

Equity Research
North America

Industry

Internet: New Media & eCommerce and PC Software

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Industry Overview

May 11, 2001

Thoughts on Our Investment Approach

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- In this note we discuss our philosophy, our approach to risk, and our track record.
- We outline the key methods we use in judging investment success, and lay out how and why we do what we do with stock picking. As true believers in the buy-and-hold investment strategy and the quest for ten-baggers, we explain what we look for in identifying winning companies and stocks.
- And we discuss our track record, and where we think we are going from here.

We hope you find this useful, and, as always, we welcome your comments.

Thoughts on Our Investment Approach

For when the One Great Scorer comes to mark against your name, /He writes -- not that you won or lost -- but how you played the Game. -- Grantland Rice

I read those words countless times -- they were posted on a wall outside a high school locker room. Grantland Rice was clearly referring to the game of life, and I couldn't agree with these famous lines more. In fact, I'd augment them: Winning and losing are important, too, and that's what track records are about. Track records are not about one-hit wonders (or strikeouts); they are about execution, year in and year out. Success cannot be achieved without taking risk. And accepting risk means accepting that failure is an option.

In this note we discuss our philosophy, our approach to risk, and our track record. We outline the key methods we use in judging investment success, and lay out how and why we do what we do with stock picking. As true believers in the buy-and-hold investment strategy and the quest for ten-baggers, we explain what we look for in identifying winning companies and stocks. And we discuss our track record, and where we think we are going from here. We hope you find this useful, and, as always, we welcome your comments.

2000: A Tough Year for Buy-and-Hold Investors...

The Nasdaq rose 42% annually on average in 1995-99, compared with 25% for the Dow over that period and a risk-free rate for all of the 1990s of 5.2-8.5% for the 10-year Treasury. But in 2000, the Nasdaq fell 39% (and was down 68% from 3/10/00 peak to 4/4/01 trough — a period when many market leaders, including the likes of Cisco, Intel, Hewlett Packard, and AT&T, fell significantly). The Internet indices rose 100%+ in 4Q99, setting up difficult comparisons last year. And while it was a tough year for people who owned most stocks in late 1999 and held them through 2000, it was an especially painful year for people who purchased stocks in 4Q99 and 1Q00.

The year 1992 was another tough one, but the wealth created from the stocks we stuck with (primarily Microsoft, and later Compaq and Dell) more than made up for that “bad year.” And we believe the portfolio of stocks we are sticking with now will together more than

make up for the bad year we had in 2000, as measured by aggregate wealth creation.

...But We Still Believe in the Long-Term, Buy-and-Hold Investment Strategy

I'm a buy-and-hold investor (not a market timer). Volatility and cycles are a fact of life, and I believe in dollar-cost-averaging and building positions in a portfolio of companies over time. This stance comes from my experience as the analyst at Morgan Stanley with primary research coverage responsibility over the years for big long-term stock market winners like Microsoft, America Online, Dell, Compaq, eBay, Adobe Systems, VeriSign, and Intuit. And I've been up close and personal with the likes of awesome colleagues such as George Kelly and Chuck Phillips, and wealth creators like Cisco and Oracle. I measure my success as an analyst by the amount of wealth created by the stocks that my team and I recommend, and it's measured over a period of years.

We have just lived through a period of aggressive speculation, and people lost money. But we have also lived through the most powerful, rapid period of innovation and net wealth creation that the world may have ever seen -- and both good and bad come with this territory.

We've seen some big stock price declines (and subsequent recoveries) before for hero-to-goat-to-hero companies (Exhibit 1). Consider Oracle (down 81% to a split-adjusted \$0.13 in mid-1990); Compaq (down 71% to \$1.40 in 1991); Dell (down 45% to \$0.24 in mid-1992); Cisco (down 51% to \$1.09 in mid-1994); and America Online (down 68% to \$1.42 in mid-1996). Note, for perspective, that these declines occurred in market environments where the Nasdaq wasn't down anywhere near 68% peak-to-trough, making the carnage in those stocks all the more profound. Most companies endure a period where they misfire — in business parlance, it's “crossing the chasm” — but the few great companies that cross it become stronger and better, in part because of the experience.

I have had my greatest positive impact as a stock picker (with a portfolio focus) on the long side when I have been early in believing in a long-term trend and have been in

the minority, not the majority. I've lived through it twice, with the evolution of the PC business and with the evolution of the Internet. It's a tried and true maxim: Investors can make their highest returns by buying when no one wants to buy and selling when no one wants to sell. And that's easier said than done.

