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Sterling's World Report

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Financial Future Shock

In 1970, journalist Alvin Toffler wrote a provocative and prescient book called *Future Shock*, which predicted that technological progress would accelerate so dramatically as the new millennium approached that our society and institutions would become increasingly confused and disoriented.

He was right!

Future shock has now arrived with full force – at least in the financial markets. If you are confused by the markets, don't feel too bad: in the past few years any number of the world's most prominent and successful investment firms have been humbled, including some staffed with Nobel Prize winners.

One indication of the high degree of confusion among investors is in the performance of certain "value" strategies in recent years. In the United States, for example, it turns out that one of the best investment strategies for the last five years would have been to look at the 50 largest companies by market capitalization and, at the beginning of each year, buy the 10 most expensive companies as measured by the price-earnings ratio. The result of this "anti-value" strategy would have been an average annual return of 38%, far exceeding the market's return.

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Financial Future Shock *(cont'd)*

"Bubble!" cry some. "Irrational exuberance!" shout others. But like it or not, that is the way it was. And with hindsight, it does not seem so irrational. In the last decade, as both globalization and the technology revolution accelerated dramatically, it turned out that many large, successful U.S. companies were able to become far larger and far more successful than anyone would have guessed. In terms of price-earnings ratios, the stocks of these companies were not cheap to begin with because the companies were already successful and fast growing.

Winner-Take-All Markets

There is also a fundamental economic rationale for why the rich got richer. It turns out that many technology markets are dominated by what economists call "winner-take-all" characteristics. When the VHS videotape format started to overtake Sony's Betamax format, consumers opted to go with the winner even if Betamax had its own advantages.

And when Microsoft products began to establish themselves as global standards for home and office software, it would have been irrational for most consumers to fight the trend – the advantages of having a common standard were simply too compelling to ignore. Even the disadvantage of seeing a bunch of guys with thick glasses in Seattle become gillionaire monopolists was just not a big deal to most people – at least until recently, when the Department of Justice got into the act.

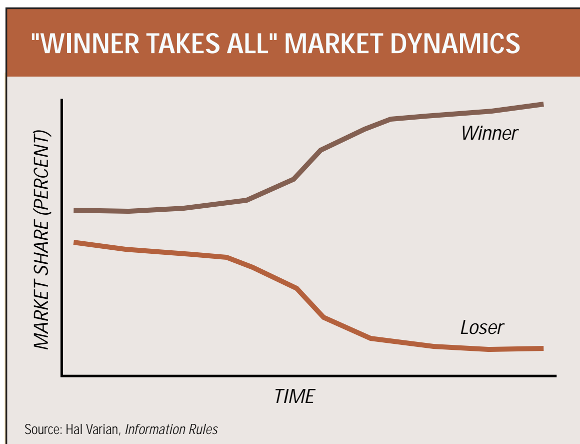

Chart 1: Positive feedback effects undermine traditional value strategies since low P/E ratios often signal further weakness ahead.

Chart 1 shows why winner-take-all market dynamics can be so frustrating to some value strategies. In many markets where standards are important, the battle for market share is often won or lost decisively. When one firm starts to become successful, its stock price and price-earnings ratio will rise, while that of its main competitors will fall. But in such a case, the low price-earnings ratios is not a signal of value but is instead a signal of profound weakness – and potentially the beginning of a death spiral for the company.

The growing importance of information industries in the past decade is undoubtedly responsible for an increase in investor confusion because of the weird economics of these industries. Such industries are dominated by what economists call "positive feedback effects" and "increasing returns to scale." There is actually a substantial body of economic theory that analyzes the unusual economics of technology industries – but very little of this has been taught in conventional economic courses.

Much of the so-called Old Economy is a negative feedback economy. Think about agriculture: When prices rise, farmers produce more crops, consumers buy less, and a new equilibrium is reached. This is the conventional textbook economics of Adam Smith, who was heavily influenced by Newtonian physics and the concept of equilibrium, whereby any shock to demand or supply can be equilibrated with adjusting prices.

The information economy, in contrast, is ruled by positive feedback: rising demand creates higher efficiency and higher returns, creating lower prices and higher demand. As we discussed in last month's *World Report*, information industries such as pharmaceuticals or software are characterized by high fixed costs and very small marginal costs. The first copy of a new software package costs millions, but additional copies cost very little. In such industries, firms are driven to acquire temporary monopoly power, otherwise prices will fall so quickly that initial fixed costs cannot be recouped.

