcare spending, as an example, currently accounts for about 13% of GDP and the U.S. auto industry accounts for half that percentage. At 40% growth per year for 15 years, Microsoft's revenues would account for the same share of the economy as healthcare does today.

Microsoft currently generates revenues roughly equal to US coffee sales. Would anybody dare predict that coffee sales will grow from .02% of GDP to 13 % over the next fifteen years?

Microsoft's incremental cost to upgrade operating system software and its office suite software is somewhat nominal. With its enormous installed base as a competitive advantage and because of their clever option accounting, Microsoft's profits currently consume a higher percentage of U.S. profits than their sales do as a percentage of GDP. Microsoft currently earns, before share repurchases, 1.5%

of U.S. profits. In other words, their profitability is considerably higher than the nearly 6% margin enjoyed by the average U.S. corporation

Assuming the company grows sales at 40% per year, and the company maintains their current profit margin, then Microsoft would earn $1.2 trillion in the year 2014. If U.S. corporations maintain current levels of profitability (which are on the high side of historic profitability), and the economy does grow to the aforementioned $23 trillion by 2014, then aggregate U.S. profits would total $1.3 trillion. *Microsoft at that point would account for an impossible 92% of all profits earned by all companies in the U.S.*

Investors in companies should expect to see their investment grow at roughly the same rate, over the long haul, as the companies grow internally. This logic holds as long as the investor pays a fair price for the company [see our Client Letter dated August 6, 1999]. If the aforementioned growth illustrations hold and the company grows at 40%, the stock compounded at that rate would place a $96.5 trillion market value on Microsoft fifteen years from now. The company would be *four times the size of our high side projection of GDP!* Until 1997 the market value of ALL public companies in the U.S. never exceeded the dollar value of GDP. Even today, with the aggregate stock market more highly valued than it has ever been, the whole market is currently valued at twice GDP.

At a more modest 20% rate of growth, the market cap of Microsoft would grow to $9.6 trillion, 42% of our high projection of GDP. Over the past 100 years, the entire stock market has averaged about 50% of the economy.

Investors should expect to earn at least 10% per year to justify the risk of owning stocks versus less risky fixed income securities or even cash. If Microsoft grows its value at 10% for the next fifteen years, it would be valued at roughly $2.6 trillion, or 11.3%, of projected GDP.

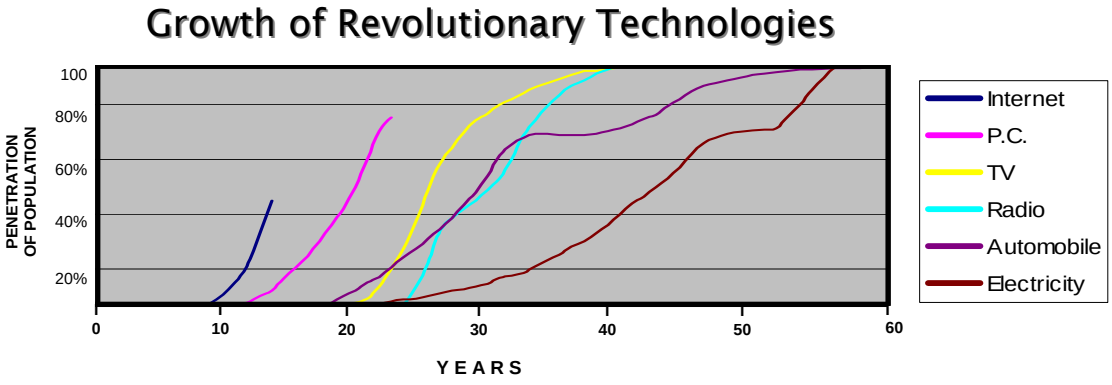
Maintaining a similar market cap growth rate over the next 15 years as the last 15 years moves the market capitalization of Microsoft into the quadrillions of dollars. Seriously.

Today's Valuation

Today, Microsoft is valued at 31 times 1999 sales and 81 times 1999 earnings. The stock is discounting growth that will not likely happen at historic rates. Continuing with the examples illustrated in the "Fifteen Year Growth" table, even if Microsoft grows sales and earnings more modestly, which we think will be the case, then the current stock price already is discounting enormous growth over the next fifteen years. For example, if sales and earnings grow at 10% then the company would earn $32 billion on $82.5 billion in sales. At today's market cap of $620 billion, the stock is *already* valued at 19 times 2014 earnings and 7.5 times 2014 sales at 10% growth.

Why should Microsoft sales and earnings grow at a much slower rate over the next fifteen years? Falling back on our law of self-destructing growth rates, recall what happened to past industries that, in their heyday, were growing at Microsoft-type rates. Keep in mind that the graph below is no more than the classic business or industry life cycle from ECON 101.

Beginning with electricity at the Edison Electric Light Company in 1878 and continuing with the major innovations of the twentieth century, notice how industries advance from the invention and infancy stage to a rapid growth phase. As the world has developed, major technological advancements have gained widespread acceptance sooner and have reached maturity over fewer years.



During the early development and pre-roll out phase of a company or an industry life cycle, capital expenditure and fixed overhead often consume an enormous amount of capital. As acceptance and market penetration accelerate, cash flow and profits often catch up with, and grow faster than, sales; i.e., margin improvement. High margins and improving returns on capital tend to attract competition. Once a business or industry reaches maturity, fierce competition often erodes profitability relative to sales, growth in sales slow, and earnings shrink relative to sales.