The challenge for all investors in the Internet investing space in 1995-2000 was twofold. Valuations, in general,

Exhibit 1

Selected Stock Price Peaks & Troughs

| | Date | Nominal Price | Split-adjusted Price * | % Change |
|----------------|------------|---------------|------------------------|----------|
| | 3/19/1990 | \$28.13 | \$0.69 | |
| Oracle | 10/31/1990 | 5.38 | 0.13 | -81% |
| | 5/3/2001 | 16.45 | 16.45 | 12,554% |
| | 2/25/1991 | 73.50 | 4.90 | |
| Compaq | 12/4/1991 | 22.25 | 1.40 | -71% |
| | 5/3/2001 | 17.40 | 17.40 | 1,143% |
| | 4/16/1992 | 28.13 | 0.44 | |
| Dell | 6/22/1992 | 15.38 | 0.24 | -45% |
| | 5/3/2001 | 24.93 | 24.93 | 10,288% |
| | 3/9/1994 | 40.38 | 2.24 | |
| Cisco | 7/27/1994 | 19.63 | 1.09 | -51% |
| | 5/3/2001 | 18.66 | 18.66 | 1,612% |
| | 5/7/1996 | 70.00 | 4.38 | |
| America Online | 10/14/1996 | 22.75 | 1.42 | -68% |
| | 5/3/2001 | 50.65 | 50.65 | 3,467% |

* Split-adjusted price from FactSet

began to get extreme as early as 1996, and in fact, for many experienced investors, being short seemed like the logical strategy for four, yes four, painful years. Yet determining an inflection point for a nearly unprecedented four-year, powerful trend is nearly impossible. In fact, it took more luck than skill, because the market had already, long ago, powered through historical short-term valuation methodologies. Throughout the last half of the 1990s, there were sell-offs (several following our warnings on valuation), but they never lasted long. Why? The forces pushing up the stocks were just too powerful: Innovation, IPOs, limited float, short squeezes, buzz, and people hearing what they wanted to hear (to name a few).

Now that the stocks have corrected, people are looking for someone or something to blame. It's human nature. But, bottom line, this is just how markets work, often moving

from one extreme to another. We all see things through the lens of our own experiences, but the way the world works, only those who have been around for a very long time have the opportunity to live through such periods of extreme innovation and excess more than once.

The Goal Remains: Own a Portfolio of Great Companies

Our message remained consistent during this period: That when all was said and done, 70% of Internet IPOs would trade below their IPO prices; that 90% of Internet stocks were overvalued; that these stocks were so volatile they could go up or down 50% any given week; that over time, 5% of technology companies would create 80%+ of the wealth; that owning a diversified portfolio of investments would be key; and that we were living on the edge with very high valuations. In a market with the volatility of 1999-2000, all tech analysts were hard pressed to balance long- and short-term stock picks effectively, and Morgan Stanley's rating system has a 12-18 month time horizon.

That said, we didn't downgrade specific stocks. And this was especially taxing for the six months from 4Q99 through 1Q00. The impact of the violence and the speed of the downturn on business fundamentals caught us, like most others, by surprise. There are other, more company-specific reasons that we didn't downgrade our stocks. We continued to maintain our view that the handful of Internet leaders, if they executed on their opportunity, had the potential (in the next 1-3 years, as a portfolio) to trade nicely higher than their 2000 peaks, thanks to the uniquely large market opportunities they are attacking and the benefits of networking effects. Yes, we believe that the net wealth creation from the Internet is still in its early stages and that we are simply living through a vicious sorting-out process.

In deciding our research coverage, we tend to cover the companies we really believe in. And we endeavor to get to know many of these early. Because of the rate and degree of innovation in the technology sector, new companies are created at a rapid clip, and analysts can benefit from expanding their breadth of knowledge about industry trends, and new business opportunities, by being well aware of what's going on in the venture capital business.

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We don't cover many of the hundreds of newly-minted public Internet companies; our team has positive ratings on 13 of the 15 companies on which we have primary research coverage responsibility: Microsoft, AOL Time Warner (co-covered with Rich Bilotti), eBay, Yahoo!, VeriSign, Intuit, Amazon.com, homestore.com, CNET Networks, Expedia, priceline.com, FreeMarkets, and drugstore.com. Each of these companies, we believe, has the potential to execute on unique market opportunities. We know that some will fail, but we also trust our judgment that these companies are among the best of the best in their sectors.

We're hard-pressed to downgrade a stock when we have a positive bias toward the fundamentals of the company and when we believe that the present value for the potential future cash flows makes the stock look like a compelling value. A challenge here is that it's impossible to accurately determine the future cash flows in this industry, and it's extremely difficult to determine the discounting time horizon that the market will want to use in 3-6 months.

But as we have learned with some of the biggest long-term winners (Microsoft, AOL, Dell and Compaq), future cash flows can surprise you a lot on the upside if the company can develop a leading position with critical mass in a very large market -- and if the business has annuity-like revenue characteristics. Simply put, we believe that many of the companies we are recommending match this profile and, in fact, are just beginning to hit their critical-mass stride...and are hitting those sweet spots where market share begins to move closer to mind share and the businesses move from push to pull. For more on this, please read our April 4, 2000 report (*Company Positives/Risks, Stock Catalysts & Valuations*).

For Tech Investors, History Shows that Good Years Usually Follow Bad Years...

