

Intrinsic Value

by Mohnish Pabrai

*It's a real tragedy when you buy a stock that's overpriced;
the company is a big success and you still don't make any money.*

- Peter Lynch, One Up on Wall Street, New York, Penguin Books, 1989, p. 244.

In the last few months, technology companies have had **hundreds** of billions of dollars knocked off their market caps. Many blue chip names are off over 70% from their prices less than a year ago. Is it time to buy? Can they go any lower?

Let's examine that question in the context of one of the best technology businesses on the planet – Microsoft. Microsoft shares recently have been trading at about \$70, off over 40% from its high of \$119.93. They went as low as \$40/share in December 2000. Is Microsoft a buy at \$70? Is it a compelling buy if it dips down to \$40 again? What is Microsoft worth and what type of annualized return would one derive from buying the stock today?

Before we try to answer those questions for Microsoft, let's consider another one:

Let's say a neighborhood gas station was put up for sale and the owner offered it for \$500,000. Further, let's assume that the gas station can be sold for \$250,000 after 10 years and free cash is expected to be \$100,000/year for the next ten years. Let's say that we have an alternative risk-free investment that would give us a 10% annualized return on the money. Are we better off buying the gas station or taking our 10% risk-free return?

Any business is worth the sum of free cash flow it will generate from now to eternity, discounted to present value using a reasonable risk-free interest rate. (John Burr Williams, Ben Graham, Warren Buffett et. al.)

Applying this notion of Intrinsic Value to the gas station yields a present value of \$710,000. In other words, the gas station represents a better deal and a return substantially higher than 10% annually.

Year	Free Cash Flow	Present Value of Future Cash Flow
2001	\$100,000	\$90,909
2002	\$100,000	\$82,645
2003	\$100,000	\$75,131
2004	\$100,000	\$68,301
2005	\$100,000	\$62,092
2006	\$100,000	\$56,447
2007	\$100,000	\$51,315
2008	\$100,000	\$46,650
2009	\$100,000	\$42,410
2010	\$100,000	\$38,554
2011	\$250,000	\$96,386
TOTAL		\$710,839

The bigger the discount to intrinsic value the more compelling the business becomes as a buy. All the great qualities of a business get fully reflected in its ability to earn cash in the

future. Hence, regardless of the quality of the business, **no business should be purchased above its intrinsic value.**

Microsoft is a wonderful business. It has several exceptional traits that are rare to find together in a single company. Some of these exceptional traits are its recurring revenue stream (from upgrades), ability to raise prices and reduce costs ahead of inflation, its near-monopoly in most of its markets, its strong installed base, brand etc.

Microsoft's Intrinsic Value

The question an investor should ask when looking at Microsoft, or any other company, is not what the stock is priced at, but what the market capitalization of the company is. Like the gas station is selling for \$500,000, Microsoft is selling for \$380 Billion. Most investors fixate on the stock price. Microsoft, however, through splits or reverse splits, can make its stock price ***whatever it wants it to be***. Think of it as a business, just like you think of the gas station as a business.

Microsoft's free cash flow is vastly different from reported net income. Like many technology companies, Microsoft issues stock options to virtually all employees. It has historically spent a large portion of its net income buying back stock to offset the dilution effect of options. The share buybacks annually are less than the options exercised each year. So the money used to buy back stock (less the amount received from employees when they exercise options) should be subtracted from net income to get closer to free cash flow. In effect, the money spent buying back stock might as well have been delivered in the form of checks to employees. The end result is the same.

In Fiscal 2000, Microsoft had net income of \$9.4 billion, but spent about \$4.9 billion

buying back its stock. So ignoring other minor balance sheet items, free cash flow was around \$4.5 billion. Let's assume that Microsoft grows at 10% annually through 2005, and 8% thereafter for the next few years. Let's also assume that free cash flows are a healthy 25% of revenues after stock buy backs. Finally, let's assume a sale of Microsoft in 2011 for a rich 15 times cash flow or almost 2 times its 2010 growth rate.

Year	Free Cash Flow (In billions)	Present Value of Future Cash Flow (In billions, 10% discount rate)
2001	\$6.3	\$5.8
2002	\$6.9	\$5.8
2003	\$7.6	\$5.8
2004	\$8.4	\$5.8
2005	\$9.2	\$5.8
2006	\$10.0	\$5.6
2007	\$10.7	\$5.5
2008	\$11.6	\$5.4
2009	\$12.6	\$5.3
2010	\$13.6	\$5.2
2011 (Sale)	\$203.7	\$71.4
SUB-TOTAL		\$127.2
Current Book Value		\$41.0
TOTAL		\$168 Billion
Shares Outstanding in 2011		7.3 Billion

Intrinsic Value of Microsoft

\$23/share

Microsoft has about \$41 billion in book value. If I (generously) give them 100% credit for all of it being excess capital, the total intrinsic value of Microsoft is about \$168 billion or \$23/share. The growth assumptions on Microsoft and the assumption that they will hit no road bumps or disrupters in the next 10 years are quite optimistic. If \$23/share is the correct intrinsic value, then value investors would want a Ben Graham/Warren Buffett “margin of safety” to justify the investment. This margin in a technology centric business should be at least 40-50%. So, at most, Microsoft may be a buy at under \$13/share. It’s a far cry from the \$70/share it is currently trading at. It’s important to remember that investors who buy Microsoft at \$23/share will net a 10% return if there are no road bumps. Investors buying at \$40, \$50 or \$70/share will see a much lower return that starts to approach zero.

As Ben Graham succinctly put it, the stock market is a voting machine in the near term and a weighing machine in the long term. In the long run, all companies will trade around their intrinsic values. So, unless the fundamental business improves dramatically, we are bound to see a lack luster performance by Microsoft stock over the next decade – even though the company continues to grow and prosper.

Let’s do the math from another angle. Microsoft has a market cap of \$235 billion. If someone invested in Microsoft thinking it was a good long-term investment, they might be looking for at least a 15-20% annual rate of return from this blue-chip tech company.

If a 20% annual return has to be realized over a 5-year period, Microsoft needs to have a market cap north of \$600 billion in 2005 (including employee option exercise dilution). To justify a valuation of \$600 billion, Microsoft needs to be generating free cash flow in the range of \$50-60 billion a year in 2005. How many companies in the United States have ever generated that type of cash flow? The answer is zero. It is very unrealistic that free cash flow will grow 10-fold in the next 5 years. Even GE does not generate that type of cash flow.

Conclusion

The missive of this article is to provide a framework for valuing businesses. Investors would be well served to look for great businesses within their circle of competence and then calculate intrinsic values for those businesses. If they are being sold well above intrinsic value, just take a pass. On the other hand, if they are available a deep discounts to IV, back-up the truck ...

Mohnish Pabrai is the Managing Partner of The Pabrai Investment Funds (www.pabraifunds.com). The Pabrai Funds are public-equities funds modeled after the original 1950s Buffett Partnerships. Since inception, The Pabrai Investment Funds have consistently beaten the Dow, S&P 500, Nasdaq Composite Indices and 90+% of mutual and hedge fund managers. He can be reached at mpabrai@pabraifunds.com.

Picks and Pans for this issue:

Buy Intel at under \$8/share

Buy Cisco at under \$7/share

Buy Microsoft at under \$13/share

Buy Budget Group 9.125% 2006 Bonds (Cusip 119003AF8) at under \$53