As U.S. Treasury Secretary Larry Summers recently noted, "the constant pursuit of monopoly power becomes the central driving thrust of the New Economy. And the creative destruction that results from all that striving becomes the essential spur of economic growth." As Summers notes, this implies a biological, Darwinian view

of the economy, with the fittest surviving and the winner frequently taking all. This is a view not of equilibrium, but of continual and relentless disequilibrium.

For investors, this means that traditional concepts such as "reversion-to-the-mean" or "value equals low price-earnings ratios" may be very misleading. For most investors who were taught conventional economics and finance, a key challenge will be acquiring the right conceptual tools to understand the dynamics of the New Economy.

The good news is that there are now some excellent books that summarize much of the "new economics" that has not yet made it into the textbooks. Two we recommend are *New Rules for the New Economy* by Kevin Kelly and *Information Rules* by Hal Varian and Carl Shapiro. These books are not exactly beach-blanket reading, but are well-written primers on the New Economy that are accessible to the general reader. For clients who would like to understand the type of concepts that influence our investment decisions, we encourage you to check out these books, as well as others that are listed on our new Web site, www.ciglobaladvisors.com.

Financial Future Shock and Market Volatility

Another clear indication of future shock in the financial markets is the current high degree of market volatility. We have discussed this in previous issues, attributing some of the volatility to the unusual monetary dynamics associated with the surge in money growth associated with the Y2K computer scare.

Alvin's Toffler's concept of future shock can provide additional perspective on market volatility: put simply, the pace of change is so rapid today that it would be highly surprising if investors were not confused. The reason is that changes that previously took decades now routinely occur in just a few years.

In the past, for example, it took around 50 years after the commercial introduction of new technologies like electricity or automobiles to reach a point where 25% of households had adopted the new technology. In contrast, in the case of the Internet it took only seven years before 25% of households had adopted the technology (see Chart 2). Related technologies such as e-commerce infrastructure and wireless broadband are also spreading at virtually unprecedented rates.

As a result of the relentless speedup of technological change, companies that in the past would have remained venture-stage companies for years are now going public before they have had any substantial operating history or profitability (see Chart 3). The public is willing to tolerate this for a simple reason: otherwise only venture capitalists and other insiders would reap the rewards of many technological innovations.

Nowhere is this speedup more evident than in markets like the Nasdaq, where nearly one-third of the 200 largest companies by market capitalization have less than three years of operating history as public companies. Essentially, the equity markets are morphing at warp speed into something very different than what they have been historically – a public market for venture-stage companies.

There is nothing wrong with that – as long as investors realize that the risk characteristics of venture-stage companies are likely to be very different than those of

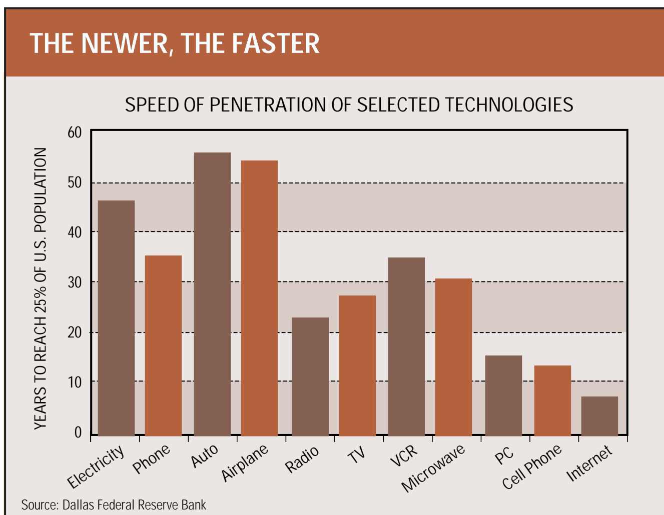

Chart 2: The rate of adoption of new technologies has increased dramatically.