The positively rated stocks in our core coverage declined 39% on average over the last 12 months; so far this year, they have risen 58% on average. From a longer term perspective, however, the aggregate decade-long wealth creation for stocks I have recommended as the primary analyst during my Morgan Stanley career has risen by

more than \$600 billion (from a base of \$35 billion), or over 1,600%. We are proud of these returns.*

Yet the last year – and the last month – demonstrate just how volatile (high beta) these stocks are. The aggregate market value of the positively rated stocks in our core coverage declined from \$1,045 billion at the Nasdaq peak on 3/10/00 to \$485 billion at the 4/04/01 trough. And less than one month from the trough to 5/01/01, the market value has rebounded to \$698 billion.† The \$1,045 billion is our bogey, and if our instincts are right, and the general stock market is reasonably healthy, we believe we could be beyond that level within 12-24 months. (Note, to state the obvious, that while looking at returns from peak to trough and trough to peak may be useful in determining the magnitude of change, by its very nature, this single-point perspective tends to exaggerate real-world returns.)

While 2000 was a difficult year for returns, we continue to believe that 2001 will continue to be a good year for our sector. One of our sages in residence, Barton Biggs, called me in early March and said, "Mary, you are getting so beaten up right now, I think it means we are close to a bottom." The good news? After a long hiatus, we seem to have selective buying opportunities once again. The diehards know that the best time to buy stocks is often when it feels like the worst time, just as the worst time to buy stocks can be when it feels like the best time.

We Are Always Looking for Ten-Baggers... And We Must Be Willing to Swing...

I learned early on that the quest for 'ten-baggers' (stocks that rise by 1,000%+) was the approach I wanted to take with my profession. And part of this comes with covering a dynamic sector like technology. Of the wealth creation

* Source: Morgan Stanley Research. To calculate wealth creation, we take the 5/1/01 market value (earlier values used for coverage changes, downgrades, or acquisitions), subtract from it the market value at the time of IPO (for Morgan Stanley IPOs) or the data of coverage initiation (for others), and back out subsequent equity and convertible financings. Certain assumptions may have been made in the analysis that have resulted in the returns indicated. No representation is made that these returns will be achieved. Changes to the assumptions may have a material impact on the returns detailed. Transaction costs are not included in the calculation of the returns. Past performance is not necessarily indicative of future results. Additional information available on request.

† In this calculation, for AOL's peak market cap we use the market cap as of 1/19/01, when we resumed coverage following a lengthy period of restriction. For VeriSign's peak market cap we use the market cap as of 7/25/00, when concurrent with the close of the Network Solutions merger, we resumed coverage of the company.

in stocks I have followed during my career, 80% came from just two stocks, Microsoft (up 8,354% from initiation of coverage) and AOL Time Warner (up 10,955% from initiation of coverage). These returns demonstrate the extraordinary returns possible when you find ten- (or ten+) baggers. In looking for them, you can always quantify the downside, but the upside -- while difficult to anticipate -- can be very significant. At the same time, many technology and growth investors tend to focus in general on private and early-stage public companies that have very undeveloped business models. By their very nature, early-stage companies are high-risk assets with the potential for high returns. The very nature of the analyst's job in this area is focused on accepting greater risk in the search for especially high rewards.

We often quote the great Peter Lynch from his 1989 book, *One Up On Wall Street*:

“To make a spectacular showing, you only had to find one big winner out of eleven [in a selected portfolio]. The more right you are about one stock, the more wrong you can be on all others and still triumph as an investor. . . . In the last decade the occasional five- and ten-bagger, and the rarer twenty-bagger, has helped my fund outgain the competition - and I own 1,400 stocks. In a small portfolio, even one of these remarkable performers can transform a lost cause into a profitable one. It's amazing how this works.”

I also learned early on that great investors learn from their mistakes, and they make a lot of them. I also learned that my experiences could be so vivid that they could prevent me from acting. There were times I didn't step up to the plate and didn't swing — or didn't swing for the fences. To illustrate just how hard great stockpicking is, consider that there's only one mutual fund manager, Bill Miller (yep, who along with Lisa Rapuano and his team owns a slug of Amazon.com), who has outperformed the S&P 500 every year for the last decade. (He keeps his bats near Camden Yard in Baltimore at Legg Mason.)

We Have Continued to Hone Our Winning Company Attribute List...

My approach to investing has developed over a twenty-ish year Wall Street career. If you read our stuff, you know that we have a checklist of twenty attributes we look for in identifying winning companies. (Another list of trading attributes for tech stocks appears as an appendix

to this note.) Over the course of time, winning companies tend to become winning stocks -- we will make that bet, year in and year out; to us it's as logical as the rising sun. Our attributes for identifying winning companies follow, and note that before we decide to recommend a stock, we aggressively endeavor to determine if the company has, or has the potential to have, the right stuff.

