GIDDINESS AND THE LONG WAVE

In three days--between August 18th and 20th, 1995--technology stocks dropped two weeks of what had been decidedly giddy gains. Then, following the quick sell-off, technology headed up again. Did this volatility signal a bubble about to burst, or was it a scary drop followed by new highs--a pattern characteristic of secular leadership in the market? We decided to revisit our original thesis on the leading role of technology issues. We were joined in our discussions by Dave Rahn, a Principal at Avalon Capital Management and the company's portfolio manager.

By Clara Basile and Ellen Ullman

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Ullman: Back in 1993, in our first piece for *The Red Herring*, we identified a new generation-long secular trend in the computer industry. We showed a figure in which the new secular trend emerges from the general downturn of 1987-90. It rises geometrically through nearly the year 2000, after which its growth continues but slowly flattens as we near 2010. We said that the engine of growth would come where entrepreneurial activity was high, especially in the "new" computer industry in the U.S. We believed that technology would be the market secular leader and would hold up the trend in the market.

Basile: Should we update our thesis or do we still believe this?

Ullman: That's the question. Is this the beginning of the end of technology's secular leadership? Or are we simply seeing one of those steep falls that happen when the market gets uncomfortable with continuing growth in the leaders?

Rahn: It's possible to compare what's happening now in technology to oil stocks in 1976-78. Most analysts then thought oil stocks had already overdone it. But the stocks didn't stop going up until 1981--when everyone was convinced that oil was going to $100 a barrel. Continued growth in technology is not the current consensus. Many analysts believe that tech stocks are ready to crash, that technology stocks will be lower 2 years from now.

Ullman: Well, are the analysts right? Will technology be down two years from now?

Basile: One or two years from now, I think technology will be higher. We are not at the beginning of a long-term correction, but we may be seeing an intermediate one. So one year from now technology stocks will be higher. But there will be many sleepless nights over the next six to nine months. It's probably going to be a very bumpy summer.

Rahn: Yes. And the sector will be too volatile to do a lot of trading around. It will be very hard to catch the bottoms. Once you get out of a stock or a group, it will be very hard to get back in.

Ullman: If you're right that the sector will continue upward, why do we have the feel of a fever in the technology market?

Basile: Because some of the gains have been unbelievable! Semiconductors have gone up 900% in five years. Semiconductor equipment is up 940%. Look at Applied Materials: it went down 30% four separate times on the way to its 900% increase. These kinds of numbers give everyone a nervous feeling. Everyone forgets that, before the recent gains, these stocks went nowhere for about 10 years. Besides, the July mini-panic may have taken away some of the giddiness. And another setback, which is likely to occur over the next few months, could completely wash out that high.

Rahn: Don't underestimate the power of not making money as an indicator. It's a tactical thing. The question for investors and money managers will be how to get through the next three to five months. Intel may bounce from $70 to $62 back to $70 then to $60. It will really scare everyone if and when it goes to $58. Fear clears the giddiness right out of your head. And it sets up the next upswing.

Basile: We are in the accelerating portion of the secular uptrend in technology. The moves up are faster and stronger; the downs are faster and shallower. Capital is still flowing into technology. Over the past five years, technology as a percentage of the market has risen dramatically, to approximately 14% of the S&P capitalization. The powerful part of the trend is the point of recognition--when the general public is becoming aware of the investment idea. We're somewhere along the exponential growth curve. The question for investors is this: Is it too late to invest in technology? Has the curve gone too far?

Ullman: I can't see an end yet to the growth of the computer industry. Computing--and its adjunct, telephony--are still at a relatively early phase in their expansion as products. It's impossible to imagine modern commerce--and modern existence--without ever more hardware, software, and networking. Computing is the infrastructure of commerce, like roads and buildings and bridges. Almost nothing can be built without chips: Chips are the new steel industry.

Basile: Networks are the new railroads.

Ullman: Exactly. The economy may not be growing as robustly but, on a technical level, it's like the 1880s, when expansion was based on steel, railroads, and concrete. By now, it's a truism that computing has replaced heavy industry as the basis of the U.S. economy. I do have my reservations about social transformations from technology. After all, the great age of steel and railroads also produced the robber barons. So what we're talking about here is not a cure-all but a rather prosaic fact: There will be a steady, long-range expansion of telephony and computing into virtually every aspect of life, in both developed and developing countries. We're already seeing it in rocky, emerging economies like that of Mexico. Phone companies can't wait to offer the first dial tone to 50% of the world population that has never heard one.