We think the core business of Microsoft, and its related industries-personal computers and hardware, are much closer to maturity than investors realize. We are not naïve enough to think that firms like Microsoft will not change their product mix and competitive strategy over time. They will. We are simply acknowledging that the percentage of households and businesses using personal computers, the Microsoft operating system, and the Windows platform is already quite high.

By sales, General Motors is the largest company in the U.S. with $170 billion in annual revenues.

Let's compare the core business of Microsoft with the history of the auto industry. As the auto industry began mass production of cars, literally hundreds of companies competed for a share of the booming industry. Investors could clearly envision a world where every family would own a car, even two, and confidently placed bets on the stocks of their favorite companies. Because of the obvious and inherent growth in the industry, investors could perhaps fathom that the industry would someday sell over seventeen million cars in a single year at an average price of over $20,000 per vehicle, as it did in 1999. With high growth rates, it seemed logical to pay a premium to sales, and certainly a large multiple to profits (or projected profits in the cases of companies losing money but investing in infrastructure – internet stocks anyone?).

But something funny happened on the way to the bank. Most of the companies in the industry failed or disappeared. As the industry matured, surviving businesses consolidated. Auto sales became more driven by the ebb and flow of the economy. Sales growth slowed. Competition for the marginal sale was intense. Margins contracted. The lofty premiums that the stocks had commanded relative to sales, cash flow, and earnings shriveled.

Today, there are three remaining domestic auto goliaths (2½ if you discount German ownership). Sales grow annually at all of 4%. Profit margins are an anemic 3%. The industry consumes more capital than it generates, even in good times. The companies consistently earn less than their real cost of capital. During the past seventeen glorious years of nearly 20% returns per year on the Standard & Poor's 500, the industry's return to shareholders has been less than the rate of inflation. The stocks trade at single digit multiples to earnings and less than half of sales.

Contrast household spending today on Microsoft's products with household spending on automobiles. If we buy a new or used car every 4-5 years, perhaps the average American eligible to drive spends about $3,000 per year (amortizing the car cost over 4-5 years) purchasing cars and trucks. How much of America's wallet does Microsoft capture each year? If we divide the company's $20 billion in annual revenue by 275 million Americans, then every man, woman, and child contributes roughly $73 to Gates and Company. That amount, ironically, just about equals the operating system price that Judge Thomas Penfield Jackson used in concluding that the company was a monopoly. Our example is clearly too simple in that we leave out business sales, international customers, and other products. However, we also ignore the fact that members of a family of four will not each buy one copy of Microsoft software every year for the 1 PC in the family study. The 620-billion-dollar question is: How will Microsoft grow their share of the household and business pie from $73 per individual to $3,000 *and at the same time maintain profitability*? We don't think they will.

Intelligently Acquiring Growth

How could we be wrong regarding the fifteen-year outlook for Microsoft shareholders? The company could intelligently acquire good businesses using their extremely overvalued stock as currency (cheap as a tool for making acquisitions). As long as Microsoft gets more for their shares than they give in intrinsic value, and as long as they find a way to prevent massive dilution to current shareholders, then the company *could* grow sales and earnings at premium rates relative to the average business.

At the end of the day, Microsoft would look something like Jack Welch's General Electric or Warren Buffett's Berkshire Hathaway. Bill Gates will be more revered as a legendary capital allocator than as a software mogul.

Recent Discussions:

Energy/Energy Services

March 23, 1999 Letter:

Diamond Offshore

Schlumberger

Transocean Offshore

Broad Market Profile

July 12, 1999 Letter

Property Casualty Insurance

August 6, 1999 Letter:

Mercury General

In This Letter:

Predictions for the Next Fifteen Years

Future Economics of Microsoft

At the end of the day, Microsoft would look something like Jack Welch's General Electric or Warren Buffett's Berkshire Hathaway. Bill Gates will be more revered as a legendary capital allocator than as a software mogul. The problem is, in pulling this off, the managers and owners of the companies they buy would have to be willing to get less value for what they give. We doubt the owners of Microsoft's acquisition targets would be willing to severely underestimate the intrinsic value of their own companies for the strategy to work.

Closing Thoughts

We should state that our intent with this analysis is not to discredit Microsoft. We have sincere admiration for what they have been able to accomplish since the company was founded. Microsoft has built, in a relatively short period of time, a virtually unassailable business franchise. We are not short the stock, nor are we advocates of the Justice Department and their antitrust suit versus the company. Our intent is to hold Microsoft out, as the largest company, by market capitalization, in the world, as an example of the excesses in certain sectors of the stock market. We believe that investors today are overly optimistic regarding investment returns in the future. Disappointment will likely ensue.

We do not applaud the accounting practices, utilized by today's stock market bellwethers, or the flimsy analysis, conducted by Wall Street and buy side money managers. We are not trying to call a top to technology stocks or to the overvalued large cap tier of the stock market. We do hope to enlighten readers of this piece to the way Semper Augustus conducts investment research. We don't think investments need to be too complex. In short, we approach each investment with reasonable expectations and are always cognizant of downside risk. Believe us, there is plenty of risk in today's investment arena. Too few investors incorporate business valuation, simple algebra and logic in their analysis. We wish good luck to those that don't.

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