- 1) Large market opportunities -- it's better to have 10%, and rising, market share of a \$1 billion market than 100% of a \$100M market;
- 2) Good technology/service that offers a significant value/service proposition to its customers;
- 3) Simple, direct mission and strong culture;
- 4) Missionary (not mercenary), passionate, maniacally-focused founder(s);
- 5) Technology magnets (never underestimate the power of a Bill Joy . . . a Jim Clark. . .);
- 6) Great management team/board of directors/committed partners;
- 7) Ability to lead change and embrace chaos;
- 8) Leading/sustainable market position with first-mover advantage;
- 9) Brand leadership, leading reach and market share;
- 10) Global presence;
- 11) Insane customer focus and rapidly growing customer base;
- 12) Stickiness and customer loyalty;
- 13) Extensible product line(s) with focus on constant improvement and regeneration;
- 14) Clear, broad distribution plans;
- 15) Opportunity to increase customer “touch points”;
- 16) Strong business and milestone momentum;
- 17) Annuity-like business with sustainable operating leverage assisted by barriers-to-entry;
- 18) High gross margins;
- 19) Path to improving operating margins;
- 20) Low cost infrastructure and development efforts.

We Don't Intend to Stop Building Frameworks; The End-Game Is Always Finding the Gorillas...

I have learned that my highest and best use as an analyst is to attempt to discover evolving businesses at an early stage and develop frameworks (using experience, insight, and connections) for how industries and companies may evolve. I watched the framework evolve for the PC business in the 1980s and early 1990s (with key assists from Ben Rosen, Morgan Stanley's former semiconductor analyst and one of the all-time greatest venture capitalists, and my former colleague, computer analyst Michele Preston). Based in part on this experience, I helped create

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a framework in the mid-1990s (with Chris DePuy, Samantha McCuen, and others) for how the Internet would evolve (see www.morganstanley.com/techresearch for some of our reports).

Part of what we do with frameworks is segment the emerging industry into sectors, endeavor to find the handful of companies that will compete for the lead spot in each sector, and find the company that will win the lead spot in each sector. In the book, *The Gorilla Game*, Geoffrey Moore, Paul Johnson and Tom Kippola dubbed these companies, yes, “gorillas.” Classic examples of winners/gorillas include: Microsoft in PC software (versus Lotus, Borland, Ashton-Tate...), Cisco in data networking (versus Wellfleet, Cabletron, 3Com, Synoptics, IBM...) and Oracle in databases (versus Sybase, Powersoft, Informix...). New data (see *The Technology & Internet IPO Yearbook*) show that 5% of the public technology companies in fact create 90%+ of the wealth. They also show that, in aggregate, 90%+ in real world dollars is a big, big number (like the 87 technology companies that have created more than \$2.3 trillion [as of 12/31/00] over the past 21 years). In short, the winners win BIG.

...But Don't Forget the Need for a Portfolio Approach

Yet the reality is that the winner is always easy to predict in hindsight, but it's rarely easy to pick the winner in the heat of the battle. Why? Companies are run by human beings, and human beings, are, well, human, and they can execute flawlessly and/or they can make mistakes. And in the Darwinian, binary world of technology companies, one small mistake can be fatal, or nearly so. Apple Computer is the classic example: It had the computing world in the palm of its hand, and it chose not to convert and license its operating system for the emerging industry-standard Intel microprocessor. Apple would

have had to slash its revenue forecasts in the hopes that it would be able to drive up its operating margins; it balked, and the rest is history. Microsoft won. The reality is that the investor who purchased equal amounts of Microsoft and Apple on almost any day (to be specific, 167 of the 182 months) from 1986, the year of the Microsoft IPO, to the present would have outperformed the market -- largely because Microsoft won so big.

But there's another reality at work. Predicting the ability of a management team to execute to its opportunity is the single biggest challenge that investors have. Try as one might, that's never ever, ever going to be determined by a spreadsheet. In addition, difficult as it can be for all of us to admit, luck and random events play roles that alter history. These are the biggest reasons why investors must focus on a measured portfolio of companies in the categories they choose.

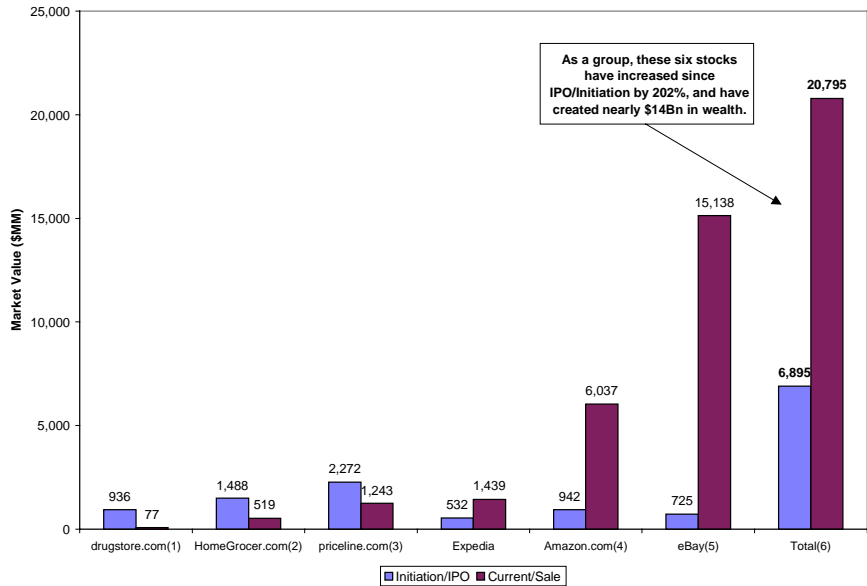
So, in General, How Have We Done?