Basile: Continuing this analogy, spending on railroads was 13% of GDP at their peak in the 1880s. Today, according to the *Bank Credit Analyst*, technology spending represents only 4% of GDP. If technology really does represent the new economic infrastructure, these numbers indicate that we have a long way to go before we see the end of tech's secular leadership.

Ullman: It would be interesting to look at the percent of GDP for steel and the construction industries in the 1950s. I suspect that we would see something similar: that technology still has a lot of growth room.

Basile: Spending on technology already accounts for close to 50% of U.S. business spending on capital equipment. But the data on the macro level does not show that we are close to the top in the market for technology issues. During the 1965-82 bull market, oil and energy stocks represented 35% of the capitalization of the S&P. From 1990 to the present, technology has reached only 14% of the S&P capitalization. This also seems to indicate that we're not near the end of technology's run.

Rahn: To add some historical perspective, I traded through the oil boom and bust...

Basile: And you lived to tell about it.

Rahn: I'm here to tell you that everyone thought there was no downside. During that bull market, precious metals and energy stocks moved from 12% to 35% of S&P capitalization. No one thought

it would end. We're not at that point with technology--people are nervous, which means we're only halfway to the $100-barrel-of-oil expectation. I'll tell you one thing to look for--what happened with the energy stocks was that everybody wanted to get into energy. Chemical companies started buying energy stocks, everybody started buying energy whether or not they knew anything about the business. When Philip Morris says it's got to buy a technology stock, that's the end. It's what typically happens at the end of a blow-out: companies that are not in that area feel they've got to be if they're going to survive the next 20 to 30 years.

Ullman: Westinghouse buying CBS.

Basile: Seagrams buying MCA.

Rahn: What would be even stranger is Philip Morris buying Cisco. That's how you know it's really over.

Ullman: So we seem to have this consensus that the data supports continued growth, at least going out one to two years. And when consumer companies start buying high tech, we're at the peak of the mania; it's time to get out--just like Mitsubishi's buying Rockefeller Center signaled the top of the real estate market. But what else should investors look out for? What are the other signs that technology is topping or about to crash?

Rahn: Right now, the Midwest is not buying technology stocks. I was just in a barbershop in Peoria, IL, and they were not talking about Microsoft or Intel. When they are, we're at the end of the mania.

Basile: Public sentiment is another signal. The idea of technology's secular leadership, particularly semiconductors, is spreading among investment professionals. When the general public believes the investment philosophy we published in 1993, the trouble will start.

Rahn: Capital flow is another sign. Watch out when capital flows out of the bigger companies and into the smaller ones and IPOs. And then there's the "venture capital syndrome"--too much money chasing too few good ideas. In the '80s, VCs funded over 100 disk drive manufacturers. By the end of the decade, no one ever wanted to hear about disk drives again.

Basile: Business formation is also a red flag; when everyone starts going into the tech business. Speculation in IPOs is still in the early stages. The number of new IPOs as a percentage of all stocks on the NYSE is now 18%, compared to 35% at the last market peak, in 1990.

Ullman: But if you see the industry from my perspective, working with startups and watching the Internet job postings, you can see that there are already a lot of companies forming, especially in the Internet and hypertext areas. Some of these could start showing up as IPOs in a couple of years. And it might not take very long for venture-capital syndrome to set in on *that* theme.

Rahn: When the VCs have funded over 100 Internet companies, that'll be the beginning of the end.

Basile: Still, even at this point in the cycle, there are places where an investor can get into technology now and still see some exceptional gains, some doubling and tripling of values.

Rahn: Mostly in small cap stocks.

Ullman: Especially in small, well-run companies that are filling connectivity and interoperability niches. There's no point in competing with Microsoft, but there are opportunities for small, high-IQ companies that help technology manufacturers deal with ever-shortening product cycles, that

help in process control and product integration--simultaneous design and test engineering, for example. And companies that help end-users connect all the pieces of the client/server puzzle. Even if these small companies don't succeed on their own, a quality product in a useful niche makes a good buy-out target for big players.

Basile: Even on the large cap side, valuations are not at the extremes you typically see at a secular peak. Stocks like Motorola, National Semiconductor, and Texas Instruments still have a long way to go. Only Microsoft and Oracle look lofty from a valuation perspective.

Ullman: So we're saying there are still big buys out there, and the sector in general will continue to show respectable growth. But aren't we contributing to the mania peak in our small way? After all, we're recommending small cap stocks, saying there is already business-formation underway, and spreading the idea of technology's secular leadership.

Rahn: The point is: when everyone agrees with us, that's when it's time to worry.

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