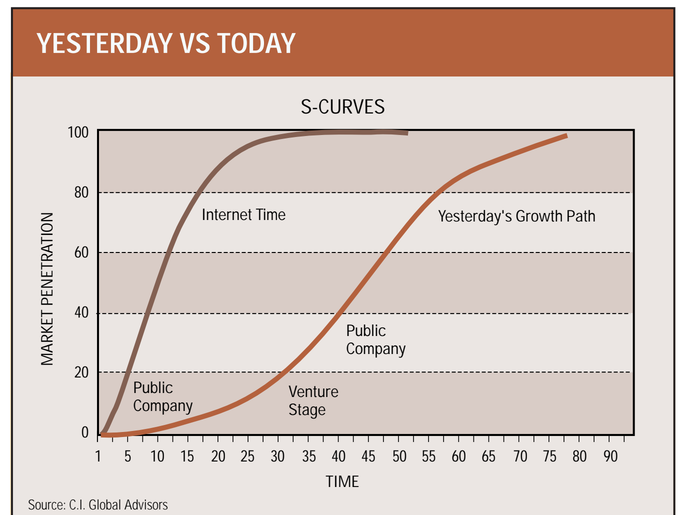

Chart 3: The accelerating pace of innovation has major implications for corporate valuations and risk analysis, implying higher PE ratios and higher volatility.

established companies with long operating histories. For example, many analysts of dot-com companies openly admit that they expect that roughly 85% of such companies will not be around in five years or so, simply because the risks are so high and the competition is so brutal.

Options for the Long Run?

That means that the securities of many technology companies are more like options than stocks – meaning that they can either do very, very well, or go to zero. As anyone who has ever watched the options market knows, options can easily go up 50% in a month, down 50% in a month, and frequently expire worthless. These are not your grandparents' utility stocks.

Another characteristic of options is that they tend to be traded furiously. A famous finance professor wrote a book called *Stocks for the Long Run*, which documented the highly attractive risk-reward characteristics of stocks over long holding periods. He did not write a book called Options for the Long Run. Yet many of the securities that people now think of as stocks have decidedly begun to trade like options. Perhaps that is why the average holding period of Nasdaq stocks has fallen to about 95 days, which implies annual portfolio turnover of about 400%! So much for buy and hold.

One interpretation of the enormous increase in stock market volatility is that investors have begun to recognize the higher risk level of many technology investments.

One such measure of volatility is the implied volatility of options on the Nasdaq index. For much of this year, that volatility has been running at close to 50%. That number summarizes the market's current assessment of the Nasdaq's prospects over the next 12 months, implying a two-thirds chance that the index will fall within plus or minus 50% of where it is today. Put differently, it implies about a one-in-six chance that the market will be up by more than 50% and a one-in-six chance that it will be down by more than 50%.

That may not be such a helpful forecast – it's like saying that virtually anything could happen. But that's the point – investors should understand that the market's current assessment of risk in this asset class is extraordinarily high. We suspect that the reason that some of the most famous hedge fund managers are now moving to the sidelines is that they see such risk as the financial-market equivalent of Russian Roulette – i.e. a one-in-six chance of a very unpleasant outcome. By giving back money to investors they are essentially saying: Let the next guy play Russian Roulette.

A basic principle of asset allocation is that the incentive to diversify away from any asset class rises materially if the volatility of the asset class increases. Hence, a key implication of the sharp rise in the volatility of technology stocks is that investors not have all their eggs in a high-tech basket, notwithstanding attractive long-term fundamental prospects for many companies in the technology sector.

Effectively, the sharp rise in market volatility in recent months means that we have entered a brave new world of risk and return. It may be related both to the peculiar once-in-a-millennium monetary dynamics of Y2K and to the rapidly evolving characteristics of the capital markets associated with the New Economy. We wish we could refer you to a good book that clearly explains the new dynamics of risk and return in the new economy. To our knowledge, that book has not been written yet – at least not in a language approximating English.

In the meantime, we continue to give rather boring advice on how to cope with market volatility, suggesting that investors follow time-tested principles of diversification, balance across asset classes, and investing with a long-term focus. And we have reduced the level of risk in our core funds not because we are bearish, but because rising market volatility and the rapid evolution of stock markets into options markets has clearly raised overall market risk.

Like it or not, financial future shock is here to stay. Our objective is to continue to help our clients make money – and stay calm.

William Sterling, Global Strategist,
C.I. Global Advisors LLP

Stephen Waite, Portfolio Adviser
C.I. Global Advisors LLP