So what do we attempt to do as stock pickers? Here's a case study. In early 1997, we thought e-commerce would be a new sector for the Internet industry and began to focus on it as we published our *Internet Retailing Report* in 5/97. Soon thereafter, we initiated coverage of Amazon.com, then eBay; then priceline.com, drugstore.com, Expedia, and HomeGrocer.com following their Morgan Stanley-led IPOs.

All in, there are currently 36 public domestic e-commerce companies and we cover five of them. Once again, using our frameworks, we sought to focus on the companies we viewed as having the greatest potential to be segment winners.

Exhibit 2

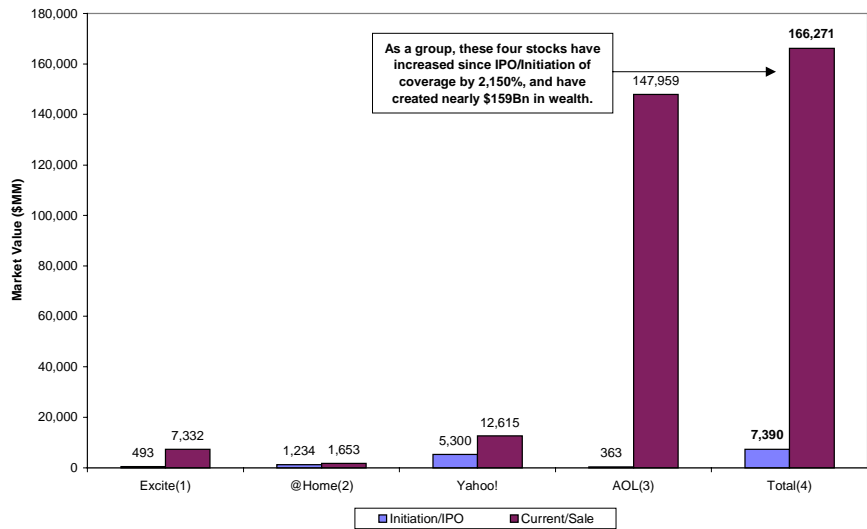
Wealth Creation for Morgan Stanley-Covered US eCommerce Companies



Source: Morgan Stanley Research. Certain assumptions may have been made in the analysis that resulted in the returns indicated. No representation is made that these returns will be achieved. Changes to the assumptions may have a material impact on returns detailed. Transaction costs are not included in the calculation of the returns. Past performance is not necessarily indicative of future results. Additional information available on request. (1) \$108MM from secondary equity offering has been backed out of wealth creation calculation. (2) HomeGrocer acquired by Webvan - 9/00. Acquisition price is used here to calculate current market value. (3) \$347MM from secondary equity offering has been backed out of wealth creation calculation. (4) \$1.9B from convertible financing has been backed out of wealth creation calculation. (5) \$1.27B from secondary equity offering has been backed out of wealth creation calculation. (6) Total wealth creation differs from the sum of the current market values less the market values at IPO/Initiation because we backed out the post-IPO equity and convertible financing cited in footnotes 1,3,4 and 5.

Exhibit 3

Wealth Creation for Morgan Stanley-Covered US Portal Companies



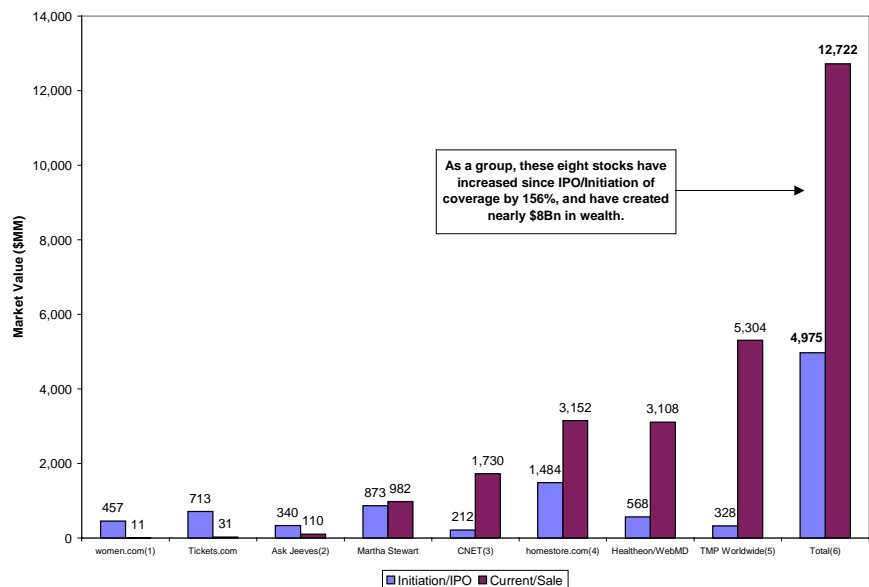
(1) Wealth creation for Excite is measured to 5/28/99, when it was acquired by @Home. (2) \$832MM from secondary equity offering and convertible financing has been backed out of wealth creation calculation. (3) AOL wealth creation is the sum of the market value creation of AOL as a standalone company and the market value creation of AOL Time Warner as a merged company from merger to 5/1/01. \$2.5B in post-IPO equity and convertible financing is also backed out. Note that our current AOL market cap calculation adjusts out the Time Warner portion of the merged company. (4) Total wealth creation differs from the sum of the current market values less the market values at IPO/Initiation because we backed out the post-IPO equity and convertible financing cited in footnotes 2 and 3.

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Exhibit 4

Wealth Creation for Morgan Stanley-Covered US Vertical Portal Companies



Source: Morgan Stanley Research. Certain assumptions may have been made in the analysis that have resulted in the returns indicated. No representation is made that these returns will be achieved. Changes to the assumptions may have a material impact on the returns detailed. Transaction costs are not included in the calculation of the returns. Past performance is not necessarily indicative of future results. Additional information available on request. (1) Women.com & iVillage Network merger expected to close in C2Q:01. (2) Wealth creation and current price for ASKJ is measured to 12/18/00, when Morgan Stanley reduced its rating of the stock to Neutral. \$184MM from secondary equity offering has been backed out of wealth creation calculation. (3) \$150MM from convertible financing has been backed out of wealth creation calculation. (4) \$913MM from secondary equity offering has been backed out of wealth creation calculation. (5) \$811MM from secondary equity offering and convertible financing has been backed out of wealth creation calculation. (6) Total wealth creation differs from the sum of the current market values less the market values at IPO/Initiation because we backed out the post-IPO equity and convertible financing cited in footnotes 2,3,4 and 5.

How have we done? Well, the aggregate wealth creation (while down from peak valuations) from the five e-commerce companies -- either from the day we initiated research coverage for companies Morgan Stanley didn't take public or from the IPO price for companies Morgan Stanley took public -- is nearly \$14 billion, or up 202%, in aggregate. By our measures, this is success. We were wrong sometimes, but a critical objective for any investor is, simply, to be right (and, right big) more often than wrong. Typically, when we have been wrong over the long term on one of our stock picks, it's usually followed a violation of one of our twenty attributes for winners, including such classics as the market wasn't as large as hoped, or evolved more slowly than expected. Here's another case study. In early 1996, we began to focus on Internet advertising and Internet 'portals.' We published our *Internet Advertising Report* in 12/96. Looking at stocks, in order, we initiated coverage of America Online and Yahoo!; Morgan Stanley took @Home public, and we initiated coverage of Excite.

All in, there are 20 U.S. listed public portal companies and we have ratings on two of them (note that our European team also covers Terra Lycos and our Non-Japan Asia team covers SINA.com). How have we done? Well, the aggregate wealth creation (while down from peak valuations) from the four portal companies -- either from the day we initiated research coverage for companies Morgan Stanley didn't take public or from the IPO price for companies Morgan Stanley did take public -- is nearly \$159 billion, or up 2,150%, in aggregate. Again, by our measures, this is success.

The data look similar for the 'vertical portal' category. Morgan Stanley covers eight stocks, TMP Worldwide, homestore.com, Healthon/WebMD, CNET, Martha Stewart Living Omnimedia, Ask Jeeves, Tickets.com and women.com, all of which the firm took public. While three of these (Ask Jeeves, Tickets.com and women.com) are below their IPO price, the aggregate post-IPO wealth creation (while down from peak valuations) for the eight is nearly \$8 billion (or up 156% from IPO price). Note

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that the very nature of this category has suited itself to collaborative research coverage. Our team has primary responsibility for homestore.com, CNET, Ask Jeeves and women.com.

So...Where Do We Go From Here?

Morgan Stanley's broad team of analysts who focus on the Internet in one way or another has spent a chunk of the last six months focusing on our frameworks for the next stages of evolution of the Internet. We have published a series of reports analyzing the following:

- global Internet user/usage propensity;
- brand value and customer monetization opportunities;
- constructing a Internet user/usage framework;
- the latest technology and Internet IPO data;
- a drilldown on IT and financing excesses;
- the viability of Internet advertising;
- the latest CIO budget trends.

With circulation in excess of 130,000 copies, the reception for these reports has been extraordinary. I think they represent some of our best research ever -- they can be found at www.morganstanley.com/techresearch. In addition, on April 4 we published a 170-page report focusing on company positives/risks, stock catalysts and valuations for the companies in our coverage universe.

This new research supports the basis for our stock recommendations:

- 1) The Internet is still in the early innings of its evolution. Simply put, 'connectivity' and 'convergence' are powerful secular trends, and handfuls of companies should have outsized market shares owing, in part, to network effects;
- 2) global Internet user growth should rise at an annual rate of 20-30% for the next three to five years or so -- we estimate that there are more than 300 million Internet users today (compared with fewer than 5 million in 1995);
- 3) Internet usage growth could continue to rise at a rate of 1.2-2.0 times user growth for the next several years, or longer, as uses ramp and broadband and wireless access take off -- and, yes, these are powerful rates of growth;
- 4) industry rationalization is occurring rapidly, setting the stage for the emergence of clear sector winners;

5) opportunities for rising customer monetization are likely in the offing; and

6) we are likely still in the early stages of wealth creation related to the evolution of the Internet.

Our framework for our companies and stocks remains that investors should take a portfolio approach (to attempt to mitigate risk; remember, these are high beta members of a risky asset class) and that 2001 should continue to be a good year for the leading companies and stocks.

Specifically, we like the über-Internet leaders: AOL Time Warner (co-covered with Rich Bilotti) and Microsoft as they battle (with very different approaches) for consumer reach and revenue; eBay, amazon.com and Yahoo! as they battle (with very different approaches) for e-commerce and advertising dollars; and homestore, Expedia and VeriSign in the vertical space as they develop their soup-to-nuts platforms for very large markets.

As the ten-bagger theme reminds us, not all of these stocks will work, but we absolutely believe that the net gains from the winners here will far outweigh net returns in the losers. Certainly, there's risk, and on a company by company basis, the returns will likely vary widely, and the outcomes can often be binary. The reason for a portfolio approach is, after all, that there will be stocks that don't work out.

Comparing the themes in the previous paragraph with our list of 20 attributes for winning companies, we find these eight companies especially compelling, with execution-based revenue and valuation upside. The market opportunities they are attacking are uniquely large, in our view, and as more Internet users spend more time online, thanks in part to growth in broadband and wireless access, there should be strong secular growth, which a smaller and smaller number of leaders will be able to exploit.

In Closing...

In our view, the Netscape web browser kicked off a revolution that we will benefit from for the rest of our lives, and our children's children will benefit from it, too. We believe the rollout of the Internet is in a communications/connectivity power league along with the rollout of railroads, highways, flight, and the like. And we expect that society will be better and stronger for

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what we just lived through, and the entrepreneurial, technological, creativity bug that touched so many will, without a doubt, produce more rapid innovation than could possibly have happened otherwise. It may not feel great right now, but, over the long term, it's a good thing.

Finally, I hope you look forward as much as I do to continuing to learn together and finding the next great, profitable companies of the coming years. . . .

Technology Investment Rules (circa 3/4/92)

We first published these rules in 1991, we have tweaked them modestly to reflect the simple fact that some of the names have changed...but, for the most part, they are as relevant today as they were then...

In these times of hot IPO markets and seasonal stock price weakness, we believe that it's good to revisit our technology investment rules, which we first published in July, 1991. Investing in technology stocks requires a curious mix of art and science. The art is an elusive combination of experience and intuition, but I believe that the science can be broken down into 10 1/2 guidelines.

The following list of technology-investing guidelines can be learned and relearned (and, yes, relearned again) — in short, it's wise for technology investors to keep them in mind at all times. It is rare to find a company that meets all of these criteria. When you do, it won't be a secret for very long, and the first one in wins.

(1) Invest in New Product Cycles

New product cycles are the catalyst for revenue and earnings growth. Buy the stocks in anticipation of product cycles and focus on companies that send you so many press releases about new product announcements that you can't get any work done... Remember how the Japanese overtook the consumer electronics business: They rolled out a product, made it a little better, and rolled it out again and again. It took Microsoft seven years and six releases of Windows to get it right and start to make lots of money from it.

(2) The Trend Is Your Friend

Technology stocks are volatile and typically trade higher than most people think they should (at the high end of historical multiple ranges) and then trade lower than most believe they should (at the low end of historical ranges).

- Buy when no one is interested in them (as can be evidenced by your annoyance when a Wall Street sell-side technology analyst calls or when the most bullish investors have finally thrown in the towel after a gut-wrenching decline in share prices). Sell when everyone is interested in technology (or when attendance at technology conferences reaches record levels or when your grandmother wants to buy a hot technology IPO).

- While bottom-picking is tough, it's frequently best to buy technology stocks when the fundamentals are intact (watch out if they aren't) and as they begin to trade up after large declines. Sell when they begin to trade down after large rises.

(3) Upside Earnings Surprises Can Start A Trend

Better-than-expected earnings boost the prices of technology stocks; when they don't, the stocks could be overvalued. March 1991 quarterly results for most of the PC software companies we cover exceeded estimates; they didn't respond positively to their reported results and the stocks had a big down move in the June quarter (many of the stocks in our universe reported solid December quarter results and generally, the shares have been lackluster since the reports).

Conversely, earnings disappointments kill technology stocks - as a trading rule, head for the hills at the first signs of trouble. Beware of the hastily arranged conference call.

(4) Buy Growth

Be confident that EPS growth of at least 20% annually over the next several years is achievable. If you don't see it, avoid the stock. Don't worry about high multiples (within reason) for the stocks - multiples will be maintained or expanded on rapid EPS growth. Big multiple collapses usually only occur with EPS disappointments. It's easier to make money buying shares of solid companies with high P/E's than investing in companies that "look cheap" (there's usually a good reason). Holding on to the best stocks and adding to positions during downturns is, in our view, the best long-term investment strategy.

Software companies, due primarily to their intellectual property, have more compelling growth prospects than hardware companies, and whenever a solid growth software stock seems expensive, based on price/earnings or price/sales, if you have a long-term investment horizon (one year or more) and can live with volatility, and importantly, the company's growth rate is intact, it probably isn't expensive.

(5) Location, Location, Location; Market Share, Market Share, Market Share

Don't buy stock in a company that is losing market share. It's tough to lose market share, and it's also hard to regain

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it. To lose market share in software, you have to make big mistakes, miss rollout schedules, or miss platform changes. Companies that can maintain their market shares and set standards (like Novell with NetWare, Adobe with PostScript, and Microsoft with Windows) are likely to show the most consistent earnings growth and command premium multiples. They also typically outperform the technology group in down periods.

(6) Margin Expansion or Great Margins -- Take 'em If You Can Get 'em

Don't buy shares of a company that is experiencing significant margin declines. There can be unique exceptions from time to time.

High operating margins (of the 30% plus variety) are wonderful things - not only do they provide companies with lots of flexibility, they usually are indicative of strong franchise value.

(7) Know The Product, Like The Product, Own The Stock

Buy shares in a company only when you or someone you know well uses the company's product and gives it excellent reviews. You need conviction to weather volatility in the share price.

(8) Watch Out For Ego

The building of monolithic, perk-laden corporate headquarters can often signal a lack of focus and forthcoming earnings shortfalls, as can elaborate analyst meetings in faraway places.

(9) Bet On The Brains

The likelihood of long-term stock price appreciation is greater for companies run by their founders -- visionaries with solid technical and business skills and a rabid passion for their business -- than for companies that have

lost their initial leaders. Running a technology company is an extremely difficult job, and very few people can do it successfully.

Insider buying is typically a positive lead indicator for good technology-stock price performance. Insider selling, however, does not necessarily augur poor performance; it may simply be the inevitable selling of shares by entrepreneurs who have most of their net worth tied up in company stock. Share buybacks can also be very strong positive signals.

(10) Keep Love Out of The Office

Don't fall in love with technology companies. Remember to view them as investments.

P.S. Summer Is Time For Vacation

Technology stocks typically perform poorly during the summer months as concerns arise about earnings visibility from seasonally slow overseas and domestic sales, and as companies prepare for fall product rollouts. The rule of thumb that says, "Buy at AEA (October), sell at H&Q (May)," has proved as useful guideline in [five of the last six years, and summer 1991 certainly followed this guideline].

Morgan Stanley's technology strategist [Andy Kessler, at the time] would add at least one more rule to this list, and it may well be the most important: Owning a basket of core technology stocks helps you offset negative surprises...

Or as Peter Lynch says in his book *One Up On Wall Street*, "To make a spectacular showing, you only had to find one big winner out of eleven [in a selected portfolio]. The more right you are about any one stock, the more wrong you can be on all the others and still triumph as an investor."

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V = More volatile. We estimate that this stock has more than a 25% chance of a price move (up or down) of more than 25% in a month, based on a quantitative assessment of historical data, or in the analyst's view, it is likely to become materially more volatile over the next 1-12 months compared with the past three years. Stocks with less than one year of trading history are automatically rated as more volatile (unless otherwise noted). We note that securities that we do not currently consider "volatile" can still perform in that manner.

Prices as of 5/1/01: AOL, \$51.96; AMZN, 16.89; ASKJ, 3.06; CNET, 12.73; DSCM, 1.18; EBAY, 54.31; ERTS, 70.00; EXPE, 30.12; FMKT, 9.80; HOMS, 33.20; INTU, 32.12; MSFT, 70.17; PCLN, 6.59; VRSN, 52.55; YHOO, 22.31; WOMN, 0.23; ARBA, 8.97; ATHM, 4.07; TMPW, 51.01; VIGN, 6.90; HLTH, 8.73; CPQ, 17.60; DELL, 25.76; VNTR, 0.91.

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